

## C - TURNING

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# TURNING



C - 388 | Negative turning inserts

C - 426 | Positive turning inserts

C - 460 | PCBN & PCD inserts

C - 497 | Heavy turning inserts

C - 504 | Railway turning inserts

C - 518 | External Toolholders

C - 608 | Internal Toolholders

C - 684 | Automatic Lathes

C - 696 | Spare Parts

C - 704 | Technical Data



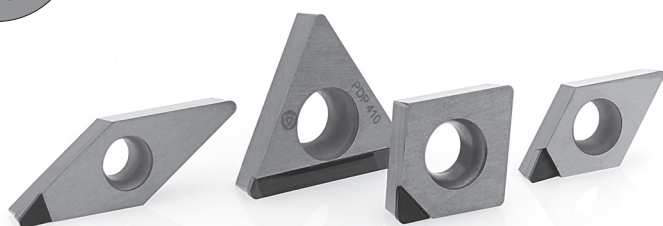
## PCD GRADE FOR MACHINING NON-FERROUS MATERIALS

NEW

Grau PCD para maquinar materiais não-ferrosos | Calidad PCD para maquinar materiales no-ferrosos

### LASER MACHINING TECHNOLOGY

- High cutting edge quality
- Customized chip-breaker according to our customers' needs



Used in 90% of all applications in non-ferrous materials. Ideal for aluminium alloys ( Si ≤ 12%), graphite and graphite composites

Extreme edge sharpness/retention achieving a fine surface finishing.



Machining of Al/Si alloys with high Si content ( Si ≥ 12% )

Excellent abrasion resistance and good thermal stability.

## PCBN GRADE FOR MACHINING HARDENED MATERIALS

NEW

Grau PCBN para maquinar materiais endurecidos | Calidad PCBN para maquinar materiales endurecidos



Machining of hardened materials in high continuous cut up to 200m/min cutting speed.

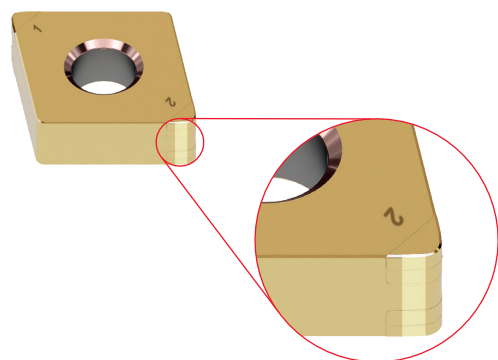
Can be used on high resistance alloys. (New PVD coating for PCBN inserts with improved wear resistance.)



Machining of hardened materials in light to heavy interrupted cuts.

Enhanced crater and flank wear resistance with an excellent balance of toughness.

### WIPER INSERT || Pastilha wiper | Plaquita wiper



Wiper inserts provide two possibilities for process improvement:

- Improved surface finish with standard cutting data;
- Maintained surface finish at substantially higher feed rate.

# PHH NEW GRADE - THE CUTTING EDGE TECHNOLOGY FOR SUPERALLOYS TURNING

NEW

Novo grau PHH - A tecnologia de ponta para super-ligas em torneamento | Nueva calidad PHH - La tecnología de vanguardia para superaleaciones en torneado

## A NEW TURN FOR STAINLESS STEEL AND HRSA TURNING



**PHH910** NEW  
M05-M10  
S05-S15

**PHH920** NEW  
M10-M25  
S15-S30

An hard micro grain substrate combined with a thin optimized nanostructure PVD coating with excelent heat dissipation

The solution for Stainless steel and HRSA from medium turning to finishing. For continuous to semi-interrupted turning. **First choice for HRSA.**

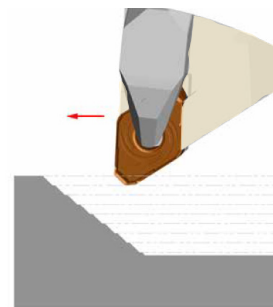
# DOMX® - THE REVOLUTION IN HRSA MEDIUM TO ROUGH TURNING

NEW

A revolução em torneamento de materiais termorresistentes | La revolución en el torneado de materiales exóticos

Designed especially for HRSA, the new DOMX® combined with the latest PHH technology, offers exceptional performance in exotic materials machining. When your material has high Ni or Co content DOMX® is the choice!

- ⊗ First choice for **HRSA** medium to rough turning;
- ⊗ **4 positive cutting edges on double sided insert.**



- ⊗ Machine at 45° with a 93° holder;
- ⊗ **Up to +140% tool life improvement.**

# ISO TURNING INSERTS CODE KEY

H		M	
O		V	
P		W	
S		L	
T		A	
C		B	
D		K	
E		R	
F		X	Special

1 - Insert shape symbol

Symbol	m (mm)	d (mm)	s (mm)
A	±0.005	±0.025	±0.025
F	±0.005	±0.013	±0.025
C	±0.013	±0.025	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J	±0.005	±0.05~±0.13	±0.025
K*	±0.013	±0.05~±0.13	±0.025
L*	±0.025	±0.05~±0.13	±0.025
M*	±0.08~±0.20	±0.05~±0.13	±0.13
N*	±0.08~±0.20	±0.05~±0.13	±0.025
U*	±0.13~±0.38	±0.08~±0.25	±0.13

Triangular inserts with a facet (secondary cutting edge)

Detailed dimension of M class insert Insert height Tolerances (mm)					
Inscribed circle	T	S	C	D	V
6.35	±0.08	-	-	-	-
9.525	±0.08	±0.08	±0.11	±0.10	±0.13
12.70	±0.13	±0.13	±0.13	±0.15	-
15.875	±0.15	±0.15	±0.15	±0.18	-
19.05	±0.15	±0.15	±0.15	±0.18	-
25.40	-	±0.18	-	-	-
31.75	-	±0.25	-	-	-

Inscribed circle Tolerances (mm)					
Inscribed circle	T	S	C	D	V
6.35	±0.05	-	-	-	-
9.525	±0.05	±0.05	±0.05	±0.05	±0.05
12.70	±0.08	±0.08	±0.08	±0.08	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	±0.10
19.05	-	-	-	-	±0.10
25.40	-	±0.13	-	-	±0.10
31.75	-	±0.20	-	-	±0.12

3 - Tolerances symbol

\*As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size, for the accuracy of class M, refer to the table on the right.

A	B	C	D	E
				Other clearance angle

2 - Normal clearance symbol



4 - Insert symbol															
symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape	
W	with hole	Round hole / one countersink (40°-60°)	Without chipbreaker		H	with hole	Round hole / one countersink (70°-90°)	Chipbreaker on one side		G	without hole	with hole	Round hole	Chipbreaker on both sides	
T			Chipbreaker on one side		C		Round hole / double countersink (70°-90°)	Without chipbreaker		N		-	Without chipbreaker		
Q		Round hole / double countersink (40°-60°)	Without chipbreaker		J		Round hole	Round hole	Chipbreaker on both sides			R	-	Chipbreaker on one side	
U			Chipbreaker on both sides		A				Without chipbreaker			F	-	Chipbreaker on both sides	
B		Round hole / one countersink (70°-90°)	Without chipbreaker		M		Chipbreaker on one side		X	-		-	-	-	On request

Sistema de codificação para pastilhas de torneamento ISO  
Codificación para plaquitas de torneado ISO

R's	35° V's	55° D's	80° C's	90° S's	60° T's	80° W's	Ø CI		ANSI
							mm	inch	Symbol
-	06	04	-	03	06	02	3,97	5/32	1,20
-	08	05	04	04	08	L3	4,76	3/16	1,50
-	09	06	05	05	09	03	5,56	7/32	1,80
06**	-	-	-	-	-	-	6,00	0,236	
06*	11	07	06	06	11	04	6,35	1/4	2,00
07*	13	09	08	07	13	05	7,94	5/16	2,50
08*	-	-	-	-	-	-	8,00	0,315	
09*	16	11	09	09	16	06	9,525	3/8	3,00
10**	-	-	-	-	-	-	10,00	0,394	
12**	-	-	-	-	-	-	12,00	0,472	
12*	22	15	12	12	22	08	12,70	1/2	4,00
15*	27	19	16	15	27	10	15,875	5/8	5,00
16**	-	-	-	-	-	-	16,00	0,63	
19*	33	23	19	19	33	13	19,05	3/4	6,00
20**	-	-	-	-	-	-	20,00	0,787	
25**	-	-	-	-	-	-	25,00	0,984	
25*	44	31	25	25	44	17	25,40	1,00	8,00
31*	54	38	32	31	54	21	31,75	1 1/4	10,00
32**	-	-	-	-	-	-	32,00	1,26	

\* ANSI designation only  
(Radius Designation is R0)

\*\* Metric designation only  
(Radius Designation is M0)

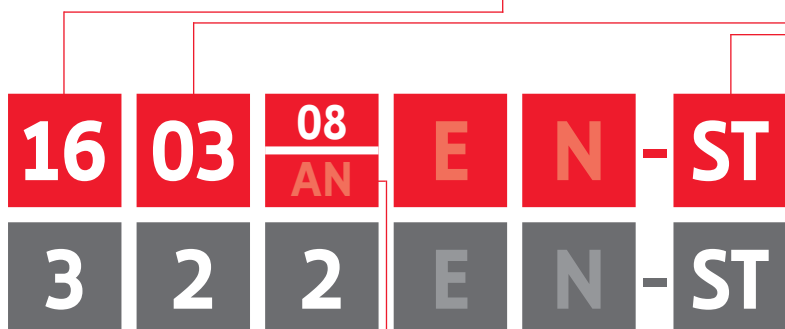
According to International Standard ISO 1832 - 2012(E)

"Indexable inserts for cutting tools - Designation"

ISO	mm	ANSI	inch
01	1.59	1	0.062
T1	1.98	1.2	0.078
02	2.38	1.5	0.094
03	3.18	2	0.125
T3	3.97	2.5	0.156
04	4.76	3	0.188
05	5.56	3.5	0.219
06	6.35	4	0.250
07	7.94	5	0.312
09	9.52	6	0.375
12	12.70	8	0.500

5 - Insert size symbol

6 - Insert thickness symbol



10 - Chipbreaker geometries					
FLAT	MF	GS	SF	LC	MS
MR	PM	ST	MW	SS	HR
MA	RP	HY	HZ	GR	

NEGATIVE Chipbreakers

FLAT	FP	BO	FM	FK	FW	LM	MP	MM
MK	MW	FS	LN	GS	ST	RF	RM	RR

POSITIVE Chipbreakers

7 - Insert corner symbol			
ISO	mm	inch	ANSI
00	Sharp nose		0
01	0.10	.004	0.2
02	0.20	.008	0.5
04	0.40	.015	1
08	0.80	.032	2
12	1.2	.047	3
16	1.6	.062	4
20	2.0	.078	5
24	2.4	.094	6
28	2.8	.109	7
32	3.2	.125	8
00 (inch or M0/metric)	Round insert		0

7.1* - Insert edges symbol			
For inserts having secondary edges two digits are used:			
1 <sup>st</sup> digit is secondary edge		2 <sup>nd</sup> digit is secondary edges relief angle	
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	special	F	25°
*only when required.		G	30°
		N	0°
		P	11°
		Z	special

8* - Cutting edge information		
Shape	Honing	Symbol
	No honing	F
	With honing	E
	Chamfered No honing	T
	Chamfered with honing	S
*only when required.		

9* - Cutting direction		
Shape	Hand	Symbol
	Right	R
	Left	L
	None	N
*only when required.		

# INSERTS RECOMENDATION

EXTERNAL MACHINING | MAQUINAÇÃO EXTERNA | MAQUINACIÓN EXTERNA

General Recommendation:

1. The choice of the insert shape depends of the operation
2. The insert shape should be selected to the required lead angle and the accessibility or versatility required of the tool.
3. Select the largest suitable point angle on the insert for strenght and economy.

Operation	Longitudinal turning	Profiling	Facing	Plunging
Insert Shape				
Rhombic 80°	●●		●	
Rhombic 55°	●	●●	●	
Parallelogram 55°	●	●		●
Round	●	●	●	●●
Square 90°	●		●●	
Triangular 60°	●	●	●	●
Rhombic 35°		●		
Trigon 80°	●		●	

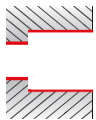
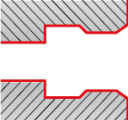

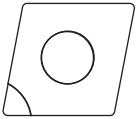
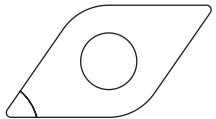

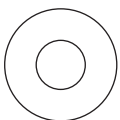
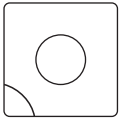
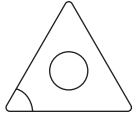
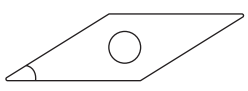
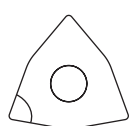
●● Recommended Insert Shape

● Alternative Insert Shape

INTERNAL MACHINING | MAQUINAÇÃO INTERNA | MAQUINACIÓN INTERNA

General Recommendation:

1. The choice of the insert shape depends of the operation
2. The insert shape should be selected to the required lead angle and the accessibility or versatility required of the tool.
3. Select the largest suitable point angle on the insert for strenght and economy.

Insert Shape		Operation		Longitudinal turning	Profiling	Facing
						
	Rhombic 80°		●			●●
	Rhombic 55°		●		●●	●
	Parallelogram 55°		●●			
	Round		●			●
	Square 90°		●			
	Triangular 60°		●●		●	●
	Rhombic 35°				●	
	Trigon 80°		●			●

●● Recommended Insert Shape




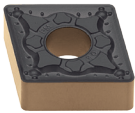


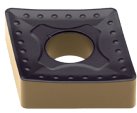


● Alternative Insert Shape



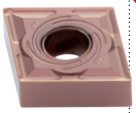

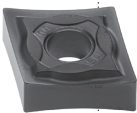


# NEGATIVE TURNING Application Range Overview


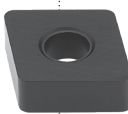



- TURNING
- Insert selection
- Overview
- Negative inserts
- Positive inserts
- PCBN & PCD inserts
- Heavy turning
- External Toolholders
- Internal Toolholders
- Automatic Lathes
- Spare Parts
- Technical Data

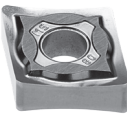
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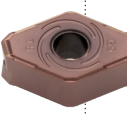
Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
	MF 	LC 	MR 	HR 	
		PM 	MA <sup>NEW</sup> 	RP  1 face	HY  1 face
		MW  wiper	GR <sup>NEW</sup> 	HZ  1 face	
CVD Grades					
	<b>PHG105</b> <small>P05-P10</small>	<b>PHG115</b> <small>P10-P25</small>	<b>PH5125</b> <small>P20-P35</small>	<b>PHG125</b> <small>P20-P35</small>	<b>PH5740</b> <small>P25-P45</small>
PVD Grades					
	<b>PH7910</b> <small>P05-P10</small>				
Continuous cut ←					→ Interrupted cut

M

Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
	GS <sup>NEW</sup> 	SF 	SS 		
	MS 		RP  1 face	HY  1 face	
CVD Grades					
	<b>PHS215</b> <small>M10-M25</small>		<b>PHS225</b> <small>M15-M30</small>	<b>PHS240</b> <small>M25-M45</small>	
PVD Grades					
<b>PH7910</b> <small>M05-M10</small>	<b>PHH910</b> <sup>NEW</sup> <small>M05-M10</small>	<b>PH7920</b> <small>M10-M25</small>	<b>PHH920</b> <sup>NEW</sup> <small>M30-M25</small>		
Continuous cut ←					→ Interrupted cut

K	Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
			ST 	FLAT 	HR 	
			MW 	wiper		HZ 
CVD Grades						
		<b>PH5705</b> K05-K15		<b>PH5320</b> K10-K25	<b>PH5740</b> K20-K40	
Continuous cut ← → Interrupted cut						




N	Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
			MS 			
	Uncoated Grades					
			<b>PH0910</b> N01-N20			
Continuous cut ← → Interrupted cut						

S	Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
		GS <sup>NEW</sup> 	SF 	SS 		
			MS 		DOMX <sup>NEW</sup> 	
PVD Grades						
		<b>PH7910</b> S05-S10	<b>PHH910</b> <sup>NEW</sup> S10-S25	<b>PH7920</b> S10-S25	<b>PHH920</b> <sup>NEW</sup> S10-S25	
Continuous cut ← → Interrupted cut						

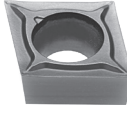

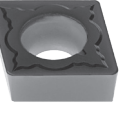


# POSITIVE TURNING Application Range Overview

- TURNING
- Insert selection
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- Positive inserts
- PCBN & PCD inserts
- Heavy turning
- External Toolholders
- Internal Toolholders
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- Spare Parts
- Technical Data



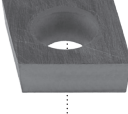




		Fine finishing	Finishing	Medium	Roughing		Heavy roughing	
<b>P</b> 5° & 7°		FS 	FP 	MP 	RF 	RM 		
		BO 	FW  wiper	MW  wiper	ST 	RR 		
	CVD Grades							
				<b>PHG115</b> <small>P10-P25</small>	<b>PH5125</b> <small>P20-P35</small>	<b>PHG125</b> <small>P20-P35</small>	<b>PHG140</b> <small>P25-P45</small>	<b>PH5740</b> <small>P25-P45</small>
	PVD Grades							
			<b>PH7910</b> <small>P05-P10</small>		<b>PH7920</b> <small>P10-P35</small>			
	Continuous cut ← → Interrupted cut							

		Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
<b>P</b> 11°			12 	13 	FLAT 		
	CVD Grades						
			<b>PH5115</b> <small>P05-P20</small>	<b>PH5125</b> <small>P20-P35</small>	<b>PH5740</b> <small>P25-P45</small>		
	PVD Grades						
	Continuous cut ← → Interrupted cut						

**M**  
5° & 7°

Fine finishing	Finishing		Medium	Roughing	Heavy roughing
FS 	FM 	LM 	MM 		
BO 	FW 	MW 	GS 		
CVD Grades					
	<b>PHS215</b> M10-M25			<b>PHS225</b> M15-M30	
				<b>PHS240</b> M25-M45	
PVD Grades					
<b>PH7910</b> M05-M10	<b>PHH910</b> M05-M10 <sup>NEW</sup>		<b>PH7920</b> M10-M25	<b>PHH920</b> M10-M25 <sup>NEW</sup>	
Continuous cut ←			→ Interrupted cut		




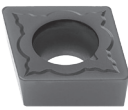



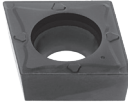
**K**  
5° & 7°

Fine finishing	Finishing		Medium	Roughing	Heavy roughing
FK 		MK 	FLAT 		RM 
	FW 	MW 		ST 	
CVD Grades					
	<b>PH5705</b> K05-K15			<b>PH5320</b> K10-K25	
Uncoated Grades					
	<b>PH0705</b> K05-K15				
Continuous cut ←			→ Interrupted cut		

# POSITIVE TURNING

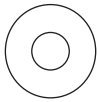
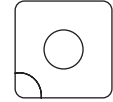
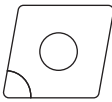

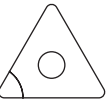
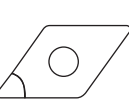
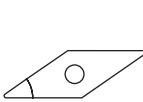
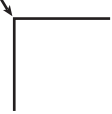



Application Range Overview | Vista geral de aplicações | Vista general de aplicaciones

TURNING	N	Fine finishing	Finishing	Medium	Roughing	Heavy roughing
		Uncoated Grades				
		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>PH0910</b>  <small>N01-N20</small> </div>				
Insert selection	7°					
Overview	Continuous cut ← → Interrupted cut					

S	Fine finishing	Finishing	Medium	Roughing	Heavy roughing		
	FS	FM	LM	MM	GS <sup>NEW</sup>		
							
	BO	FW	MW				
							
			wiper	wiper			
PVD Grades							
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>PH7910</b>  <small>S05-S10</small> </div>		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>PHH910</b> <sup>NEW</sup>  <small>S10-S25</small> </div>		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>PH7920</b>  <small>S10-S25</small> </div>		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>PHH920</b> <sup>NEW</sup>  <small>S10-S25</small> </div>	
Continuous cut ← → Interrupted cut							

# INSERT SHAPE SELECTION

Seleção de geometria para pastilha | Selección de geometria para plaquita

Shape angle		90°	80°	80°	60°	55°	35°	
Geometry shape code	<b>R</b>	<b>S</b>	<b>C</b>	<b>W</b>	<b>T</b>	<b>D</b>	<b>V</b>	
Geometry shape design								
Cutting edge strength								 <p>Accessibility</p>
Vibration tendency								<p>Less power consumption</p> <p><math>P_c</math> (kW) </p>

## INSERT SHAPE

The insert shape should be selected relative to the entering angle accessibility from tools requirements.

The largest possible nose angle should be selected to provide insert strength and reliability, however, this has to be balanced against the cut variation need to be performed.

A large nose angle is strong, but requires more machine power and has a higher tendency for vibration.

A small nose angle is weaker and has a small cutting edge engagement, both of which can make it more sensitive to the heat effects.





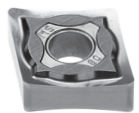

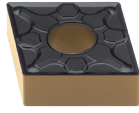




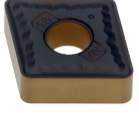





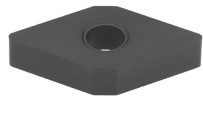
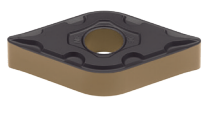


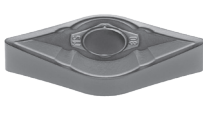

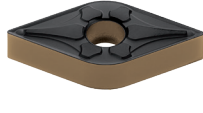


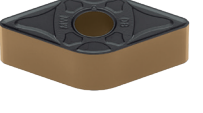

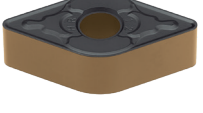

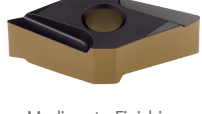

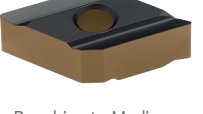
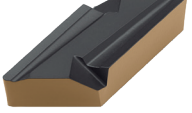
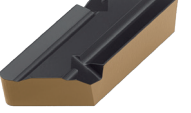

Scale 1: indicates the cutting edge strength. The inserts to the left have larger nose angles and are correspondingly stronger. The right hand inserts have better versatility and accessibility.

Scale 2: indicates that vibration tendencies increase to the left side, while power requirements decrease to the right.













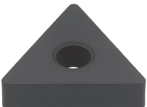
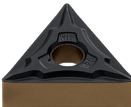


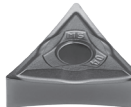

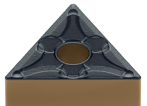
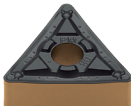
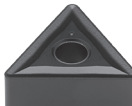


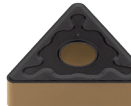


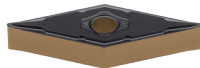




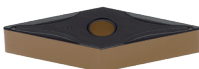

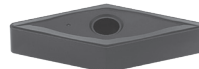

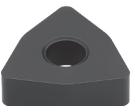
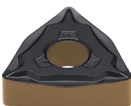


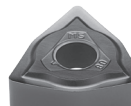

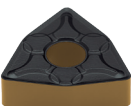
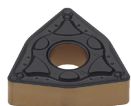

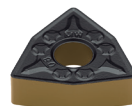

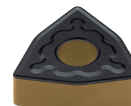


# NEGATIVE TURNING INSERTS OVERVIEW

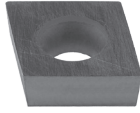
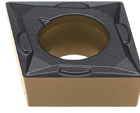





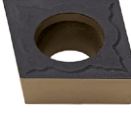
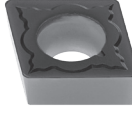
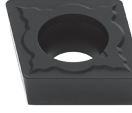
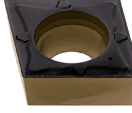


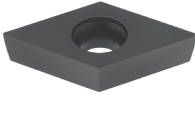
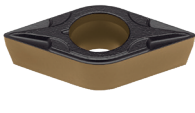


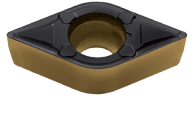

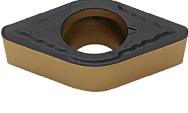



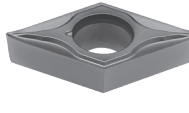
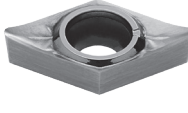


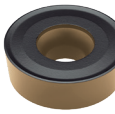
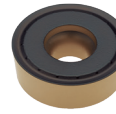

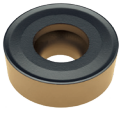
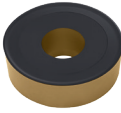








TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

<p>CNMA</p>  <p>Roughing</p> <p>Page C - 388 Rhombic 80°</p>	<p>CNMG-MF</p>  <p>Finishing</p> <p>Page C - 388 Rhombic 80°</p>	<p>CNMG-SF</p>  <p>Medium to Finishing</p> <p>Page C - 388 Rhombic 80°</p>	<p>CNMG-LC</p>  <p>Medium to Finishing</p> <p>Page C - 388 Rhombic 80°</p>	<p>CNMG-MS</p>  <p>Medium</p> <p>Page C - 388 Rhombic 80°</p>	<p>CNMG-GS <b>NEW</b></p>  <p>Medium</p> <p>Page C - 388 Rhombic 80°</p>
<p>CNMG-MR</p>  <p>Medium</p> <p>Page C - 390 Rhombic 80°</p>	<p>CNMG-PM</p>  <p>Medium</p> <p>Page C - 390 Rhombic 80°</p>	<p>CNMG-ST</p>  <p>Medium</p> <p>Page C - 390 Rhombic 80°</p>	<p>CNMG-MW</p>  <p>Medium wiper</p> <p>Page C - 390 Rhombic 80°</p>	<p>CNMG-SS</p>  <p>Roughing to Medium</p> <p>Page C - 392 Rhombic 80°</p>	<p>CNMG-MA <b>NEW</b></p>  <p>Medium to Roughing</p> <p>Page C - 392 Rhombic 80°</p>
<p>CNMG-HR</p>  <p>Roughing</p> <p>Page C - 392 Rhombic 80°</p>	<p>CNMM-RP</p>  <p>Roughing</p> <p>Page C - 394 Rhombic 80°</p>	<p>CNMM-GR <b>NEW</b></p>  <p>Roughing</p> <p>Page C - 394 Rhombic 80°</p>	<p>CNMM-HY</p>  <p>Heavy to Roughing</p> <p>Page C - 394 Rhombic 80°</p>	<p>CNMM-HZ</p>  <p>Heavy to Roughing</p> <p>Page C - 394 Rhombic 80°</p>	
<p>DNMA</p>  <p>Roughing</p> <p>Page C - 396 Rhombic 55°</p>	<p>DNMG-MF</p>  <p>Finishing</p> <p>Page C - 396 Rhombic 55°</p>	<p>DNMG-SF</p>  <p>Medium to Finishing</p> <p>Page C - 396 Rhombic 55°</p>	<p>DNMG-LC</p>  <p>Medium to Finishing</p> <p>Page C - 396 Rhombic 55°</p>	<p>DNMG-MS</p>  <p>Medium</p> <p>Page C - 398 Rhombic 55°</p>	<p>DNMG-GS <b>NEW</b></p>  <p>Medium</p> <p>Page C - 398 Rhombic 55°</p>
<p>DNMG-MR</p>  <p>Medium</p> <p>Page C - 398 Rhombic 55°</p>	<p>DNMG-PM</p>  <p>Medium</p> <p>Page C - 398 Rhombic 55°</p>	<p>DNMG-ST</p>  <p>Medium</p> <p>Page C - 400 Rhombic 55°</p>	<p>DNMG-MW</p>  <p>Medium wiper</p> <p>Page C - 402 Rhombic 55°</p>	<p>DNMG-SS</p>  <p>Roughing to Medium</p> <p>Page C - 402 Rhombic 55°</p>	<p>DNMG-HR</p>  <p>Roughing</p> <p>Page C - 402 Rhombic 55°</p>
<p>DNMM-RP</p>  <p>Roughing</p> <p>Page C - 402 Rhombic 55°</p>	<p>DNMX-02</p>  <p>Medium to Finishing</p> <p>Page C - 402 Rhombic 55°</p>	<p>DNMX-03</p>  <p>Medium</p> <p>Page C - 402 Rhombic 55°</p>	<p>DNMX-01</p>  <p>Roughing to Medium</p> <p>Page C - 402 Rhombic 55°</p>		
<p>KNUX-01</p>  <p>Finishing</p> <p>Page C - 404 Parallelogram 55°</p>	<p>KNUX-02</p>  <p>Medium</p> <p>Page C - 404 Parallelogram 55°</p>				
<p>RNMG-ST</p>  <p>Medium</p> <p>Page C - 406 Round R°</p>					






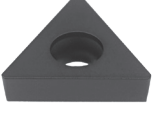

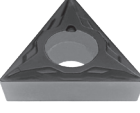
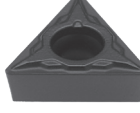


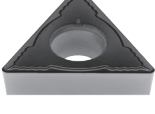
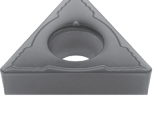
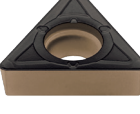
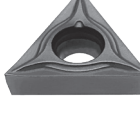





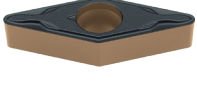
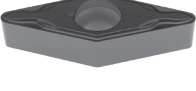

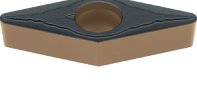

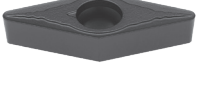








Vista genérica de pastilhas de torneamento negativas  
 Vista general de plaquitas de torneado negativas

<p>SNMA</p>  <p>Roughing</p> <p>Page C - 408 Square 90°</p>	<p>SNMG-MF</p>  <p>Finishing</p> <p>Page C - 408 Square 90°</p>	<p>SNMG-SF</p>  <p>Medium to Finishing</p> <p>Page C - 408 Square 90°</p>	<p>SNMG-GS <b>NEW</b></p>  <p>Medium</p> <p>Page C - 408 Square 90°</p>	<p>SNMG-MR</p>  <p>Medium</p> <p>Page C - 408 Square 90°</p>	<p>SNMG-PM</p>  <p>Medium</p> <p>Page C - 408 Square 90°</p>
<p>SNMG-ST</p>  <p>Medium</p> <p>Page C - 410 Square 90°</p>	<p>SNMG-SS</p>  <p>Roughing to Medium</p> <p>Page C - 410 Square 90°</p>	<p>SNMG-HR</p>  <p>Roughing</p> <p>Page C - 410 Square 90°</p>	<p>SNMM-RP</p>  <p>Roughing</p> <p>Page C - 410 Square 90°</p>	<p>SNMM-HY</p>  <p>Heavy to Roughing</p> <p>Page C - 412 Square 90°</p>	<p>SNMM-HZ</p>  <p>Heavy to Roughing</p> <p>Page C - 412 Square 90°</p>
<p>TNMA</p>  <p>Roughing</p> <p>Page C - 414 Triangular 60°</p>	<p>TNMG-MF</p>  <p>Finishing</p> <p>Page C - 414 Triangular 60°</p>	<p>TNMG-SF</p>  <p>Medium to Finishing</p> <p>Page C - 414 Triangular 60°</p>	<p>TNMG-LC</p>  <p>Medium to Finishing</p> <p>Page C - 414 Triangular 60°</p>	<p>TNMG-MS</p>  <p>Medium</p> <p>Page C - 414 Triangular 60°</p>	<p>TNMG-GS <b>NEW</b></p>  <p>Medium</p> <p>Page C - 414 Triangular 60°</p>
<p>TNMG-MR</p>  <p>Medium</p> <p>Page C - 416 Triangular 60°</p>	<p>TNMG-PM</p>  <p>Medium</p> <p>Page C - 416 Triangular 60°</p>	<p>TNMG-ST</p>  <p>Medium</p> <p>Page C - 416 Triangular 60°</p>	<p>TNMG-MW</p>  <p>Medium wiper</p> <p>Page C - 418 Triangular 60°</p>	<p>TNMG-SS</p>  <p>Roughing to Medium</p> <p>Page C - 418 Triangular 60°</p>	<p>TNMG-HR</p>  <p>Roughing</p> <p>Page C - 418 Triangular 60°</p>
<p>TNMX-01</p>  <p>Medium to Finishing</p> <p>Page C - 418 Triangular 60°</p>		<p>VNMA</p>  <p>Roughing</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-MF</p>  <p>Finishing</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-SF</p>  <p>Medium to Finishing</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-LC</p>  <p>Medium to Finishing</p> <p>Page C - 420 Rhombic 35°</p>
<p>VNMG-MS</p>  <p>Medium</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-GS <b>NEW</b></p>  <p>Medium</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-MR</p>  <p>Medium</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-PM</p>  <p>Medium</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-ST</p>  <p>Medium</p> <p>Page C - 420 Rhombic 35°</p>	<p>VNMG-SS</p>  <p>Roughing to Medium</p> <p>Page C - 420 Rhombic 35°</p>
<p>WNMA</p>  <p>Roughing</p> <p>Page C - 422 Trigon 80°</p>	<p>WNMG-MF</p>  <p>Finishing</p> <p>Page C - 422 Trigon 80°</p>	<p>WNMG-SF</p>  <p>Medium to Finishing</p> <p>Page C - 422 Trigon 80°</p>	<p>WNMG-LC</p>  <p>Medium to Finishing</p> <p>Page C - 422 Trigon 80°</p>	<p>WNMG-MS</p>  <p>Medium</p> <p>Page C - 422 Trigon 80°</p>	<p>WNMG-GS <b>NEW</b></p>  <p>Medium</p> <p>Page C - 422 Trigon 80°</p>
<p>WNMG-MR</p>  <p>Medium</p> <p>Page C - 424 Trigon 80°</p>	<p>WNMG-PM</p>  <p>Medium</p> <p>Page C - 424 Trigon 80°</p>	<p>WNMG-ST</p>  <p>Medium</p> <p>Page C - 424 Trigon 80°</p>	<p>WNMG-MW</p>  <p>Medium wiper</p> <p>Page C - 424 Trigon 80°</p>	<p>WNMG-SS</p>  <p>Roughing to Medium</p> <p>Page C - 424 Trigon 80°</p>	<p>WNMG-HR</p>  <p>Roughing</p> <p>Page C - 424 Trigon 80°</p>

# POSITIVE TURNING INSERTS OVERVIEW

TURNING	CCMW	CCMT-FP	CCMT-BO	CCMT-FM	CCMT-FK	CCMT-FW	
							
	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	
	Page C - 426 Rhombic 80°	Page C - 426 Rhombic 80°	Page C - 426 Rhombic 80°	Page C - 426 Rhombic 80°	Page C - 426 Rhombic 80°	Page C - 428 Rhombic 80°	
	CCMT-LM	CCMT-MP	CCMT-MM	CCMT-MK	CCMT-MW		
							
	Medium to Finishing	Medium	Medium	Medium	Medium to Finishing wiper		
	Page C - 428 Rhombic 80°	Page C - 428 Rhombic 80°	Page C - 428 Rhombic 80°	Page C - 428 Rhombic 80°	Page C - 428 Rhombic 80°		
	CCGT-FS	CCGT-LN					
							
Finishing to Fine finishing	Medium to Finishing						
Page C - 430 Rhombic 80°	Page C - 430 Rhombic 80°						
Positive inserts	DCMW	DCMT-FP	DCMT-FM	DCMT-FK	DCMT-FW	DCMT-LM	
							
	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing	
	Page C - 432 Rhombic 55°	Page C - 432 Rhombic 55°	Page C - 432 Rhombic 55°	Page C - 432 Rhombic 55°	Page C - 432 Rhombic 55°	Page C - 432 Rhombic 55°	
	DCMT-MP	DCMT-MM	DCMT-MK	DCMT-MW	DCGT-FS	DCGT-LN	
							
	Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
	Page C - 432 Rhombic 55°	Page C - 434 Rhombic 55°	Page C - 434 Rhombic 55°	Page C - 434 Rhombic 55°	Page C - 434 Rhombic 55°	Page C - 434 Rhombic 55°	
	External Toolholders	RCMT-GS	RCMT-CP	RCMT-ST	RCMT-RF	RCMT-RM	
							
Medium		Medium	Roughing to Medium	Roughing to Medium	Roughing to Medium		
Page C - 436 Round R°		Page C - 436 Round R°	Page C - 436 Round R°	Page C - 436 Round R°	Page C - 436 Round R°		
RCMX-ST		RCMX-RM	RCMX-RR		RCGT-LN		
							
Roughing to Medium		Roughing to Medium	Roughing to Medium		Finishing to Fine finishing		
Page C - 436 Round R°		Page C - 436 Round R°	Page C - 436 Round R°		Page C - 438 Round R°		
Spare Parts		SCMW	SCMT-FP	SCMT-FM	SCMT-FK	SCMT-MP	SCMT-MM
							
	Finishing	Finishing	Finishing	Finishing	Medium	Medium	
	Page C - 440 Square 90°	Page C - 440 Square 90°	Page C - 440 Square 90°	Page C - 440 Square 90°	Page C - 440 Square 90°	Page C - 440 Square 90°	

Vista genérica de pastilhas de torneamento positivas  
 Vista general de plaquitas de torneado positivas

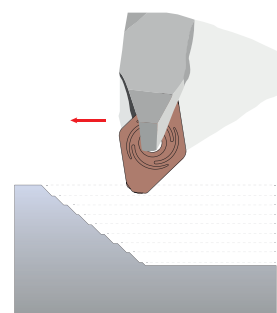
<p>SCMT-MK</p>  <p>Medium</p> <p>Page C - 440 Square 90°</p>	<p>SCGT-LN</p>  <p>Medium to Finishing</p> <p>Page C - 440 Square 90°</p>		<p>SPUN</p>  <p>Medium to Finishing</p> <p>Page C - 442 Square 90°</p>	<p>SPMR-12</p>  <p>Finishing to Fine finishing</p> <p>Page C - 442 Square 90°</p>	<p>SPMR-13</p>  <p>Medium</p> <p>Page C - 442 Square 90°</p>
<p>TCMW</p>  <p>Finishing</p> <p>Page C - 444 Triangular 60°</p>	<p>TCMT-FP</p>  <p>Finishing</p> <p>Page C - 444 Triangular 60°</p>	<p>TCMT-FM</p>  <p>Finishing</p> <p>Page C - 444 Triangular 60°</p>	<p>TCMT-FK</p>  <p>Finishing</p> <p>Page C - 446 Triangular 60°</p>	<p>TCMT-FW</p>  <p>Finishing wiper</p> <p>Page C - 446 Triangular 60°</p>	<p>TCMT-MP</p>  <p>Medium</p> <p>Page C - 446 Triangular 60°</p>
<p>TCMT-MM</p>  <p>Medium</p> <p>Page C - 448 Triangular 60°</p>	<p>TCMT-MK</p>  <p>Medium</p> <p>Page C - 448 Triangular 60°</p>	<p>TCMT-MW</p>  <p>Medium to Finishing wiper</p> <p>Page C - 448 Triangular 60°</p>		<p>TCGT-FS</p>  <p>Finishing to Fine finishing</p> <p>Page C - 450 Triangular 60°</p>	<p>TCGT-LN</p>  <p>Medium to Finishing</p> <p>Page C - 450 Triangular 60°</p>
<p>TPUN</p>  <p>Medium to Finishing</p> <p>Page C - 452 Triangular 60°</p>	<p>TPMR-12</p>  <p>Finishing to Fine finishing</p> <p>Page C - 452 Triangular 60°</p>	<p>TPMR-13</p>  <p>Medium</p> <p>Page C - 452 Triangular 60°</p>			
<p>VBMW</p>  <p>Finishing</p> <p>Page C - 454 Rhombic 35°</p>	<p>VBMT-FP</p>  <p>Finishing</p> <p>Page C - 454 Rhombic 35°</p>	<p>VBMT-FM</p>  <p>Finishing</p> <p>Page C - 454 Rhombic 35°</p>	<p>VBMT-FK</p>  <p>Finishing</p> <p>Page C - 454 Rhombic 35°</p>	<p>VBMT-MP</p>  <p>Medium</p> <p>Page C - 454 Rhombic 35°</p>	<p>VBMT-MM</p>  <p>Medium</p> <p>Page C - 454 Rhombic 35°</p>
<p>VBMT-MK</p>  <p>Medium</p> <p>Page C - 454 Rhombic 35°</p>					
<p>VCMW</p>  <p>Finishing</p> <p>Page C - 456 Rhombic 35°</p>	<p>VCMT-FP</p>  <p>Finishing</p> <p>Page C - 456 Rhombic 35°</p>	<p>VCMT-FM</p>  <p>Finishing</p> <p>Page C - 456 Rhombic 35°</p>	<p>VCMT-FK</p>  <p>Finishing</p> <p>Page C - 456 Rhombic 35°</p>	<p>VCMT-MP</p>  <p>Medium</p> <p>Page C - 456 Rhombic 35°</p>	<p>VCMT-MM</p>  <p>Medium</p> <p>Page C - 456 Rhombic 35°</p>
<p>VCMT-MK</p>  <p>Medium</p> <p>Page C - 456 Rhombic 35°</p>		<p>VCGT-FS</p>  <p>Finishing to Fine finishing</p> <p>Page C - 458 Rhombic 35°</p>	<p>VCGT-LN</p>  <p>Medium to Finishing</p> <p>Page C - 458 Rhombic 35°</p>		



A revolução em torneamento de materiais termorresistentes | La revolución en el torneado de materiales exóticos

Designed especially for HRSA, the new DOMX® combined with the latest PHH technology, offers exceptional performance in exotic materials machining. When your material has high Ni or Co content DOMX® is the choice!

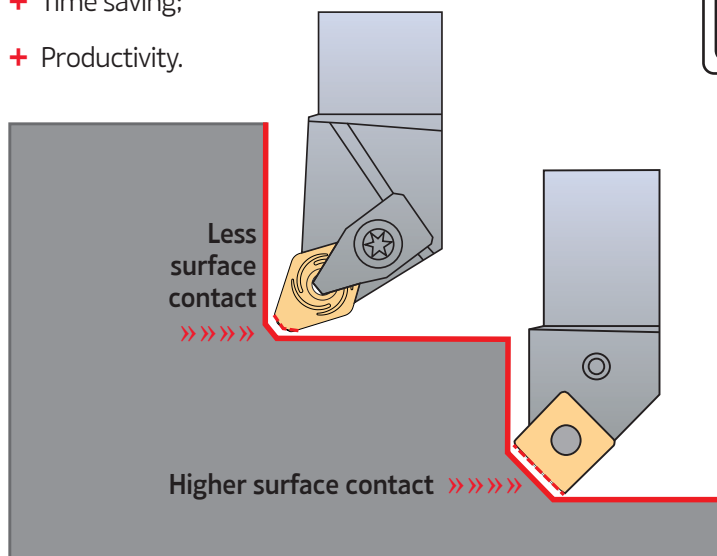
- ⚙ First choice for **HRSA** medium to rough turning;
- ⚙ **4 positive cutting edges on double sided negative insert.**



- ⚙ Machine at 45° with a 93° holder;
- ⚙ **Up to +140% tool life improvement.**

### DOMX VS SNMG

- Surface contact;
- Heating;
- Vibration;
- Cutting effort;
- + Time saving;
- + Productivity.



### COMERCIAL VIDEO




### TECHNICAL VIDEO



### APPLICATION GUIDE

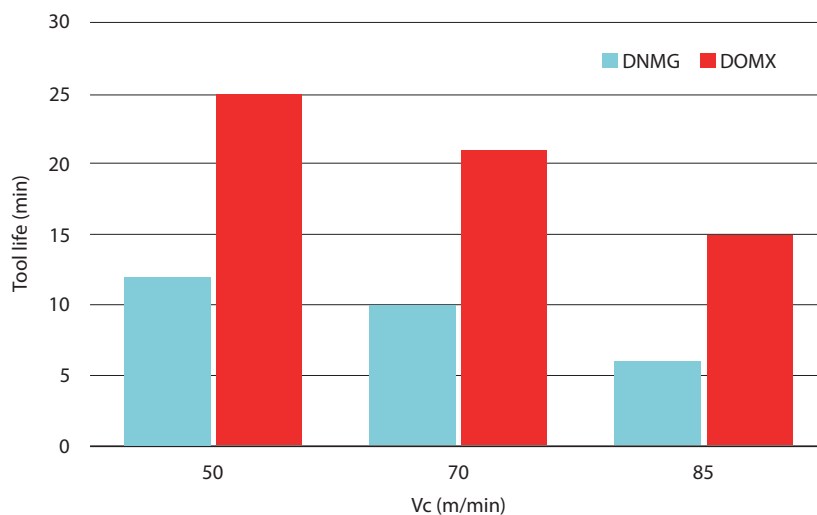
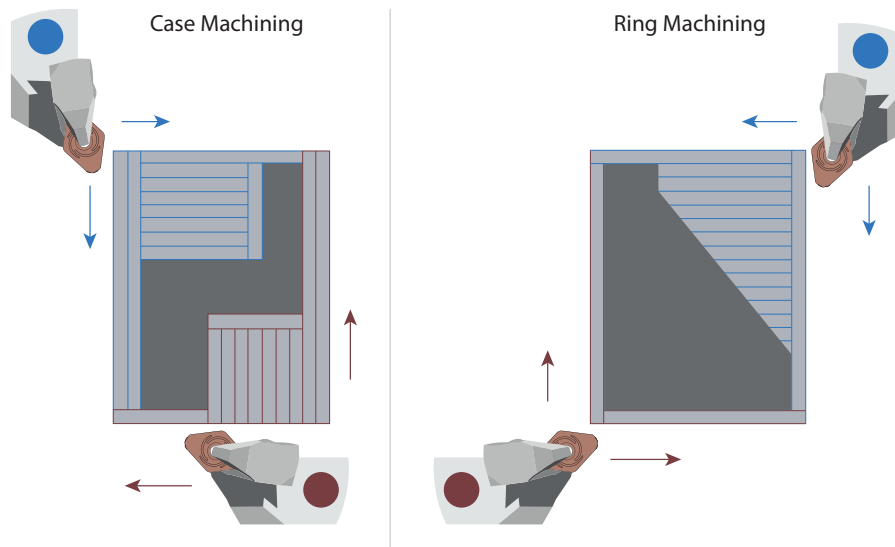


Inserts Pastilhas Plaquetas	(1) Geometry code	(2) Grade code	S		Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					Technical drawing Desenho técnico Dibujo técnico	
			PVD		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min		Max
			X6	Y3											
	1124595	DOMX 1506R1-GS			12,70	6,35	0,80	5,16	1,50	0,30	1,50	0,30	0,20	0,50	
	1124493	DOMX 1506L1-GS			12,70	6,35	0,80	5,16	1,50	0,30	1,50	0,30	0,20	0,50	

 First choice | 1ª Escolha | 1ª Opción  Stock Items | Itens de stock  Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code



This new insert (DOMX) can be used in several types of turning operations, from facing, external/internal turning to case and ring machining as seen in the examples below:

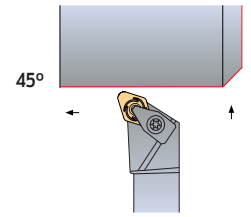


Tool life test – Inconel 625, ap 1,5mm, fn 0.15mm/r

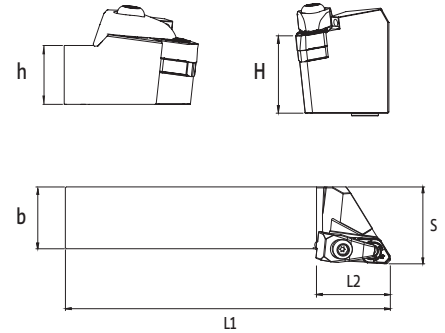
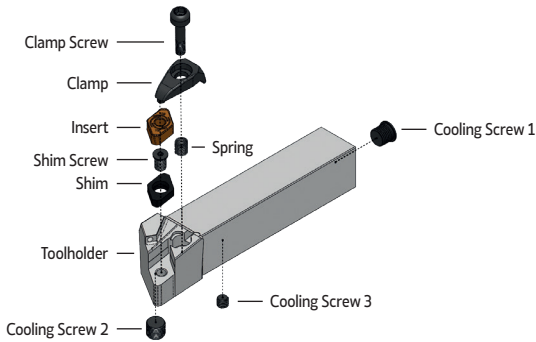


(D) DIMPLE LOCK TOOLHOLDERS

Roughing to Heavy Roughing	Roughing to Heavy Roughing
DOMX (L1)	DOMX (R1)
	
(15)	(15)



Axial: -6,25°  
Radial: -6,75°



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
182000900	182001200	DDJN R/L 2020 K15-A-DX1	20	20	125	42	25	DOMX 1506..	0,40		
182001000	182001300	DDJN R/L 2525 M15-A-DX1	25	25	150	42	32	DOMX 1506..	0,75		
182001100	182001400	DDJN R/L 3232 P15-A-DX1	32	32	170	42	40	DOMX 1506..	1,30		

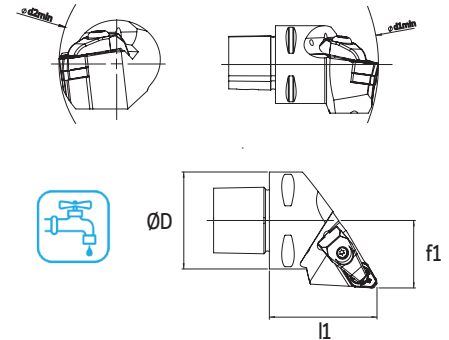
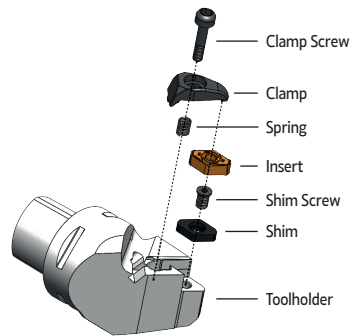
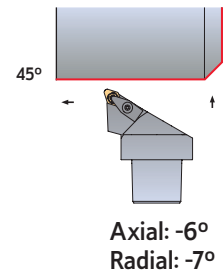
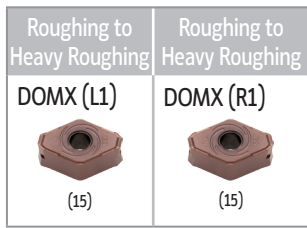
Stock item | Produto de stock | Itens de stock









Available under request | Disponível sobre consulta | Disponible bajo consulta


SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim R	Shim L	Shim Screw	Spring	Clamp	Clamp Screw	Wrench	Coolant Screw 1	Coolant Screw 2	Coolant Screw 3
DDJN R/L 2020 K15-A-DX1										
DDJN R/L 2525 M15-A-DX1	CD150503	CD150502	T06010000	M09513	GA07002	D0602900	SS40	H0600475	H1000875	T1000875
DDJN R/L 3232 P15-A-DX1	CD150503	CD150502	T06010000	M09513	GA07002	D0602900	SS40	-	H1000875	-

## (D) DIMPLE LOCK TOOLHOLDERS










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		ØD	Ød1 min	Ød2 min	f1	l1			R	L
182000100	182000500	PSC40-DDJNR/L27055-15-DX1	40	110	145	27	55	DOMX 1506..	0,42		
182000200	182000600	PSC50-DDJNR/L35060-15-DX1	50	110	165	35	60	DOMX 1506..	0,80		
182000300	182000700	PSC63-DDJNR/L45065-15-DX1	63	110	190	45	65	DOMX 1506..	1,10		
182000400	182000800	PSC80-DDJNR/L55080-15-DX1	80	110	250	55	80	DOMX 1506..	2,74		

 Stock item | Produto de stock | Itens de stock






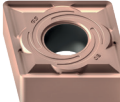
 Available under request | Disponível sobre consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim R	Shim L	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
PSC40-DDJNR/L27055-15-DX1							
PSC50-DDJNR/L35060-15-DX1	CD150503	CD150502	T06010000	M09513	GA07002	D0602900	SS40
PSC63-DDJNR/L45065-15-DX1	CD150503	CD150502	T06010000	M09513	GA07002	D0602900	SS40
PSC80-DDJNR/L55080-15-DX1	CD150503	CD150502	T06010000	M09513	GA07002	D0602900	SS40

# CN = RHOMBIC 80° NEGATIVE

RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA

			P					M						K				N	S					
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD				
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 CNMA Roughing	1120219	CNMA 120404															⊗	⊗						
	1120220	CNMA 120408															⊗	⊗						
	1120221	CNMA 120412															⊗	⊗						
	1120223	CNMA 120416															⊗	⊗						
	1120224	CNMA 160608															⊗	⊗						
	1120225	CNMA 160612															⊗	⊗						
	1121470	CNMA 160616															⊗	⊗						
	1120226	CNMA 190612															⊗	⊗						
	1120227	CNMA 190616															⊗	⊗	⊗					
1121471	CNMA 190624																⊗							
 CNMG-MF Finishing	1121472	CNMG 090304-MF		⊗	⊗																			
	1121318	CNMG 090308-MF		⊗	⊗																			
	1121320	CNMG 09T304-MF		⊗																				
	1121317	CNMG 09T308-MF		⊗																				
	1121478	CNMG 120404-MF	⊗	⊗	⊗			⊗																
	1121480	CNMG 120408-MF		⊗	⊗			⊗																
1121482	CNMG 120412-MF		⊗	⊗																				
 CNMG-SF Medium to Finishing	1123747	CNMG 120404-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1123717	CNMG 120408-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1123748	CNMG 120412-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗
 CNMG-LC Medium to Finishing	1122024	CNMG 120404-LC		⊗	⊗																			
	1122021	CNMG 120408-LC	⊗	⊗	⊗																			
	1124029	CNMG 120412-LC		⊗	⊗																			
 CNMG-MS Medium to Finishing	1124854	CNMG 120402-MS										⊗		⊗							⊗		⊗	
	1121479	CNMG 120404-MS										⊗	⊗	⊗						⊗	⊗	⊗	⊗	⊗
	1121481	CNMG 120408-MS										⊗	⊗	⊗						⊗	⊗	⊗	⊗	⊗
	1121483	CNMG 120412-MS										⊗	⊗	⊗						⊗	⊗	⊗	⊗	⊗
	1121486	CNMG 120416-MS											⊗	⊗						⊗		⊗	⊗	⊗
 CNMG-GS Medium to Finishing	1124514	CNMG 120404-GS										⊗		⊗							⊗		⊗	
	1124502	CNMG 120408-GS										⊗		⊗							⊗		⊗	
	1124515	CNMG 120412-GS										⊗		⊗							⊗		⊗	

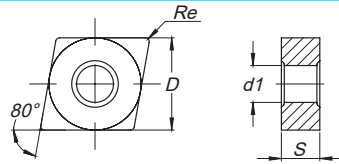
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CNMA 120404	CNMA 431	12,700	4,76	0,40	5,16	2,50	0,20	5,00	0,20	0,10	0,30
CNMA 120408	CNMA 432	12,700	4,76	0,80	5,16	4,00	0,20	8,00	0,35	0,15	0,60
CNMA 120412	CNMA 433	12,700	4,76	1,20	5,16	4,00	0,30	8,00	0,45	0,20	0,80
CNMA 120416	CNMA 434	12,700	4,76	1,60	5,16	4,00	0,30	8,00	0,55	0,20	1,00
CNMA 160608	CNMA 542	15,875	6,35	0,80	6,35	5,00	0,30	10,00	0,45	0,20	0,80
CNMA 160612	CNMA 543	15,875	6,35	1,20	6,35	5,00	0,30	10,00	0,45	0,20	0,80
CNMA 160616	CNMA 544	15,875	6,35	1,60	6,35	5,00	0,30	10,00	0,55	0,20	1,00
CNMA 190612	CNMA 643	19,050	6,35	1,20	7,94	6,00	0,30	12,00	0,45	0,20	0,80
CNMA 190616	CNMA 644	19,050	6,35	1,60	7,94	6,00	0,30	12,00	0,55	0,20	1,00
CNMA 190624	CNMA 646	19,050	6,35	2,40	7,94	6,00	0,40	12,00	0,60	0,20	1,40
CNMG 090304-MF	CNMG 321-MF	9,525	3,18	0,40	3,81	0,50	0,10	1,50	0,15	0,05	0,25
CNMG 090308-MF	CNMG 322-MF	9,525	3,18	0,80	3,81	0,55	0,10	1,50	0,20	0,10	0,40
CNMG 09T304-MF	CNMG 32.51-MF	9,525	3,97	0,40	3,81	0,50	0,10	1,50	0,15	0,05	0,25
CNMG 09T308-MF	CNMG 32.52-MF	9,525	3,97	0,80	3,81	0,55	0,10	1,50	0,20	0,10	0,40
CNMG 120404-MF	CNMG 431-MF	12,700	4,76	0,40	5,16	0,80	0,20	1,50	0,15	0,05	0,25
CNMG 120408-MF	CNMG 432-MF	12,700	4,76	0,80	5,16	1,00	0,25	1,50	0,20	0,10	0,40
CNMG 120412-MF	CNMG 433-MF	12,700	4,76	1,20	5,16	1,25	0,50	2,50	0,25	0,15	0,50
CNMG 120404-SF	CNMG 431-SF	12,700	4,76	0,40	5,16	1,50	0,60	3,00	0,15	0,10	0,23
CNMG 120408-SF	CNMG 432-SF	12,700	4,76	0,80	5,16	1,50	0,60	3,00	0,25	0,12	0,38
CNMG 120412-SF	CNMG 433-SF	12,700	4,76	1,20	5,16	1,50	0,60	3,00	0,35	0,15	0,55
CNMG 120404-LC	CNMG 431-LC	12,700	4,76	0,40	5,16	1,00	0,40	2,50	0,10	0,07	0,30
CNMG 120408-LC	CNMG 432-LC	12,700	4,76	0,80	5,16	1,50	0,40	2,50	0,15	0,10	0,40
CNMG 120412-LC	CNMG 433-LC	12,700	4,76	1,20	5,16	1,50	0,40	2,50	0,20	0,15	0,40
CNMG 120402-MS	CCGT 430.5-MS	12,700	4,76	0,20	5,16	1,00	0,10	3,60	0,10	0,08	0,15
CNMG 120404-MS	CNMG 431-MS	12,700	4,76	0,40	5,16	1,50	0,20	3,60	0,15	0,10	0,20
CNMG 120408-MS	CNMG 432-MS	12,700	4,76	0,80	5,16	2,00	0,30	3,60	0,25	0,10	0,40
CNMG 120412-MS	CNMG 433-MS	12,700	4,76	1,20	5,16	2,40	0,40	3,60	0,30	0,15	0,60
CNMG 120416-MS	CNMG 434-MS	12,700	4,76	1,60	5,16	2,40	0,40	3,60	0,40	0,15	0,80
CNMG 120404-GS	CNMG 431-GS	12,700	4,76	0,40	5,16	1,50	0,15	2,50	0,20	0,10	0,30
CNMG 120408-GS	CNMG 432-GS	12,700	4,76	0,80	5,16	2,00	0,20	3,00	0,25	0,10	0,35
CNMG 120412-GS	CNMG 433-GS	12,700	4,76	1,20	5,16	2,50	0,30	4,00	0,30	0,10	0,45

# CN = RHOMBIC 80° NEGATIVE

RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA

			P					M						K				N	S							
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD						
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
 CNMG-MR Medium	1121473	CNMG 090304-MR		○	⊗																					
	1121293	CNMG 090308-MR		○	⊗																					
	1121180	CNMG 120404-MR		⊗	⊗		⊗																			
	1121174	CNMG 120408-MR		⊗	⊗		⊗																			
	1121198	CNMG 120412-MR		○	⊗		⊗																			
	1121485	CNMG 120416-MR		○	○																					
	1121239	CNMG 160608-MR		⊗	⊗		⊗																			
	1121355	CNMG 160612-MR		⊗	⊗		⊗																			
	1121490	CNMG 160616-MR		⊗	○																					
	1121302	CNMG 190612-MR		⊗	⊗		⊗																			
1121301	CNMG 190616-MR		⊗	⊗																						
 CNMG-PM Medium	1123919	CNMG 120404-PM	⊗	⊗	⊗																					
	1123790	CNMG 120408-PM	⊗	⊗	⊗																					
	1123920	CNMG 120412-PM	⊗	⊗	⊗																					
	1123921	CNMG 120416-PM	⊗	⊗																						
 CNMG-ST Medium	1121344	CNMG 120404-ST															⊗	⊗								
	1121165	CNMG 120408-ST																⊗	⊗							
	1121166	CNMG 120412-ST																⊗	⊗							
	1121488	CNMG 120416-ST																⊗	⊗							
	1121335	CNMG 160608-ST																⊗	⊗							
	1121303	CNMG 160612-ST																⊗	⊗							
	1121491	CNMG 160616-ST																⊗	⊗							
	1121336	CNMG 190612-ST																⊗	⊗							
	1121345	CNMG 190616-ST																⊗	⊗							
	 CNMG-MW Medium Wiper	1121339	CNMG 120408-MW		⊗	⊗													⊗	⊗						
1121191		CNMG 120412-MW		○	⊗														⊗	⊗						

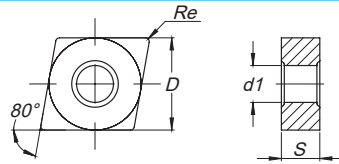
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta






ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CNMG 090304-MR	CNMG 321-MR	9,525	3,18	0,40	3,81	2,00	0,40	4,00	0,20	0,10	0,30
CNMG 090308-MR	CNMG 322-MR	9,525	3,18	0,80	3,81	2,00	0,50	4,00	0,30	0,15	0,50
CNMG 120404-MR	CNMG 431-MR	12,700	4,76	0,40	5,16	3,00	0,40	5,50	0,20	0,10	0,30
CNMG 120408-MR	CNMG 432-MR	12,700	4,76	0,80	5,16	3,00	0,50	5,50	0,30	0,15	0,50
CNMG 120412-MR	CNMG 433-MR	12,700	4,76	1,20	5,16	3,00	0,80	5,50	0,35	0,18	0,60
CNMG 120416-MR	CNMG 434-MR	12,700	4,76	1,60	5,16	3,00	1,00	5,50	0,40	0,23	0,65
CNMG 160608-MR	CNMG 542-MR	15,875	6,35	0,80	6,35	4,00	0,50	7,20	0,30	0,15	0,50
CNMG 160612-MR	CNMG 543-MR	15,875	6,35	1,20	6,35	4,00	0,80	7,20	0,35	0,18	0,60
CNMG 160616-MR	CNMG 544-MR	15,875	6,35	1,60	6,35	4,00	1,00	7,20	0,40	0,23	0,65
CNMG 190612-MR	CNMG 643-MR	19,050	6,35	1,20	7,94	4,00	0,80	8,60	0,35	0,18	0,60
CNMG 190616-MR	CNMG 644-MR	19,050	6,35	1,60	7,94	4,00	1,00	8,60	0,40	0,23	0,65
CNMG 120404-PM	CNMG 431-PM	12,700	4,76	0,40	5,16	3,00	0,40	5,50	0,20	0,10	0,30
CNMG 120408-PM	CNMG 432-PM	12,700	4,76	0,80	5,16	3,00	0,50	5,50	0,30	0,15	0,50
CNMG 120412-PM	CNMG 433-PM	12,700	4,76	1,20	5,16	3,00	0,80	5,50	0,35	0,18	0,60
CNMG 120416-PM	CNMG 434-PM	12,700	4,76	1,60	5,16	3,00	1,00	5,50	0,40	0,23	0,65
CNMG 120404-ST	CNMG 431-ST	12,700	4,76	0,40	5,16	2,50	0,20	5,00	0,22	0,15	0,26
CNMG 120408-ST	CNMG 432-ST	12,700	4,76	0,80	5,16	3,00	0,20	6,00	0,35	0,15	0,50
CNMG 120412-ST	CNMG 433-ST	12,700	4,76	1,20	5,16	3,00	0,30	6,00	0,40	0,15	0,60
CNMG 120416-ST	CNMG 434-ST	12,700	4,76	1,60	5,16	3,00	0,30	6,00	0,45	0,20	0,70
CNMG 160608-ST	CNMG 542-ST	15,875	6,35	0,80	6,35	4,00	0,20	8,00	0,35	0,15	0,50
CNMG 160612-ST	CNMG 543-ST	15,875	6,35	1,20	6,35	4,00	0,30	8,00	0,40	0,15	0,60
CNMG 160616-ST	CNMG 544-ST	15,875	6,35	1,60	6,35	4,00	0,30	8,00	0,45	0,20	0,70
CNMG 190612-ST	CNMG 643-ST	19,050	6,35	1,20	7,94	4,50	0,30	9,00	0,40	0,15	0,60
CNMG 190616-ST	CNMG 644-ST	19,050	6,35	1,60	7,94	4,50	0,30	9,00	0,45	0,20	0,70
CNMG 120408-MW	CNMG 432-MW	12,700	4,76	0,80	5,16	3,00	0,50	5,00	0,30	0,15	0,60
CNMG 120412-MW	CNMG 433-MW	12,700	4,76	1,20	5,16	3,50	0,80	6,00	0,50	0,20	0,90



# CN = RHOMBIC 80° NEGATIVE

## RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA

			P						M						K			N	S						
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Roughing to Medium	CNMG-SS	1121474	CNMG 090304-SS																						
		1121476	CNMG 090308-SS																						
		1121243	CNMG 120404-SS																						
		1121201	CNMG 120408-SS																						
		1121202	CNMG 120412-SS																						
		1121487	CNMG 120416-SS																						
		1121332	CNMG 160608-SS																						
		1121333	CNMG 160612-SS																						
		1121363	CNMG 190612-SS																						
	1121364	CNMG 190616-SS																							
 Medium to Roughing	CNMG-MA <b>NEW</b>	1124504	CNMG 160612-MA																						
		1123785	CNMG 160616-MA																						
 Roughing	CNMG-HR	1121193	CNMG 120408-HR																						
		1121192	CNMG 120412-HR																						
		1121484	CNMG 120416-HR																						
		1121331	CNMG 160608-HR																						
		1121358	CNMG 160612-HR																						
		1121489	CNMG 160616-HR																						
		1121359	CNMG 190612-HR																						
		1121360	CNMG 190616-HR																						
	1121636	CNMG 250924-HR																							

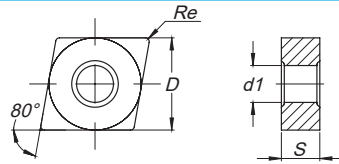
🔴 First choice | 1ª Escolha | 1ª Opción

🟢 Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

🟡 Stock Items | Itens de stock



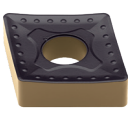

⚪ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CNMG 090304-SS	CNMG 321-SS	9,525	3,18	0,40	3,81	2,00	0,50	2,50	0,20	0,10	0,25
CNMG 090308-SS	CNMG 322-SS	9,525	3,18	0,80	3,81	2,00	0,50	2,50	0,25	0,12	0,45
CNMG 120404-SS	CNMG 431-SS	12,700	4,76	0,40	5,16	3,00	0,50	5,70	0,20	0,10	0,25
CNMG 120408-SS	CNMG 432-SS	12,700	4,76	0,80	5,16	3,00	0,50	5,70	0,25	0,12	0,45
CNMG 120412-SS	CNMG 433-SS	12,700	4,76	1,20	5,16	3,00	0,50	5,70	0,30	0,15	0,60
CNMG 120416-SS	CNMG 434-SS	12,700	4,76	1,60	5,16	3,00	0,50	5,70	0,37	0,18	0,65
CNMG 160608-SS	CNMG 542-SS	15,875	6,35	0,80	6,35	4,00	0,50	7,20	0,25	0,12	0,45
CNMG 160612-SS	CNMG 543-SS	15,875	6,35	1,20	6,35	4,00	0,50	7,20	0,30	0,15	0,60
CNMG 190612-SS	CNMG 643-SS	19,050	6,35	1,20	7,94	4,00	0,50	8,50	0,30	0,15	0,60
CNMG 190616-SS	CNMG 644-SS	19,050	6,35	1,60	7,94	4,00	0,50	8,50	0,37	0,18	0,65
CNMG 160612-MA	CNMG 543-MA	15,875	6,35	1,20	6,35	4,00	1,50	8,00	0,40	0,20	0,65
CNMG 160616-MA	CNMG 544-MA	15,875	6,35	1,60	6,35	5,00	1,60	8,00	0,50	0,25	0,70
CNMG 120408-HR	CNMG 432-HR	12,700	4,76	0,80	5,16	4,00	1,00	7,00	0,35	0,20	0,55
CNMG 120412-HR	CNMG 433-HR	12,700	4,76	1,20	5,16	4,00	1,00	7,00	0,40	0,25	0,60
CNMG 120416-HR	CNMG 434-HR	12,700	4,76	1,60	5,16	4,00	1,50	7,00	0,50	0,32	0,75
CNMG 160608-HR	CNMG 542-HR	15,875	6,35	0,80	6,35	5,00	1,00	8,00	0,35	0,20	0,55
CNMG 160612-HR	CNMG 543-HR	15,875	6,35	1,20	6,35	5,00	1,00	8,00	0,40	0,25	0,60
CNMG 160616-HR	CNMG 544-HR	15,875	6,35	1,60	6,35	5,00	1,50	8,00	0,50	0,32	0,75
CNMG 190612-HR	CNMG 643-HR	19,050	6,35	1,20	7,94	5,50	2,00	10,00	0,40	0,25	0,70
CNMG 190616-HR	CNMG 644-HR	19,050	6,35	1,60	7,94	5,50	2,00	10,00	0,50	0,32	0,80
CNMG 250924-HR	CNMG 866-HR	25,400	9,52	2,40	9,12	6,00	2,00	15,00	0,60	0,40	1,00

# CN = RHOMBIC 80° NEGATIVE

RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA

			P					M					K			N	S							
			CVD					PVD	CVD					PVD	UNC	CVD			UNC	PVD				
			T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquetas	(1) Geometry code	(2) Grade code ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 CNMM-RP Roughing	1124054	CNMM 160608-RP		⊗	⊗																			
	1124055	CNMM 160612-RP		⊗	⊗																			
	1124056	CNMM 160616-RP	○	⊗	⊗				⊗															
CNMM-GR <b>NEW</b>  Roughing	1124597	CNMM 120408-GR			⊗										⊗									⊗
	1124596	CNMM 120412-GR			⊗																			
	1121608	CNMM 190612-HY	○	⊗							⊗													
CNMM-HY  Heavy to Roughing	1121252	CNMM 190616-HY		⊗	⊗						⊗													
	1121434	CNMM 190624-HY	○	⊗	⊗	⊗																		
CNMM-HZ  Heavy to Roughing	1121248	CNMM 250924-HY	○	⊗	⊗																			
	1121607	CNMM 190612-HZ	○	⊗	⊗													⊗	⊗					
	1121251	CNMM 190616-HZ		⊗	⊗	⊗												⊗	⊗					
	1121435	CNMM 190624-HZ		⊗	⊗	⊗												⊗	⊗					
1121247	CNMM 250924-HZ	○	⊗			⊗											⊗							

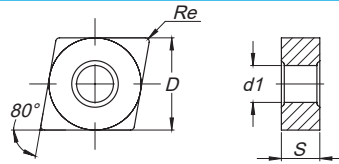
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock items | Itens de stock





○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CNMM 160608-RP	CNMM 542-RP	15,875	6,35	0,80	6,35	3,50	1,00	8,00	0,35	0,20	0,55
CNMM 160612-RP	CNMM 543-RP	15,875	6,35	1,20	6,35	3,50	1,00	8,00	0,25	0,25	0,60
CNMM 160616-RP	CNMM 544-RP	15,875	6,35	1,60	6,35	3,50	1,50	8,00	0,50	0,32	0,75
CNMM 190612-RP	CNMM 643-RP	19,050	6,35	1,20	7,94	5,50	2,00	10,00	0,40	0,25	0,70
CNMM 190616-RP	CNMM 644-RP	19,050	6,35	1,60	7,94	5,50	2,00	10,00	0,50	0,32	0,80
CNMM 190624-RP	CNMM 646-RP	19,050	6,35	2,40	7,94	6,00	2,00	12,00	0,60	0,35	1,20
CNMM 120408-GR	CNMM 432-GR	12,700	4,76	0,80	5,16	4,00	1,00	8,00	0,40	0,25	0,65
CNMM 120412-GR	CNMM 433-GR	12,700	4,76	1,20	5,16	5,00	1,50	8,50	0,50	0,30	0,70
CNMM 190612-HY	CNMM 643-HY	19,050	6,35	1,20	7,94	6,00	2,00	12,00	0,50	0,35	0,80
CNMM 190616-HY	CNMM 644-HY	19,050	6,35	1,60	7,94	6,00	2,00	12,00	0,60	0,35	1,00
CNMM 190624-HY	CNMM 646-HY	19,050	6,35	2,40	7,94	6,00	2,00	12,00	0,60	0,35	1,20
CNMM 250924-HY	CNMM 866-HY	25,400	9,52	2,40	9,12	8,00	2,50	15,00	0,70	0,40	1,40
CNMM 190612-HZ	CNMM 643-HZ	19,050	6,35	1,20	7,94	10,00	2,40	12,00	0,65	0,50	0,80
CNMM 190616-HZ	CNMM 644-HZ	19,050	6,35	1,60	7,94	10,00	2,40	12,00	0,80	0,50	1,10
CNMM 190624-HZ	CNMM 646-HZ	19,050	6,35	2,40	7,94	10,00	3,20	12,00	1,00	0,60	1,60
CNMM 250924-HZ	CNMM 866-HZ	25,400	9,52	2,40	9,12	10,00	3,20	17,00	1,00	0,60	1,60

# DN = RHOMBIC 55° NEGATIVE

## RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA

			P					M							K				N	S					
			CVD					PVD		CVD			PVD				UNC	CVD			UNC	PVD			
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 DNMA Roughing	1120975	DNMA 110404															⊗	⊗							
	1120312	DNMA 150404															⊗	⊗							
	1120313	DNMA 150408															⊗	⊗							
	1121178	DNMA 150412															⊗	⊗							
	1121496	DNMA 150416															⊗	⊗							
	1120314	DNMA 150604															⊗	⊗							
	1120315	DNMA 150608															⊗	⊗							
	1120316	DNMA 150612															⊗	⊗							
	1120317	DNMA 150616															⊗	⊗							
 DNMG-MF Finishing	1121497	DNMG 110404-MF		⊗	⊗																				
	1121499	DNMG 110408-MF	⊗	⊗	⊗																				
	1121502	DNMG 150404-MF		⊗	⊗	⊗		⊗																	
	1121504	DNMG 150408-MF		⊗	⊗	⊗		⊗																	
	1121507	DNMG 150412-MF		⊗	⊗	○																			
	1121515	DNMG 150604-MF		⊗	⊗			⊗																	
	1121516	DNMG 150608-MF		⊗	⊗			⊗																	
1121517	DNMG 150612-MF		⊗	⊗																					
 DNMG-SF Medium to Finishing	1123749	DNMG 110404-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗	
	1123750	DNMG 110408-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗	
	1123751	DNMG 150404-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗	
	1123752	DNMG 150408-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗	
	1123753	DNMG 150412-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗	
	1123754	DNMG 150604-SF							⊗	⊗		⊗	⊗	⊗								⊗	⊗	⊗	
	1123755	DNMG 150608-SF							⊗	⊗		⊗	⊗	⊗								⊗	⊗	⊗	
1123756	DNMG 150612-SF							⊗	⊗		⊗	⊗	⊗								⊗	⊗	⊗		
 DNMG-LC Medium to Finishing	1123662	DNMG 150404-LC		⊗	⊗																				
	1123663	DNMG 150408-LC		⊗	⊗																				
	1123664	DNMG 150412-LC		⊗	⊗																				
	1122020	DNMG 150604-LC	⊗	⊗	⊗																				
	1122007	DNMG 150608-LC	⊗	⊗	⊗																				
	1123655	DNMG 150612-LC		⊗	⊗																				

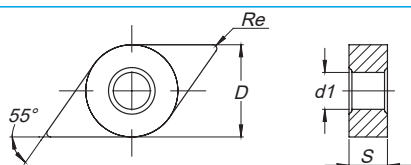
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta







ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
DNMA 110404	DNMA 331	9,525	4,76	0,40	3,81	2,00	0,20	3,50	0,15	0,10	0,30
DNMA 150404	DNMA 431	12,700	4,76	0,40	5,16	3,00	0,20	4,00	0,15	0,10	0,30
DNMA 150408	DNMA 432	12,700	4,76	0,80	5,16	3,00	0,20	6,00	0,35	0,15	0,60
DNMA 150412	DNMA 433	12,700	4,76	1,20	5,16	3,00	0,30	6,00	0,45	0,20	0,80
DNMA 150416	DNMA 434	12,700	4,76	1,60	5,16	3,00	0,30	6,00	0,55	0,20	1,00
DNMA 150604	DNMA 441	12,700	6,35	0,40	5,16	3,00	0,20	4,00	0,15	0,10	0,30
DNMA 150608	DNMA 442	12,700	6,35	0,80	5,16	3,00	0,20	6,00	0,35	0,15	0,60
DNMA 150612	DNMA 443	12,700	6,35	1,20	5,16	3,00	0,30	6,00	0,45	0,20	0,80
DNMA 150616	DNMA 444	12,700	6,35	1,60	5,16	3,00	0,30	6,00	0,55	0,20	1,00
DNMG 110404-MF	DNMG 331-MF	9,525	4,76	0,40	3,81	0,40	0,10	1,50	0,15	0,05	0,25
DNMG 110408-MF	DNMG 332-MF	9,525	4,76	0,80	3,81	0,40	0,10	1,50	0,20	0,10	0,40
DNMG 150404-MF	DNMG 431-MF	12,700	4,76	0,40	5,16	0,40	0,15	1,50	0,15	0,05	0,25
DNMG 150408-MF	DNMG 432-MF	12,700	4,76	0,80	5,16	0,40	0,20	1,50	0,20	0,10	0,40
DNMG 150412-MF	DNMG 433-MF	12,700	4,76	1,20	5,16	0,80	0,25	2,50	0,25	0,15	0,50
DNMG 150604-MF	DNMG 441-MF	12,700	6,35	0,40	5,16	0,40	0,10	1,50	0,15	0,05	0,25
DNMG 150608-MF	DNMG 442-MF	12,700	6,35	0,80	5,16	0,40	0,10	1,50	0,20	0,10	0,40
DNMG 150612-MF	DNMG 443-MF	12,700	6,35	1,20	5,16	0,80	0,20	2,50	0,25	0,15	0,50
DNMG 110404-SF	DNMG 331-SF	9,525	4,76	0,40	3,81	1,50	0,60	3,00	0,15	0,10	0,23
DNMG 110408-SF	DNMG 332-SF	9,525	4,76	0,80	3,81	1,50	0,60	3,00	0,25	0,12	0,38
DNMG 150404-SF	DNMG 431-SF	12,700	4,76	0,40	5,16	1,50	0,60	3,00	0,15	0,10	0,23
DNMG 150408-SF	DNMG 432-SF	12,700	4,76	0,80	5,16	1,50	0,60	3,00	0,25	0,12	0,38
DNMG 150412-SF	DNMG 433-SF	12,700	4,76	1,20	5,16	1,50	0,60	3,00	0,35	0,15	0,55
DNMG 150604-SF	DNMG 441-SF	12,700	6,35	0,40	5,16	1,50	0,60	3,00	0,15	0,10	0,23
DNMG 150608-SF	DNMG 442-SF	12,700	6,35	0,80	5,16	1,50	0,60	3,00	0,25	0,12	0,38
DNMG 150612-SF	DNMG 443-SF	12,700	6,35	1,20	5,16	1,50	0,60	3,00	0,35	0,15	0,55
DNMG 150404-LC	DNMG 431-LC	12,700	4,76	0,40	5,16	1,00	0,40	2,50	0,15	0,07	0,30
DNMG 150408-LC	DNMG 432-LC	12,700	4,76	0,80	5,16	1,50	0,40	2,50	0,20	0,10	0,40
DNMG 150412-LC	DNMG 433-LC	12,700	4,76	1,20	5,16	2,00	0,80	3,00	0,25	0,15	0,50
DNMG 150604-LC	DNMG 441-LC	12,700	6,35	0,40	5,16	1,50	0,40	3,00	0,15	0,07	0,30
DNMG 150608-LC	DNMG 442-LC	12,700	6,35	0,80	5,16	2,00	0,40	3,00	0,20	0,10	0,40
DNMG 150612-LC	DNMG 443-LC	12,700	6,35	1,20	5,16	2,50	0,80	3,50	0,25	0,15	0,50

TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

# DN = RHOMBIC 55° NEGATIVE

RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA

			P					M					K				N	S							
			CVD					PVD	CVD			PVD		UNC	CVD			UNC	PVD						
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 DNMG-MS Medium to Finishing	1121503	DNMG 150404-MS												△	△				⊙			△	△		
	1121505	DNMG 150408-MS												△	△				⊙			△	△		
	1121509	DNMG 150412-MS												△	○				○			△	○		
	1121513	DNMG 150416-MS												△	○				○			△	○		
	1121927	DNMG 150604-MS												⊙		△			⊙			⊙		△	
	1121928	DNMG 150608-MS												⊙		△			⊙			⊙		△	
	1122030	DNMG 150612-MS												⊙	△	△			○			⊙	△	△	
 DNMG-GS Medium to Finishing	1124688	DNMG 110404-GS												⊙		△						△		⊙	
	1124689	DNMG 110408-GS												⊙		△							△		⊙
	1124511	DNMG 150404-GS												⊙		△							△		⊙
	1124512	DNMG 150408-GS												⊙		△							△		⊙
	1124513	DNMG 150412-GS												⊙		△							△		⊙
	1124682	DNMG 150604-GS												⊙		△							△		⊙
	1124683	DNMG 150608-GS												⊙		△							△		⊙
1124684	DNMG 150612-GS												⊙		△							△		⊙	
 DNMG-MR Medium	1121498	DNMG 110404-MR		⊙	△	○													○						
	1121500	DNMG 110408-MR		⊙	△	○													○						
	1121218	DNMG 150404-MR		○	△	⊙														⊙					
	1121219	DNMG 150408-MR		⊙	△	△	⊙													△					
	1121508	DNMG 150412-MR		○	○	△														⊙					
	1121224	DNMG 150604-MR		⊙	△	⊙														⊙					
	1121328	DNMG 150608-MR		○	△	△	⊙													△					
1121518	DNMG 150612-MR		⊙	△	⊙														⊙						
1121522	DNMG 150616-MR				○	○													○						
 DNMG-PM Medium	1123924	DNMG 150404-PM	⊙	⊙	△																				
	1123916	DNMG 150408-PM	⊙	⊙	△																				
	1123925	DNMG 150412-PM	⊙	⊙	△																				
	1123926	DNMG 150416-PM	⊙	⊙	△																				
	1124065	DNMG 150604-PM	⊙	⊙	△																				
	1123777	DNMG 150608-PM	⊙	⊙	△																				
	1124066	DNMG 150612-PM	⊙	⊙	△																				
1124082	DNMG 150616-PM	⊙	⊙	△																					

△ First choice | 1ª Escolha | 1ª Opción

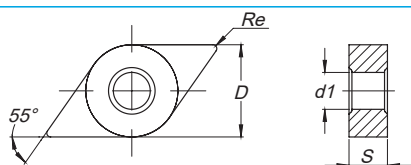
⊙ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊙ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

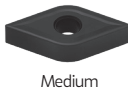
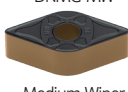

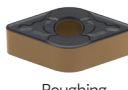
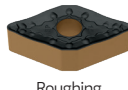




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
DNMG 150404-MS	DNMG 431-MS	12,700	4,76	0,40	5,16	1,50	0,20	3,60	0,15	0,10	0,20
DNMG 150408-MS	DNMG 432-MS	12,700	4,76	0,80	5,16	2,00	0,30	3,80	0,25	0,10	0,40
DNMG 150412-MS	DNMG 433-MS	12,700	4,76	1,20	5,16	2,50	0,40	4,00	0,30	0,15	0,60
DNMG 150416-MS	DNMG 434-MS	12,700	4,76	1,60	5,16	2,80	0,40	4,50	0,40	0,15	0,80
DNMG 150604-MS	DNMG 441-MS	12,700	6,35	0,40	5,16	1,50	0,20	3,60	0,15	0,10	0,20
DNMG 150608-MS	DNMG 442-MS	12,700	6,35	0,80	5,16	2,00	0,30	4,00	0,25	0,10	0,40
DNMG 150612-MS	DNMG 443-MS	12,700	6,35	1,20	5,16	2,80	0,40	4,50	0,30	0,15	0,60
DNMG 110404-GS	DNMG 331-GS	9,525	4,76	0,40	3,81	1,50	0,15	2,00	0,20	0,10	0,25
DNMG 110408-GS	DNMG 332-GS	9,525	4,76	0,80	3,81	2,00	0,20	2,50	0,25	0,10	0,30
DNMG 150404-GS	DNMG 431-GS	12,700	4,76	0,40	5,16	1,50	0,15	2,00	0,20	0,10	0,25
DNMG 150408-GS	DNMG 432-GS	12,700	4,76	0,80	5,16	2,00	0,20	2,50	0,25	0,10	0,30
DNMG 150412-GS	DNMG 433-GS	12,700	4,76	1,20	5,16	2,50	0,30	3,00	0,30	0,10	0,35
DNMG 150604-GS	DNMG 441-GS	12,700	6,35	0,40	5,16	1,50	0,15	2,00	0,20	0,10	0,25
DNMG 150608-GS	DNMG 442-GS	12,700	6,35	0,80	5,16	2,00	0,20	2,50	0,25	0,10	0,30
DNMG 150612-GS	DNMG 443-GS	12,700	6,35	1,20	5,16	2,50	0,30	3,00	0,30	0,10	0,35
DNMG 110404-MR	DNMG 331-MR	9,525	4,76	0,40	3,81	2,00	0,40	5,00	0,20	0,10	0,30
DNMG 110408-MR	DNMG 332-MR	9,525	4,76	0,80	3,81	2,00	0,50	5,00	0,30	0,15	0,50
DNMG 150404-MR	DNMG 431-MR	12,700	4,76	0,40	5,16	3,00	0,40	6,00	0,20	0,10	0,30
DNMG 150408-MR	DNMG 432-MR	12,700	4,76	0,80	5,16	3,00	0,50	6,00	0,30	0,15	0,50
DNMG 150412-MR	DNMG 433-MR	12,700	4,76	1,20	5,16	3,00	0,80	6,00	0,35	0,18	0,60
DNMG 150604-MR	DNMG 441-MR	12,700	6,35	0,40	5,16	3,00	0,40	6,00	0,20	0,10	0,30
DNMG 150608-MR	DNMG 442-MR	12,700	6,35	0,80	5,16	3,00	0,50	6,00	0,30	0,15	0,50
DNMG 150612-MR	DNMG 443-MR	12,700	6,35	1,20	5,16	3,00	0,80	6,00	0,35	0,18	0,60
DNMG 150616-MR	DNMG 444-MR	12,700	6,35	1,60	5,16	3,00	1,00	6,00	0,40	0,23	0,65
DNMG 150404-PM	DNMG 431-PM	12,700	4,76	0,40	5,16	3,00	0,40	6,00	0,20	0,10	0,30
DNMG 150408-PM	DNMG 432-PM	12,700	4,76	0,80	5,16	3,00	0,50	6,00	0,30	0,15	0,50
DNMG 150412-PM	DNMG 433-PM	12,700	4,76	1,20	5,16	3,00	0,80	6,00	0,35	0,18	0,60
DNMG 150416-PM	DNMG 434-PM	12,700	4,76	1,60	5,16	3,00	1,00	6,00	0,40	0,23	0,65
DNMG 150604-PM	DNMG 441-PM	12,700	6,35	0,40	5,16	2,50	0,50	5,00	0,25	0,15	0,40
DNMG 150608-PM	DNMG 442-PM	12,700	6,35	0,80	5,16	3,00	0,50	6,00	0,30	0,15	0,50
DNMG 150612-PM	DNMG 443-PM	12,700	6,35	1,20	5,16	3,50	0,50	7,00	0,35	0,20	0,60
DNMG 150616-PM	DNMG 444-PM	12,70	6,35	1,60	5,16	3,00	1,00	6,00	0,40	0,23	0,65

# DN = RHOMBIC 55° NEGATIVE

## RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA

			P					M						K			N	S							
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Medium	1121346	DNMG 110404-ST															⊗	⊗							
	1121347	DNMG 110408-ST															⊗	⊗							
	1121255	DNMG 150404-ST															⊗	⊗							
	1121256	DNMG 150408-ST															⊗	⊗							
	1121512	DNMG 150412-ST															⊗	⊗							
	1121514	DNMG 150416-ST															⊗	⊗							
	1121257	DNMG 150604-ST															⊗	⊗							
	1121258	DNMG 150608-ST															⊗	⊗							
	1121521	DNMG 150612-ST															⊗	⊗							
	1121523	DNMG 150616-ST															⊗	⊗							
 Medium Wiper	1121374	DNMG 150408-MW		○	○													⊗	⊗						
	1121510	DNMG 150412-MW		○	○														⊗	⊗					
	1121375	DNMG 150608-MW		⊗	⊗														⊗	⊗					
	1121519	DNMG 150612-MW		⊗	○														⊗	⊗					
 Roughing to Medium	1121501	DNMG 110408-SS								⊗		⊗		⊗							⊗		⊗	⊗	
	1121291	DNMG 150404-SS								⊗	⊗	⊗	⊗		⊗							⊗		⊗	⊗
	1121292	DNMG 150408-SS								⊗	⊗	⊗	⊗		⊗							⊗		⊗	⊗
	1121511	DNMG 150412-SS								⊗	⊗	⊗	⊗		⊗							⊗		○	
	1121284	DNMG 150604-SS								⊗	⊗	⊗	⊗		⊗							⊗		⊗	⊗
	1121285	DNMG 150608-SS								⊗	⊗	⊗	⊗		⊗							⊗		⊗	⊗
	1121520	DNMG 150612-SS								⊗	⊗	⊗	⊗		⊗							⊗		⊗	⊗
1121287	DNMG 150616-SS									⊗				⊗								⊗		○	
 Roughing	1121253	DNMG 150408-HR		⊗	⊗		⊗											⊗	⊗						
	1121506	DNMG 150412-HR		⊗	⊗		○												⊗	⊗	⊗				
	1121254	DNMG 150608-HR		⊗	⊗		⊗												⊗	⊗					
	1121362	DNMG 150612-HR		⊗	⊗		⊗												⊗	⊗					
	1121340	DNMG 150616-HR		○	⊗		⊗												⊗	⊗					
 Roughing	1124205	DNMM 150612-RP		⊗	⊗																				

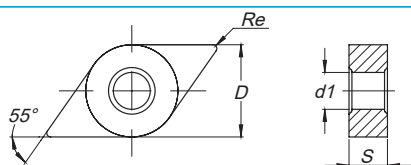
⊗ First choice | 1ª Escolha | 1ª Opción

⊕ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊖ Stock items | Itens de stock

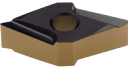
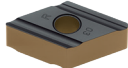
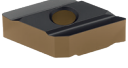
○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
DNMG 110404-ST	DNMG 331-ST	9,525	4,76	0,40	3,81	2,00	0,20	3,50	0,20	0,15	0,30
DNMG 110408-ST	DNMG 332-ST	9,525	4,76	0,80	3,81	2,00	0,20	3,50	0,35	0,15	0,50
DNMG 150404-ST	DNMG 431-ST	12,700	4,76	0,40	5,16	2,50	0,20	5,00	0,20	0,15	0,30
DNMG 150408-ST	DNMG 432-ST	12,700	4,76	0,80	5,16	2,50	0,50	5,00	0,35	0,15	0,50
DNMG 150412-ST	DNMG 433-ST	12,700	4,76	1,20	5,16	3,00	0,50	6,00	0,50	0,25	0,70
DNMG 150416-ST	DNMG 434-ST	12,700	4,76	1,60	5,16	3,00	0,30	6,00	0,60	0,25	1,00
DNMG 150604-ST	DNMG 441-ST	12,700	6,35	0,40	5,16	2,50	0,20	5,00	0,20	0,15	0,30
DNMG 150608-ST	DNMG 442-ST	12,700	6,35	0,80	5,16	2,50	0,20	5,00	0,35	0,15	0,50
DNMG 150612-ST	DNMG 443-ST	12,700	6,35	1,20	5,16	3,00	0,30	6,00	0,50	0,15	0,70
DNMG 150616-ST	DNMG 444-ST	12,700	6,35	1,60	5,16	3,00	0,30	6,00	0,60	0,25	1,00
DNMG 150408-MW	DNMG 432-MW	12,700	4,76	0,80	5,16	2,50	0,30	4,00	0,35	0,15	0,60
DNMG 150412-MW	DNMG 433-MW	12,700	4,76	1,20	5,16	3,00	0,50	5,00	0,50	0,25	0,90
DNMG 150608-MW	DNMG 442-MW	12,700	6,35	0,80	5,16	3,00	0,30	4,50	0,35	0,15	0,60
DNMG 150612-MW	DNMG 443-MW	12,700	6,35	1,20	5,16	3,50	0,50	5,50	0,50	0,25	0,90
DNMG 110408-SS	DNMG 332-SS	12,700	4,76	0,80	3,81	2,00	0,50	4,40	0,25	0,12	0,45
DNMG 150404-SS	DNMG 431-SS	12,700	4,76	0,40	5,16	3,00	0,30	6,00	0,25	0,10	0,30
DNMG 150408-SS	DNMG 432-SS	12,700	4,76	0,80	5,16	3,00	0,50	6,40	0,25	0,12	0,45
DNMG 150412-SS	DNMG 433-SS	12,700	4,76	1,20	5,16	3,00	0,50	6,40	0,30	0,15	0,60
DNMG 150604-SS	DNMG 441-SS	12,700	6,35	0,40	5,16	3,00	0,30	6,00	0,25	0,10	0,30
DNMG 150608-SS	DNMG 442-SS	12,700	6,35	0,80	5,16	3,00	0,50	6,40	0,25	0,12	0,45
DNMG 150612-SS	DNMG 443-SS	12,700	6,35	1,20	5,16	3,00	0,50	6,40	0,30	0,15	0,60
DNMG 150616-SS	DNMG 444-SS	12,700	6,35	1,60	5,16	3,00	0,50	6,40	0,50	0,20	1,00
DNMG 150408-HR	DNMG 432-HR	12,700	4,76	0,80	5,16	4,00	0,80	6,00	0,35	0,20	0,55
DNMG 150412-HR	DNMG 433-HR	12,700	4,76	1,20	5,16	4,00	1,00	6,00	0,40	0,25	0,70
DNMG 150608-HR	DNMG 442-HR	12,700	6,35	0,80	5,16	4,00	0,80	6,00	0,35	0,20	0,55
DNMG 150612-HR	DNMG 443-HR	12,700	6,35	1,20	5,16	4,00	1,00	6,00	0,40	0,25	0,70
DNMG 150616-HR	DNMG 444-HR	12,700	6,35	1,60	5,16	4,00	1,50	6,00	0,50	0,30	0,80
DNMM 150612-RP	DNMM 443-RP	12,700	6,35	1,20	5,16	4,00	1,00	6,00	0,40	0,25	0,70

# DN = RHOMBIC 55° NEGATIVE

## RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA

			P					M						K			N	S							
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 DNMX-02 Medium to Finishing	1120351	DNMX 150604-L02		⊗	⊗																				
	1120353	DNMX 150604-R02		⊗	⊗																				
	1120355	DNMX 150608-L02		⊗	⊗																				
	1120357	DNMX 150608-R02		⊗	⊗																				
 DNMX-03 Medium	1123983	DNMX 150604-L03		⊗	○																				
	1123815	DNMX 150604-R03		⊗	⊗																				
	1123796	DNMX 150608-L03		○	⊗																				
	1123795	DNMX 150608-R03		⊗	⊗																				
 DNMX-01 Roughing to Medium	1120348	DNMX 150408-L01		○	○																				
	1120349	DNMX 150408-R01		○	○																				
	1120350	DNMX 150604-L01		○	○																				
	1120352	DNMX 150604-R01		⊗	⊗																				
	1120354	DNMX 150608-L01		○	⊗																				
	1120356	DNMX 150608-R01		○	⊗																				

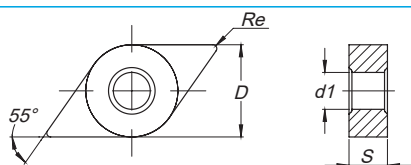
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock items | Itens de stock


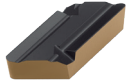
○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
DNMX 150604-L02	DNMX 441-L02	12,700	6,35	0,40	5,16	2,50	0,70	5,00	0,20	0,14	0,25
DNMX 150604-R02	DNMX 441-R02	12,700	6,35	0,40	5,16	2,50	0,70	5,00	0,20	0,14	0,25
DNMX 150608-L02	DNMX 442-L02	12,700	6,35	0,80	5,16	3,00	0,80	5,00	0,35	0,14	0,50
DNMX 150608-R02	DNMX 442-R02	12,700	6,35	0,80	5,16	3,00	0,80	5,00	0,35	0,14	0,50
DNMX 150604-L03	DNMX 441-L03	12,700	6,35	0,40	5,16	2,70	0,80	5,50	0,20	0,15	0,25
DNMX 150604-R03	DNMX 441-R03	12,700	6,35	0,40	5,16	2,70	0,80	5,50	0,20	0,15	0,25
DNMX 150608-L03	DNMX 442-L03	12,700	6,35	0,80	5,16	3,20	1,00	6,00	0,35	0,16	0,50
DNMX 150608-R03	DNMX 442-R03	12,700	6,35	0,80	5,16	3,20	1,00	6,00	0,35	0,16	0,50
DNMX 150408-L01	DNMX 432-L01	12,700	4,76	0,80	5,16	2,50	1,00	5,00	0,35	0,20	0,50
DNMX 150408-R01	DNMX 432-R01	12,700	4,76	0,80	5,16	2,50	1,00	5,00	0,35	0,20	0,50
DNMX 150604-L01	DNMX 441-L01	12,700	6,35	0,40	5,16	3,00	1,50	6,00	0,25	0,15	0,30
DNMX 150604-R01	DNMX 441-R01	12,700	6,35	0,40	5,16	3,00	1,50	6,00	0,25	0,15	0,30
DNMX 150608-L01	DNMX 442-L01	12,700	6,35	0,80	5,16	3,50	2,00	6,50	0,35	0,20	0,50
DNMX 150608-R01	DNMX 442-R01	12,700	6,35	0,80	5,16	3,50	2,00	6,50	0,35	0,20	0,50

# KN = PARALLELOGRAM 55° NEGATIVE

## PARALELOGRAMA 55° NEGATIVA | PARALELOGRAMO 55° NEGATIVA

			P					M						K			N	S						
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD				
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 KNUX-01 Finishing	1120368	KNUX 160405-L01-PD		⊗	⊗																			
	1120371	KNUX 160405-R01-PD		⊗	⊗	○																		
 KNUX-02 Medium	1120374	KNUX 160410-L02		⊗	⊗																			
	1120376	KNUX 160410-R02		⊗	⊗																			

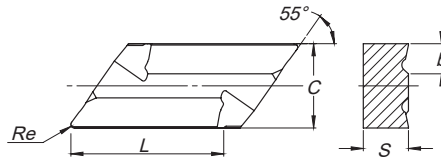
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)					Cutting Conditions Condições de Corte Condiciones de Corte					
		L	C	Re	S	b	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
KNUX 160405-L01	KNUX 160405-L01	16,50	9,525	0,5	4,76	2,5	3,00	1,00	6,00	0,30	0,20	0,35
KNUX 160405-R01	KNUX 160405-R01	16,50	9,525	0,5	4,76	2,5	3,00	1,00	6,00	0,30	0,20	0,35
KNUX 160410-L02	KNUX 160410-L02	16,50	9,525	1,0	4,76	3,2	4,00	1,50	6,00	0,50	0,40	0,70
KNUX 160410-R02	KNUX 160410-R02	16,50	9,525	1,0	4,76	3,2	4,00	1,50	6,00	0,50	0,40	0,70



# RN = ROUND R° NEGATIVE

## REDONDA R° NEGATIVA | REDONDA R° NEGATIVA

			P					M						K			N	S						
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD				
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 RNMG-ST Medium	1120439	RNMG 090300-ST			⊗																			
	1120440	RNMG 120400-ST			○																			
	1120441	RNMG 150600-ST			○																			
	1120442	RNMG 190600-ST			⊗																			
	1120443	RNMG 250900-ST			○														⊗					

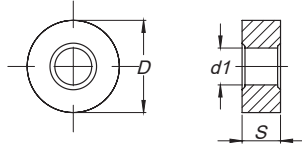
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock Items | Itens de stock







○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RNMG 090300-ST	RNMG 320-ST	9,525	3,18	-	3,81	2,30	0,90	4,50	0,30	0,10	0,90
RNMG 120400-ST	RNMG 430-ST	12,700	4,76	-	5,16	3,00	1,20	4,80	0,40	0,12	1,20
RNMG 150600-ST	RNMG 540-ST	15,875	6,35	-	6,35	3,80	1,50	7,50	0,50	0,15	1,50
RNMG 190600-ST	RNMG 640-ST	19,050	6,35	-	7,94	4,50	1,90	7,60	0,65	0,20	1,90
RNMG 250900-ST	RNMG 860-ST	25,400	9,52	-	9,12	6,30	2,50	10,00	0,80	0,25	2,50

# SN = SQUARE 90° NEGATIVE

## QUADRADA 90° NEGATIVA | ESQUADRA 90° NEGATIVA

			P						M						K				N	S				
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD				
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 SNMA Roughing	1121070	SNMA 090304															⊗	⊗						
	1120474	SNMA 090308															⊗	⊗						
	1120475	SNMA 120404															⊗	⊗						
	1120476	SNMA 120408															⊗	⊗						
	1120478	SNMA 120412															⊗	⊗						
	1120479	SNMA 120416															⊗	⊗						
	1120481	SNMA 150412															⊗	⊗						
	1121525	SNMA 150612															⊗	⊗						
	1120482	SNMA 190612															⊗	⊗						
	1120483	SNMA 190616															⊗	⊗						
	1120485	SNMA 190624															⊗	⊗						
	1120486	SNMA 250724														○	⊗	⊗						
 SNMG-MF Finishing	1121528	SNMG 120404-MF		⊗	⊗			⊗																
	1121530	SNMG 120408-MF		⊗	⊗			⊗																
	1121531	SNMG 120412-MF		⊗	⊗			⊗																
 SNMG-SF Medium to Finishing	1123874	SNMG 120404-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1123875	SNMG 120408-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1123876	SNMG 120412-SF							⊗	⊗		⊗	⊗	⊗							⊗	⊗	⊗	⊗
 SNMG-GS Medium to Finishing	1124556	SNMG 120408-GS											⊗		⊗						⊗		⊗	
	1124557	SNMG 120412-GS											⊗		⊗						⊗		⊗	
	1124558	SNMG 120416-GS											⊗		⊗						⊗		⊗	
 SNMG-MR Medium	1121529	SNMG 120404-MR		⊗	⊗																			
	1121179	SNMG 120408-MR		⊗	⊗			⊗																
	1121311	SNMG 120412-MR		⊗	⊗			⊗																
	1121357	SNMG 120416-MR			⊗																			
	1121533	SNMG 150608-MR		⊗	⊗			⊗																
	1121536	SNMG 150612-MR		⊗	⊗			⊗																
 SNMG-PM Medium	1124083	SNMG 120404-PM	⊗	⊗	⊗																			
	1124084	SNMG 120408-PM	⊗	⊗	⊗																			
	1124085	SNMG 120412-PM	⊗	⊗	⊗																			

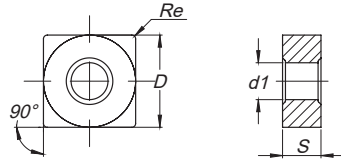
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock




○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
SNMA 090304	SNMA 321	9,525	3,18	0,40	3,81	2,50	0,20	4,50	0,20	0,15	0,30
SNMA 090308	SNMA 322	9,525	3,18	0,80	3,81	2,50	0,40	4,50	0,40	0,20	0,60
SNMA 120404	SNMA 431	12,700	4,76	0,40	5,16	4,00	0,20	8,00	0,20	0,15	0,30
SNMA 120408	SNMA 432	12,700	4,76	0,80	5,16	4,00	0,20	8,00	0,40	0,20	0,60
SNMA 120412	SNMA 433	12,700	4,76	1,20	5,16	4,00	0,30	8,00	0,45	0,20	0,80
SNMA 120416	SNMA 434	12,700	4,76	1,60	5,16	4,00	0,30	8,00	0,55	0,20	1,00
SNMA 150412	SNMA 533	15,875	4,76	1,20	6,35	5,00	0,30	9,00	0,45	0,20	0,80
SNMA 150612	SNMA 543	15,875	6,35	1,20	6,35	5,00	0,30	10,00	0,45	0,20	0,80
SNMA 190612	SNMA 643	19,050	6,35	1,20	7,94	6,00	0,30	12,00	0,45	0,20	0,80
SNMA 190616	SNMA 644	19,050	6,35	1,60	7,94	6,00	0,30	12,00	0,55	0,20	1,00
SNMA 190624	SNMA 646	19,050	6,35	2,40	7,94	6,00	0,30	12,00	0,60	0,20	1,20
SNMA 250724	SNMA 856	25,400	7,94	2,40	9,12	6,00	0,40	12,00	0,60	0,20	1,40
SNMG 120404-MF	SNMG 431-MF	12,700	4,76	0,40	5,16	0,40	0,15	1,50	0,10	0,05	0,25
SNMG 120408-MF	SNMG 432-MF	12,700	4,76	0,80	5,16	0,50	0,20	1,50	0,20	0,10	0,40
SNMG 120412-MF	SNMG 433-MF	12,700	4,76	1,20	5,16	0,80	0,25	2,50	0,30	0,20	0,60
SNMG 120404-SF	SNMG 431-SF	12,700	4,76	0,40	5,16	2,00	1,00	4,00	0,15	0,10	0,23
SNMG 120408-SF	SNMG 432-SF	12,700	4,76	0,80	5,16	2,00	1,00	4,00	0,20	0,12	0,38
SNMG 120412-SF	SNMG 433-SF	12,700	4,76	1,20	5,16	2,50	1,00	4,00	0,25	0,15	0,55
SNMG 120408-GS	SNMG 432-GS	12,700	4,76	0,80	5,16	2,00	0,20	3,00	0,30	0,15	0,40
SNMG 120412-GS	SNMG 433-GS	12,700	4,76	1,20	5,16	2,50	0,50	3,50	0,35	0,20	0,50
SNMG 120416-GS	SNMG 434-GS	12,700	4,76	1,60	5,16	3,00	0,50	4,00	0,40	0,20	0,50
SNMG 120404-MR	SNMG 431-MR	12,700	4,76	0,40	5,16	3,00	0,40	6,00	0,20	0,10	0,30
SNMG 120408-MR	SNMG 432-MR	12,700	4,76	0,80	5,16	3,00	0,50	6,00	0,30	0,15	0,50
SNMG 120412-MR	SNMG 433-MR	12,700	4,76	1,20	5,16	3,00	0,80	6,00	0,35	0,18	0,60
SNMG 120416-MR	SNMG 434-MR	12,700	4,76	1,60	5,16	3,00	1,00	6,00	0,40	0,23	0,65
SNMG 150608-MR	SNMG 542-MR	15,875	6,35	0,80	6,35	4,00	0,60	7,50	0,30	0,15	0,50
SNMG 150612-MR	SNMG 543-MR	15,875	6,35	1,20	6,35	4,00	0,80	7,50	0,35	0,18	0,60
SNMG 150616-MR	SNMG 534-MR	15,875	6,35	1,60	6,35	4,00	1,00	7,50	0,40	0,20	0,70
SNMG 190612-MR	SNMG 643-MR	19,050	6,35	1,20	7,94	5,00	0,80	9,00	0,35	0,18	0,60
SNMG 190616-MR	SNMG 644-MR	19,050	6,35	1,60	7,94	5,00	1,00	9,00	0,40	0,23	0,65
SNMG 120404-PM	SNMG 431-PM	12,70	4,76	0,40	5,16	3,00	0,40	6,00	0,20	0,10	0,30
SNMG 120408-PM	SNMG 432-PM	12,70	4,76	0,80	5,16	3,00	0,50	6,00	0,30	0,15	0,50
SNMG 120412-PM	SNMG 433-PM	12,70	4,76	1,20	5,16	3,00	0,80	6,00	0,35	0,18	0,60

# SN = SQUARE 90° NEGATIVE

## QUADRADA 90° NEGATIVA | ESQUADRA 90° NEGATIVA

			P					M						K				N	S						
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Medium	1121338	SNMG 090308-ST															⊗	⊗							
	1121241	SNMG 120404-ST															○	⊗							
	1121181	SNMG 120408-ST															⊗	⊗							
	1121310	SNMG 120412-ST															⊗	⊗	○						
	1121242	SNMG 120416-ST															⊗	⊗							
	1121538	SNMG 150612-ST															○	○							
	1121541	SNMG 150616-ST															○	⊗							
	1121544	SNMG 190612-ST															⊗	⊗							
1121548	SNMG 190616-ST															○	⊗	⊗							
 Roughing to Medium	1121526	SNMG 090304-SS										⊗		⊗							⊗		⊗		
	1121527	SNMG 090308-SS																				⊗		⊗	
	1121365	SNMG 120404-SS								⊗		⊗		⊗								⊗		⊗	
	1121315	SNMG 120408-SS								⊗	⊗	⊗		⊗								⊗		⊗	
	1121366	SNMG 120412-SS								⊗		⊗		⊗								⊗		⊗	
	1121532	SNMG 120416-SS								⊗															
	1121534	SNMG 150608-SS								⊗															
1121537	SNMG 150612-SS								⊗																
1121547	SNMG 190616-SS								⊗																
 Roughing	1121194	SNMG 120408-HR		⊗	⊗		⊗										⊗	⊗	⊗						
	1121195	SNMG 120412-HR		⊗	⊗		⊗										⊗	⊗							
	1121361	SNMG 120416-HR		⊗	⊗		⊗											⊗	⊗						
	1121535	SNMG 150612-HR			⊗		⊗												○						
	1121539	SNMG 150616-HR			⊗		⊗												⊗						
	1121542	SNMG 190612-HR		⊗	⊗		⊗												⊗						
	1121545	SNMG 190616-HR		⊗	⊗		⊗												○						
1124184	SNMG 250724-HR			⊗		⊗																			
1121638	SNMG 250924-HR			⊗		⊗												○							

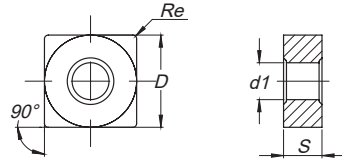
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock items | Itens de stock

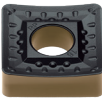


○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
SNMG 090308-ST	SNMG 322-ST	9,525	3,18	0,80	3,81	2,50	0,20	4,50	0,35	0,15	0,50
SNMG 120404-ST	SNMG 431-ST	12,700	4,76	0,40	5,16	3,00	0,20	6,00	0,20	0,15	0,30
SNMG 120408-ST	SNMG 432-ST	12,700	4,76	0,80	5,16	3,00	0,20	6,00	0,35	0,15	0,50
SNMG 120412-ST	SNMG 433-ST	12,700	4,76	1,20	5,16	3,00	0,30	6,00	0,40	0,15	0,60
SNMG 120416-ST	SNMG 434-ST	12,700	4,76	1,60	5,16	3,00	0,30	6,00	0,45	0,20	0,70
SNMG 150612-ST	SNMG 543-ST	15,875	6,35	1,20	6,35	4,00	0,30	8,00	0,40	0,15	0,64
SNMG 150616-ST	SNMG 544-ST	15,875	6,35	1,60	6,35	4,00	0,30	8,00	0,50	0,20	0,76
SNMG 190612-ST	SNMG 643-ST	19,050	6,35	1,20	7,94	4,50	0,30	9,00	0,40	0,15	0,60
SNMG 190616-ST	SNMG 644-ST	19,050	6,35	1,60	7,94	4,50	0,30	9,00	0,45	0,20	0,70
SNMG 090304-SS	SNMG 321-SS	9,525	3,18	0,40	3,81	2,00	0,50	4,50	0,20	0,10	0,30
SNMG 090308-SS	SNMG 322-SS	9,525	3,18	0,80	3,81	2,00	0,50	4,50	0,25	0,12	0,45
SNMG 120404-SS	SNMG 431-SS	12,700	4,76	0,40	5,16	3,00	0,50	6,40	0,20	0,12	0,30
SNMG 120408-SS	SNMG 432-SS	12,700	4,76	0,80	5,16	3,00	0,50	6,40	0,25	0,12	0,45
SNMG 120412-SS	SNMG 433-SS	12,700	4,76	1,20	5,16	3,00	0,50	6,40	0,30	0,15	0,60
SNMG 120416-SS	SNMG 434-SS	12,700	4,76	1,60	5,16	3,00	0,50	6,40	0,45	0,15	0,80
SNMG 150608-SS	SNMG 542-SS	15,875	6,35	0,80	6,35	4,00	0,50	8,00	0,25	0,12	0,45
SNMG 150612-SS	SNMG 543-SS	15,875	6,35	1,20	6,35	4,00	0,50	8,00	0,30	0,15	0,60
SNMG 190616-SS	SNMG 644-SS	19,050	6,35	1,60	7,94	4,00	0,50	8,00	0,45	0,15	0,80
SNMG 120408-HR	SNMG 432-HR	12,700	4,76	0,80	5,16	4,00	0,80	7,00	0,35	0,20	0,55
SNMG 120412-HR	SNMG 433-HR	12,700	4,76	1,20	5,16	4,00	1,00	7,00	0,40	0,25	0,70
SNMG 120416-HR	SNMG 434-HR	12,700	4,76	1,60	5,16	4,00	1,50	7,00	0,50	0,32	0,80
SNMG 150612-HR	SNMG 543-HR	15,875	6,35	1,20	6,35	4,00	1,00	8,00	0,40	0,25	0,70
SNMG 150616-HR	SNMG 544-HR	15,875	6,35	1,60	6,35	4,00	1,50	8,00	0,50	0,32	0,80
SNMG 190612-HR	SNMG 643-HR	19,050	6,35	1,20	7,94	5,00	1,00	10,00	0,40	0,25	0,70
SNMG 190616-HR	SNMG 644-HR	19,050	6,35	1,60	7,94	5,00	1,50	10,00	0,50	0,32	0,80
SNMG 250724-HR	SNMG 856-HR	25,400	7,94	2,40	9,12	6,00	2,00	15,00	1,00	0,40	1,20
SNMG 250924-HR	SNMG 866-HR	25,400	9,52	2,40	9,12	6,00	2,00	15,00	1,00	0,40	1,20

# SN = SQUARE 90° NEGATIVE

## QUADRADA 90° NEGATIVA | ESQUADRA 90° NEGATIVA

			P					M					K			N	S							
			CVD					PVD	CVD			PVD		UNC	CVD		UNC	PVD						
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 SNMM-RP Roughing	1124057	SNMM 150608-RP		⊗	⊗																			
	1124058	SNMM 150612-RP		⊗	⊗																			
	1124059	SNMM 150616-RP		⊗	⊗																			
	1124001	SNMM 190612-RP		⊗	⊗																			
	1124002	SNMM 190616-RP		⊗	⊗																			
	1124003	SNMM 190624-RP		○	⊗	⊗																		
 SNMM-HY Heavy to Roughing	1121606	SNMM 190612-HY		⊗	⊗		⊗				⊗													
	1121250	SNMM 190616-HY		⊗	⊗						○													
	1121452	SNMM 190624-HY		○	○						○													
	1121160	SNMM 250724-HY		○	⊗		⊗				⊗													
	1121161	SNMM 250924-HY		○	○		⊗				⊗													
 SNMM-HZ Heavy to Roughing	1121605	SNMM 190612-HZ		⊗	○													⊗	⊗					
	1121249	SNMM 190616-HZ		○	⊗		⊗											⊗	○					
	1121440	SNMM 190624-HZ		○	⊗	○												⊗	⊗					
	1121158	SNMM 250724-HZ		⊗	⊗		⊗											⊗	○					
	1123786	SNMM 250732-HZ		○	⊗													⊗	○					
	1121159	SNMM 250924-HZ		○	⊗		⊗											⊗	○					

⊗ First choice | 1ª Escolha | 1ª Opción

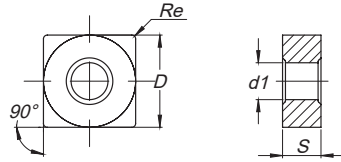
⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

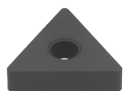
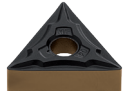



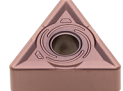




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
SNMM 150608-RP	SNMG 542-RP	15,875	6,35	0,80	6,35	4,00	1,00	8,00	0,30	0,15	0,50
SNMM 150612-RP	SNMG 543-RP	15,875	6,35	1,20	6,35	4,00	1,00	8,00	0,40	0,25	0,70
SNMM 150616-RP	SNMG 544-RP	15,875	6,35	1,60	6,35	4,00	1,00	8,00	0,50	0,35	0,90
SNMM 190612-RP	SNMM 643-RP	19,05	6,35	1,20	7,94	5,50	2,00	12,00	0,60	0,30	0,85
SNMM 190616-RP	SNMM 644-RP	19,05	6,35	1,60	7,94	6,00	2,00	12,00	0,60	0,35	1,00
SNMM 190624-RP	SNMM 646-RP	19,05	6,35	2,40	7,94	6,00	2,00	12,00	0,80	0,50	1,50
SNMM 190612-HY	SNMM 643-HY	19,050	6,35	1,20	7,94	6,00	2,00	12,00	0,60	0,35	0,90
SNMM 190616-HY	SNMM 644-HY	19,050	6,35	1,60	7,94	6,00	2,00	12,00	0,60	0,35	1,20
SNMM 190624-HY	SNMM 646-HY	19,050	6,35	2,40	7,94	6,00	2,00	12,00	1,00	0,60	1,60
SNMM 250724-HY	SNMM 856-HY	25,400	7,94	2,40	9,12	8,50	2,50	15,00	1,00	0,60	1,60
SNMM 250924-HY	SNMM 866-HY	25,400	9,52	2,40	9,12	8,50	3,00	15,00	1,00	0,60	1,60
SNMM 190612-HZ	SNMM 643-HZ	19,050	6,35	1,20	7,94	10,00	2,40	13,00	0,60	0,35	0,90
SNMM 190616-HZ	SNMM 644-HZ	19,050	6,35	1,60	7,94	10,00	2,40	13,00	0,60	0,35	1,20
SNMM 190624-HZ	SNMM 646-HZ	19,050	6,35	2,40	7,94	10,00	3,20	13,00	1,00	0,60	1,60
SNMM 250724-HZ	SNMM 856-HZ	25,400	7,94	2,40	9,12	10,00	3,20	17,00	1,00	0,60	1,60
SNMM 250732-HZ	SNMM 858-HZ	25,400	7,94	3,20	9,12	10,00	3,20	17,00	1,20	0,80	1,80
SNMM 250924-HZ	SNMM 866-HZ	25,400	9,52	2,40	9,12	10,00	3,20	17,00	1,00	0,60	1,60

# TN = TRIANGULAR 60° NEGATIVE

## TRIANGULAR 60° NEGATIVA | TRIANGULAR 60° NEGATIVA

			P					M						K				N	S							
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD						
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
 TNMA Roughing	1120624	TNMA 110304																								
	1120625	TNMA 110308																								
	1120626	TNMA 160304																								
	1120627	TNMA 160308																								
	1120629	TNMA 160404																								
	1120630	TNMA 160408																								
	1120632	TNMA 160412																								
	1121921	TNMA 160416																								
	1120634	TNMA 220404																								
	1120635	TNMA 220408																								
	1120636	TNMA 220412																								
	1120637	TNMA 220416																								
	1121554	TNMA 270608																								
	1121555	TNMA 270612																								
	1120639	TNMA 270616																								
1120640	TNMA 330724																									
 TNMG-MF Finishing	1121556	TNMG 160404-MF	⊗	⊗	⊗			⊗																		
	1121558	TNMG 160408-MF	⊗	⊗	⊗			⊗																		
	1121560	TNMG 160412-MF		⊗	⊗																					
	1121369	TNMG 220408-MF		○																						
 TNMG-SF Medium to Finishing	1123757	TNMG 160404-SF							⊗	⊗			⊗	⊗	⊗											
	1123719	TNMG 160408-SF							⊗	⊗			⊗	⊗	⊗											
	1123758	TNMG 160412-SF							⊗	⊗		⊗	⊗	⊗						⊗						
	1124070	TNMG 220404-SF							⊗	⊗			⊗	⊗	⊗											
	1123759	TNMG 220408-SF							⊗	⊗			⊗	⊗	⊗											
1124028	TNMG 220412-SF							⊗	⊗		⊗	⊗	⊗						⊗							
 TNMG-LC Medium to Finishing	1123638	TNMG 160404-LC	⊗	⊗	⊗																					
	1122025	TNMG 160408-LC		⊗	⊗																					
	1123656	TNMG 160412-LC		⊗	⊗																					
	1123660	TNMG 220408-LC		⊗	○																					
	1123657	TNMG 220412-LC		○	○																					
 TNMG-MS Medium to Finishing	1124856	TNMG 160402-MS																								
	1121557	TNMG 160404-MS																			⊗					⊗
	1121559	TNMG 160408-MS																			⊗					⊗
	1121561	TNMG 160412-MS																			⊗					⊗
 TNMG-GS Medium to Finishing	1124508	TNMG 160404-GS																								
	1124509	TNMG 160408-GS																								
	1124510	TNMG 160412-GS																								

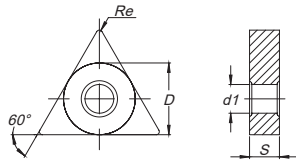
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

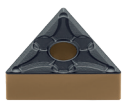


○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TNMA 110304	TNMA 221	6,350	3,18	0,40	2,26	2,00	0,15	4,00	0,20	0,10	0,30
TNMA 110308	TNMA 222	6,350	3,18	0,80	2,26	2,00	0,15	4,00	0,35	0,15	0,60
TNMA 160304	TNMA 321	9,525	3,18	0,40	3,81	2,50	0,20	5,00	0,20	0,10	0,30
TNMA 160308	TNMA 322	9,525	3,18	0,80	3,81	2,50	0,20	5,00	0,35	0,15	0,60
TNMA 160404	TNMA 331	9,525	4,76	0,40	3,81	2,50	0,20	5,00	0,20	0,10	0,30
TNMA 160408	TNMA 332	9,525	4,76	0,80	3,81	3,50	0,20	7,00	0,35	0,15	0,60
TNMA 160412	TNMA 333	9,525	4,76	1,20	3,81	3,50	0,30	7,00	0,45	0,20	0,80
TNMA 160416	TNMA 334	9,525	4,76	1,60	3,81	3,50	0,30	7,00	0,55	0,20	1,00
TNMA 220404	TNMA 431	12,700	4,76	0,40	5,16	4,00	0,20	10,00	0,20	0,10	0,30
TNMA 220408	TNMA 432	12,700	4,76	0,80	5,16	5,00	0,20	10,00	0,35	0,15	0,60
TNMA 220412	TNMA 433	12,700	4,76	1,20	5,16	5,00	0,30	10,00	0,45	0,20	0,80
TNMA 220416	TNMA 434	12,700	4,76	1,60	5,16	5,00	0,30	10,00	0,55	0,20	1,00
TNMA 270608	TNMA 542	15,875	6,35	0,80	6,35	5,00	0,30	12,00	0,35	0,15	0,60
TNMA 270612	TNMA 543	15,875	6,35	1,20	6,35	5,00	0,30	12,00	0,45	0,20	0,80
TNMA 270616	TNMA 544	15,875	6,35	1,60	6,35	5,00	0,30	12,00	0,55	0,20	1,00
TNMA 330724	TNMA 656	19,050	7,94	2,40	7,94	6,50	0,30	15,00	0,60	0,30	2,00
TNMG 160404-MF	TNMG 331-MF	9,525	4,76	0,40	3,81	0,40	0,10	1,50	0,15	0,05	0,25
TNMG 160408-MF	TNMG 332-MF	9,525	4,76	0,80	3,81	0,40	0,10	1,50	0,20	0,10	0,40
TNMG 160412-MF	TNMG 333-MF	9,525	4,76	1,20	3,81	1,00	0,20	2,50	0,30	0,15	0,60
TNMG 220408-MF	TNMG 432-MF	12,700	4,76	0,80	5,16	1,50	0,25	2,50	0,20	0,10	0,40
TNMG 160404-SF	TNMG 331-SF	9,525	4,76	0,40	3,81	1,50	0,60	3,00	0,15	0,10	0,23
TNMG 160408-SF	TNMG 332-SF	9,525	4,76	0,80	3,81	1,50	0,60	3,00	0,25	0,12	0,38
TNMG 160412-SF	TNMG 333-SF	9,525	4,76	1,20	3,81	1,50	0,60	3,00	0,35	0,15	0,55
TNMG 220404-SF	TNMG 431-SF	12,700	4,76	0,40	5,16	1,50	0,60	3,00	0,20	0,10	0,35
TNMG 220408-SF	TNMG 432-SF	12,700	4,76	0,80	5,16	1,50	0,60	3,00	0,25	0,12	0,40
TNMG 220412-SF	TNMG 433-SF	12,700	4,76	1,20	5,16	1,50	0,60	3,00	0,35	0,15	0,55
TNMG 160404-LC	TNMG 331-LC	9,525	4,76	0,40	3,81	1,00	0,40	2,50	0,15	0,07	0,30
TNMG 160408-LC	TNMG 332-LC	9,525	4,76	0,80	3,81	1,50	0,40	2,50	0,20	0,10	0,40
TNMG 160412-LC	TNMG 333-LC	9,525	4,76	1,20	3,81	2,00	0,80	3,00	0,25	0,15	0,50
TNMG 220408-LC	TNMG 432-LC	12,700	4,76	0,80	5,16	2,00	0,40	3,00	0,20	0,10	0,40
TNMG 220412-LC	TNMG 433-LC	12,700	4,76	1,20	5,16	2,50	0,80	3,50	0,25	0,15	0,50
TNMG 160402-MS	TNMG 330.5-MS	9,525	4,76	0,20	3,81	1,50	0,20	3,80	0,10	0,08	0,15
TNMG 160404-MS	TNMG 331-MS	9,525	4,76	0,40	3,81	2,00	0,30	3,80	0,15	0,10	0,20
TNMG 160408-MS	TNMG 332-MS	9,525	4,76	0,80	3,81	2,00	0,30	3,80	0,25	0,10	0,40
TNMG 160412-MS	TNMG 333-MS	9,525	4,76	1,20	3,81	2,00	0,40	3,80	0,30	0,15	0,60
TNMG 160404-GS	TNMG 331-GS	9,525	4,76	0,40	3,81	2,00	0,15	3,00	0,20	0,10	0,30
TNMG 160408-GS	TNMG 332-GS	9,525	4,76	0,80	3,81	2,50	0,20	3,00	0,25	0,10	0,30
TNMG 160412-GS	TNMG 333-GS	9,525	4,76	1,20	3,81	3,00	0,30	3,50	0,30	0,15	0,35

# TN = TRIANGULAR 60° NEGATIVE

## TRIANGULAR 60° NEGATIVA | TRIANGULAR 60° NEGATIVA

			P					M						K			N	S							
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Medium	TNMG-MR	1122000	TNMG 160308-MR	⊗	⊗																				
		1121281	TNMG 160404-MR	⊗	⊗		⊗																		
		1121269	TNMG 160408-MR	⊗	⊗		⊗																		
		1121282	TNMG 160412-MR	○	⊗		⊗																		
		1121562	TNMG 160416-MR			○																			
		1121625	TNMG 220404-MR		○	⊗		⊗																	
		1121305	TNMG 220408-MR		⊗	⊗		⊗																	
		1121307	TNMG 220412-MR		○	⊗																			
	1121564	TNMG 220416-MR			○																				
 Medium	TNMG-PM	1123991	TNMG 160404-PM	⊗	⊗	⊗																			
		1123917	TNMG 160408-PM	⊗	⊗	⊗																			
		1123992	TNMG 160412-PM	⊗	⊗	⊗																			
		1123993	TNMG 160416-PM	⊗	⊗																				
		1123922	TNMG 220404-PM		⊗	⊗																			
		1123923	TNMG 220408-PM		⊗	⊗																			
		1123994	TNMG 220412-PM		⊗	⊗																			
		1123995	TNMG 220416-PM		⊗	⊗																			
 Medium	TNMG-ST	1121210	TNMG 110308-ST																⊗						
		1121211	TNMG 160304-ST																	⊗					
		1121212	TNMG 160308-ST																	⊗					
		1121294	TNMG 160404-ST																	⊗	⊗				
		1121268	TNMG 160408-ST																	⊗	⊗				
		1121348	TNMG 160412-ST																	⊗	⊗				
		1121563	TNMG 160416-ST																	⊗	⊗				
		1121349	TNMG 220404-ST																	⊗	⊗				
	1121350	TNMG 220408-ST																	⊗	⊗					
	1121354	TNMG 220412-ST																	⊗	⊗					
	1121351	TNMG 220416-ST																	⊗	⊗					

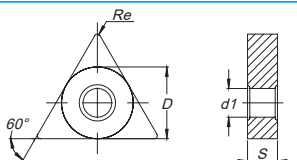
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock Items | Itens de stock

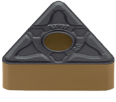
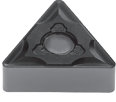
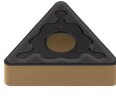



○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TNMG 160308-MR	TNMG 322-MR	9,525	3,18	0,80	3,81	2,80	0,30	5,00	0,30	0,15	0,50
TNMG 160404-MR	TNMG 331-MR	9,525	4,76	0,40	3,81	3,00	0,40	5,00	0,20	0,10	0,30
TNMG 160408-MR	TNMG 332-MR	9,525	4,76	0,80	3,81	3,00	0,50	5,00	0,30	0,15	0,50
TNMG 160412-MR	TNMG 333-MR	9,525	4,76	1,20	3,81	3,00	0,80	5,00	0,35	0,18	0,60
TNMG 160416-MR	TNMG 334-MR	9,525	4,76	1,20	3,81	3,05	0,82	5,08	0,40	0,22	0,64
TNMG 220404-MR	TNMG 431-MR	12,700	4,76	0,40	5,16	4,00	0,40	6,60	0,20	0,10	0,30
TNMG 220408-MR	TNMG 432-MR	12,700	4,76	0,80	5,16	4,00	0,50	6,60	0,30	0,15	0,50
TNMG 220412-MR	TNMG 433-MR	12,700	4,76	1,20	5,16	4,00	0,80	6,60	0,35	0,18	0,60
TNMG 220416-MR	TNMG 434-MR	12,700	4,76	1,60	5,16	4,00	1,00	6,60	0,40	0,23	0,70
TNMG 160404-PM	TNMG 331-PM	9,525	4,76	0,40	3,81	3,00	0,40	5,00	0,20	0,10	0,30
TNMG 160408-PM	TNMG 332-PM	9,525	4,76	0,80	3,81	3,00	0,50	5,00	0,30	0,15	0,50
TNMG 160412-PM	TNMG 333-PM	9,525	4,76	1,20	3,81	3,00	0,80	5,00	0,35	0,18	0,60
TNMG 160416-PM	TNMG 334-PM	9,525	4,76	1,60	3,81	3,00	1,00	5,00	0,40	0,23	0,65
TNMG 220404-PM	TNMG 431-PM	12,700	4,76	0,40	5,16	4,00	0,40	6,60	0,20	0,10	0,30
TNMG 220408-PM	TNMG 432-PM	12,700	4,76	0,80	5,16	4,00	0,50	6,60	0,30	0,15	0,50
TNMG 220412-PM	TNMG 433-PM	12,700	4,76	1,20	5,16	4,00	0,80	6,60	0,35	0,18	0,60
TNMG 220416-PM	TNMG 434-PM	12,700	4,76	1,60	5,16	4,00	1,00	6,60	0,40	0,23	0,60
TNMG 110308-ST	TNMG 222-ST	6,350	3,18	0,80	2,26	2,00	0,15	4,50	0,35	0,15	0,50
TNMG 160304-ST	TNMG 321-ST	9,525	3,18	0,40	3,81	3,00	0,20	5,50	0,22	0,15	0,30
TNMG 160308-ST	TNMG 322-ST	9,525	3,18	0,80	3,81	3,00	0,20	5,50	0,35	0,15	0,50
TNMG 160404-ST	TNMG 331-ST	9,525	4,76	0,40	3,81	3,00	0,20	5,50	0,22	0,15	0,30
TNMG 160408-ST	TNMG 332-ST	9,525	4,76	0,80	3,81	3,00	0,20	5,50	0,35	0,15	0,50
TNMG 160412-ST	TNMG 333-ST	9,525	4,76	1,20	3,81	3,00	0,30	5,50	0,40	0,15	0,60
TNMG 160416-ST	TNMG 334-ST	9,525	4,76	1,60	3,81	3,00	0,30	5,50	0,40	0,15	0,60
TNMG 220404-ST	TNMG 431-ST	12,700	4,76	0,40	5,16	4,00	0,20	8,00	0,22	0,15	0,30
TNMG 220408-ST	TNMG 432-ST	12,700	4,76	0,80	5,16	4,00	0,20	8,00	0,35	0,15	0,50
TNMG 220412-ST	TNMG 433-ST	12,700	4,76	1,20	5,16	4,00	0,30	8,00	0,40	0,15	0,60
TNMG 220416-ST	TNMG 434-ST	12,700	4,76	1,60	5,16	4,00	0,30	8,00	0,45	0,20	0,70

# TN = TRIANGULAR 60° NEGATIVE

## TRIANGULAR 60° NEGATIVA | TRIANGULAR 60° NEGATIVA

			P						M						K				N	S					
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 TNMG-MW Medium Wiper	1121376	TNMG 160408-MW		⊗	⊗													⊗	⊗						
	1121343	TNMG 160412-MW		○	○													⊗	⊗						
 TNMG-SS Roughing to Medium	1121289	TNMG 160404-SS							⊗	⊗	⊗	⊗		⊗							⊗		⊗		
	1121271	TNMG 160408-SS							⊗	⊗	⊗	⊗		⊗							⊗		⊗		
	1121290	TNMG 160412-SS							⊗	⊗	⊗	⊗		⊗							⊗		⊗		
	1121330	TNMG 220408-SS							⊗	⊗	⊗	⊗		⊗							⊗		⊗		
 TNMG-HR Roughing	1121270	TNMG 160408-HR	⊗	⊗	⊗		⊗										⊗	⊗							
	1121283	TNMG 160412-HR		⊗	⊗		⊗										⊗	⊗							
 Roughing	1121306	TNMG 220408-HR		⊗	⊗		○										⊗	⊗	⊗						
	1121308	TNMG 220412-HR		⊗	⊗		⊗										⊗	⊗							
	1121309	TNMG 220416-HR		⊗	⊗												⊗	⊗	⊗						
	1121567	TNMG 270612-HR			⊗		⊗																		
	1121570	TNMG 270616-HR					⊗																		
 TNMG-HR	1121631	TNMG 330924-HR			⊗		⊗																		
 TNMX-01 Medium to Finishing	1121004	TNMX 160404-L01		⊗	⊗					○									○						
	1120713	TNMX 160404-R01		⊗	⊗					○							○		○						
	1121005	TNMX 160408-L01		○	⊗	○													○						
	1121006	TNMX 160408-R01		⊗	⊗	○													○						
External Toolholders	1123822	TNMX 220404-R01																							
	1123823	TNMX 220404-L01			○																				
	1123824	TNMX 220408-R01																							
	1123825	TNMX 220408-L01			○																				

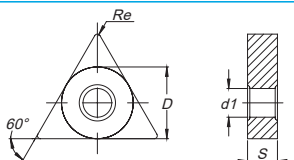
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta


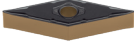




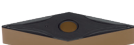





ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TNMG 160408-MW	TNMG 332-MW	9,525	4,76	0,80	3,81	2,00	0,50	4,50	0,35	0,15	0,60
TNMG 160412-MW	TNMG 333-MW	9,525	4,76	1,20	3,81	2,50	0,50	5,00	0,50	0,25	0,90
TNMG 160404-SS	TNMG 331-SS	9,525	4,76	0,40	3,81	2,00	0,50	4,00	0,20	0,10	0,30
TNMG 160408-SS	TNMG 332-SS	9,525	4,76	0,80	3,81	3,00	0,50	4,80	0,25	0,12	0,45
TNMG 160412-SS	TNMG 333-SS	9,525	4,76	1,20	3,81	3,00	0,50	4,80	0,30	0,15	0,60
TNMG 220408-SS	TNMG 432-SS	12,700	4,76	0,80	5,16	4,00	0,50	6,60	0,25	0,12	0,45
TNMG 220412-SS	TNMG 433-SS	12,700	4,76	1,20	5,16	4,00	0,50	6,60	0,30	0,15	0,60
TNMG 160408-HR	TNMG 332-HR	9,525	4,76	0,80	3,81	3,00	0,80	6,00	0,35	0,20	0,55
TNMG 160412-HR	TNMG 333-HR	9,525	4,76	1,20	3,81	3,00	1,00	6,00	0,40	0,25	0,70
TNMG 220408-HR	TNMG 432-HR	12,700	4,76	0,80	5,16	4,00	0,80	6,50	0,35	0,20	0,55
TNMG 220412-HR	TNMG 433-HR	12,700	4,76	1,20	5,16	4,00	1,00	7,00	0,40	0,25	0,70
TNMG 220416-HR	TNMG 434-HR	12,700	4,76	1,60	5,16	4,00	1,50	7,00	0,60	0,25	0,90
TNMG 270612-HR	TNMG 543-HR	15,875	6,35	1,20	6,35	6,00	2,00	10,00	0,40	0,25	0,70
TNMG 270616-HR	TNMG 544-HR	15,875	6,35	1,60	6,35	6,00	2,00	10,00	0,60	0,35	0,90
TNMG 330924-HR	TNMG 666-HR	19,050	9,52	2,40	7,94	7,00	2,00	12,00	0,80	0,40	1,20
TNMX 160404-L01	TNMX 331-L01	9,525	4,76	0,40	3,81	2,50	1,00	3,50	0,15	0,12	0,30
TNMX 160404-R01	TNMX 331-R01	9,525	4,76	0,40	3,81	2,50	1,00	3,50	0,15	0,12	0,30
TNMX 160408-L01	TNMX 332-L01	9,525	4,76	0,80	3,81	2,50	1,30	3,50	0,30	0,15	0,50
TNMX 160408-R01	TNMX 332-R01	9,525	4,76	0,80	3,81	2,50	1,30	3,50	0,30	0,15	0,50
TNMX 220404-R01	TNMX 431-R01	12,700	4,76	0,40	5,16	4,00	1,50	7,00	0,20	0,15	0,30
TNMX 220404-L01	TNMX 431-L01	12,700	4,76	0,40	5,16	4,00	1,50	7,00	0,20	0,15	0,30
TNMX 220408-R01	TNMX 432-R01	12,700	4,76	0,80	5,16	4,00	1,50	7,00	0,30	0,18	0,55
TNMX 220408-L01	TNMX 432-L01	12,700	4,76	0,80	5,16	4,00	1,50	7,00	0,30	0,18	0,55



# VN = RHOMBIC 35° NEGATIVE

## RÔMBICA 35° NEGATIVA | RÓMBICA 35° NEGATIVA

			P						M						K			N	S					
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD				
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 VNMA Roughing	1120819	VNMA 160404															⊗	⊗						
	1121077	VNMA 160408															⊗	⊗						
 VNMG-MF Finishing	1123635	VNMG 160404-MF		⊗	⊗			⊗	○															
	1123636	VNMG 160408-MF	⊗	⊗	⊗			⊗	○															
 VNMG-SF Medium to Finishing	1123760	VNMG 160404-SF							⊗	⊗			⊗	⊗	⊗								⊗	⊗
	1123761	VNMG 160408-SF							⊗	⊗			⊗	⊗	⊗								⊗	⊗
	1123762	VNMG 160412-SF							⊗	⊗		⊗	⊗	⊗						⊗		⊗	⊗	⊗
 VNMG-LC Medium to Finishing	1123659	VNMG 160408-LC		⊗	⊗																			
 VNMG-MS Medium to Finishing	1124860	VNMG 160402-MS											⊗		⊗							⊗		⊗
	1121579	VNMG 160404-MS											⊗	⊗	⊗					⊗		⊗	⊗	⊗
	1121580	VNMG 160408-MS											⊗	⊗	⊗					⊗		⊗	⊗	⊗
 VNMG-GS Medium to Finishing	1124562	VNMG 160404-GS											⊗		⊗							⊗		⊗
	1124563	VNMG 160408-GS											⊗		⊗							⊗		⊗
	1124564	VNMG 160412-GS											⊗		⊗							⊗		⊗
 VNMG-MR Medium	1121278	VNMG 160404-MR		⊗	⊗			⊗																
	1121279	VNMG 160408-MR		⊗	⊗			⊗																
	1121581	VNMG 220408-MR		⊗	⊗			⊗																
 VNMG-PM Medium	1124086	VNMG 160404-PM	⊗	⊗	⊗																			
	1124087	VNMG 160408-PM	⊗	⊗	⊗																			
	1124600	VNMG 160412-PM		○	○																			
 VNMG-ST Medium	1121276	VNMG 160404-ST															⊗	⊗						
	1121277	VNMG 160408-ST															⊗	⊗						
 VNMG-SS Roughing to Medium	1121367	VNMG 160404-SS								⊗		⊗		⊗								⊗		⊗
	1121295	VNMG 160408-SS								⊗		⊗		⊗								⊗		⊗

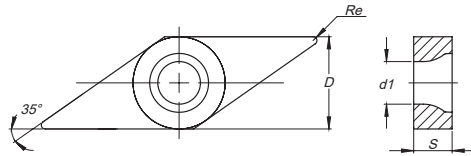
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

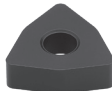
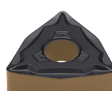


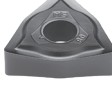

○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
VNMA 160404	VNMA 331	9,525	4,76	0,40	3,81	0,20	0,10	3,30	0,15	0,08	0,25
VNMA 160408	VNMA 332	9,525	4,76	0,80	3,81	0,20	0,10	3,30	0,30	0,10	0,50
VNMG 160404-MF	VNMG 331-MF	9,525	4,76	0,40	3,81	0,50	0,15	1,50	0,15	0,05	0,25
VNMG 160408-MF	VNMG 332-MF	9,525	4,76	0,80	3,81	0,80	0,20	1,50	0,20	0,10	0,40
VNMG 160404-SF	VNMG 331-SF	9,525	4,76	0,40	3,81	1,50	0,60	3,00	0,15	0,10	0,23
VNMG 160408-SF	VNMG 332-SF	9,525	4,76	0,80	3,81	1,50	0,60	3,00	0,25	0,12	0,38
VNMG 160412-SF	VNMG 333-SF	9,525	4,76	1,20	3,81	1,50	0,60	3,00	0,35	0,15	0,55
VNMG 160408-LC	VNMG 332-LC	9,525	4,76	0,80	3,81	1,00	0,35	2,00	0,12	0,08	0,35
VNMG 160404-MS	VNMG 330.5-MS	9,525	4,76	0,20	3,81	1,50	0,20	4,00	0,10	0,08	0,15
VNMG 160404-MS	VNMG 331-MS	9,525	4,76	0,40	3,81	2,00	0,20	4,00	0,15	0,10	0,20
VNMG 160408-MS	VNMG 332-MS	9,525	4,76	0,80	3,81	2,50	0,20	4,00	0,25	0,15	0,40
VNMG 160404-GS	VNMG 331-GS	9,525	4,76	0,40	3,81	1,50	0,15	2,00	0,20	0,08	0,25
VNMG 160408-GS	VNMG 332-GS	9,525	4,76	0,80	3,81	2,00	0,20	2,50	0,25	0,10	0,30
VNMG 160412-GS	VNMG 333-GS	9,525	4,76	1,20	3,81	2,50	0,30	3,00	0,30	0,12	0,35
VNMG 160404-MR	VNMG 331-MR	9,525	4,76	0,40	3,81	3,00	1,00	4,00	0,25	0,10	0,30
VNMG 160408-MR	VNMG 332-MR	9,525	4,76	0,80	3,81	3,00	1,00	4,00	0,30	0,15	0,50
VNMG 220408-MR	VNMG 432-MR	12,700	4,76	0,80	5,16	4,00	1,50	5,00	0,35	0,15	0,50
VNMG 160404-PM	VNMG 331-PM	9,525	4,76	0,40	3,81	3,00	1,00	4,00	0,25	0,10	0,30
VNMG 160408-PM	VNMG 332-PM	9,525	4,76	0,80	3,81	3,00	1,00	4,00	0,30	0,15	0,50
VNMG 160412-PM	VNMG 333-PM	9,525	4,76	1,20	3,81	3,00	1,00	4,00	0,35	0,20	0,50
VNMG 160404-ST	VNMG 331-ST	9,525	4,76	0,40	3,81	2,00	0,20	3,50	0,30	0,15	0,40
VNMG 160408-ST	VNMG 332-ST	9,525	4,76	0,80	3,81	2,00	0,30	3,50	0,35	0,15	0,50
VNMG 160404-SS	VNMG 331-SS	9,525	4,76	0,40	3,81	1,50	0,50	4,00	0,20	0,10	0,30
VNMG 160408-SS	VNMG 332-SS	9,525	4,76	0,80	3,81	2,00	0,50	4,00	0,25	0,12	0,45

# WN = TRIGON 80° NEGATIVE

## TRIGONAL 80° NEGATIVA | TRIGONA 80° NEGATIVA

			P					M					K				N	S							
			CVD					PVD	CVD			PVD		UNC	CVD		UNC	PVD							
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 WNMA Roughing	1122002	WNMA 060408																							
	1120834	WNMA 080404																							
	1120835	WNMA 080408																							
	1121076	WNMA 080412																							
	1121582	WNMA 080416																							
 WNMG-MF Finishing	1121205	WNMG 06T304-MF																							
	1121206	WNMG 06T308-MF																							
	1121586	WNMG 06T312-MF																							
	1121207	WNMG 060404-MF																							
	1121208	WNMG 060408-MF																							
	1121583	WNMG 060412-MF																							
	1121213	WNMG 080404-MF																							
	1121214	WNMG 080408-MF																							
1121589	WNMG 080412-MF																								
 WNMG-SF Medium to Finishing	1123763	WNMG 060404-SF																							
	1123764	WNMG 060408-SF																							
	1123765	WNMG 060412-SF																							
	1123766	WNMG 080404-SF																							
	1123721	WNMG 080408-SF																							
	1123767	WNMG 080412-SF																							
 WNMG-LC Medium to Finishing	1123658	WNMG 080408-LC																							
 WNMG-MS Medium to Finishing	1124858	WNMG 060402-MS																							
	1121910	WNMG 060404-MS																							
	1121911	WNMG 060408-MS																							
	1124574	WNMG 080404-MS																							
 WNMG-GS Medium to Finishing	1124559	WNMG 080404-GS																							
	1124560	WNMG 080408-GS																							
	1124561	WNMG 080412-GS																							
	1124690	WNMG 060404-GS																							
	1124691	WNMG 060408-GS																							

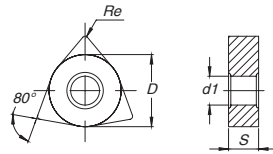
⊕ First choice | 1ª Escolha | 1ª Opción

⊖ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

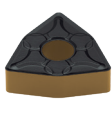

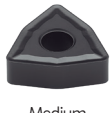
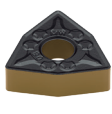
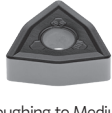
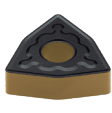
○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
WNMA 060408	WNMA 332	9,525	4,76	0,80	3,81	2,50	0,20	4,00	0,35	0,15	0,60
WNMA 080404	WNMA 431	12,700	4,76	0,40	5,16	2,80	0,20	5,00	0,22	0,15	0,30
WNMA 080408	WNMA 432	12,700	4,76	0,80	5,16	3,00	0,20	5,00	0,35	0,15	0,60
WNMA 080412	WNMA 433	12,700	4,76	1,20	5,16	3,00	0,30	5,00	0,45	0,20	0,80
WNMA 080416	WNMA 434	12,700	4,76	1,60	5,16	3,00	0,30	5,00	0,55	0,20	1,00
WNMG 06T304-MF	WNMG 32.51-MF	9,525	3,97	0,40	3,81	0,40	0,10	1,50	0,15	0,05	0,30
WNMG 06T308-MF	WNMG 32.52-MF	9,525	3,97	0,80	3,81	0,40	0,10	1,50	0,20	0,10	0,40
WNMG 06T312-MF	WNMG 32.53-MF	9,525	3,97	1,20	3,81	0,40	0,15	1,50	0,30	0,15	0,60
WNMG 060404-MF	WNMG 331-MF	9,525	4,76	0,40	3,81	0,40	0,10	1,50	0,15	0,05	0,30
WNMG 060408-MF	WNMG 332-MF	9,525	4,76	0,80	3,81	0,40	0,10	1,50	0,20	0,10	0,40
WNMG 060412-MF	WNMG 333-MF	9,525	4,76	1,20	3,81	0,40	0,15	1,50	0,30	0,15	0,60
WNMG 080404-MF	WNMG 431-MF	12,700	4,76	0,40	5,16	0,60	0,10	2,00	0,15	0,05	0,30
WNMG 080408-MF	WNMG 432-MF	12,700	4,76	0,80	5,16	0,60	0,10	2,00	0,20	0,10	0,40
WNMG 080412-MF	WNMG 433-MF	12,700	4,76	1,20	5,16	0,60	0,15	2,00	0,30	0,15	0,60
WNMG 060404-SF	WNMG 331-SF	9,525	4,76	0,40	3,81	1,50	0,60	3,00	0,15	0,10	0,23
WNMG 060408-SF	WNMG 332-SF	9,525	4,76	0,80	3,81	1,50	0,60	3,00	0,25	0,12	0,38
WNMG 060412-SF	WNMG 333-SF	9,525	4,76	1,20	3,81	1,50	0,60	3,00	0,35	0,15	0,55
WNMG 080404-SF	WNMG 431-SF	12,700	4,76	0,40	5,16	1,50	0,60	3,00	0,15	0,10	0,23
WNMG 080408-SF	WNMG 432-SF	12,700	4,76	0,80	5,16	1,50	0,60	3,00	0,25	0,12	0,38
WNMG 080412-SF	WNMG 433-SF	12,700	4,76	1,20	5,16	1,50	0,60	3,00	0,35	0,15	0,55
WNMG 080408-LC	WNMG 432-LC	12,700	4,76	0,40	5,16	1,50	0,40	2,50	0,15	0,10	0,35
WNMG 060402-MS	WNMG 330.5-MS	9,525	4,76	0,20	3,81	2,00	0,50	4,00	0,10	0,08	0,15
WNMG 060404-MS	WNMG 331-MS	9,525	4,76	0,40	3,81	1,20	0,30	2,20	0,15	0,10	0,20
WNMG 060408-MS	WNMG 332-MS	9,525	4,76	0,80	3,81	1,20	0,30	2,20	0,25	0,20	0,40
WNMG 080404-MS	WNMG 431-MS	12,700	4,76	0,40	5,16	2,50	0,70	4,00	0,15	0,10	0,30
WNMG 080408-MS	WNMG 432-MS	12,700	4,76	0,80	5,16	2,50	0,70	4,00	0,25	0,20	0,40
WNMG 080412-MS	WNMG 433-MS	12,700	4,76	1,20	5,16	2,50	1,00	4,00	0,30	0,25	0,55
WNMG 060404-GS	WNMG 331-GS	9,525	4,76	0,40	3,81	2,00	0,15	2,50	0,20	0,10	0,30
WNMG 060408-GS	WNMG 332-GS	9,525	4,76	0,80	3,81	2,50	0,25	3,00	0,25	0,10	0,35
WNMG 080404-GS	WNMG 431-GS	12,700	4,76	0,40	5,16	2,00	0,15	2,50	0,20	0,10	0,30
WNMG 080408-GS	WNMG 432-GS	12,700	4,76	0,80	5,16	2,50	0,25	3,00	0,25	0,10	0,35
WNMG 080412-GS	WNMG 433-GS	12,700	4,76	1,20	5,16	3,00	0,30	3,50	0,30	0,15	0,40

# WN = TRIGON 80° NEGATIVE

## TRIGONAL 80° NEGATIVA | TRIGONA 80° NEGATIVA

			P					M						K				N	S							
			CVD					PVD	CVD			PVD			UNC	CVD			UNC	PVD						
		(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
 WNUMG-MR Medium	1121262	WNUMG 06T304-MR		○	⊗																					
	1121167	WNUMG 06T308-MR		○	⊗																					
	1121587	WNUMG 06T312-MR		○	○																					
	1121240	WNUMG 060404-MR		○	⊗																					
	1121168	WNUMG 060408-MR		⊗	⊗																					
	1121584	WNUMG 060412-MR		⊗	⊗																					
	1121356	WNUMG 080404-MR		⊗	⊗																					
	1121327	WNUMG 080408-MR		⊗	⊗		⊗																			
	1121261	WNUMG 080412-MR		⊗	⊗		⊗																			
1121592	WNUMG 080416-MR		⊗	○																						
 WNUMG-PM Medium	1124088	WNUMG 060404-PM	⊗	⊗	⊗																					
	1124089	WNUMG 060408-PM	⊗	⊗	⊗																					
	1123988	WNUMG 080404-PM	⊗	⊗	⊗																					
	1123918	WNUMG 080408-PM	⊗	⊗	⊗																					
	1123989	WNUMG 080412-PM	⊗	⊗	⊗		⊗																			
 WNUMG-ST Medium	1121162	WNUMG 080404-ST															⊗	⊗								
	1121163	WNUMG 080408-ST															⊗	⊗								
	1121164	WNUMG 080412-ST															⊗	⊗								
	1121593	WNUMG 080416-ST															⊗	⊗								
 WNUMG-MW Medium Wiper	1121370	WNUMG 060408-MW		○	⊗		⊗											⊗	○							
	1121585	WNUMG 060412-MW		○	○														⊗	⊗						
	1121372	WNUMG 080408-MW		⊗	⊗														⊗	⊗						
	1121371	WNUMG 080412-MW		⊗	⊗														⊗	⊗						
 WNUMG-SS Roughing to Medium	1121321	WNUMG 06T304-SS							⊗	⊗		⊗		⊗								⊗		⊗		
	1121324	WNUMG 06T308-SS							⊗	⊗	⊗	⊗		⊗								⊗		⊗		
	1121322	WNUMG 060404-SS												⊗										⊗		
	1121325	WNUMG 060408-SS												⊗										⊗		
	1121323	WNUMG 080404-SS							⊗	⊗	⊗	⊗	⊗		⊗							⊗		⊗		
	1121326	WNUMG 080408-SS							⊗	⊗	⊗	⊗	⊗		⊗							⊗		⊗		
	1121591	WNUMG 080412-SS							⊗	⊗	⊗	⊗	⊗		⊗							⊗		⊗		
 WNUMG-HR Roughing	1121127	WNUMG 080408-HR	⊗	⊗	⊗		⊗										⊗	⊗								
	1121128	WNUMG 080412-HR		⊗	⊗		⊗											⊗	⊗							

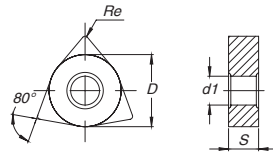
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

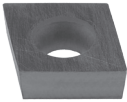
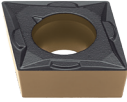


○ Available under request | Disponível sob consulta | Disponible bajo consulta



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
WNMG 06T304-MR	WNMG 32.51-MR	9,525	3,97	0,40	3,81	2,00	0,50	3,00	0,22	0,10	0,30
WNMG 06T308-MR	WNMG 32.52-MR	9,525	3,97	0,80	3,81	2,00	0,50	3,00	0,30	0,15	0,50
WNMG 06T312-MR	WNMG 32.53-MR	9,525	3,97	1,20	3,81	2,00	0,80	3,00	0,35	0,18	0,60
WNMG 060404-MR	WNMG 331-MR	9,525	4,76	0,40	3,81	2,00	0,50	3,00	0,22	0,10	0,30
WNMG 060408-MR	WNMG 332-MR	9,525	4,76	0,80	3,81	2,00	0,50	3,00	0,30	0,15	0,50
WNMG 060412-MR	WNMG 333-MR	9,525	4,76	1,20	3,81	2,00	0,80	3,00	0,35	0,18	0,60
WNMG 080404-MR	WNMG 431-MR	12,700	4,76	0,40	5,16	2,50	0,50	4,00	0,22	0,10	0,30
WNMG 080408-MR	WNMG 432-MR	12,700	4,76	0,80	5,16	2,50	0,50	4,00	0,30	0,15	0,50
WNMG 080412-MR	WNMG 433-MR	12,700	4,76	1,20	5,16	2,50	0,80	4,00	0,35	0,18	0,60
WNMG 080416-MR	WNMG 434-MR	12,700	4,76	1,60	5,16	3,00	1,00	4,00	0,40	0,23	0,65
WNMG 060404-PM	WNMG 331-PM	9,525	4,76	0,40	3,81	2,50	0,50	3,00	0,22	0,10	0,30
WNMG 060408-PM	WNMG 332-PM	9,525	4,76	0,80	3,81	2,50	0,50	3,00	0,30	0,15	0,50
WNMG 080404-PM	WNMG 431-PM	12,700	4,76	0,40	5,16	2,50	0,50	4,00	0,22	0,10	0,30
WNMG 080408-PM	WNMG 432-PM	12,700	4,76	0,80	5,16	2,50	0,50	4,00	0,30	0,15	0,50
WNMG 080412-PM	WNMG 433-PM	12,700	4,76	1,20	5,16	2,50	0,80	4,00	0,35	0,18	0,60
WNMG 080416-PM	WNMG 434-PM	12,700	4,76	1,60	5,16	3,00	1,00	4,50	0,35	0,20	0,65
WNMG 080404-ST	WNMG 431-ST	12,700	4,76	0,40	5,16	2,50	0,20	5,00	0,22	0,15	0,30
WNMG 080408-ST	WNMG 432-ST	12,700	4,76	0,80	5,16	2,50	0,20	5,00	0,35	0,15	0,50
WNMG 080412-ST	WNMG 433-ST	12,700	4,76	1,20	5,16	2,50	0,30	5,00	0,40	0,15	0,60
WNMG 080416-ST	WNMG 434-ST	12,700	4,76	1,60	5,16	2,50	0,30	5,00	0,45	0,20	0,70
WNMG 060408-MW	WNMG 332-MW	9,525	4,76	0,80	3,81	1,50	0,50	3,50	0,30	0,15	0,60
WNMG 060412-MW	WNMG 333-MW	9,525	4,76	1,20	3,81	1,50	0,80	3,50	0,50	0,20	0,90
WNMG 080408-MW	WNMG 432-MW	12,700	4,76	0,80	5,16	3,00	0,50	5,00	0,30	0,15	0,60
WNMG 080412-MW	WNMG 433-MW	12,700	4,76	1,20	5,16	3,50	0,80	6,00	0,50	0,20	0,90
WNMG 06T304-SS	WNMG 32.51-SS	9,525	3,97	0,40	3,81	2,00	0,50	3,00	0,20	0,12	0,30
WNMG 06T308-SS	WNMG 32.52-SS	9,525	3,97	0,80	3,81	2,00	0,50	3,00	0,25	0,12	0,45
WNMG 060404-SS	WNMG 331-SS	9,525	4,76	0,40	3,81	2,00	0,50	3,00	0,20	0,12	0,30
WNMG 060408-SS	WNMG 332-SS	9,525	4,76	0,80	3,81	2,00	0,50	3,00	0,25	0,12	0,45
WNMG 080404-SS	WNMG 431-SS	12,700	4,76	0,40	5,16	2,00	0,50	3,00	0,20	0,12	0,30
WNMG 080408-SS	WNMG 432-SS	12,700	4,76	0,80	5,16	2,50	0,50	4,00	0,25	0,12	0,45
WNMG 080412-SS	WNMG 433-SS	12,700	4,76	1,20	5,16	2,50	0,50	4,00	0,30	0,15	0,60
WNMG 080408-HR	WNMG 432-HR	12,700	4,76	0,80	5,16	4,00	0,80	5,00	0,35	0,20	0,55
WNMG 080412-HR	WNMG 433-HR	12,700	4,76	1,20	5,16	4,00	1,50	5,00	0,40	0,25	0,70

# CC = RHOMBIC 80° POSITIVE

RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA

			P										M					K		N	S									
			CVD							PVD			CVD		PVD			UNC	CVD		UNC	PVD								
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
	CCMW	1120206	CCMW 060204																			⊗								
		1120212	CCMW 09T304																				⊗							
	Finishing	1120214	CCMW 120404																				⊗							
	CCMT-FP	1121655	CCMT 060202-FP					⊗																						
		1121658	CCMT 060204-FP			⊗		⊗				⊗																		
		1121690	CCMT 09T302-FP					⊗																						
	Finishing	1121666	CCMT 09T304-FP			⊗		⊗				⊗																		
		1121652	CCMT 09T308-FP			⊗		⊗				⊗																		
	1121665	CCMT 120404-FP			⊗		⊗																							
	CCMT-BO	1121620	CCMT 060202-BO								⊗	⊗				⊗	⊗										⊗	⊗		
		1121621	CCMT 060204-BO								⊗	⊗	⊗				⊗	⊗									⊗	⊗		
		1124090	CCMT 060208-BO									⊗	⊗					⊗	⊗									⊗	⊗	
	Finishing	1124091	CCMT 09T302-BO									⊗	⊗					⊗	⊗									⊗	⊗	
		1121601	CCMT 09T304-BO									⊗	⊗	⊗				⊗	⊗								⊗	⊗		
		1121622	CCMT 09T308-BO									⊗	⊗	⊗				⊗	⊗								⊗	⊗		
		1121624	CCMT 120404-BO									⊗	⊗	⊗				⊗	⊗								⊗	⊗		
	1121623	CCMT 120408-BO									⊗	⊗	⊗				⊗	⊗								⊗	⊗			
	CCMT-FM	1121654	CCMT 060202-FM														⊗	⊗	⊗	⊗							⊗	⊗	⊗	
		1121657	CCMT 060204-FM														⊗	⊗	⊗	⊗	⊗						⊗	⊗	⊗	
		1121689	CCMT 09T302-FM															⊗	⊗	⊗	⊗						⊗	⊗	⊗	
	Finishing	1121692	CCMT 09T304-FM														⊗	⊗	⊗	⊗	⊗						⊗	⊗	⊗	
		1121651	CCMT 09T308-FM														⊗	⊗	⊗	⊗	⊗						⊗	⊗	⊗	
	1121664	CCMT 120404-FM														⊗	⊗	⊗	⊗	⊗						⊗	⊗	⊗		
	CCMT-FK	1121653	CCMT 060202-FK																				⊗							
		1121656	CCMT 060204-FK																					⊗						
		1121688	CCMT 09T302-FK																					⊗						
	Finishing	1121691	CCMT 09T304-FK																					⊗						
		1121663	CCMT 120404-FK																					⊗						

⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

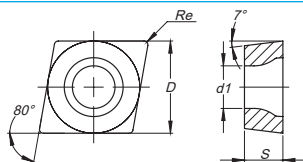
Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta



RELIEF ANGLE 7°



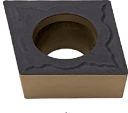
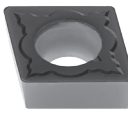
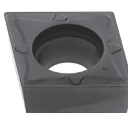


ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CCMW 060204	CCMW 21.51	6,350	2,38	0,40	2,80	1,50	0,05	3,00	0,20	0,08	0,26
CCMW 09T304	CCMW 32.51	9,525	3,97	0,40	4,40	2,30	0,05	4,50	0,20	0,08	0,26
CCMW 120404	CCMW 431	12,700	4,76	0,40	5,50	3,10	0,05	6,00	0,20	0,08	0,26
CCMT 060202-FP	CCMT 21.50.5-FP	6,350	2,38	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,11
CCMT 060204-FP	CCMT 21.51-FP	6,350	2,38	0,40	2,80	0,30	0,10	1,70	0,08	0,05	0,17
CCMT 09T302-FP	CCMT 32.50.5-FP	9,525	3,97	0,20	4,40	0,35	0,08	2,00	0,08	0,04	0,13
CCMT 09T304-FP	CCMT 32.51-FP	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
CCMT 09T308-FP	CCMT 32.52-FP	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,20	0,08	0,45
CCMT 120404-FP	CCMT 431-FP	12,700	4,76	0,40	5,50	0,42	0,14	2,40	0,14	0,07	0,27
CCMT 060202-BO	CCMT 21.50.5-BO	6,350	2,38	0,20	2,80	0,50	0,30	1,00	0,08	0,05	0,13
CCMT 060204-BO	CCMT 21.51-BO	6,350	2,38	0,40	2,80	0,50	0,30	1,00	0,13	0,08	0,20
CCMT 060208-BO	CCMT 21.52-BO	6,350	2,38	0,80	2,80	0,50	0,30	1,00	0,20	0,10	0,30
CCMT 09T302-BO	CCMT 32.50.5-BO	9,525	3,97	0,20	4,40	0,80	0,40	1,20	0,12	0,07	0,20
CCMT 09T304-BO	CCMT 32.51-BO	9,525	3,97	0,40	4,40	0,80	0,50	1,20	0,13	0,08	0,20
CCMT 09T308-BO	CCMT 32.52-BO	9,525	3,97	0,80	4,40	0,80	0,50	1,20	0,20	0,10	0,30
CCMT 120404-BO	CCMT 431-BO	12,700	4,76	0,40	5,50	1,00	0,50	1,50	0,13	0,08	0,20
CCMT 120408-BO	CCMT 432-BO	12,700	4,76	0,80	5,50	1,00	0,50	1,50	0,20	0,10	0,30
CCMT 060202-FM	CCMT 21.50.5-FM	6,350	2,38	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,11
CCMT 060204-FM	CCMT 21.51-FM	6,350	2,38	0,40	2,80	0,30	0,10	1,70	0,08	0,05	0,17
CCMT 09T302-FM	CCMT 32.50.5-FM	9,525	3,97	0,20	4,40	0,35	0,08	2,00	0,08	0,04	0,13
CCMT 09T304-FM	CCMT 32.51-FM	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
CCMT 09T308-FM	CCMT 32.52-FM	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,20	0,08	0,45
CCMT 120404-FM	CCMT 431-FM	12,700	4,76	0,40	5,50	0,42	0,14	2,40	0,14	0,07	0,27
CCMT 060202-FK	CCMT 21.50.5-FK	6,350	2,38	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,11
CCMT 060204-FK	CCMT 21.51-FK	6,350	2,38	0,40	2,80	0,30	0,10	1,70	0,08	0,05	0,17
CCMT 09T302-FK	CCMT 32.50.5-FK	9,525	3,97	0,20	4,40	0,35	0,08	2,00	0,08	0,04	0,13
CCMT 09T304-FK	CCMT 32.51-FK	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
CCMT 120404-FK	CCMT 431-FK	12,700	4,76	0,40	5,50	0,42	0,14	2,40	0,14	0,07	0,27



# CC = RHOMBIC 80° POSITIVE

## RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA

			P										M					K			N		S								
			CVD							PVD			CVD		PVD			UNC	CVD		UNC	PVD									
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
 Finishing Wiper	CCMT-FW	1121398	CCMT 060204-FW			⊗							⊗									⊗									
		1121743	CCMT 060208-FW			⊗							⊗									○									
		1121399	CCMT 09T304-FW			○							⊗										⊗								
		1121744	CCMT 09T308-FW			○							⊗										⊗								
 Medium to Finishing	CCMT-LM	1123801	CCMT 060204-LM														△	△	△	△	⊗					△	⊗	△	⊗		
		1123773	CCMT 09T304-LM															△	△	△	△	⊗				△	⊗	△	⊗		
		1123804	CCMT 120404-LM															△	△	△	△	⊗				△	⊗	△	⊗		
 Medium	CCMT-MP	1121697	CCMT 060204-MP			⊗		⊗					⊗																		
		1121661	CCMT 060208-MP			⊗		⊗																							
		1121700	CCMT 09T304-MP			⊗		⊗						⊗																	
		1121687	CCMT 09T308-MP			⊗		⊗						⊗																	
		1121719	CCMT 120404-MP			⊗		⊗																							
		1121722	CCMT 120408-MP			⊗		⊗						⊗																	
 Medium	CCMT-MM	1121696	CCMT 060204-MM												⊗		△	△	△	△						△	⊗	△	⊗		
		1121660	CCMT 060208-MM												⊗			△	△	△	△							⊗	⊗		
		1121699	CCMT 09T304-MM												⊗			△	△	△	△					△	⊗	△	⊗	⊗	
		1121686	CCMT 09T308-MM												⊗				△	△	△	△						⊗	⊗	⊗	
		1121718	CCMT 120404-MM												⊗				△	△	△	△						⊗	⊗	⊗	
		1121721	CCMT 120408-MM												⊗				△	△	△	△					△	⊗	△	⊗	
		1121723	CCMT 120412-MM												⊗					△	△	△						⊗	⊗	⊗	
 Medium	CCMT-MK	1121695	CCMT 060204-MK																			⊗	⊗								
		1121659	CCMT 060208-MK																				⊗	⊗							
		1121698	CCMT 09T304-MK																				⊗	⊗							
		1121685	CCMT 09T308-MK																				⊗	⊗							
		1121717	CCMT 120404-MK																				⊗	⊗							
 Medium to Finishing Wiper	CCMT-MW	1121462	CCMT 060208-MW			○								⊗																	
		1121400	CCMT 09T304-MW			○									⊗																
		1121411	CCMT 09T308-MW			○									⊗																
		1121412	CCMT 120404-MW			○																									
		1121413	CCMT 120408-MW			⊗																									

⊗ First choice | 1ª Escolha | 1ª Opción

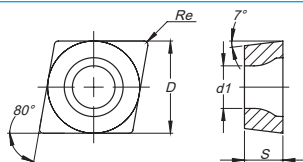
△ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta



RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CCMT 060204-FW	CCMT 21.51-FW	6,350	2,38	0,40	2,80	0,80	0,30	2,00	0,12	0,05	0,30
CCMT 060208-FW	CCMT 21.52-FW	6,350	2,38	0,80	2,80	0,80	0,30	2,00	0,15	0,09	0,35
CCMT 09T304-FW	CCMT 32.51-FW	9,525	3,97	0,40	4,40	1,00	0,30	3,00	0,20	0,07	0,30
CCMT 09T308-FW	CCMT 32.52-FW	9,525	3,97	0,80	4,40	1,00	0,30	3,00	0,25	0,12	0,50
CCMT 060204-LM	CCMT 21.51-LM	6,350	2,38	0,40	2,80	0,50	0,20	2,00	0,10	0,08	0,20
CCMT 09T304-LM	CCMT 32.51-LM	9,525	3,97	0,40	4,40	0,50	0,25	2,50	0,15	0,10	0,30
CCMT 120404-LM	CCMT 431-LM	12,700	4,76	0,40	5,50	0,80	0,30	3,00	0,18	0,12	0,35
CCMT 060204-MP	CCMT 21.51-MP	6,350	2,38	0,40	2,80	0,64	0,20	2,40	0,11	0,06	0,17
CCMT 060208-MP	CCMT 21.52-MP	6,350	2,38	0,80	2,80	0,64	0,40	2,40	0,18	0,08	0,35
CCMT 09T304-MP	CCMT 32.51-MP	9,525	3,97	0,40	4,40	0,64	0,25	3,00	0,15	0,08	0,23
CCMT 09T308-MP	CCMT 32.52-MP	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,20	0,10	0,40
CCMT 120404-MP	CCMT 431-MP	12,700	4,76	0,40	5,50	0,96	0,30	3,60	0,18	0,09	0,27
CCMT 120408-MP	CCMT 432-MP	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,24	0,12	0,45
CCMT 120412-MP	CCMT 433-MP	12,700	4,76	1,20	5,50	0,96	0,72	3,60	0,35	0,14	0,60
CCMT 060204-MM	CCMT 21.51-MM	6,350	2,38	0,40	2,80	0,64	0,20	2,40	0,11	0,06	0,17
CCMT 060208-MM	CCMT 21.52-MM	6,350	2,38	0,80	2,80	0,64	0,40	2,40	0,18	0,08	0,35
CCMT 09T304-MM	CCMT 32.51-MM	9,525	3,97	0,40	4,40	0,64	0,25	3,00	0,15	0,08	0,23
CCMT 09T308-MM	CCMT 32.52-MM	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,20	0,10	0,40
CCMT 120404-MM	CCMT 431-MM	12,700	4,76	0,40	5,50	0,96	0,30	3,60	0,18	0,09	0,27
CCMT 120408-MM	CCMT 432-MM	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,24	0,12	0,45
CCMT 120412-MM	CCMT 433-MM	12,700	4,76	1,20	5,50	0,96	0,72	3,60	0,35	0,14	0,60
CCMT 060204-MK	CCMT 21.51-MK	6,350	2,38	0,40	2,80	0,64	0,20	2,40	0,11	0,06	0,17
CCMT 060208-MK	CCMT 21.52-MK	6,350	2,38	0,80	2,80	0,64	0,40	2,40	0,18	0,08	0,35
CCMT 09T304-MK	CCMT 32.51-MK	9,525	3,97	0,40	4,40	0,64	0,25	3,00	0,15	0,08	0,23
CCMT 09T308-MK	CCMT 32.52-MK	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,20	0,10	0,40
CCMT 120404-MK	CCMT 431-MK	12,700	4,76	0,40	5,50	0,96	0,30	3,60	0,18	0,09	0,27
CCMT 120408-MK	CCMT 432-MK	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,24	0,12	0,45
CCMT 060208-MW	CCMT 21.52-MW	6,350	2,38	0,80	2,80	1,20	0,50	2,50	0,20	0,10	0,40
CCMT 09T304-MW	CCMT 32.51-MW	9,525	3,97	0,40	4,40	1,50	0,50	4,00	0,25	0,12	0,40
CCMT 09T308-MW	CCMT 32.52-MW	9,525	3,97	0,80	4,40	1,50	0,70	4,00	0,30	0,15	0,50
CCMT 120404-MW	CCMT 431-MW	12,700	4,76	0,40	5,50	2,00	0,50	4,00	0,25	0,15	0,40
CCMT 120408-MW	CCMT 432-MW	12,700	4,76	0,80	5,50	2,00	0,70	4,00	0,30	0,15	0,50

# CC = RHOMBIC 80° POSITIVE

RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA

			P										M				K			N	S										
			CVD							PVD			CVD		PVD		UNC	CVD		UNC	PVD										
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
	CCGT-FS	1121725	CCGT 060201-FS										△					⊗	⊗	⊗								⊗	⊗	⊗	
		1121726	CCGT 060202-FS																⊗	⊗	⊗								⊗	⊗	
		1121727	CCGT 060204-FS																	⊗	⊗	⊗								⊗	⊗
Finishing to Fine Finishing		1121455	CCGT 09T301-FS								△		△					△	⊗	△	⊗						△	⊗	△	⊗	
		1121456	CCGT 09T302-FS								△							△	⊗	⊗	⊗						△	⊗	⊗	⊗	
		1121457	CCGT 09T304-FS																⊗	⊗	⊗								⊗	⊗	
	CCGT-LN	1121884	CCGT 060202-LN															△	⊗							⊗	△	⊗			
		1121885	CCGT 060204-LN																△	⊗							⊗	△	⊗		
	Medium to Finishing	1121886	CCGT 09T302-LN																								⊗				
Positive inserts		1121887	CCGT 09T304-LN															△	⊗							⊗	△	⊗			
		1121888	CCGT 09T308-LN																								⊗				
		1123679	CCGT 120402-LN																								⊗				
		1123681	CCGT 120404-LN																								⊗				
		1123682	CCGT 120408-LN																								⊗				

⊗ First choice | 1ª Escolha | 1ª Opción

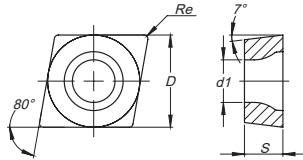
△ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

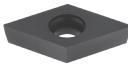






RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CCGT 060201-FS	CCGT 21.50.2-FS	6,350	2,38	0,10	2,80	0,30	0,10	1,00	0,03	0,01	0,06
CCGT 060202-FS	CCGT 21.50.5-FS	6,350	2,38	0,20	2,80	0,50	0,10	1,50	0,07	0,02	0,12
CCGT 060204-FS	CCGT 21.51-FS	6,350	2,38	0,40	2,80	0,80	0,15	1,50	0,20	0,08	0,25
CCGT 09T301-FS	CCGT 32.50.2-FS	9,525	3,97	0,10	4,40	0,50	0,10	1,50	0,03	0,01	0,06
CCGT 09T302-FS	CCGT 32.50.5-FS	9,525	3,97	0,20	4,40	1,00	0,10	2,00	0,07	0,02	0,12
CCGT 09T304-FS	CCGT 32.51-FS	9,525	3,97	0,40	4,40	1,25	0,15	2,50	0,15	0,08	0,25
CCGT 060202-LN	CCGT 21.50.5-LN	6,350	2,38	0,20	2,80	1,00	0,05	3,00	0,07	0,05	0,12
CCGT 060204-LN	CCGT 21.51-LN	6,350	2,38	0,40	2,80	1,55	0,10	3,00	0,15	0,10	0,20
CCGT 09T302-LN	CCGT 32.50.5-LN	9,525	3,97	0,20	4,40	1,53	0,05	3,00	0,07	0,05	0,12
CCGT 09T304-LN	CCGT 32.51-LN	9,525	3,97	0,40	4,40	2,55	0,10	5,00	0,16	0,10	0,22
CCGT 09T308-LN	CCGT 32.52-LN	9,525	3,97	0,80	4,40	2,55	0,10	5,00	0,22	0,15	0,45
CCGT 120402-LN	CCGT 430.5-LN	12,700	4,76	0,20	5,50	2,03	0,05	4,00	0,07	0,05	0,12
CCGT 120404-LN	CCGT 431-LN	12,700	4,76	0,40	5,50	2,55	0,10	5,00	0,17	0,10	0,26
CCGT 120408-LN	CCGT 432-LN	12,700	4,76	0,80	5,50	2,80	0,10	5,50	0,25	0,15	0,50

# DC = RHOMBIC 55° POSITIVE

RÔMBICA 55° POSITIVA | RÓMBICA 55° POSITIVA

			P											M					K			N		S						
			CVD							PVD				CVD		PVD			UNC	CVD		UNC	PVD							
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHp920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 DCMW Finishing	1120302	DCMW 070202																												
	1120303	DCMW 070204																												
	1121422	DCMW 070208																												
	1120304	DCMW 11T302																												
	1120305	DCMW 11T304																												
	1120306	DCMW 11T308																												
 DCMT-FP Finishing	1121675	DCMT 070202-FP																												
	1121678	DCMT 070204-FP																												
	1121668	DCMT 11T302-FP																												
	1121711	DCMT 11T304-FP																												
 DCMT-FM Finishing	1121674	DCMT 070202-FM																												
	1121677	DCMT 070204-FM																												
	1121667	DCMT 11T302-FM																												
	1121710	DCMT 11T304-FM																												
	1121712	DCMT 11T308-FM																												
 DCMT-FK Finishing	1121673	DCMT 070202-FK																												
	1121676	DCMT 070204-FK																												
	1121714	DCMT 11T302-FK																												
	1121709	DCMT 11T304-FK																												
 DCMT-FW Finishing Wiper	1121749	DCMT 070204-FW																												
	1121750	DCMT 070208-FW																												
	1121745	DCMT 11T304-FW																												
	1121755	DCMT 11T308-FW																												
 DCMT-LM Medium to Finishing	1123802	DCMT 11T304-LM																												
	1123803	DCMT 11T308-LM																												
 DCMT-MP Medium	1121681	DCMT 070204-MP																												
	1121684	DCMT 070208-MP																												
	1121648	DCMT 11T304-MP																												
	1121706	DCMT 11T308-MP																												
1121708	DCMT 11T312-MP																													

⊗ First choice | 1ª Escolha | 1ª Opción

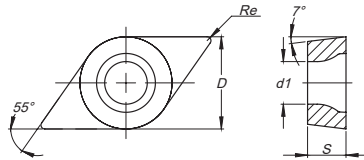
⊕ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊖ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta






RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
DCMW 070202	DCMW 21.50.5	6,350	2,38	0,20	2,80	1,60	0,05	3,20	0,10	0,04	0,13
DCMW 070204	DCMW 21.51	6,350	2,38	0,40	2,80	1,60	0,05	3,20	0,20	0,08	0,26
DCMW 070208	DCMW 21.52	6,350	2,38	0,80	2,80	1,60	0,05	3,20	0,40	0,16	0,53
DCMW 11T302	DCMW 32.50.5	9,525	3,97	0,20	4,40	2,40	0,05	4,80	0,10	0,04	0,13
DCMW 11T304	DCMW 32.51	9,525	3,97	0,40	4,40	2,40	0,05	4,80	0,20	0,08	0,26
DCMW 11T308	DCMW 32.52	9,525	3,97	0,80	4,40	2,40	0,05	4,80	0,40	0,16	0,53
DCMW 150404	DCMW 431	12,700	4,76	0,40	5,50	2,80	0,10	5,50	0,20	0,10	0,26
DCMT 070202-FP	DCMT 21.50.5-FP	6,350	2,38	0,20	2,80	0,26	0,06	1,50	0,06	0,03	0,11
DCMT 070204-FP	DCMT 21.51-FP	6,350	2,38	0,40	2,80	0,26	0,08	1,50	0,08	0,05	0,17
DCMT 11T302-FP	DCMT 32.50.5-FP	9,525	3,97	0,20	4,40	0,35	0,08	2,00	0,08	0,04	0,15
DCMT 11T304-FP	DCMT 32.51-FP	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
DCMT 11T308-FP	DCMT 32.52-FP	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,15	0,08	0,30
DCMT 070202-FM	DCMT 21.50.5-FM	6,350	2,38	0,20	2,80	0,26	0,06	1,50	0,06	0,03	0,11
DCMT 070204-FM	DCMT 21.51-FM	6,350	2,38	0,40	2,80	0,26	0,08	1,50	0,08	0,05	0,17
DCMT 11T302-FM	DCMT 32.50.5-FM	9,525	3,97	0,20	4,40	0,35	0,08	2,00	0,08	0,04	0,15
DCMT 11T304-FM	DCMT 32.51-FM	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
DCMT 11T308-FM	DCMT 32.52-FM	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,15	0,08	0,30
DCMT 070202-FK	DCMT 21.50.5-FK	6,350	2,38	0,20	2,80	0,26	0,06	1,50	0,06	0,03	0,11
DCMT 070204-FK	DCMT 21.51-FK	6,350	2,38	0,40	2,80	0,26	0,08	1,50	0,08	0,05	0,17
DCMT 11T302-FK	DCMT 32.50.5-FK	9,525	3,97	0,20	4,40	0,35	0,08	2,00	0,08	0,04	0,15
DCMT 11T304-FK	DCMT 32.51-FK	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
DCMT 070204-FW	DCMT 21.51-FW	6,350	2,38	0,40	2,80	0,70	0,30	2,00	0,12	0,05	0,25
DCMT 070208-FW	DCMT 21.52-FW	6,350	2,38	0,80	2,80	0,70	0,30	2,00	0,15	0,09	0,35
DCMT 11T304-FW	DCMT 32.51-FW	9,525	3,97	0,40	4,40	1,00	0,30	3,00	0,20	0,07	0,30
DCMT 11T308-FW	DCMT 32.52-FW	9,525	3,97	0,80	4,40	1,00	0,30	3,00	0,25	0,12	0,40
DCMT 11T304-LM	DCMT 32.51-LM	9,525	3,97	0,40	4,40	0,50	0,15	2,50	0,15	0,08	0,25
DCMT 11T308-LM	DCMT 32.52-LM	9,525	3,97	0,80	4,40	0,50	0,20	2,50	0,20	0,10	0,35
DCMT 070204-MP	DCMT 21.51-MP	6,350	2,38	0,40	2,80	0,60	0,19	2,25	0,11	0,06	0,17
DCMT 070208-MP	DCMT 21.52-MP	6,350	2,38	0,80	2,80	0,60	0,38	2,25	0,20	0,08	0,35
DCMT 11T304-MP	DCMT 32.51-MP	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
DCMT 11T308-MP	DCMT 32.52-MP	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,25	0,10	0,40
DCMT 11T312-MP	DCMT 32.53-MP	9,525	3,97	1,20	4,40	0,80	0,60	3,00	0,35	0,12	0,60

# DC = RHOMBIC 55° POSITIVE

RÔMBICA 55° POSITIVA | RÓMBICA 55° POSITIVA

			P											M					K			N	S							
			CVD							PVD				CVD		PVD			UNC	CVD		UNC	PVD							
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 DCMT-MM Medium	1121680	DCMT 070204-MM													⊗		⊗	⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1121683	DCMT 070208-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
	1121647	DCMT 11T304-MM													⊗		⊗	⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1121705	DCMT 11T308-MM													⊗		⊗	⊗	⊗	⊗							⊗	⊗	⊗	⊗
	1121707	DCMT 11T312-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
 DCMT-MK Medium	1121679	DCMT 070204-MK																					⊗	⊗						
	1121682	DCMT 070208-MK																					⊗	⊗						
	1121646	DCMT 11T304-MK																					⊗	⊗						
	1121704	DCMT 11T308-MK																					⊗	⊗						
	1121955	DCMT 11T312-MK																					⊗	⊗						
 DCMT-MW Medium to Finishing Wiper	1121414	DCMT 11T304-MW		○								⊗												⊗					⊗	
	1121756	DCMT 11T308-MW		⊗								⊗												⊗					⊗	
 DCGT-FS Finishing to Fine Finishing	1121747	DCGT 070201-FS																⊗			⊗							⊗	⊗	
	1121748	DCGT 070202-FS																⊗			⊗							⊗	⊗	
	1121872	DCGT 070204-FS									⊗							⊗	⊗		⊗					⊗		⊗	⊗	
	1121873	DCGT 11T301-FS																⊗			⊗							⊗	⊗	
	1121874	DCGT 11T302-FS									⊗							⊗	⊗		⊗					⊗		⊗	⊗	
	1121875	DCGT 11T304-FS																⊗			⊗							⊗	⊗	
 DCGT-LN Medium to Finishing	1124101	DCGT 11T308-FS										⊗						⊗	⊗		⊗						⊗	⊗	⊗	
	1121900	DCGT 070202-LN																⊗	⊗						⊗	⊗	⊗			
	1121901	DCGT 070204-LN																⊗	⊗						⊗	⊗	⊗			
	1111540	DCGT 11T302-LN																⊗	⊗						⊗	⊗	⊗			
	1111534	DCGT 11T304-LN																⊗	⊗						⊗	⊗	⊗			
	1121904	DCGT 11T308-LN																⊗							⊗	⊗	⊗			
	1124004	DCGT 11T312-LN																⊗							⊗	⊗	⊗			

⊗ First choice | 1ª Escolha | 1ª Opción

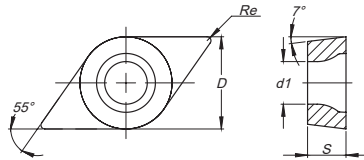
⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 7°





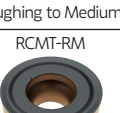

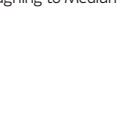
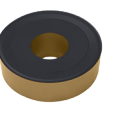




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
DCMT 070204-MM	DCMT 21.51-MM	6,350	2,38	0,40	2,80	0,60	0,19	2,25	0,11	0,06	0,17
DCMT 070208-MM	DCMT 21.52-MM	6,350	2,38	0,80	2,80	0,60	0,38	2,25	0,20	0,08	0,35
DCMT 11T304-MM	DCMT 32.51-MM	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
DCMT 11T308-MM	DCMT 32.52-MM	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,25	0,10	0,40
DCMT 11T312-MM	DCMT 32.53-MM	9,525	3,97	1,20	4,40	0,80	0,60	3,00	0,35	0,12	0,60
DCMT 070204-MK	DCMT 21.51-MK	6,350	2,38	0,40	2,80	0,60	0,19	2,25	0,11	0,06	0,17
DCMT 070208-MK	DCMT 21.52-MK	6,350	2,38	0,80	2,80	0,60	0,38	2,25	0,20	0,08	0,35
DCMT 11T304-MK	DCMT 32.51-MK	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
DCMT 11T308-MK	DCMT 32.52-MK	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,25	0,10	0,40
DCMT 11T312-MK	DCMT 32.53-MK	9,525	3,97	1,20	4,40	0,80	0,50	3,00	0,35	0,12	0,60
DCMT 11T304-MW	DCMT 32.51-MW	9,525	3,97	0,40	4,40	1,50	0,50	4,00	0,25	0,12	0,40
DCMT 11T308-MW	DCMT 32.52-MW	9,525	3,97	0,80	4,40	1,50	0,50	4,00	0,30	0,15	0,50
DCGT 070201-FS	DCGT 21.50.2-FS	6,350	2,38	0,10	2,80	0,30	0,10	1,00	0,03	0,01	0,06
DCGT 070202-FS	DCGT 21.50.5-FS	6,350	2,38	0,20	2,80	0,50	0,10	1,50	0,07	0,02	0,12
DCGT 070204-FS	DCGT 21.51-FS	6,350	2,38	0,40	2,80	0,80	0,15	1,50	0,15	0,08	0,25
DCGT 11T301-FS	DCGT 32.50.2-FS	9,525	3,97	0,10	4,40	0,50	0,10	1,50	0,03	0,01	0,06
DCGT 11T302-FS	DCGT 32.50.5-FS	9,525	3,97	0,20	4,40	1,00	0,10	2,00	0,07	0,02	0,12
DCGT 11T304-FS	DCGT 32.51-FS	9,525	3,97	0,40	4,40	1,50	0,15	3,00	0,15	0,08	0,25
DCGT 11T308-FS	DCGT 32.52-FS	9,525	3,97	0,80	4,40	2,00	0,20	3,50	0,18	0,10	0,30
DCGT 070202-LN	DCGT 21.50.5-LN	6,350	2,38	0,20	2,80	1,00	0,05	3,00	0,07	0,05	0,12
DCGT 070204-LN	DCGT 21.51-LN	6,350	2,38	0,40	2,80	2,05	0,10	4,00	0,15	0,10	0,20
DCGT 11T302-LN	DCGT 32.50.5-LN	9,525	3,97	0,20	4,40	2,03	0,05	4,00	0,07	0,05	0,12
DCGT 11T304-LN	DCGT 32.51-LN	9,525	3,97	0,40	4,40	2,55	0,10	5,00	0,16	0,10	0,22
DCGT 11T308-LN	DCGT 32.52-LN	9,525	3,97	0,80	4,40	2,55	0,10	5,00	0,22	0,15	0,50
DCGT 11T312-LN	DCGT 32.53-LN	9,525	3,97	1,20	4,40	2,70	0,15	5,00	0,35	0,15	0,70



# RC = ROUND R° POSITIVE

## REDONDA R° POSITIVA | REDONDA R° POSITIVA

			P											M					K			N	S							
			CVD							PVD				CVD		PVD			UNC	CVD		UNC	PVD							
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Medium to Finishing	1124495	RCMT 0803M0-GS																												
	1124496	RCMT 1003M0-GS																												
 Medium	1120384	RCMT 0602M0-CP																												
	1120385	RCMT 0803M0-ST																												
 Roughing to Medium	1120386	RCMT 1003M0-ST																												
	1120387	RCMT 10T3M0-ST																												
 Roughing to Medium	1120388	RCMT 1204M0-ST																												
	1120389	RCMT 1606M0-ST																												
	1120390	RCMT 2006M0-ST																												
 Roughing to Medium	1123848	RCMT 2507M0-RF																												
	1123856	RCMT 2006M0-RM																												
 Roughing to Medium	1121425	RCMX 1003M0-ST																												
	1121426	RCMX 1204M0-ST																												
 Roughing to Medium	1121427	RCMX 1606M0-ST																												
	1121428	RCMX 2006M0-ST																												
	1121429	RCMX 2507M0-ST																												
 Roughing to Medium	1123910	RCMX 3009M0-ST																												
	1121430	RCMX 3209M0-ST																												
 Roughing to Medium	1123678	RCMX 3209M0-RM																												
	1123667	RCMX 2507M0-RR																												
 Roughing to Medium	1123666	RCMX 3209M0-RR																												

⊗ First choice | 1ª Escolha | 1ª Opción

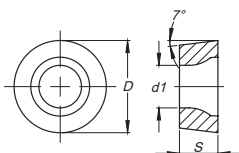
⊕ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊖ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta


## RELIEF ANGLE 7°




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RCMT 0803M0-GS	RCMT 0803M0-GS	8,00	3,18	-	3,40	2,00	0,50	3,00	0,25	0,15	0,40
RCMT 1003M0-GS	RCMT 1003M0-GS	10,00	3,18	-	3,40	3,00	0,75	4,00	0,30	0,15	0,45
RCMT 0602M0-CP	RCMT 0602M0-CP	6,00	2,38	-	2,80	1,50	0,50	2,40	0,15	0,04	0,17
RCMT 0803M0-ST	RCMT 0803M0-ST	8,00	3,18	-	3,40	2,00	0,80	3,20	0,20	0,10	0,80
RCMT 1003M0-ST	RCMT 1003M0-ST	10,00	3,18	-	3,40	2,50	1,00	4,00	0,25	0,12	1,00
RCMT 10T3M0-ST	RCMT 10T3M0-ST	10,00	3,97	-	4,40	2,50	1,00	4,00	0,25	0,16	1,40
RCMT 1204M0-ST	RCMT 1204M0-ST	12,00	4,76	-	4,40	3,00	1,20	4,80	0,30	0,20	1,80
RCMT 1606M0-ST	RCMT 1606M0-ST	16,00	6,35	-	5,50	3,50	1,60	6,40	0,37	0,25	2,30
RCMT 2006M0-ST	RCMT 2006M0-ST	20,00	6,35	-	6,50	4,00	2,00	8,00	0,45	0,30	3,00
RCMT 2507M0-RF	RCMT 2507M0-RF	25,00	7,94	-	7,20	6,30	2,50	10,00	0,79	0,25	2,50
RCMT 2006M0-RM	RCMT 2006M0-RM	20,00	6,35	-	6,50	4,00	2,00	8,00	0,45	0,13	0,63
RCMX 1003M0-ST	RCMX 1003M0-ST	10,00	3,18	-	3,60	2,50	1,00	4,00	0,32	0,10	1,00
RCMX 1204M0-ST	RCMX 1204M0-ST	12,00	4,76	-	4,20	3,00	1,20	4,80	0,38	0,12	1,20
RCMX 1606M0-ST	RCMX 1606M0-ST	16,00	6,35	-	5,20	4,00	1,60	6,40	0,51	0,16	1,60
RCMX 2006M0-ST	RCMX 2006M0-ST	20,00	6,35	-	6,50	5,00	2,00	8,00	0,63	0,20	2,00
RCMX 2507M0-ST	RCMX 2507M0-ST	25,00	7,94	-	7,20	6,30	2,50	10,00	0,79	0,25	2,50
RCMX 3209M0-ST	RCMX 3209M0-ST	30,00	9,55	-	10,00	7,00	3,00	11,00	0,85	0,30	2,80
RCMX 3209M0-ST	RCMX 3209M0-ST	32,00	9,52	-	9,50	8,00	3,20	12,80	1,01	0,32	3,20
RCMX 3209M0-RM	RCMX 3209M0-RM	32,00	9,52	-	9,50	6,50	3,20	13,00	1,80	0,80	2,50
RCMX 2507M0-RR	RCMX 2507M0-RR	25,00	7,94	-	7,20	5,00	3,20	8,00	1,80	0,80	2,50
RCMX 3209M0-RR	RCMX 3209M0-RR	32,00	9,52	-	9,50	6,50	3,20	13,00	1,80	0,80	2,50

# RC = ROUND R° POSITIVE


## REDONDA R° POSITIVA | REDONDA R° POSITIVA

			P										M					K			N		S						
			CVD							PVD			CVD		PVD			UNC	CVD		UNC	PVD							
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 RCGT-LN  Finishing to Fine Finishing	1124005	RCGT 0602M0-LN																											
	1124006	RCGT 0803M0-LN																											
	1124007	RCGT 1003M0-LN																											
	1123684	RCGT 1204M0-LN																											

 First choice | 1ª Escolha | 1ª Opción

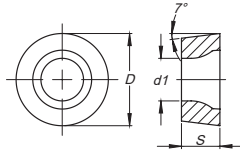
 Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RCGT 0602M0-LN	RCGT 0602M0-LN	6,00	2,38	-	2,80	1,25	0,50	2,00	0,13	0,05	0,20
RCGT 0803M0-LN	RCGT 0803M0-LN	8,00	3,18	-	3,40	1,50	0,50	2,50	0,15	0,05	0,25
RCGT 1003M0-LN	RCGT 1003M0-LN	10,00	3,18	-	4,40	2,00	1,00	3,00	0,20	0,10	0,30
RCGT 1204M0-LN	RCGT 1204M0-LN	12,00	4,76	-	4,40	2,25	1,00	3,50	0,23	0,10	0,35



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

Automatic Lathes

Spare Parts


Technical Data

# SC = SQUARE 90° POSITIVE

## QUADRADA 90° POSITIVA | ESCUADRA 90° POSITIVA

			P										M					K			N		S							
			CVD							PVD			CVD		PVD			UNC	CVD		UNC	PVD								
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
	SCMW	1120469	SCMW 09T304																											
		1120470	SCMW 09T308																											
	Finishing	1120472	SCMW 120408																											
	SCMT-FP	1121759	SCMT 09T304-FP																											
	Finishing	1121765	SCMT 09T308-FP																											
	SCMT-FM	1121758	SCMT 09T304-FM																											
	Finishing	1121764	SCMT 09T308-FM																											
	SCMT-FK	1121757	SCMT 09T304-FK																											
	Finishing	1121763	SCMT 09T308-FK																											
	SCMT-MP	1121762	SCMT 09T304-MP																											
		1121768	SCMT 09T308-MP																											
	Medium	1121770	SCMT 120404-MP																											
		1121783	SCMT 120408-MP																											
	SCMT-MM	1121761	SCMT 09T304-MM																											
		1121767	SCMT 09T308-MM																											
	Medium	1121769	SCMT 120404-MM																											
		1121782	SCMT 120408-MM																											
		1121784	SCMT 120412-MM																											
	SCMT-MK	1121760	SCMT 09T304-MK																											
	Medium	1121766	SCMT 09T308-MK																											
		1121781	SCMT 120408-MK																											
	SCGT-LN	1124008	SCGT 09T304-LN																											
	Medium to Finishing	1124009	SCGT 09T308-LN																											
		1124743	SCGT 120402-LN																											
		1124010	SCGT 120404-LN																											
	1123685	SCGT 120408-LN																												

 First choice | 1ª Escolha | 1ª Opción

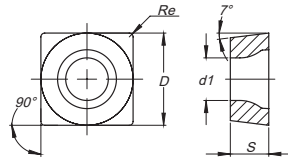
 Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta




RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
SCMW 09T304	SCMW 32.51	9,525	3,97	0,40	4,40	2,40	0,05	4,70	0,20	0,08	0,26
SCMW 09T308	SCMW 32.52	9,525	3,97	0,80	4,40	2,40	0,05	4,70	0,40	0,16	0,53
SCMW 120408	SCMW 432	12,700	4,76	0,80	5,50	3,20	0,05	6,30	0,40	0,16	0,53
SCMT 09T304-FP	SCMT 32.51-FP	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
SCMT 09T308-FP	SCMT 32.52-FP	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,15	0,08	0,30
SCMT 09T304-FM	SCMT 32.51-FM	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
SCMT 09T308-FM	SCMT 32.52-FM	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,15	0,08	0,30
SCMT 09T304-FK	SCMT 32.51-FK	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
SCMT 09T308-FK	SCMT 32.52-FK	9,525	3,97	0,80	4,40	0,35	0,15	2,00	0,15	0,08	0,30
SCMT 09T304-MP	SCMT 32.51-MP	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
SCMT 09T308-MP	SCMT 32.52-MP	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,25	0,10	0,40
SCMT 120404-MP	SCMT 431-MP	12,700	4,76	0,40	5,50	0,96	0,30	3,60	0,18	0,09	0,27
SCMT 120408-MP	SCMT 432-MP	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,25	0,12	0,45
SCMT 120412-MP	SCMT 433-MP	12,700	4,76	1,20	5,50	0,96	0,72	3,60	0,35	0,14	0,60
SCMT 09T304-MM	SCMT 32.51-MM	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
SCMT 09T308-MM	SCMT 32.52-MM	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,25	0,10	0,40
SCMT 120404-MM	SCMT 431-MM	12,700	4,76	0,40	5,50	0,96	0,30	3,60	0,18	0,09	0,27
SCMT 120408-MM	SCMT 432-MM	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,25	0,12	0,45
SCMT 120412-MM	SCMT 433-MM	12,700	4,76	1,20	5,50	0,96	0,72	3,60	0,35	0,14	0,60
SCMT 09T304-MK	SCMT 32.51-MK	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
SCMT 09T308-MK	SCMT 32.52-MK	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,25	0,10	0,40
SCMT 120408-MK	SCMT 432-MK	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,25	0,12	0,45
SCGT 09T304-LN	SCGT 32.51-LN	9,525	3,97	0,40	4,40	2,05	0,10	4,00	0,16	0,10	0,26
SCGT 09T308-LN	SCGT 32.52-LN	9,525	3,97	0,80	4,40	2,55	0,10	5,00	0,22	0,15	0,40
SCGT 120402-LN	SCGT 430.5-LN	12,700	4,76	0,20	5,50	2,50	0,10	4,50	0,15	0,08	0,25
SCGT 120404-LN	SCGT 431-LN	12,700	4,76	0,40	5,50	2,55	0,10	5,00	0,20	0,10	0,26
SCGT 120408-LN	SCGT 432-LN	12,700	4,76	0,80	5,50	2,55	0,10	5,00	0,30	0,15	0,50

# SP = SQUARE 90° POSITIVE

## QUADRADA 90° POSITIVA | ESCUADRA 90° POSITIVA

			P											M					K			N		S						
			CVD							PVD				CVD		PVD			UNC	CVD		UNC	PVD							
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 SPUN Medium to Finishing	1120580	SPUN 120304				⊗																								
	1120581	SPUN 120308				⊗																								
	1120583	SPUN 120312				⊗																								
 SPMR-12 Finishing to Fine Finishing	1120561	SPMR 090308-12		⊗		⊗																								
	1120563	SPMR 120304-12		⊗																										
	1120565	SPMR 120308-12		⊗																										
 SPMR-13 Medium	1120562	SPMR 090308-13		⊗																										
	1120564	SPMR 120304-13		⊗		⊗																								
	1120566	SPMR 120308-13		⊗		⊗																								
	1120567	SPMR 120312-13		⊗		⊗																								

⊗ First choice | 1ª Escolha | 1ª Opción

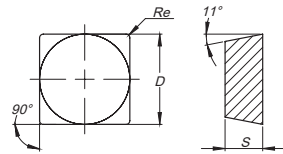
⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 11°

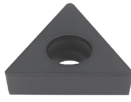

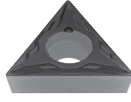


ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
SPUN 120304	SPUN 421	12,700	3,18	0,40	-	3,00	1,00	5,00	0,20	0,10	0,30
SPUN 120308	SPUN 422	12,700	3,18	0,80	-	3,00	1,00	5,00	0,25	0,15	0,40
SPUN 120312	SPUN 423	12,700	3,18	1,20	-	3,00	1,00	5,00	0,35	0,20	0,50
SPMR 090308-12	SPMR 322-12	9,525	3,18	0,80	-	1,00	0,30	2,00	0,20	0,10	0,30
SPMR 120304-12	SPMR 421-12	12,700	3,18	0,40	-	1,30	0,50	2,00	0,15	0,08	0,25
SPMR 120308-12	SPMR 422-12	12,700	3,18	0,80	-	1,30	0,50	2,00	0,22	0,10	0,30
SPMR 090308-13	SPMR 322-13	9,525	3,18	0,80	-	2,20	1,00	3,50	0,25	0,10	0,40
SPMR 120304-13	SPMR 421-13	12,700	3,18	0,40	-	2,60	1,50	4,00	0,10	0,07	0,20
SPMR 120308-13	SPMR 422-13	12,700	3,18	0,80	-	2,60	1,50	4,00	0,30	0,20	0,40
SPMR 120312-13	SPMR-423-13	12,700	3,18	1,20	-	2,60	1,50	4,00	0,40	0,25	0,55



# TC = TRIANGULAR 60° POSITIVE

## TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA

			P								M					K		N	S											
			CVD					PVD			CVD		PVD			UNC	CVD		UNC	PVD										
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
TCMW 	1120620	TCMW 110204																				⊗			○					
	1120622	TCMW 16T304																				⊗			○					
	1120623	TCMW 16T308																				⊗			○					
Finishing	1121846	TCMT 220408																			⊗	○								
TCMT-FP 	1121788	TCMT 06T102-FP					⊗																							
	1121798	TCMT 06T104-FP			⊗		⊗																							
	1121801	TCMT 06T108-FP			⊗		⊗																							
	Finishing	1121804	TCMT 090202-FP					⊗																						
		1121807	TCMT 090204-FP					⊗																						
		1121961	TCMT 110202-FP					⊗																						
		1121962	TCMT 110204-FP			⊗		⊗																						
		1121963	TCMT 110208-FP			⊗		⊗																						
		1121669	TCMT 110302-FP					○																						
		1121816	TCMT 110304-FP			⊗		○																						
	1121823	TCMT 110308-FP			○		○																							
	1121832	TCMT 16T304-FP			⊗		⊗																							
TCMT-FM 	1121787	TCMT 06T102-FM													⊗			⊗	⊗									⊗	⊗	
	1121797	TCMT 06T104-FM													⊗				⊗	⊗									⊗	
	1123637	TCMT 06T108-FM													⊗			⊗	⊗									⊗	⊗	
	Finishing	1121803	TCMT 090202-FM													⊗		⊗	⊗	⊗								⊗	⊗	⊗
		1121806	TCMT 090204-FM													⊗		⊗	⊗	⊗								⊗	⊗	⊗
		1121960	TCMT 110202-FM													⊗		⊗	⊗	⊗								⊗	⊗	⊗
		1121958	TCMT 110204-FM													⊗		⊗	⊗	⊗								⊗	⊗	⊗
		1121959	TCMT 110208-FM													⊗		⊗	⊗	⊗								⊗	⊗	⊗
		1121881	TCMT 110302-FM													⊗				⊗	⊗									⊗
		1121815	TCMT 110304-FM													⊗			⊗	⊗									⊗	⊗
	1121822	TCMT 110308-FM													⊗			⊗	⊗									⊗	⊗	
	1121831	TCMT 16T304-FM													⊗		⊗	⊗	⊗								⊗	⊗	⊗	

⊗ First choice | 1ª Escolha | 1ª Opción

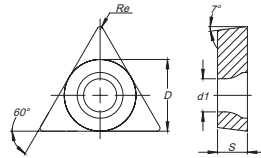
⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TCMW 110204	TCMW 21.51	6,350	2,38	0,40	2,80	1,50	0,05	3,10	0,20	0,08	0,26
TCMW 16T304	TCMW 32.51	9,525	3,97	0,40	4,40	2,30	0,05	4,70	0,20	0,08	0,26
TCMW 16T308	TCMW 32.52	9,525	3,97	0,80	4,40	2,30	0,05	4,70	0,40	0,16	0,53
TCMT 220408	TCMT 432	12,700	4,76	0,80	5,50	2,30	0,05	6,30	0,33	0,15	0,53
TCMT 06T102-FP	TCMT 1.21.20.5-FP	3,970	1,98	0,20	2,15	0,26	0,06	1,50	0,06	0,03	0,11
TCMT 06T104-FP	TCMT 1.21.21-FP	3,970	1,98	0,40	2,15	0,26	0,08	1,50	0,08	0,05	0,17
TCMT 06T108-FP	TCMT 1.21.22-FP	3,970	1,98	0,80	2,15	0,26	0,11	1,50	0,11	0,06	0,23
TCMT 090202-FP	TCMT 1.81.50.5-FP	5,560	2,38	0,20	2,50	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 090204-FP	TCMT 1.81.51-FP	5,560	2,38	0,40	2,50	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110202-FP	TCMT 21.50.5-FP	6,350	2,38	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 110204-FP	TCMT 21.51-FP	6,350	2,38	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110208-FP	TCMT 21.52-FP	6,350	2,38	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
TCMT 110302-FP	TCMT 220.5-FP	6,350	3,18	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 110304-FP	TCMT 221-FP	6,350	3,18	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110308-FP	TCMT 222-FP	6,350	3,18	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
TCMT 16T304-FP	TCMT 32.51-FP	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
TCMT 06T102-FM	TCMT 1.21.20.5-FM	3,970	1,98	0,20	2,15	0,26	0,06	1,50	0,06	0,03	0,11
TCMT 06T104-FM	TCMT 1.21.21-FM	3,970	1,98	0,40	2,15	0,26	0,08	1,50	0,08	0,05	0,17
TCMT 06T108-FM	TCMT 1.21.22-FM	3,970	1,98	0,80	2,15	0,26	0,11	1,50	0,11	0,06	0,23
TCMT 090202-FM	TCMT 1.81.50.5-FM	5,560	2,38	0,20	2,50	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 090204-FM	TCMT 1.81.51-FM	5,560	2,38	0,40	2,50	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110202-FM	TCMT 21.50.5-FM	6,350	2,38	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 110204-FM	TCMT 21.51-FM	6,350	2,38	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110208-FM	TCMT 21.52-FM	6,350	2,38	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
TCMT 110302-FM	TCMT 220.5-FM	6,350	3,18	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 110304-FM	TCMT 221-FM	6,350	3,18	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110308-FM	TCMT 222-FM	6,350	3,18	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
TCMT 16T304-FM	TCMT 32.51-FM	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23

# TC = TRIANGULAR 60° POSITIVE

TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA

			P								M					K		N	S											
			CVD						PVD		CVD		PVD			UNC	CVD		UNC	PVD										
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Finishing	TCMT-FK	1121786	TCMT 06T102-FK																											
		1121789	TCMT 06T104-FK																											
		1121800	TCMT 06T108-FK																											
		1123668	TCMT 090202-FK																											
		1121805	TCMT 090204-FK																											
		1121956	TCMT 110202-FK																											
		1121957	TCMT 110204-FK																											
		1121813	TCMT 110302-FK																											
		1121814	TCMT 110304-FK																											
	1121830	TCMT 16T304-FK																												
 Finishing Wiper	TCMT-FW	1121808	TCMT 090204-FW			○								⊗								⊗								
		1121809	TCMT 090208-FW			○									⊗								⊗							
		1121964	TCMT 110204-FW			○									⊗								⊗							
		1121965	TCMT 110208-FW			○									⊗								⊗							
		1121817	TCMT 110304-FW			⊗									⊗								⊗							
		1121824	TCMT 110308-FW			⊗									⊗								⊗							
		1121833	TCMT 16T304-FW			⊗									⊗								⊗							
 Medium	TCMT-MP	1121703	TCMT 090204-MP			⊗		⊗																						
		1121812	TCMT 090208-MP			○		⊗																						
		1121970	TCMT 110204-MP			⊗		⊗						⊗																
		1121971	TCMT 110208-MP			⊗		⊗																						
		1121972	TCMT 110212-MP			⊗		⊗																						
		1121820	TCMT 110304-MP			○		⊗																						
		1121827	TCMT 110308-MP			⊗		○																						
		1121829	TCMT 110312-MP			○		○																						
		1121836	TCMT 16T304-MP			⊗		⊗																						
		1121840	TCMT 16T308-MP			⊗		⊗							⊗															
	1121844	TCMT 16T312-MP			⊗		⊗																							
	1121849	TCMT 220408-MP			⊗		⊗			⊗																				

⊗ First choice | 1ª Escolha | 1ª Opción

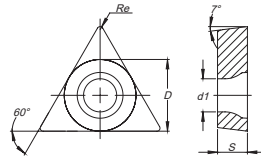
⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

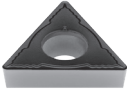
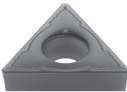
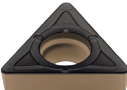
RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TCMT 06T102-FK	TCMT 1.21.20.5-FK	3,970	1,98	0,20	2,15	0,26	0,06	1,50	0,06	0,03	0,11
TCMT 06T104-FK	TCMT 1.21.21-FK	3,970	1,98	0,40	2,15	0,26	0,08	1,50	0,08	0,05	0,17
TCMT 06T108-FK	TCMT 1.21.22-FK	3,970	1,98	0,80	2,15	0,26	0,11	1,50	0,11	0,06	0,23
TCMT 090202-FK	TCMT 1.81.50.5-FK	5,560	2,38	0,20	2,50	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 090204-FK	TCMT 1.81.51-FK	5,560	2,38	0,40	2,50	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110202-FK	TCMT 21.50.5-FK	6,350	2,38	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 110204-FK	TCMT 21.51-FK	6,350	2,38	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 110302-FK	TCMT 220.5-FK	6,350	3,18	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
TCMT 110304-FK	TCMT 221-FK	6,350	3,18	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
TCMT 16T304-FK	TCMT 32.51-FK	9,525	3,97	0,40	4,40	0,35	0,11	2,00	0,11	0,06	0,23
TCMT 090204-FW	TCMT 1.81.51-FW	5,560	2,38	0,40	2,50	0,70	0,30	2,00	0,12	0,05	0,30
TCMT 090208-FW	TCMT 1.81.52-FW	5,560	2,38	0,80	2,50	0,70	0,30	2,00	0,25	0,10	0,35
TCMT 110204-FW	TCMT 21.51-FW	6,350	2,38	0,40	2,80	1,00	0,30	2,50	0,20	0,07	0,30
TCMT 110208-FW	TCMT 21.52-FW	6,350	2,38	0,80	2,80	1,00	0,30	2,50	0,25	0,12	0,40
TCMT 110304-FW	TCMT 221-FW	6,350	3,18	0,40	2,80	1,00	0,30	2,50	0,20	0,07	0,30
TCMT 110308-FW	TCMT 222-FW	6,350	3,18	0,80	2,80	1,00	0,30	2,50	0,25	0,12	0,40
TCMT 16T304-FW	TCMT 32.51-FW	9,525	3,97	0,40	4,40	1,20	0,30	3,50	0,20	0,07	0,35
TCMT 16T308-FW	TCMT 32.52-FW	9,525	3,97	0,80	4,40	1,20	0,30	3,50	0,25	0,12	0,50
TCMT 090204-MP	TCMT 1.81.51-MP	5,560	2,38	0,40	2,50	0,60	0,19	2,25	0,11	0,06	0,17
TCMT 090208-MP	TCMT 1.81.52-MP	5,560	2,38	0,80	2,50	0,60	0,38	2,25	0,15	0,08	0,23
TCMT 110204-MP	TCMT 21.51-MP	6,350	2,38	0,40	2,80	0,67	0,21	2,50	0,13	0,06	0,19
TCMT 110208-MP	TCMT 21.52-MP	6,350	2,38	0,80	2,80	0,67	0,42	2,50	0,17	0,09	0,26
TCMT 110212-MP	TCMT 21.53-MP	6,350	2,38	1,20	2,80	0,67	0,50	2,50	0,20	0,10	0,40
TCMT 110304-MP	TCMT 221-MP	6,350	3,18	0,40	2,80	0,67	0,21	2,50	0,13	0,06	0,19
TCMT 110308-MP	TCMT 222-MP	6,350	3,18	0,80	2,80	0,67	0,42	2,50	0,20	0,09	0,40
TCMT 110312-MP	TCMT 223-MP	6,350	3,18	1,20	2,80	0,67	0,50	2,50	0,30	0,10	0,50
TCMT 16T304-MP	TCMT 32.51-MP	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,25
TCMT 16T308-MP	TCMT 32.52-MP	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,22	0,10	0,45
TCMT 16T312-MP	TCMT 32.53-MP	9,525	3,97	1,20	4,40	0,80	0,60	3,00	0,35	0,12	0,60
TCMT 220408-MP	TCMT 432-MP	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,25	0,12	0,45

# TC = TRIANGULAR 60° POSITIVE

## TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA

			P										M					K			N	S								
			CVD							PVD			CVD		PVD			UNC	CVD			UNC	PVD							
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 Medium	1121702	TCMT 090204-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
	1121811	TCMT 090208-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
	1121968	TCMT 110204-MM													⊗		⊗	⊗	⊗	⊗						⊗		⊗	⊗	⊗
	1121969	TCMT 110208-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
	1121819	TCMT 110304-MM													⊗				⊗	⊗									⊗	⊗
	1121826	TCMT 110308-MM													⊗				⊗	⊗									⊗	⊗
	1121835	TCMT 16T304-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
	1121839	TCMT 16T308-MM													⊗		⊗	⊗	⊗	⊗						⊗		⊗	⊗	⊗
	1121843	TCMT 16T312-MM													⊗			⊗	⊗	⊗								⊗	⊗	⊗
	1121848	TCMT 220408-MM													⊗				⊗	⊗									⊗	⊗
 Medium	1121701	TCMT 090204-MK																				⊗	⊗							
	1121810	TCMT 090208-MK																				⊗	⊗							
	1121966	TCMT 110204-MK																				⊗	⊗							
	1121967	TCMT 110208-MK																				⊗	⊗							
	1121818	TCMT 110304-MK																				⊗	⊗							
	1121825	TCMT 110308-MK																				⊗	⊗							
	1121834	TCMT 16T304-MK																				⊗	⊗							
	1121838	TCMT 16T308-MK																				⊗	⊗							
	1121842	TCMT 16T312-MK																				⊗	⊗							
	1121847	TCMT 220408-MK																				⊗	⊗							
 Medium to Finishing Wiper	1121974	TCMT 110208-MW			○								⊗									⊗						⊗		
	1121828	TCMT 110308-MW			○								⊗										⊗					⊗		
	1121841	TCMT 16T308-MW			○								⊗										⊗					⊗		

⊗ First choice | 1ª Escolha | 1ª Opción

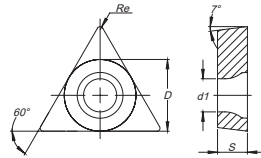
⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

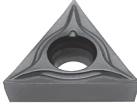

RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TCMT 090204-MM	TCMT 1.81.51-MM	5,560	2,38	0,40	2,50	0,60	0,19	2,25	0,11	0,06	0,17
TCMT 090208-MM	TCMT 1.81.52-MM	5,560	2,38	0,80	2,50	0,60	0,38	2,25	0,15	0,08	0,23
TCMT 110204-MM	TCMT 21.51-MM	6,350	2,38	0,40	2,80	0,67	0,21	2,50	0,13	0,06	0,19
TCMT 110208-MM	TCMT 21.52-MM	6,350	2,38	0,80	2,80	0,67	0,42	2,50	0,17	0,09	0,26
TCMT 110304-MM	TCMT 221-MM	6,350	3,18	0,40	2,80	0,67	0,21	2,50	0,13	0,06	0,19
TCMT 110308-MM	TCMT 222-MM	6,350	3,18	0,80	2,80	0,67	0,42	2,50	0,20	0,09	0,40
TCMT 16T304-MM	TCMT 32.51-MM	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
TCMT 16T308-MM	TCMT 32.52-MM	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,22	0,10	0,45
TCMT 16T312-MM	TCMT 32.53-MM	9,525	3,97	1,20	4,40	0,80	0,60	3,00	0,35	0,12	0,60
TCMT 220408-MM	TCMT 432-MM	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,25	0,12	0,45
TCMT 090204-MK	TCMT 1.81.51-MK	5,560	2,38	0,40	2,50	0,60	0,19	2,25	0,11	0,06	0,17
TCMT 090208-MK	TCMT 1.81.52-MK	5,560	2,38	0,80	2,50	0,60	0,38	2,25	0,15	0,08	0,23
TCMT 110204-MK	TCMT 21.51-MK	6,350	2,38	0,40	2,80	0,67	0,21	2,50	0,13	0,06	0,19
TCMT 110208-MK	TCMT 21.52-MK	6,350	2,38	0,80	2,80	0,67	0,42	2,50	0,17	0,09	0,26
TCMT 110304-MK	TCMT 221-MK	6,350	3,18	0,40	2,80	0,67	0,21	2,50	0,13	0,06	0,19
TCMT 110308-MK	TCMT 222-MK	6,350	3,18	0,80	2,80	0,67	0,42	2,50	0,20	0,09	0,40
TCMT 16T304-MK	TCMT 32.51-MK	9,525	3,97	0,40	4,40	0,80	0,25	3,00	0,15	0,08	0,23
TCMT 16T308-MK	TCMT 32.52-MK	9,525	3,97	0,80	4,40	0,80	0,50	3,00	0,22	0,10	0,45
TCMT 16T312-MK	TCMT 32.53-MK	9,525	3,97	1,20	4,40	0,80	0,60	3,00	0,35	0,12	0,60
TCMT 220408-MK	TCMT 432-MK	12,700	4,76	0,80	5,50	0,96	0,60	3,60	0,25	0,12	0,45
TCMT 110208-MW	TCMT 21.52-MW	6,350	2,38	0,80	2,80	1,20	0,50	3,00	0,30	0,15	0,50
TCMT 110308-MW	TCMT 222-MW	6,350	3,18	0,80	2,80	1,20	0,50	3,00	0,30	0,15	0,50
TCMT 16T308-MW	TCMT 32.52-MW	9,525	3,97	0,80	4,40	1,50	0,50	4,00	0,30	0,15	0,50

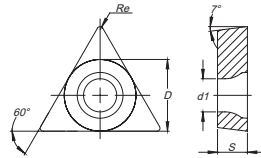
# TC = TRIANGULAR 60° POSITIVE

## TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA

			P								M				K			N	S												
			CVD					PVD			CVD		PVD		UNC	CVD		UNC	PVD												
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
 <p>TCGT-FS</p> <p>Finishing to Fine Finishing</p>	1123865	TCGT 090202-FS															△	⊗		⊗						△	⊗		⊗		
	1123866	TCGT 090204-FS																△	⊗	△	⊗						△	⊗	△	⊗	
	1123867	TCGT 110201-FS																△	⊗	△	⊗						△	⊗	△	⊗	
	1123868	TCGT 110202-FS																△	⊗		⊗						△	⊗		⊗	
	1123869	TCGT 110204-FS																△	⊗	△	⊗						△	⊗	△	⊗	
	1123870	TCGT 110301-FS																	⊗			⊗						⊗		⊗	
	1123871	TCGT 110302-FS																	⊗			⊗						⊗		⊗	
	1123872	TCGT 110304-FS																	△	⊗	△	⊗						△	⊗	△	⊗
 <p>TCGT-LN</p> <p>Medium to Finishing</p>	1124011	TCGT 090202-LN																							⊗						
	1123683	TCGT 090204-LN																								⊗					
	1121895	TCGT 110202-LN																								⊗					
	1121896	TCGT 110204-LN																△	○							⊗	△	○			
	1124012	TCGT 110208-LN																								⊗					
	1121897	TCGT 16T302-LN																								⊗					
	1121898	TCGT 16T304-LN																△	⊗							⊗	△	⊗			
	1121899	TCGT 16T308-LN																									⊗				
	1124013	TCGT 16T312-LN																									⊗				
	1124014	TCGT 16T316-LN																									⊗				

⊗ First choice | 1ª Escolha | 1ª Opción     
 △ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock     
 Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code  
⊗ Stock Items | Itens de stock     
 ○ Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 7°

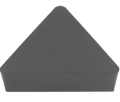




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TCGT 090202-FS	TCGT 1.81.50.5-FS	5,560	2,38	0,20	2,50	0,50	0,10	1,50	0,07	0,02	0,12
TCGT 090204-FS	TCGT 1.81.51-FS	5,560	2,38	0,40	2,50	1,00	0,50	2,00	0,15	0,08	0,25
TCGT 110201-FS	TCGT 21.50.2-FS	6,350	2,38	0,10	2,80	0,30	0,10	1,00	0,03	0,01	0,08
TCGT 110202-FS	TCGT 21.50.5-FS	6,350	2,38	0,20	2,80	0,50	0,10	1,50	0,07	0,02	0,12
TCGT 110204-FS	TCGT 21.51-FS	6,350	2,38	0,40	2,80	1,30	0,30	2,50	0,15	0,08	0,25
TCGT 110301-FS	TCGT 220.2-FS	9,525	3,18	0,10	2,80	0,30	0,10	1,00	0,03	0,01	0,08
TCGT 110302-FS	TCGT 220.5-FS	9,525	3,18	0,20	2,80	0,50	0,10	1,50	0,07	0,02	0,12
TCGT 110304-FS	TCGT 221-FS	9,525	3,18	0,40	2,80	1,30	0,50	2,50	0,15	0,08	0,25
TCGT 090202-LN	TCGT 1.81.50.5-LN	5,560	2,38	0,20	2,50	1,00	0,05	2,50	0,10	0,07	0,15
TCGT 090204-LN	TCGT 1.81.51-LN	5,560	2,38	0,40	2,50	1,00	0,05	2,50	0,15	0,10	0,20
TCGT 110202-LN	TCGT 21.50.5-LN	6,350	2,38	0,20	2,80	2,03	0,05	4,00	0,12	0,07	0,15
TCGT 110204-LN	TCGT 21.51-LN	6,350	2,38	0,40	2,80	2,05	0,10	4,00	0,15	0,10	0,20
TCGT 110208-LN	TCGT 21.52-LN	6,350	2,38	0,80	2,80	2,05	0,10	4,00	0,25	0,15	0,50
TCGT 16T302-LN	TCGT 32.50.5-LN	9,525	3,97	0,20	4,40	2,53	0,05	5,00	0,10	0,07	0,15
TCGT 16T304-LN	TCGT 32.51-LN	9,525	3,97	0,40	4,40	2,80	0,10	5,50	0,15	0,10	0,20
TCGT 16T308-LN	TCGT 32.52-LN	9,525	3,97	0,80	4,40	2,80	0,10	5,50	0,25	0,15	0,50
TCGT 16T312-LN	TCGT 32.53-LN	9,525	3,97	1,20	4,40	3,00	0,15	5,50	0,45	0,15	0,70
TCGT 16T316-LN	TCGT 32.54-LN	9,525	3,97	1,60	4,40	3,00	0,15	5,50	0,65	0,20	0,90



# TP = TRIANGULAR 60° POSITIVE

## TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA

			P										M					K			N		S										
			CVD							PVD			CVD		PVD			UNC	CVD		UNC	PVD											
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3				
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920				
 Medium to Finishing	TPUN	1120765	TPUN 160304				⊗						⊗																				
		1120766	TPUN 160308				⊗						⊗																				
		1120770	TPUN 160312				⊗						⊗																				
		1120777	TPUN 220404				⊗																										
		1120779	TPUN 220408				⊗																										
		1120783	TPUN 220412				⊗																										
 Finishing to Fine Finishing	TPMR-12	1120740	TPMR 110304-12		⊗		⊗																										
		1120743	TPMR 110308-12		⊗		⊗																										
		1120745	TPMR 160304-12		⊗		⊗	⊗																									
		1120748	TPMR 160308-12		⊗		⊗	○																									
 Medium	TPMR-13	1120734	TPMR 090204-13		⊗		⊗																										
		1120741	TPMR 110304-13		⊗		⊗																										
		1120744	TPMR 110308-13		⊗		⊗																										
		1120746	TPMR 160304-13		⊗		⊗																										
		1120749	TPMR 160308-13		⊗		⊗																							○			
		1120752	TPMR 160312-13		⊗		⊗																										
		1120753	TPMR 220408-13		⊗		⊗																								○		

⊗ First choice | 1ª Escolha | 1ª Opción

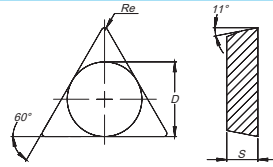
⊗ Stock available until sold out | Stock disponible até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

⊗ Stock items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta


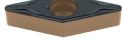





RELIEF ANGLE 11°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
TPUN 160304	TPUN 321	9,525	3,18	0,40	-	3,50	1,00	5,00	0,15	0,10	0,30
TPUN 160308	TPUN 322	9,525	3,18	0,80	-	3,50	1,00	5,00	0,30	0,15	0,40
TPUN 160312	TPUN 323	9,525	3,18	1,20	-	3,50	1,50	5,00	0,35	0,20	0,50
TPUN 220404	TPUN 431	12,700	4,76	0,40	-	4,50	1,50	7,00	0,15	0,10	0,30
TPUN 220408	TPUN 432	12,700	4,76	0,80	-	4,50	1,50	7,00	0,30	0,15	0,40
TPUN 220412	TPUN 433	12,700	4,76	1,20	-	4,50	1,50	7,00	0,35	0,20	0,50
TPMR 110304-12	TPMR 221-12	6,350	3,18	0,40	-	0,90	0,30	1,50	0,10	0,05	0,20
TPMR 110308-12	TPMR 222-12	6,350	3,18	0,80	-	0,90	0,30	1,50	0,20	0,05	0,35
TPMR 160304-12	TPMR 321-12	9,525	3,18	0,40	-	1,30	0,50	2,00	0,12	0,08	0,20
TPMR 160308-12	TPMR 322-12	9,525	3,18	0,80	-	1,50	0,50	3,00	0,22	0,08	0,35
TPMR 090204-13	TPMR 1.81.51-13	5,560	2,38	0,40	-	1,00	0,20	1,50	0,10	0,08	0,20
TPMR 110304-13	TPMR 221-13	6,350	3,18	0,40	-	2,00	1,00	3,00	0,12	0,10	0,20
TPMR 110308-13	TPMR 222-13	6,350	3,18	0,80	-	2,00	1,00	3,00	0,25	0,13	0,40
TPMR 160304-13	TPMR 321-13	9,525	3,18	0,40	-	3,00	1,00	5,00	0,15	0,10	0,20
TPMR 160308-13	TPMR 322-13	9,525	3,18	0,80	-	3,00	1,00	5,00	0,30	0,13	0,40
TPMR 160312-13	TPMR 323-13	9,525	3,18	1,20	-	3,00	1,00	5,00	0,40	0,15	0,55
TPMR 220408-13	TPMR 432-13	12,700	4,76	0,80	-	5,00	1,50	7,00	0,30	0,15	0,40

# VB = RHOMBIC 35° POSITIVE

RÔMBICA 35° POSITIVA | RÓMBICA 35° POSITIVA

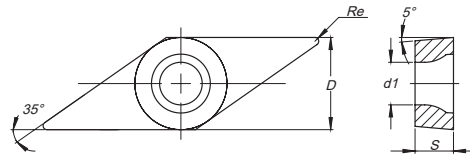
			P											M					K		N	S									
			CVD							PVD				CVD		PVD			UNC	CVD		UNC	PVD								
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3		
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920		
	VBMT	1120804	VBMT 160404																												
	Finishing	1120805	VBMT 160408																												
	VBMT-FP	1121852	VBMT 110302-FP																												
	Finishing	1121855	VBMT 110304-FP																												
		1121858	VBMT 110308-FP																												
		1121859	VBMT 110312-FP																												
		1121862	VBMT 160402-FP																												
		1121865	VBMT 160404-FP																												
		1121670	VBMT 160408-FP																												
1121793	VBMT 160412-FP																														
	VBMT-FM	1121851	VBMT 110302-FM																												
	Finishing	1121854	VBMT 110304-FM																												
		1121857	VBMT 110308-FM																												
		1121861	VBMT 160402-FM																												
		1121864	VBMT 160404-FM																												
		1121870	VBMT 160408-FM																												
		1121792	VBMT 160412-FM																												
	VBMT-FK	1121850	VBMT 110302-FK																												
	Finishing	1121853	VBMT 110304-FK																												
		1121856	VBMT 110308-FK																												
		1121860	VBMT 160402-FK																												
		1121863	VBMT 160404-FK																												
1121869	VBMT 160408-FK																														
	VBMT-MP	1121868	VBMT 160404-MP																												
	Medium	1121791	VBMT 160408-MP																												
		1121796	VBMT 160412-MP																												
	VBMT-MM	1121867	VBMT 160404-MM																												
	Medium	1121790	VBMT 160408-MM																												
		1121795	VBMT 160412-MM																												
	VBMT-MK	1121866	VBMT 160404-MK																												
	Medium	1121871	VBMT 160408-MK																												
		1121794	VBMT 160412-MK																												

⊗ First choice | 1ª Escolha | 1ª Opción  
 ⊕ Stock Items | Itens de stock

⊕ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock  
 ○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code


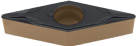





RELIEF ANGLE 5°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
VBWM 160404	VBWM 331	9,525	4,76	0,40	4,40	2,30	0,05	4,70	0,20	0,10	0,26
VBWM 160408	VBWM 332	9,525	4,76	0,80	4,40	2,30	0,05	4,70	0,40	0,16	0,53
VBMT 110302-FP	VBMT 220.5-FP	6,350	3,18	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
VBMT 110304-FP	VBMT 221-FP	6,350	3,18	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
VBMT 110308-FP	VBMT 222-FP	6,350	3,18	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
VBMT 110312-FP	VBMT 223-FP	6,350	3,18	1,20	2,80	0,30	0,13	1,70	0,15	0,08	0,31
VBMT 160402-FP	VBMT 330.5-FP	9,525	4,76	0,20	4,40	0,32	0,07	1,80	0,07	0,04	0,14
VBMT 160404-FP	VBMT 331-FP	9,525	4,76	0,40	4,40	0,32	0,10	1,80	0,10	0,05	0,20
VBMT 160408-FP	VBMT 332-FP	9,525	4,76	0,80	4,40	0,32	0,14	1,80	0,14	0,07	0,27
VBMT 160412-FP	VBMT 333-FP	9,525	4,76	1,20	4,40	0,32	0,14	1,80	0,16	0,09	0,32
VBMT 110302-FM	VBMT 220.5-FM	6,350	3,18	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
VBMT 110304-FM	VBMT 221-FM	6,350	3,18	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
VBMT 110308-FM	VBMT 222-FM	6,350	3,18	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
VBMT 160402-FM	VBMT 330.5-FM	9,525	4,76	0,20	4,40	0,32	0,07	1,80	0,07	0,04	0,14
VBMT 160404-FM	VBMT 331-FM	9,525	4,76	0,40	4,40	0,32	0,10	1,80	0,10	0,05	0,20
VBMT 160408-FM	VBMT 332-FM	9,525	4,76	0,80	4,40	0,32	0,14	1,80	0,14	0,07	0,27
VBMT 160412-FM	VBMT 333-FM	9,525	4,76	1,20	4,40	0,32	0,14	1,80	0,16	0,09	0,32
VBMT 110302-FK	VBMT 220.5-FK	6,350	3,18	0,20	2,80	0,30	0,06	1,70	0,06	0,03	0,13
VBMT 110304-FK	VBMT 221-FK	6,350	3,18	0,40	2,80	0,30	0,10	1,70	0,10	0,05	0,19
VBMT 110308-FK	VBMT 222-FK	6,350	3,18	0,80	2,80	0,30	0,13	1,70	0,13	0,07	0,26
VBMT 160402-FK	VBMT 330.5-FK	9,525	4,76	0,20	4,40	0,32	0,07	1,80	0,07	0,04	0,14
VBMT 160404-FK	VBMT 331-FK	9,525	4,76	0,40	4,40	0,32	0,10	1,80	0,10	0,05	0,20
VBMT 160408-FK	VBMT 332-FK	9,525	4,76	0,80	4,40	0,32	0,14	1,80	0,14	0,07	0,27
VBMT 160404-MP	VBMT 331-MP	9,525	4,76	0,40	4,40	0,72	0,23	2,70	0,14	0,07	0,20
VBMT 160408-MP	VBMT 332-MP	9,525	4,76	0,80	4,40	0,72	0,45	2,70	0,18	0,09	0,27
VBMT 160412-MP	VBMT 333-MP	9,525	4,76	1,20	4,40	0,72	0,54	2,70	0,22	0,11	0,32
VBMT 160404-MM	VBMT 331-MM	9,525	4,76	0,40	4,40	0,72	0,23	2,70	0,14	0,07	0,20
VBMT 160408-MM	VBMT 332-MM	9,525	4,76	0,80	4,40	0,72	0,45	2,70	0,18	0,09	0,27
VBMT 160412-MM	VBMT 333-MM	9,525	4,76	1,20	4,40	0,72	0,54	2,70	0,22	0,11	0,32
VBMT 160404-MK	VBMT 331-MK	9,525	4,76	0,40	4,40	0,72	0,23	2,70	0,14	0,07	0,20
VBMT 160408-MK	VBMT 332-MK	9,525	4,76	0,80	4,40	0,72	0,45	2,70	0,18	0,09	0,27
VBMT 160412-MK	VBMT 333-MK	9,525	4,76	1,20	4,40	0,72	0,54	2,70	0,22	0,11	0,32

# VC = RHOMBIC 35° POSITIVE

## RÔMBICA 35° POSITIVA | RÓMBICA 35° POSITIVA

			P								M					K		N	S											
			CVD					PVD			CVD		PVD			UNC	CVD		UNC	PVD										
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
VCMW																														
	1120816	VCMT 160404																												
Finishing																														
VCMT-FP																														
	1121776	VCMT 110302-FP																												
	1121779	VCMT 110304-FP																												
Finishing																														
	1121977	VCMT 160402-FP																												
	1121978	VCMT 160404-FP																												
	1121979	VCMT 160408-FP																												
	1121980	VCMT 160412-FP																												
VCMT-FM																														
	1121775	VCMT 110302-FM																												
	1121778	VCMT 110304-FM																												
Finishing																														
	1121981	VCMT 160402-FM																												
	1121982	VCMT 160404-FM																												
	1121983	VCMT 160408-FM																												
	1121984	VCMT 160412-FM																												
VCMT-FK																														
	1121777	VCMT 110304-FK																												
Finishing																														
	1121985	VCMT 160402-FK																												
	1121986	VCMT 160404-FK																												
	1121987	VCMT 160408-FK																												
VCMT-MP																														
	1121754	VCMT 110304-MP																												
	1121752	VCMT 110308-MP																												
Medium																														
	1121988	VCMT 160404-MP																												
	1121989	VCMT 160408-MP																												
	1121990	VCMT 160412-MP																												
VCMT-MM																														
	1121780	VCMT 110304-MM																												
	1121751	VCMT 110308-MM																												
Medium																														
	1121991	VCMT 160404-MM																												
	1121992	VCMT 160408-MM																												
	1121993	VCMT 160412-MM																												
VCMT-MK																														
	1121753	VCMT 110308-MK																												
Medium																														
	1121994	VCMT 160404-MK																												
	1121995	VCMT 160408-MK																												
	1121996	VCMT 160412-MK																												

⊕ First choice | 1ª Escolha | 1ª Opción

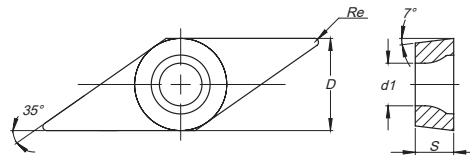
⊕ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊖ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta



RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
VCMW 160404	VCMW 331	9,525	4,76	0,40	4,40	2,30	0,05	4,70	0,20	0,08	0,26
VCMT 110302-FP	VCMT 220.5-FP	6,350	3,18	0,20	2,80	0,30	0,07	1,50	0,07	0,03	0,13
VCMT 110304-FP	VCMT 221-FP	6,350	3,18	0,40	2,80	0,30	0,10	1,50	0,10	0,05	0,20
VCMT 160402-FP	VCMT 330.5-FP	9,525	4,76	0,20	4,40	0,32	0,07	1,80	0,07	0,04	0,14
VCMT 160404-FP	VCMT 331-FP	9,525	4,76	0,40	4,40	0,32	0,10	1,80	0,10	0,05	0,20
VCMT 160408-FP	VCMT 332-FP	9,525	4,76	0,80	4,40	0,32	0,14	1,80	0,14	0,07	0,27
VCMT 160412-FP	VCMT 333-FP	9,525	4,76	1,20	4,40	0,32	0,14	1,80	0,16	0,09	0,32
VCMT 110302-FM	VCMT 220.5-FM	6,350	3,18	0,20	2,80	0,30	0,07	1,50	0,07	0,03	0,13
VCMT 110304-FM	VCMT 221-FM	6,350	3,18	0,40	2,80	0,30	0,10	1,50	0,10	0,05	0,20
VCMT 160402-FM	VCMT 330.5-FM	9,525	4,76	0,20	4,40	0,32	0,07	1,80	0,07	0,04	0,14
VCMT 160404-FM	VCMT 331-FM	9,525	4,76	0,40	4,40	0,32	0,10	1,80	0,10	0,05	0,20
VCMT 160408-FM	VCMT 332-FM	9,525	4,76	0,80	4,40	0,32	0,14	1,80	0,14	0,07	0,27
VCMT 160412-FM	VCMT 333-FM	9,525	4,76	1,20	4,40	0,32	0,14	1,80	0,16	0,09	0,32
VCMT 110304-FK	VCMT 221-FK	6,350	3,18	0,40	2,80	0,30	0,10	1,50	0,10	0,05	0,20
VCMT 160402-FK	VCMT 330.5-FK	9,525	4,76	0,20	4,40	0,32	0,07	1,80	0,07	0,04	0,14
VCMT 160404-FK	VCMT 331-FK	9,525	4,76	0,40	4,40	0,32	0,10	1,80	0,10	0,05	0,20
VCMT 160408-FK	VCMT 332-FK	9,525	4,76	0,80	4,40	0,32	0,14	1,80	0,14	0,07	0,27
VCMT 110304-MP	VCMT 221-MP	6,350	3,18	0,40	2,80	0,77	0,31	2,55	0,15	0,10	0,25
VCMT 110308-MP	VCMT 222-MP	6,350	3,18	0,80	2,80	0,77	0,61	2,55	0,20	0,13	0,33
VCMT 160404-MP	VCMT 331-MP	9,525	4,76	0,40	4,40	0,72	0,23	2,70	0,14	0,07	0,20
VCMT 160408-MP	VCMT 332-MP	9,525	4,76	0,80	4,40	0,72	0,45	2,70	0,18	0,09	0,27
VCMT 160412-MP	VCMT 333-MP	9,525	4,76	1,20	4,40	0,72	0,54	2,70	0,22	0,11	0,32
VCMT 110304-MM	VCMT 221-MM	6,350	3,18	0,40	2,80	0,77	0,31	2,55	0,15	0,10	0,25
VCMT 110308-MM	VCMT 222-MM	6,350	3,18	0,80	2,80	0,77	0,61	2,55	0,20	0,13	0,33
VCMT 160404-MM	VCMT 331-MM	9,525	4,76	0,40	4,40	0,72	0,23	2,70	0,14	0,07	0,20
VCMT 160408-MM	VCMT 332-MM	9,525	4,76	0,80	4,40	0,72	0,45	2,70	0,18	0,09	0,27
VCMT 160412-MM	VCMT 333-MM	9,525	4,76	1,20	4,40	0,72	0,54	2,70	0,22	0,11	0,32
VCMT 110308-MK	VCMT 222-MK	6,350	3,18	0,80	2,80	0,77	0,61	2,55	0,20	0,13	0,33
VCMT 160404-MK	VCMT 331-MK	9,525	4,76	0,40	4,40	0,72	0,23	2,70	0,14	0,07	0,20
VCMT 160408-MK	VCMT 332-MK	9,525	4,76	0,80	4,40	0,72	0,45	2,70	0,18	0,09	0,27
VCMT 160412-MK	VCMT 333-MK	9,525	4,76	1,20	4,40	0,72	0,54	2,70	0,22	0,11	0,32

# VC = RHOMBIC 35° POSITIVE

## RÔMBICA 35° POSITIVA | RÓMBICA 35° POSITIVA

			P											M					K				N		S				
			CVD							PVD				CVD		PVD			UNC	CVD			UNC	PVD					
		(2) Grade code	T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
 VCGT-FS  Finishing to Fine Finishing	1123861	VCGT 110301-FS									⊗						⊗	⊗		⊗						⊗	⊗		⊗
	1123862	VCGT 110302-FS									⊗		⊗				⊗	⊗	⊗	⊗						⊗	⊗	⊗	⊗
	1123863	VCGT 110304-FS									⊗		⊗				⊗	⊗	⊗	⊗						⊗	⊗	⊗	⊗
 VCGT-LN  Medium to Finishing	1124779	VCGT 110204-LN																							⊗				
	1123689	VCGT 110301-LN																							⊗				
	1121889	VCGT 110302-LN																							⊗				
	1121890	VCGT 110304-LN																							⊗				
	1121891	VCGT 110308-LN																							⊗				
	1124015	VCGT 130302-LN																							⊗				
	1124016	VCGT 130304-LN																							⊗				
	1124677	VCGT 130308-LN																							⊗				
	1111878	VCGT 160402-LN																							⊗		⊗		
	1111533	VCGT 160404-LN																							⊗	⊗	⊗		
1121893	VCGT 160408-LN																							⊗	⊗	⊗			
1121894	VCGT 160412-LN																							⊗		○			
1121929	VCGT 220530-LN																							⊗					

⊗ First choice | 1ª Escolha | 1ª Opción

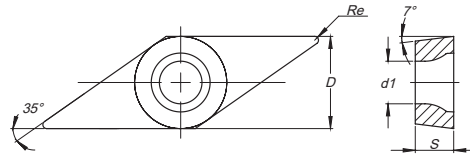
⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
VCGT 110301-FS	VCGT 220.2-FS	6,350	3,18	0,10	2,80	0,30	0,10	1,00	0,03	0,01	0,08
VCGT 110302-FS	VCGT 220.5-FS	6,350	3,18	0,20	2,80	0,50	0,10	1,50	0,07	0,02	0,12
VCGT 110304-FS	VCGT 221-FS	6,350	3,18	0,40	2,80	1,00	0,30	2,50	0,15	0,08	0,25
VCGT 110204-LN	VCGT 21.51-LN	6,350	2,42	0,40	2,80	1,53	0,05	3,00	0,15	0,10	0,25
VCGT 110301-LN	VCGT 220.2-LN	6,350	3,18	0,10	2,80	1,53	0,05	3,00	0,04	0,02	0,06
VCGT 110302-LN	VCGT 220.5-LN	6,350	3,18	0,20	2,80	1,53	0,05	3,00	0,07	0,05	0,12
VCGT 110304-LN	VCGT 221-LN	6,350	3,18	0,40	2,80	1,53	0,05	3,00	0,15	0,10	0,25
VCGT 110308-LN	VCGT 222-LN	6,350	3,18	0,80	2,80	1,53	0,05	3,00	0,22	0,15	0,45
VCGT 130302-LN	VCGT 2.520.5-LN	7,940	3,18	0,20	3,40	2,00	0,10	4,00	0,07	0,05	0,12
VCGT 130304-LN	VCGT 2.521-LN	7,940	3,18	0,40	3,40	2,00	0,10	4,00	0,15	0,10	0,25
VCGT 130308-LN	VCGT 2.522-LN	7,940	3,18	0,80	3,40	2,50	0,15	4,50	0,18	0,10	0,30
VCGT 160402-LN	VCGT 330.5-LN	9,525	4,76	0,20	4,40	2,30	0,10	5,00	0,07	0,05	0,12
VCGT 160404-LN	VCGT 331-LN	9,525	4,76	0,40	4,40	2,55	0,10	5,00	0,15	0,10	0,25
VCGT 160408-LN	VCGT 332-LN	9,525	4,76	0,80	4,40	2,55	0,10	5,00	0,22	0,15	0,45
VCGT 160412-LN	VCGT 333-LN	9,525	4,76	1,20	4,40	2,55	0,10	5,00	0,40	0,15	0,60
VCGT 220530-LN	VCGT 43.57.5-LN	12,700	5,56	3,00	5,50	3,55	0,10	7,00	0,80	0,15	1,60





TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

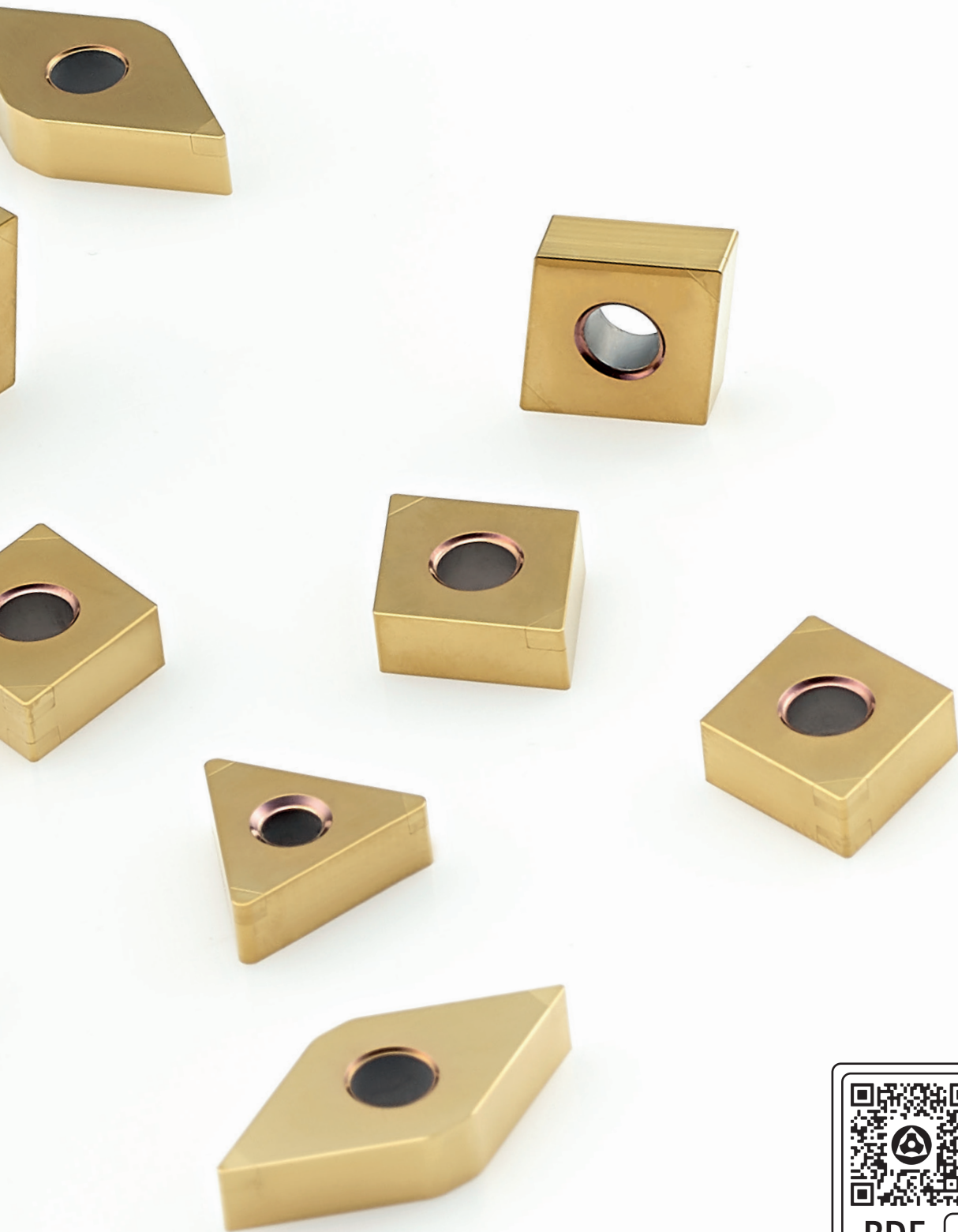
Internal Toolholders

Automatic Lathes

Spare Parts

Technical Data





PCBN (Polycrystalline-Cubic-Boron-Nitride) is not found in nature, it is a synthetic material which is the result of an high temperature and high pressure process (HTHP). When PCBN tips are brazed to a carbide insert a powerful cutting tool is born.

PCBN insert excel in the finishing and semi-finishing process of hardened steels (45-68 HRC) as well as hard cast iron and heat-resistant super alloys (HRSA).

### Grades description:

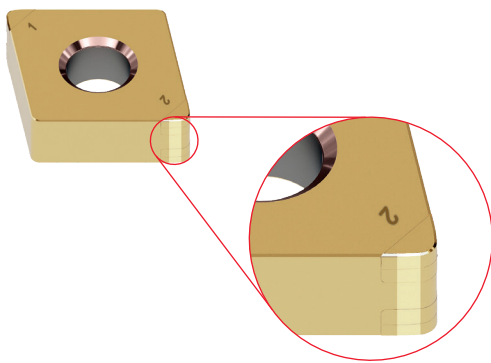
Grade	Code	Characteristics	Application
PBY603	Y5	Low PCBN content grade with medium grain size and ceramic binder. Great wear and abrasion resistance	<ul style="list-style-type: none"> <li>For continuously and lightly interrupted cutting of Hardened Steel (H01-H10);</li> <li>Finishing abrasive high strength cast irons;</li> <li>Can also be used to machine HRSA (S01-S10).</li> </ul>
PBY620	Y4	Low PCBN content grade with medium grain size which provides enhanced crater and flank wear resistance with an excellent balance of toughness	<ul style="list-style-type: none"> <li>For moderately to heavily interrupted turning of all hardened steels (H10-H20).</li> </ul>
PBH920	S4	High PCBN with excellent abrasion resistance.	<ul style="list-style-type: none"> <li>For machining all types of cast iron (K01-K30);</li> <li>First choice for machining ferrous powder metals;</li> <li>Can also be used to machine HRSA (S20-S30).</li> </ul>
PBY930	W3	High abrasive Wear resistance High impact toughness	<ul style="list-style-type: none"> <li>For Cast Iron with high Niquel and Chrome content (pumps and engine blocks)</li> </ul>
PBY940	W4	High fracture toughness High thermal conductivity	<ul style="list-style-type: none"> <li>For Alloy steels with high content of Cr, grey cast irons and hardened steels with Ni</li> </ul>



The insert geometry and edge preparation are extremely important in hard part turning since they have a significant influence on tool life and productivity. Palbit product range includes standard and wiper inserts. The standard nose radius generates the lowest cutting forces and has the lowest stability requirements while wiper gives an unbeatable combination of high productivity and excellent surface finish.

A large nose radius provides a greater edge strength and therefore extended tool life. For this reason, it is advised to use the largest allowed nose radius to each process requirements.

## WIPER INSERT || Pastilha wiper | Plaquita wiper



**Wiper inserts provide two possibilities for process improvement:**

- Improved surface finish with standard cutting data;
- Maintained surface finish at substantially higher feed rate.

	Standard ( $r_{\epsilon} = 0,8\text{mm}$ )	Wiper ( $r_{\epsilon} = 0,8\text{mm}$ )
<b>Insert type</b>		
<b>Surface Roughness (<math>R_a</math>)</b>	0,81 $\mu\text{m}$	0,42 $\mu\text{m}$

**Note:**

This values were achieved with the next cutting conditions:

H Steel HRC60 |  $V_c = 130 \text{ m/min}$  |  $f_n = 0,12 \text{ mm/rev}$  |  $a_p = 0,2 \text{ mm}$  |  $\lambda = 2,5 \text{ mm}$  / ISO 4287

## FORMULAS FOR SURFACE ROUGHNESS CALCULATION

Fórmulas para calculo da rugosidade da superfície | Fórmulas para calcular la rugosidad de la superficie

$$R_a = 0,032 \times \frac{f_n^2}{r_{\epsilon}} \times 1000 \text{ } \mu\text{m}$$

$$R_t = 3,91 \times R_a \text{ } \mu\text{m}$$

$R_a$  - Mean Surface Roughness ( $\mu\text{m}$ )

$R_t$  - Roughness Total Height ( $\mu\text{m}$ )

$f_n$  - Feed Rate (mm/rev)

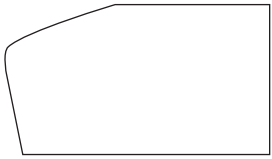
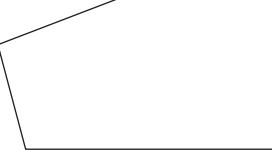
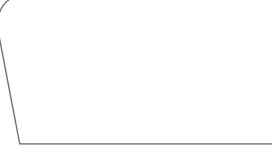
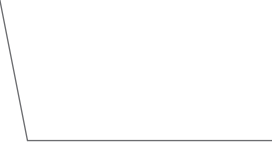
$r_{\epsilon}$  - Insert Radius (mm)

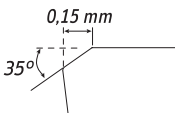

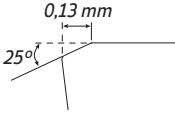

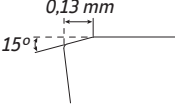

# EDGE PREPARATION SELECTION

Seleção da preparação de aresta | Selección de la preparación de arista

The most important criteria for the stability and cutting edge tool-life is to define the correct cutting edge preparation. Its choice is mainly required in order to achieve the best economical result.

## Edge preparation:

Cutting forces Edge strength ↑ + ↓ -	<b>S-Land</b> 	<b>S – Preparation with chamfer and honing - Standard</b> <ul style="list-style-type: none"> <li>- First choice for hard part turning;</li> <li>- Stronger edge than T-land, with more resistance to chipping and fracture, resulting in more predictable tool life;</li> <li>- Generates consistent surface finish;</li> <li>- Critical in interrupted cutting and when using large depth of cut;</li> <li>- Feed rate must be greater than hone size.</li> </ul>
	<b>T-Land</b> 	<b>T – Preparation with chamfer</b> <ul style="list-style-type: none"> <li>- T-land is a common edge preparation for PCBN;</li> <li>- Preferred choice for cast iron;</li> <li>- Good alternative to S-land in hard part turning when reduced cutting forces and tighter tolerances are required.</li> </ul>
	<b>E-Land</b> 	<b>E – Preparation with edge honing</b> <ul style="list-style-type: none"> <li>- Recommended for HRSA finishing operation;</li> <li>- Honing helps strengthen the edge, giving resistance to chipping and fracturing;</li> <li>- Feed rates must be greater than the hone size to allow actual cutting action to take place and prevent rubbing.</li> </ul>
	<b>F-Land</b> 	<b>F – Preparation without honing</b> <ul style="list-style-type: none"> <li>- Sharp cutting edge;</li> <li>- F - Standard is a common edge preparation for PCD;</li> <li>- Recommended for aluminium or other non-ferrous materials.</li> </ul>

Honing Types	Specifications
<b>S3515</b> For interrupted machining	  Difficult Conditions
<b>S2513</b> For general purpose machining	  Average Conditions
<b>S1513</b> For stable continuous machining	  Good Conditions

**Note:**  
Based on our experience sometimes it is necessary to define edge preparation during several tests to provide the best possible solution for each application.

# CHIP-BREAKER TAILOR-MADE

Quebra- aparas personalizados | Rompevirutas personalizados

Our laser machining and grinding machining technology can reach a wide range of tailor-made solutions. The chip-breakers can be customized according to our customer's needs and still remain with a high cutting edge quality.

## PCBN RECOMMENDED CUTTING DATA

Condições de corte recomendadas para PCBN | Datos de corte recomendadas para PCBN

Workpiece material	Recommend grade for PCBN			VC (m/min)	
	PBH920	PBY603	PBY620		
<b>Hardened Steel (HRC 45-68)</b> <b>Tool-Steel, Case Hardened Steel,</b> <b>Continuous Cut</b> (recommended without Coolants)		⊗		Semi-finish	80 - 200
				Finish	80 - 180
<b>Hardened Steel (HRC 45-68)</b> <b>Tool-Steel, Case Hardened Steel,</b> <b>Interrupted Cut</b> (recommended without Coolants)	○		⊗	Semi-finish	70 - 180
				Finish	70 - 160
<b>Grey Cast Iron</b>	⊗			Semi-finish	500 - 1000
				Finish	600 - 2000
<b>High Temperature Alloys (Inconel,</b> <b>Waspoloy, Hasteloy)</b> <b>Exotic and High Nickel + Cobalt basis</b>	⊗	⊗		Finish	50 - 300

⊗ Recommended ○ Second choice

# ISO PCBN INSERTS CODE KEY

H		M	
O		V	
P		W	
S		L	
T		A	
C		B	
D		K	
E		R	
F		X	Special

**1- Insert shape symbol**

Symbol	m (mm)	d (mm)	s (mm)
A	±0.005	±0.025	±0.025
F	±0.005	±0.013	±0.025
C	±0.013	±0.025	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J	±0.005	±0.05~±0.13	±0.025
K*	±0.013	±0.05~±0.13	±0.025
L*	±0.025	±0.05~±0.13	±0.025
M*	±0.08~±0.20	±0.05~±0.13	±0.13
N*	±0.08~±0.20	±0.05~±0.13	±0.025
U*	±0.13~±0.38	±0.08~±0.25	±0.13

Triangular inserts with a facet (secondary cutting edge)

Detailed dimension of M class insert Insert height Tolerances (mm)					
Inscribed circle					
6.35	±0.08	-	-	-	-
9.525	±0.08	±0.08	±0.11	±0.10	±0.13
12.70	±0.13	±0.13	±0.13	±0.15	-
15.875	±0.15	±0.15	±0.15	±0.18	-
19.05	±0.15	±0.15	±0.15	±0.18	-
25.40	-	±0.18	-	-	-
31.75	-	±0.25	-	-	-

Inscribed circle Tolerances (mm)					
Inscribed circle					
6.35	±0.05	-	-	-	-
9.525	±0.05	±0.05	±0.05	±0.05	±0.05
12.70	±0.08	±0.08	±0.08	±0.08	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	±0.10
19.05	-	-	-	-	±0.10
25.40	-	±0.13	-	-	±0.10
31.75	-	±0.20	-	-	±0.12

**3 - Tolerances symbol**

As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size, for the accuracy of class M, refer to the table on the right.

A	B	C	D	E
				Other clearance angle

**2 - Normal clearance symbol**

ISO				
ANSI				

4 - Insert symbol									
symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape
W	with hole	Round hole one countersink (40°-60°)	Without chipbreaker		G	with hole	Round hole	Chipbreaker on both sides	
T			Chipbreaker on one side		N	without hole	-	Without chipbreaker	
A	with hole	Round hole	Without chipbreaker		R	without hole	-	Chipbreaker on one side	
M			Chipbreaker on one side		X	-	-	-	On request



Sistema de codificação para pastilhas de PCBN  
Codificación para plaquitas de plaquitas de PCBN

R's	35° V's	55° D's	80° C's	90° S's	60° T's	80° W's	IC		ANSI
							mm	inch	Symbol
-	06	04	-	03	06	02	3,97	5/32	1,20
-	08	05	04	04	08	L3	4,76	3/16	1,50
-	09	06	05	05	09	03	5,56	7/32	1,80
06**	-	-	-	-	-	-	6,00	0,236	
06*	11	07	06	06	11	04	6,35	1/4	2,00
07*	13	09	08	07	13	05	7,94	5/16	2,50
08*	-	-	-	-	-	-	8,00	0,315	
09*	16	11	09	09	16	06	9,525	3/8	3,00
10**	-	-	-	-	-	-	10,00	0,394	
12**	-	-	-	-	-	-	12,00	0,472	
12*	22	15	12	12	22	08	12,70	1/2	4,00
15*	27	19	16	15	27	10	15,875	5/8	5,00
16**	-	-	-	-	-	-	16,00	0,63	
19*	33	23	19	19	33	13	19,05	3/4	6,00
20**	-	-	-	-	-	-	20,00	0,787	
25**	-	-	-	-	-	-	25,00	0,984	
25*	44	31	25	25	44	17	25,40	1,00	8,00
31*	54	38	32	31	54	21	31,75	1 1/4	10,00
32**	-	-	-	-	-	-	32,00	1,26	

\* ANSI designation only  
(Radius Designation is R0)

\*\* Metric designation only  
(Radius Designation is M0)

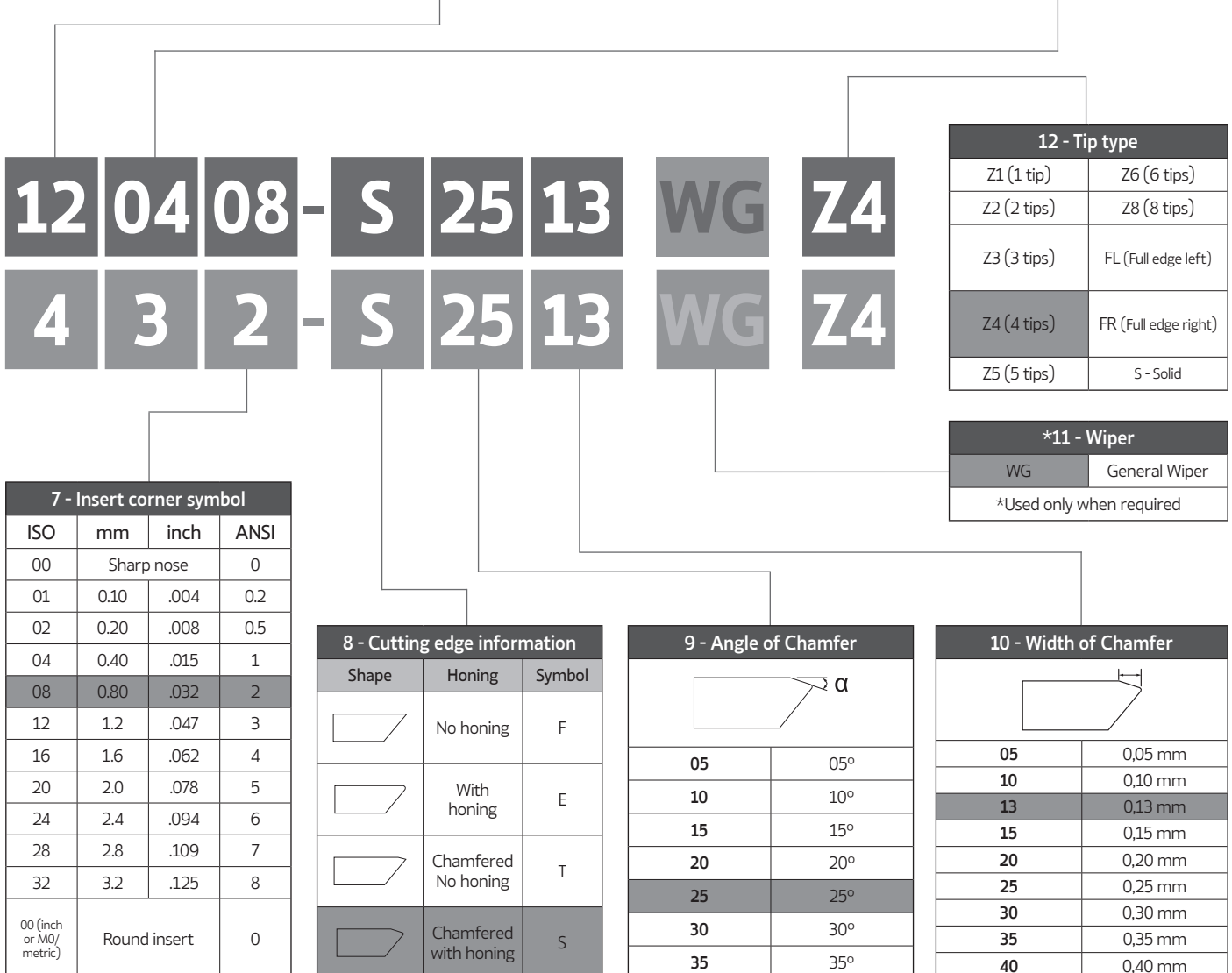
According to International Standard ISO 1832 - 2012(E)

"Indexable inserts for cutting tools - Designation"

ISO	mm	ANSI	inch
01	1.59	1	0.062
T1	1.98	1.2	0.078
02	2.38	1.5	0.094
03	3.18	2	0.125
T3	3.97	2.5	0.156
04	4.76	3	0.188
05	5.56	3.5	0.219
06	6.35	4	0.250
07	7.94	5	0.312
09	9.52	6	0.375
12	12.70	8	0.500

5 - Insert size symbol

6 - Insert thickness symbol



7 - Insert corner symbol			
ISO	mm	inch	ANSI
00	Sharp nose		0
01	0.10	.004	0.2
02	0.20	.008	0.5
04	0.40	.015	1
08	0.80	.032	2
12	1.2	.047	3
16	1.6	.062	4
20	2.0	.078	5
24	2.4	.094	6
28	2.8	.109	7
32	3.2	.125	8
00 (inch or M0/metric)	Round insert		0

8 - Cutting edge information		
Shape	Honing	Symbol
	No honing	F
	With honing	E
	Chamfered No honing	T
	Chamfered with honing	S

9 - Angle of Chamfer	
	$\alpha$
05	05°
10	10°
15	15°
20	20°
25	25°
30	30°
35	35°

10 - Width of Chamfer	
05	0,05 mm
10	0,10 mm
13	0,13 mm
15	0,15 mm
20	0,20 mm
25	0,25 mm
30	0,30 mm
35	0,35 mm
40	0,40 mm


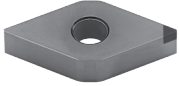


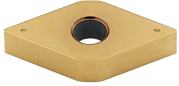


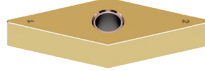
*11 - Wiper	
WG	General Wiper
*Used only when required	

12 - Tip type	
Z1 (1 tip)	Z6 (6 tips)
Z2 (2 tips)	Z8 (8 tips)
Z3 (3 tips)	FL (Full edge left)
Z4 (4 tips)	FR (Full edge right)
Z5 (5 tips)	S - Solid

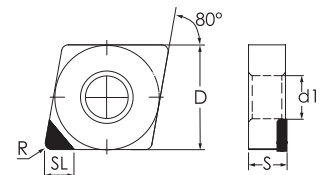


## NEGATIVE INSERTS OVERVIEW


Vista genérica pastilhas negativas | Visión general de plaquitas negativas

SINGLE TIP	CNGA Z1	DNGA Z1					SOLID CBN	RNGN S <span style="color:red">NEW</span>
								
	Size 12 Page 468	Size 15 Page 469						Size 06   09   12 Page 471
MULTIPLE TIPS	CNGA Z2   Z4	DNGA Z2   Z4	SNGA Z4	TNGA Z3   Z6	VNGA Z2	WNGA Z3   Z6		
								
	Size 12 Page 469	Size 11   15 Page 470	Size 12 Page 471	Size 16 Page 472	Size 16 Page 473	Size 08 Page 473		

CN = RHOMBIC 80° NEGATIVE  
RÔMBICA 80° NEGATIVA | RÔMBICA 80° NEGATIVA



### CNGA Z1 - SINGLE TIP

	(1) Geometry code	(2) Grade code		K			H			Dimensions Dimensões Dimensiones (mm)					Cutting conditions Condições de corte Condiciones de corte					
				S4	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max		
				PBH920	PBY603	PBY620														
	1124300	CNGA 120404-S2513 Z1	CNGA 431-S2513 Z1	○			1	12,70	4,76	0,40	5,16	2,50	0,15	0,08	0,50	0,08	0,05	0,20		
	1124111	CNGA 120408-S2513 Z1	CNGA 432-S2513 Z1	⊗			1	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30		
	1124301	CNGA 120412-S2513 Z1	CNGA 433-S2513 Z1	○			1	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30		
	1124302	CNGA 120416-S2513 Z1	CNGA 434-S2513 Z1	○			1	12,70	4,76	1,60	5,16	2,20	0,30	0,05	0,50	0,15	0,08	0,30		

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

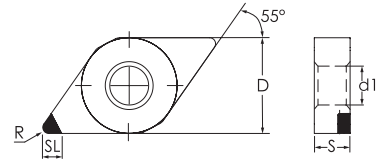
Insert Order Code: (1)Geometry code + (2)Grade code

# NEGATIVE INSERTS

# SINGLE | MULTIPLE TIPS

## DN - RHOMBIC 55° NEGATIVE

RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA



### DNGA Z1 - SINGLE TIP

	(1) Geometry code	(2) Grade code			Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte						
		ISO Reference	ANSI Reference	K H			Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				S4	Y5	Y4												
	1124306	DNGA 150404-S2513 Z1	DNGA 431-S2513 Z1	○	○	1	12,70	4,76	0,40	5,16	2,50	0,15	0,08	0,50	0,08	0,05	0,20	
	1124112	DNGA 150408-S2513 Z1	DNGA 432-S2513 Z1	⊗	○	1	12,70	4,76	0,80	5,16	2,50	0,20	0,08	0,50	0,10	0,08	0,30	
	1124536	DNGA 150412-S2513 Z1	DNGA 433-S2513 Z1	○	○	1	12,70	4,76	1,20	5,16	2,20	0,25	0,08	0,50	0,12	0,08	0,30	
	1124307	DNGA 150608-S2513 Z1	DNGA 442-S2513 Z1	○		1	12,70	6,35	0,80	5,16	2,50	0,20	0,08	0,50	0,10	0,08	0,30	
	1124308	DNGA 150612-S2513 Z1	DNGA 443-S2513 Z1	○		1	12,70	6,35	1,20	5,16	2,20	0,25	0,08	0,50	0,12	0,08	0,30	

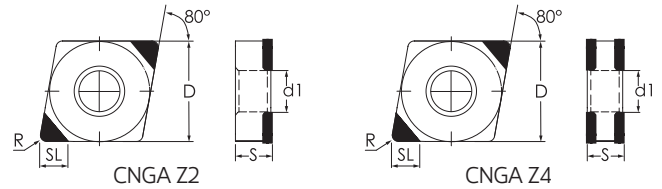
⊗ Stock items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

## CN - RHOMBIC 80° NEGATIVE

RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA



### CNGA Z2 | CNGA Z4 - MULTIPLE TIPS

	(1) Geometry code	(2) Grade code			Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte						
		ISO Reference	ANSI Reference	K H			Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				S4	Y5	Y4												
	1124343	CNGA 120402-S2513 Z2	CNGA 431.5-S2513 Z2	○		2	12,70	4,76	0,20	5,16	2,60	0,15	0,08	0,38	0,05	0,05	0,20	
	1124344	CNGA 120404-S2513 Z2	CNGA 431-S2513 Z2	⊗	⊗	2	12,70	4,76	0,40	5,16	2,50	0,15	0,08	0,40	0,08	0,05	0,20	
	1124175	CNGA 120408-S2513 Z2	CNGA 432-S2513 Z2	⊗	⊗	2	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	
	1124568	CNGA 120408-S3515 Z2	CNGA 432-S3515 Z2		⊗	2	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	
	1124468	CNGA 120412-S2513 Z2	CNGA 433-S2513 Z2	⊗	⊗	2	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30	
	1124569	CNGA 120412-S3515 Z2	CNGA 433-S3515 Z2		○	2	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30	
	1124474	CNGA 120404-S2513 Z4	CNGA 431-S2513 Z4		⊗	4	12,70	4,76	0,40	5,16	2,50	0,15	0,08	0,40	0,08	0,05	0,20	
	1124692	CNGA 120408-S1513 Z4	CNGA 432-S1513 Z4		○	4	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	
	1124134	CNGA 120408-S2513 Z4	CNGA 432-S2513 Z4	○	⊗	4	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	
	1124570	CNGA 120408-S3515 Z4	CNGA 432-S3515 Z4		○	4	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	
	1124475	CNGA 120412-S2513 Z4	CNGA 433-S2513 Z4		⊗	4	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30	
	1124571	CNGA 120412-S3515 Z4	CNGA 433-S3515 Z4		○	4	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30	
	1124534	CNGA 120404-S1513 WG Z4	CNGA 431-S1513 WG Z4	○	○	4	12,70	4,76	0,40	5,16	2,40	0,15	0,08	0,50	0,08	0,05	0,20	
	1124535	CNGA 120404-S2513 WG Z4	CNGA 431-S2513 WG Z4	○	○	4	12,70	4,76	0,40	5,16	2,40	0,15	0,08	0,50	0,08	0,05	0,20	
	1124517	CNGA 120408-S1513 WG Z4	CNGA 432-S1513 WG Z4	⊗	○	4	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	
	1124518	CNGA 120408-S2513 WG Z4	CNGA 432-S2513 WG Z4	⊗	⊗	4	12,70	4,76	0,80	5,16	2,40	0,20	0,08	0,50	0,10	0,08	0,30	

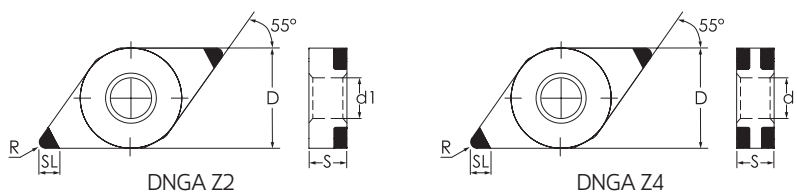
⊗ Stock items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

## DN - RHOMBIC 55° NEGATIVE

RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA



## DNGA Z2 | DNGA Z4

	(1) Geometry code	(2) Grade code	ANSI Reference	K H			Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				S4	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBH920	PBY603	PBY620												
	1124616	DNGA 110404-S2513 Z2	DNGA 331-S2513 Z2	⊗	⊗		2	9,525	4,76	0,40	3,81	2,5	0,1	0,08	0,4	0,08	0,05	0,20
	1124615	DNGA 110408-S2513 Z2	DNGA 332-S2513 Z2	⊗	⊗		2	9,525	4,76	0,80	3,81	2,0	0,15	0,08	0,4	0,10	0,08	0,30
	1124617	DNGA 110412-S2513 Z2	DNGA 333-S2513 Z2	⊗	⊗		2	9,525	4,76	1,20	3,81	2,0	0,2	0,08	0,4	0,15	0,08	0,30
	1124482	DNGA 150404-S2513 Z2	DNGA 431-S2513 Z2	⊗	⊗		2	12,70	4,76	0,40	5,16	2,50	0,15	0,08	0,50	0,08	0,05	0,20
	1124483	DNGA 150408-S2513 Z2	DNGA 432-S2513 Z2	⊗	⊗		2	12,70	4,76	0,80	5,16	2,10	0,20	0,08	0,50	0,10	0,08	0,30
	1124537	DNGA 150412-S2513 Z2	DNGA 433-S2513 Z2	⊗	○		2	12,70	4,76	1,20	5,16	2,20	0,25	0,08	0,50	0,12	0,08	0,30
	1124348	DNGA 150604-S2513 Z2	DNGA 441-S2513 Z2	⊗	⊗	⊗	2	12,70	6,35	0,40	5,16	2,50	0,15	0,08	0,50	0,08	0,05	0,20
	1124177	DNGA 150608-S2513 Z2	DNGA 442-S2513 Z2	⊗	⊗	⊗	2	12,70	6,35	0,80	5,16	2,10	0,20	0,08	0,50	0,10	0,08	0,30
	1124572	DNGA 150608-S3515 Z2	DNGA 442-S3515 Z2	⊗		○	2	12,70	6,35	0,80	5,16	2,10	0,20	0,08	0,50	0,10	0,08	0,30
	1124377	DNGA 150612-S2513 Z2	DNGA 443-S2513 Z2	⊗	⊗	⊗	2	12,70	6,35	1,20	5,16	2,00	0,25	0,08	0,50	0,12	0,08	0,30
1124573	DNGA 150612-S3515 Z2	DNGA 443-S3515 Z2	⊗		○	2	12,70	6,35	1,20	5,16	2,00	0,25	0,08	0,50	0,12	0,08	0,30	
	1124479	DNGA 150604-S2513 Z4	DNGA 441-S2513 Z4	⊗	○		4	12,70	6,35	0,40	5,16	2,50	0,15	0,08	0,40	0,08	0,05	0,20
	1124133	DNGA 150608-S2513 Z4	DNGA 442-S2513 Z4	○	⊗	○	4	12,70	6,35	0,80	5,16	2,10	0,20	0,08	0,50	0,10	0,08	0,30
	1124575	DNGA 150608-S3515 Z4	DNGA 442-S3515 Z4	○		○	4	12,70	6,35	0,80	5,16	2,10	0,20	0,08	0,50	0,10	0,08	0,30
	1124480	DNGA 150612-S2513 Z4	DNGA 443-S2513 Z4	⊗	○		4	12,70	6,35	1,20	5,16	2,00	0,25	0,08	0,50	0,12	0,08	0,30
	1124576	DNGA 150612-S3515 Z4	DNGA 443-S3515 Z4	⊗		○	4	12,70	6,35	1,20	5,16	2,00	0,25	0,08	0,50	0,12	0,08	0,30

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

RNGN | SOLID CBN



	(1) Geometry code	(2) Grade code		W3	W4	Dimensions Dimensões Dimensiones (mm)		Cutting conditions Condições de corte Condiciones de corte						Drawing
		ISO Reference	ANSI Reference	PB930	PB940	D	S	ap (mm)	Min	Max	fn (mm/r)	Min	Max	
	1124631	RNGN 060300-S2020 S	RNGN 220-S2020 S	○	⊗	6,35	3,18	0,15	0,08	0,50	0,12	0,08	0,30	
	1124630	RNGN 090300-S2020 S	RNGN 320-S2020 S	○	⊗	9,53	3,18	0,20	0,08	0,50	0,15	0,08	0,30	
	1124629	RNGN 120300-S2020 S	RNGN 420-S2020 S	○	⊗	12,70	3,18	0,30	0,08	0,50	0,20	0,08	0,30	
	1124699	RNGN 120400-S2020 S	RNGN 430-S2020 S	○	⊗	12,70	4,76	0,30	0,08	0,50	0,20	0,08	0,30	

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1)Geometry code + (2)Grade code

## REGROUND INSERTS

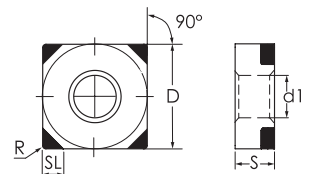
Repair Code	(2) Grade code Reference Referência Referencia	W3	W4	Final Dimensions (mm)		Raw Material
		PB930	PB940	D	S	
3120072	RNGN 06(2.18)00-S2020S(0603)	○	○	6,35	2,18	RNGN 060300-S2020 S
3120058	RNGN 060200-S2020 S (0903)	○	○	6,35	2,38	RNGN 090300-S2020 S
3120068	RNGN 060300-S2020 S (0903)	○	○	6,35	3,18	RNGN 090300-S2020 S
3120071	RNGN 060300-S2020 S (1203)	○	○	6,35	3,18	RNGN 120300-S2020 S
3120057	RNGN 090300-S2020 S (1203)	○	○	9,53	3,18	RNGN 120300-S2020 S
3120070	RNGN 090400-S2020 S (1204)	○	○	9,53	4,76	RNGN 120400-S2020 S
3120056	RNGN 120300-S2020 S (1204)	○	○	12,70	3,18	RNGN 120400-S2020 S

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1)Geometry code + (2)Grade code

SN = SQUARE 90° NEGATIVE  
QUADRADA 90° NEGATIVA | ESQUADRA 90° NEGATIVA



## SNGA Z4

	(1) Geometry code	(2) Grade code			Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte						
		ISO Reference	ANSI Reference	K	H	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max	
				S4	Y5													Y4
	1124178	SNGA 120404-S2513 Z4	SNGA 431-S2513 Z4	○	○	⊗	4	12,70	4,76	0,40	5,16	2,40	0,15	0,08	0,40	0,08	0,05	0,20
	1124538	SNGA 120404-T2513 Z4	SNGA 431-T2513 Z4	○			4	12,70	4,76	0,40	5,16	2,40	0,15	0,08	0,40	0,08	0,05	0,20
	1124354	SNGA 120408-S2513 Z4	SNGA 432-S2513 Z4	○	○	⊗	4	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124577	SNGA 120408-S3515 Z4	SNGA 432-S3515 Z4		○		4	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124433	SNGA 120408-T2513 Z4	SNGA 432-T2513 Z4	⊗			4	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124539	SNGA 120412-S2513 Z4	SNGA 433-S2513 Z4		○	⊗	4	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30
	1124578	SNGA 120412-S3515 Z4	SNGA 433-S3515 Z4		○		4	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30
	1124540	SNGA 120412-T2513 Z4	SNGA 433-T2513 Z4	○			4	12,70	4,76	1,20	5,16	2,30	0,25	0,08	0,50	0,12	0,08	0,30

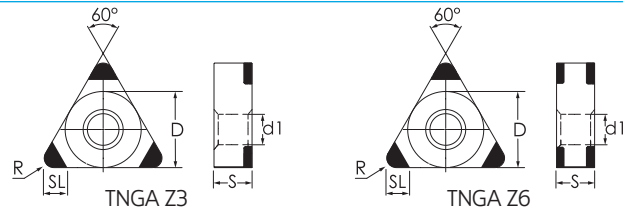
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1)Geometry code + (2)Grade code

TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

TN = TRIANGULAR 60° NEGATIVE  
 TRIANGULAR 60° NEGATIVA | TRIANGULAR 60° NEGATIVA



## TNGA Z3 | TNGA Z6

	(1) Geometry code	(2) Grade code	ANSI Reference	K			H			Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				S4	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max			
				PBH920	PBY603	PBY620															
	1124357	TNGA 160404-S2513 Z3	TNGA 331-S2513 Z3	○	⊗	⊗	3	9,53	4,76	0,40	3,81	2,30	0,15	0,08	0,50	0,08	0,05	0,20			
	1124179	TNGA 160408-S2513 Z3	TNGA 332-S2513 Z3	○	⊗	⊗	3	9,53	4,76	0,80	3,81	2,00	0,20	0,08	0,50	0,10	0,08	0,30			
	1124579	TNGA 160408-S3515 Z3	TNGA 332-S3515 Z3			○	3	9,53	4,76	0,80	3,81	2,00	0,20	0,08	0,50	0,10	0,08	0,30			
	1124469	TNGA 160412-S2513 Z3	TNGA 333-S2513 Z3	○	⊗	⊗	3	9,53	4,76	1,20	3,81	2,00	0,25	0,08	0,60	0,12	0,08	0,30			
	1124746	TNGA 160412-S3515 Z3	TNGA 333-S3515 Z3			⊗	3	9,53	4,76	1,20	3,81	2,00	0,25	0,08	0,60	0,12	0,08	0,30			
	1124603	TNGA 160416-S2513 Z3	TNGA 334-S2513 Z3		⊗	⊗	3	9,53	4,76	1,6	3,81	3,00	0,30	0,08	0,70	0,14	0,10	0,35			
	1124604	TNGA 160420-S2513 Z3	TNGA 335-S2513 Z3		⊗	⊗	3	9,53	4,73	2,0	3,81	3,00	0,35	0,10	0,55	0,16	0,10	0,40			
	1124477	TNGA 160404-S2513 Z6	TNGA 331-S2513 Z6	⊗	⊗	○	6	9,53	4,76	0,40	3,81	2,30	0,15	0,08	0,50	0,08	0,05	0,20			
	1124097	TNGA 160408-S2513 Z6	TNGA 332-S2513 Z6	⊗	⊗	○	6	9,53	4,76	0,80	3,81	2,00	0,20	0,08	0,50	0,10	0,08	0,30			
	1124581	TNGA 160408-S3515 Z6	TNGA 332-S3515 Z6			○	6	9,53	4,76	0,80	3,81	2,00	0,20	0,08	0,50	0,10	0,08	0,30			
	1124478	TNGA 160412-S2513 Z6	TNGA 333-S2513 Z6		⊗	○	6	9,53	4,76	1,20	3,81	2,00	0,25	0,08	0,60	0,12	0,08	0,30			
	1124582	TNGA 160412-S3515 Z6	TNGA 333-S3515 Z6			○	6	9,53	4,76	1,20	3,81	2,00	0,25	0,08	0,60	0,12	0,08	0,30			

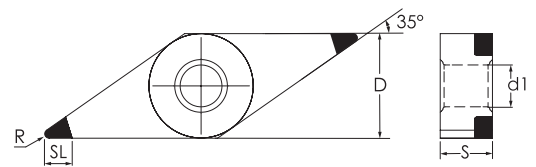
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

## VN - RHOMBIC 35° NEGATIVE

RÔMBICA 35° NEGATIVA | RÓMBICA 35° NEGATIVA



### VNGA Z2

	(1) Geometry code	(2) Grade code			Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte						
		ISO Reference	ANSI Reference	K H			Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				S4	Y5	Y4												
	1124361	VNGA 160402-S2513 Z2	VNGA 331.5-S2513 Z2	○			2	9,53	4,76	0,20	3,81	3,00	0,13	0,08	0,50	0,05	0,05	0,20
	1124163	VNGA 160404-S2513 Z2	VNGA 331-S2513 Z2	○	⊗	⊗	2	9,53	4,76	0,40	3,81	2,80	0,15	0,08	0,50	0,08	0,05	0,20
	1124098	VNGA 160408-S2513 Z2	VNGA 332-S2513 Z2	○	⊗	⊗	2	9,53	4,76	0,80	3,81	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124470	VNGA 160412-S2513 Z2	VNGA 333-S2513 Z2	○	⊗	⊗	2	9,53	4,76	1,20	3,81	1,90	0,25	0,08	0,50	0,12	0,08	0,30

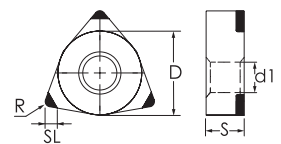
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

## WN - TRIGON 80° NEGATIVE

TRIGONAL 80° NEGATIVA | TRIGONA 80° NEGATIVA



### WNGA Z3 | WNGA Z6

	(1) Geometry code	(2) Grade code			Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte						
		ISO Reference	ANSI Reference	K H			Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				S4	Y5	Y4												
	1124471	WNGA 080404-S2513 Z3	WNGA 431-S2513 Z3	○	⊗	⊗	3	12,70	4,76	0,40	5,16	2,30	0,15	0,08	0,40	0,08	0,05	0,20
	1124472	WNGA 080408-S2513 Z3	WNGA 432-S2513 Z3	○	⊗	⊗	3	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124583	WNGA 080408-S3515 Z3	WNGA 432-S3515 Z3	○		○	3	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124473	WNGA 080412-S2513 Z3	WNGA 433-S2513 Z3	○	⊗	⊗	3	12,70	4,76	1,20	5,16	2,00	0,25	0,08	0,60	0,12	0,08	0,30
	1124584	WNGA 080412-S3515 Z3	WNGA 433-S3515 Z3	○		○	3	12,70	4,76	1,20	5,16	2,00	0,25	0,08	0,60	0,12	0,08	0,30
	1124589	WNGA 080404-S2513 Z6	WNGA 431-S2513 Z6	○	○		6	12,70	4,76	1,20	5,16	2,00	0,25	0,08	0,40	0,12	0,08	0,30
	1124588	WNGA 080408-S2513 Z6	WNGA 432-S2513 Z6	○	○		6	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124585	WNGA 080408-S3515 Z6	WNGA 432-S3515 Z6	○		○	6	12,70	4,76	0,80	5,16	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124587	WNGA 080412-S2513 Z6	WNGA 433-S2513 Z6	○	○		6	12,70	4,76	0,40	5,16	2,30	0,15	0,08	0,60	0,08	0,05	0,20
	1124586	WNGA 080412-S3515 Z6	WNGA 433-S3515 Z6	○		○	6	12,70	4,76	1,20	5,16	2,00	0,25	0,08	0,60	0,12	0,08	0,30



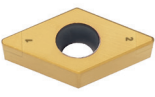



⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

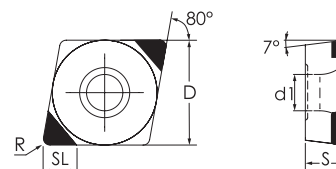
Insert Order Code: (1) Geometry code + (2) Grade code

POSITIVE INSERTS OVERVIEW

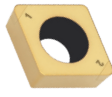
Vista genérica pastilhas positivas | Visión general de plaquitas positivas

SINGLE TIP	TPGW Z1				
					
	Size 11 Page 476				
MULTIPLE TIPS	CCGW Z2	DCGW Z2	TCGW   TPGW Z3	VBGW Z2	VCGW Z2
					
	Size 06   09	Size 07   11	Size 09   11	Size 11   16	Size 16
	Page 474	Page 475	Page 476	Page 477	Page 477

CC - RHOMBIC 80° POSITIVE  
RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA



CCGW Z2

	(1) Geometry code	(2) Grade code		H		Dimensions / Dimensões / Dimensiones (mm)						Cutting conditions / Condições de corte / Condiciones de corte					
		ISO Reference	ANSI Reference	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBY603	PBY620												
	1124605	CCGW 060202-S1513 Z2	CCGW 21.50.5-S1513 Z2	⊗	⊗	2	6,35	2,38	0,20	2,80	2,00	0,15	0,05	0,20	0,08	0,05	0,20
	1124635	CCGW 060202-S2513 Z2	CCGW 21.50.5-S2513 Z2	⊗	⊗	2	6,35	2,38	0,20	2,80	2,40	0,15	0,05	0,20	0,08	0,05	0,20
	1124606	CCGW 060204-S1513 Z2	CCGW 21.51-S1513 Z2	⊗	⊗	2	6,35	2,38	0,40	2,80	2,00	0,15	0,05	0,40	0,08	0,05	0,25
	1124555	CCGW 060204-S2513 Z2	CCGW 21.51-S2513 Z2	⊗	⊗	2	6,35	2,38	0,40	2,80	2,00	0,15	0,05	0,40	0,08	0,05	0,25
	1124607	CCGW 060208-S1513 Z2	CCGW 21.52-S1513 Z2	⊗	⊗	2	6,35	2,38	0,80	2,80	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124636	CCGW 060208-S2513 Z2	CCGW 21.52-S2513 Z2	⊗	⊗	2	6,35	2,38	0,80	2,80	2,40	0,20	0,08	0,50	0,10	0,08	0,30
	1124638	CCGW 09T302-S2513 Z2	CCGW 32.50.5-S2513 Z2	⊗	⊗	2	9,53	3,97	0,20	4,40	2,50	0,15	0,05	0,20	0,08	0,05	0,20
	1124640	CCGW 09T304-S2513 Z2	CCGW 32.51-S2513 Z2	⊗	⊗	2	9,53	3,97	0,40	4,40	2,50	0,20	0,08	0,40	0,10	0,05	0,25
	1124632	CCGW 09T308-S2513 Z2	CCGW 32.52-S2513 Z2	⊗	⊗	2	9,53	3,97	0,80	4,40	2,50	0,20	0,08	0,50	0,10	0,08	0,30
	1124637	CCGW 09T302-S2513 WG Z2	CCGW 32.50.5-S2513 WG Z2	○	○	2	9,53	3,97	0,20	4,40	2,40	0,15	0,05	0,20	0,08	0,05	0,20
	1124639	CCGW 09T304-S2513 WG Z2	CCGW 32.51-S2513 WG Z2	⊗	⊗	2	9,53	3,97	0,40	4,40	2,40	0,20	0,08	0,40	0,10	0,05	0,25
	1124641	CCGW 09T308-S2513 WG Z2	CCGW 32.52-S2513 WG Z2	⊗	⊗	2	9,53	3,97	0,80	4,40	2,40	0,20	0,08	0,50	0,10	0,08	0,30
	1124608	CCGW 09T302-S1513 Z2	CCGW 32.50.5-S1513 Z2	⊗	⊗	2	9,53	3,97	0,20	4,40	2,00	0,15	0,05	0,20	0,08	0,05	0,20
	1124609	CCGW 09T304-S1513 Z2	CCGW 32.51-S1513 Z2	⊗	⊗	2	9,53	3,97	0,40	4,40	2,00	0,20	0,08	0,40	0,10	0,05	0,25
	1124610	CCGW 09T308-S1513 Z2	CCGW 32.52-S1513 Z2	⊗	⊗	2	9,53	3,97	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30

⊗ Stock Items | Itens de stock

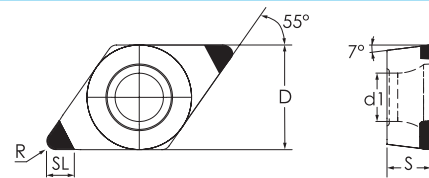
○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code



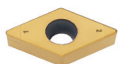
## DC = RHOMBIC 55° POSITIVE

RÔMBICA 55° POSITIVA | RÓMBICA 55° POSITIVA



## DCGW Z2

	(1) Geometry code	(2) Grade code		H		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBY603	PBY620												
	1124642	DCGW 070202-S1513 Z2	DCGW 21.50.5-S1513 Z2	⊗	○	2	6,35	2,38	0,20	2,80	2,50	0,15	0,08	0,20	0,08	0,05	0,20
	1124611	DCGW 070202-S2513 Z2	DCGW 21.50.5-S2513 Z2	⊗	⊗	2	6,35	2,38	0,20	2,80	2,00	0,15	0,08	0,20	0,08	0,05	0,20
	1124643	DCGW 070204-S1513 Z2	DCGW 21.51-S1513 Z2	⊗	○	2	6,35	2,38	0,40	2,80	2,50	0,15	0,08	0,40	0,08	0,05	0,25
	1124436	DCGW 070204-S2513 Z2	DCGW 21.51-S2513 Z2	⊗	⊗	2	6,35	2,38	0,40	2,80	2,40	0,15	0,08	0,40	0,08	0,05	0,25
	1124644	DCGW 070208-S1513 Z2	DCGW 21.52-S1513 Z2	○	○	2	6,35	2,38	0,80	2,80	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124612	DCGW 070208-S2513 Z2	DCGW 21.52-S2513 Z2	⊗	⊗	2	6,35	2,38	0,80	2,80	2,50	0,20	0,08	0,50	0,10	0,08	0,30
	1124613	DCGW 11T302-S2513 Z2	DCGW 32.50.5-S2513 Z2	⊗	⊗	2	9,53	3,97	0,20	4,40	2,70	0,15	0,08	0,20	0,08	0,05	0,20
	1124554	DCGW 11T304-S2513 Z2	DCGW 32.51-S2513 Z2	⊗	⊗	2	9,53	3,97	0,40	4,40	2,50	0,20	0,08	0,40	0,10	0,05	0,25
	1124744	DCGW 11T304-S3515 Z2	DCGW 32.51-S3515 Z2		⊗	2	9,53	3,97	0,40	4,40	2,50	0,20	0,08	0,40	0,10	0,05	0,25
	1124614	DCGW 11T308-S2513 Z2	DCGW 32.52-S2513 Z2	⊗	⊗	2	9,53	3,97	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124745	DCGW 11T308-S3515 Z2	DCGW 32.52-S3515 Z2		⊗	2	9,53	3,97	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124645	DCGW 11T302-S1513 Z2	DCGW 32.50.5-S1513 Z2	⊗	○	2	9,53	3,97	0,20	4,40	2,70	0,15	0,08	0,20	0,08	0,05	0,20
	1124647	DCGW 11T304-S1513 Z2	DCGW 32.51-S1513 Z2	⊗	○	2	9,53	3,97	0,40	4,40	2,50	0,20	0,08	0,40	0,10	0,05	0,25
	1124649	DCGW 11T308-S1513 Z2	DCGW 32.52-S1513 Z2	⊗	○	2	9,53	3,97	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30



⊗ Stock Items | Itens de stock

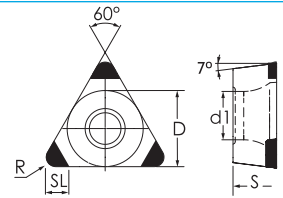
○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code



## TC - TRIANGULAR 60° POSITIVE

TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA



### TCGW Z3

	(1) Geometry code	(2) Grade code		H		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBY603	PBY620												
	1124715	TCGW 110204-S2513 Z3	TCGW 21.51-S2513 Z3	○		3	6,35	2,38	0,20	4,40	2,50	0,15	0,08	0,40	0,08	0,05	0,20
	1124434	TCGW 16T304-S2513 Z3	TCGW 32.51-S2513 Z3	⊗	⊗	3	9,53	3,97	0,40	4,40	2,50	0,15	0,08	0,45	0,08	0,05	0,20
	1124651	TCGW 16T308-S2513 Z3	TCGW 32.52-S2513 Z3	⊗	⊗	3	9,53	3,97	0,80	4,40	2,00	0,20	0,08	0,45	0,10	0,08	0,30

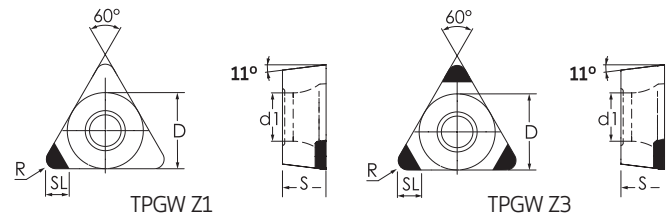
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

## TP - TRIANGULAR 60° POSITIVE

TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA



### TPGW Z1 | TPGW Z3

	(1) Geometry code	(2) Grade code		H		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBY603	PBY620												
	1124657	TPGW 110302-S2513 Z1	TPGW 220.5-S2513 Z1	○	○	1	6,35	3,18	0,20	2,80	2,40	0,15	0,08	0,20	0,08	0,05	0,15
	1124660	TPGW 110304-S2513 Z1	TPGW 221-S2513 Z1	⊗	○	1	6,35	3,18	0,40	2,80	2,30	0,15	0,08	0,40	0,08	0,05	0,20
	1124598	TPGW 110308-S2513 Z1	TPGW 222-S2513 Z1	⊗	⊗	1	6,35	3,18	0,80	2,80	2,40	0,20	0,08	0,45	0,10	0,08	0,20
	1124652	TPGW 090202-S1513 Z3	TPGW 1.81.50.5-S1513 Z3	⊗	○	3	5,56	2,38	0,20	2,50	2,50	0,10	0,08	0,20	0,08	0,05	0,15
	1124653	TPGW 090202-S2513 Z3	TPGW 1.81.50.5-S2513 Z3	⊗	○	3	5,56	2,38	0,20	2,50	2,50	0,10	0,05	0,20	0,08	0,05	0,15
	1124654	TPGW 090204-S1513 Z3	TPGW 1.81.51-S1513 Z3	⊗	○	3	5,56	2,38	0,40	2,50	2,30	0,15	0,08	0,40	0,08	0,05	0,15
	1124655	TPGW 090204-S2513 Z3	TPGW 1.81.51-S2513 Z3	⊗	⊗	3	5,56	2,38	0,40	2,50	2,30	0,15	0,08	0,40	0,08	0,05	0,15
	1124658	TPGW 110302-S2513 Z3	TPGW 220.5-S2513 Z3	⊗	⊗	3	6,35	3,18	0,20	2,80	2,40	0,15	0,08	0,20	0,08	0,05	0,15
	1124661	TPGW 110304-S2513 Z3	TPGW 221-S2513 Z3	⊗	⊗	3	6,35	3,18	0,40	2,80	2,30	0,15	0,08	0,40	0,08	0,05	0,20
	1124663	TPGW 110308-S2513 Z3	TPGW 222-S2513 Z3	○	⊗	3	6,35	3,18	0,80	2,80	2,00	0,20	0,08	0,50	0,10	0,08	0,20
	1124656	TPGW 110302-S1513 Z3	TPGW 220.5-S1513 Z3	⊗	○	3	6,35	3,18	0,20	2,80	2,40	0,15	0,08	0,20	0,08	0,05	0,15
	1124659	TPGW 110304-S1513 Z3	TPGW 221-S1513 Z3	⊗	○	3	6,35	3,18	0,40	2,80	2,30	0,15	0,08	0,40	0,08	0,05	0,20
	1124662	TPGW 110308-S1513 Z3	TPGW 222-S1513 Z3	○	○	3	6,35	3,18	0,80	2,80	2,00	0,20	0,08	0,50	0,10	0,08	0,20

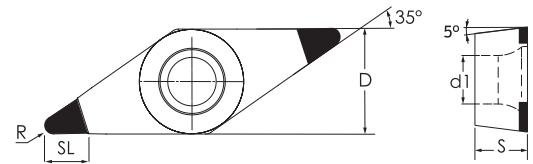
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta


Insert Order Code: (1) Geometry code + (2) Grade code

## VB = RHOMBIC 35° POSITIVE

RÔMBICA 35° POSITIVA | RÓMBICA 35° POSITIVA



### VBGW Z2

	(1) Geometry code	(2) Grade code		H		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBY603	PBY620												
	1124664	VBGW 110302-S2513 Z2	VBGW 220.5-S2513 Z2	⊗	⊗	2	6,35	3,18	0,20	2,80	3,20	0,10	0,08	0,20	0,05	0,05	0,15
	1124665	VBGW 110304-S2513 Z2	VBGW 221-S2513 Z2	⊗	⊗	2	6,35	3,18	0,40	2,80	2,80	0,15	0,08	0,40	0,08	0,05	0,20
	1124666	VBGW 110308-S2513 Z2	VBGW 222-S2513 Z2	○	⊗	2	6,35	3,18	0,80	2,80	2,00	0,15	0,08	0,50	0,10	0,08	0,25
	1124618	VBGW 160402-S2513 Z2	VBGW 330.5-S2513 Z2	⊗	⊗	2	9,53	4,76	0,20	4,40	2,00	0,10	0,08	0,20	0,08	0,05	0,15
	1124619	VBGW 160404-S2513 Z2	VBGW 331-S2513 Z2	⊗	⊗	2	9,53	4,76	0,40	4,40	2,00	0,15	0,08	0,40	0,08	0,05	0,20
	1124620	VBGW 160408-S2513 Z2	VBGW 332-S2513 Z2	⊗	⊗	2	9,53	4,76	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30
	1124621	VBGW 160402-S1513 Z2	VBGW 330.5-S1513 Z2	⊗	⊗	2	9,53	4,76	0,20	4,40	2,00	0,10	0,08	0,20	0,08	0,05	0,15
	1124622	VBGW 160404-S1513 Z2	VBGW 331-S1513 Z2	⊗	⊗	2	9,53	4,76	0,40	4,40	2,00	0,15	0,08	0,40	0,08	0,05	0,20
	1124623	VBGW 160408-S1513 Z2	VBGW 332-S1513 Z2	⊗	⊗	2	9,53	4,76	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30

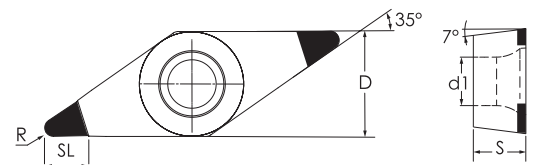
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta


Insert Order Code: (1) Geometry code + (2) Grade code

## VC = RHOMBIC 35° POSITIVE

RÔMBICA 35° POSITIVA | RÓMBICA 35° POSITIVA



### VCGW Z2

	(1) Geometry code	(2) Grade code		H		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	Y5	Y4	Z	D	S	R	d1	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PBY603	PBY620												
	1124667	VCGW 160404-S2513 Z2	VCGW 331-S2513 Z2	⊗	⊗	2	9,53	4,76	0,40	4,40	2,80	0,15	0,08	0,40	0,08	0,05	0,20
	1124668	VCGW 160408-S2513 Z2	VCGW 332-S2513 Z2	⊗	⊗	2	9,53	4,76	0,80	4,40	2,00	0,20	0,08	0,50	0,10	0,08	0,30

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

# PCD GRADES SELECTION

Seleção de graus | Selección de calidades

PCD (Polycrystalline Diamond) is a composite of diamond particles that are sintered with a metallic binder creating the hardest and one of the most abrasion resistant materials used in cutting tools.

Its development achieved an extremely significance for the machining of Non-Ferrous Materials, such as high-silicon aluminium, metal matrix composites (MMC) and carbon fibre reinforced plastics (CFRP).

## Grade description:

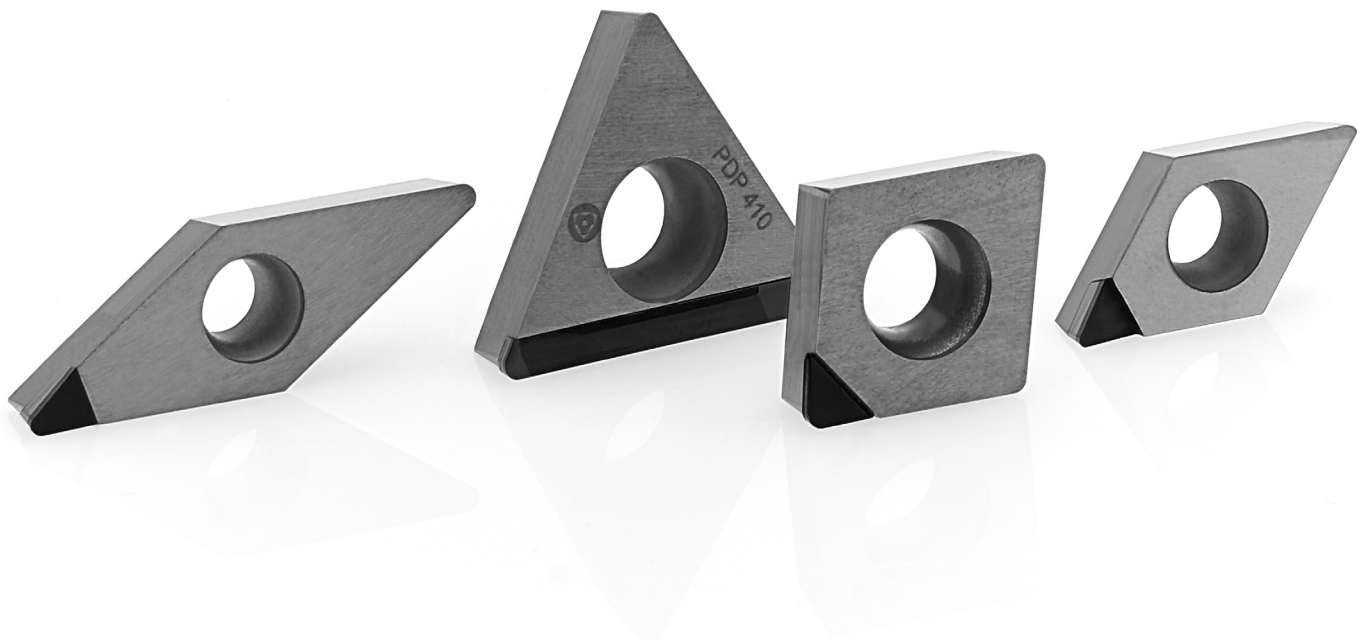
Grade	Code	Characteristics	Application
PDP410	D6	General purpose Fine surface finishing	<ul style="list-style-type: none"> <li>- &lt;14% silicon aluminium alloy - automotive industry</li> <li>- Graphite and graphite composites</li> <li>- Wood composites</li> <li>- Copper alloy</li> </ul>
PDP403	I3	Highest abrasion resistance Bimodal grain structure for increased diamond percentage content	<ul style="list-style-type: none"> <li>- &gt;14% silicon aluminium alloy</li> <li>- Fiber glass, fiberboard</li> <li>- Wood laminates</li> <li>- Metal matrix composites</li> <li>- Stone sawing</li> <li>- Ceramics</li> <li>- Sintered tungsten carbide (10-16% Co)</li> </ul>

PDP410

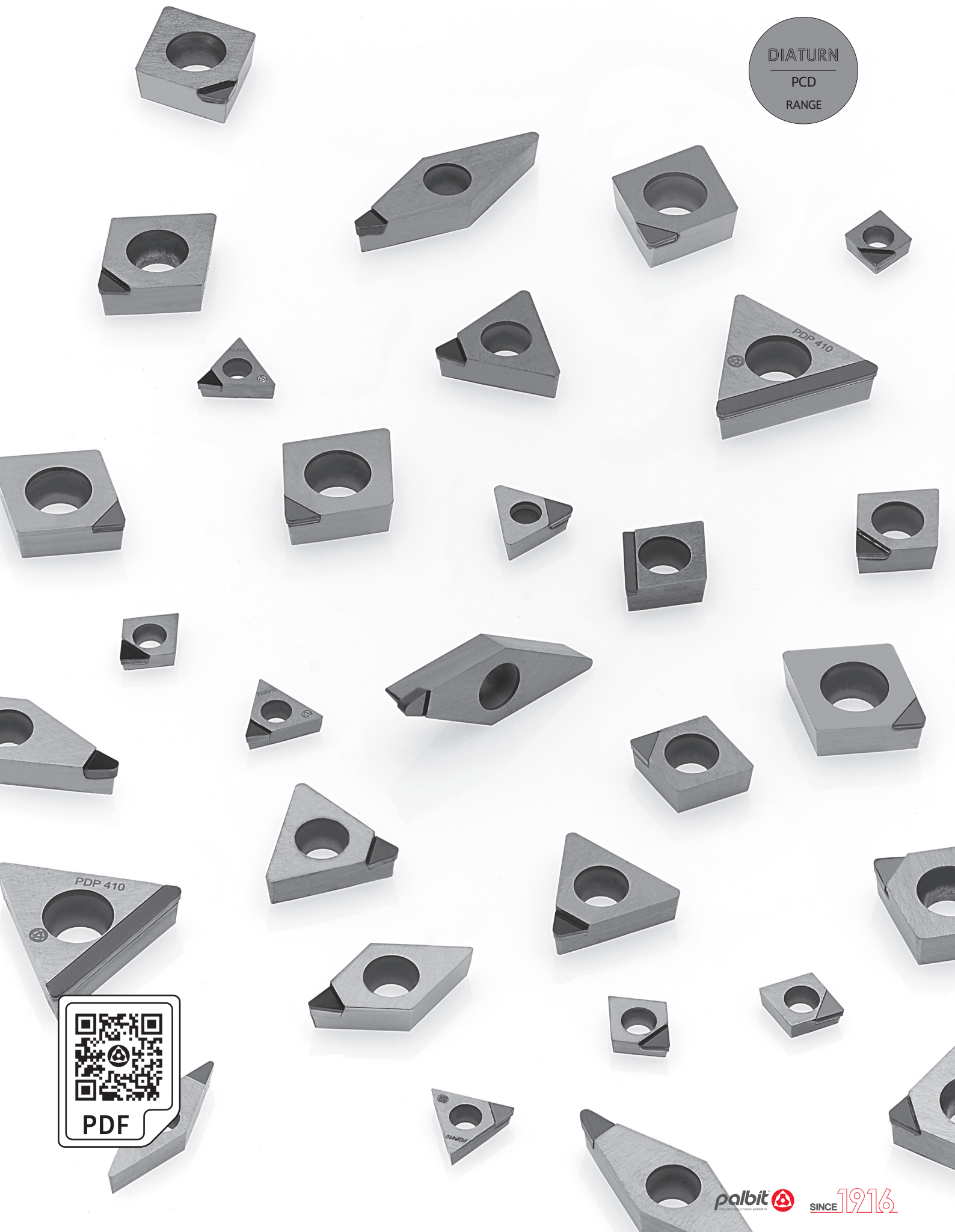
<14% silicon  
aluminium  
alloy

PDP403

>14% silicon  
aluminium  
alloy



DIATURN  
PCD  
RANGE



# GEOMETRY SELECTION

Seleção da geometria | Selección de la geometria

The insert geometry and nose radius are very important on turning operation having direct influence on the tool life and productivity.

Insert nose radius is an important performance parameter:

- For good chip breaking, must be used a small nose radius: 0,2-0,4mm (0,008-0,016inch);
- A large nose radius: 0,8-1,2mm (0,031-0,047inch) generates better surface finishing and produces thinner chips, which reduces the degree of crater wear in hard part turning operations
- The machining with large nose radius and small depth of cut results in reduced entry and exit forces..

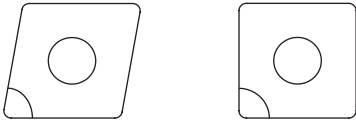
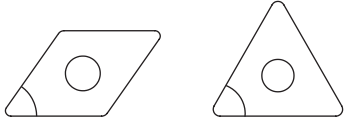
In general, a large nose radius provides greater edge strength and therefore extended tool life. For this reason, it is advised to use the largest and allowed nose radius based on the requirements of each process.

## Finishing and semi-finishing:

In these cases, there are special requirements on the surface and tolerances.

## Roughing:

For the evaluation of the cutting edge radius in roughing operations it is recommended to use the following formula, in order to calculate the minimum radius vs feed:

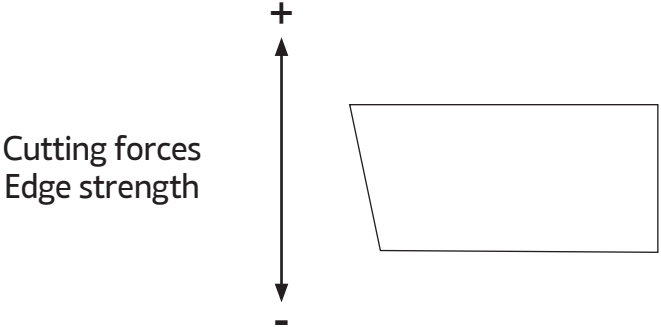
Insert shape	Formula
	<p>Radius &gt;1,6 x feed per rev.</p>
	<p>Radius &gt;2,5 x feed per rev.</p>



The most important criteria for the stability and cutting edge tool-life is to define the correct cutting edge preparation. Its choice is mainly required in order to achieve the best economical result.

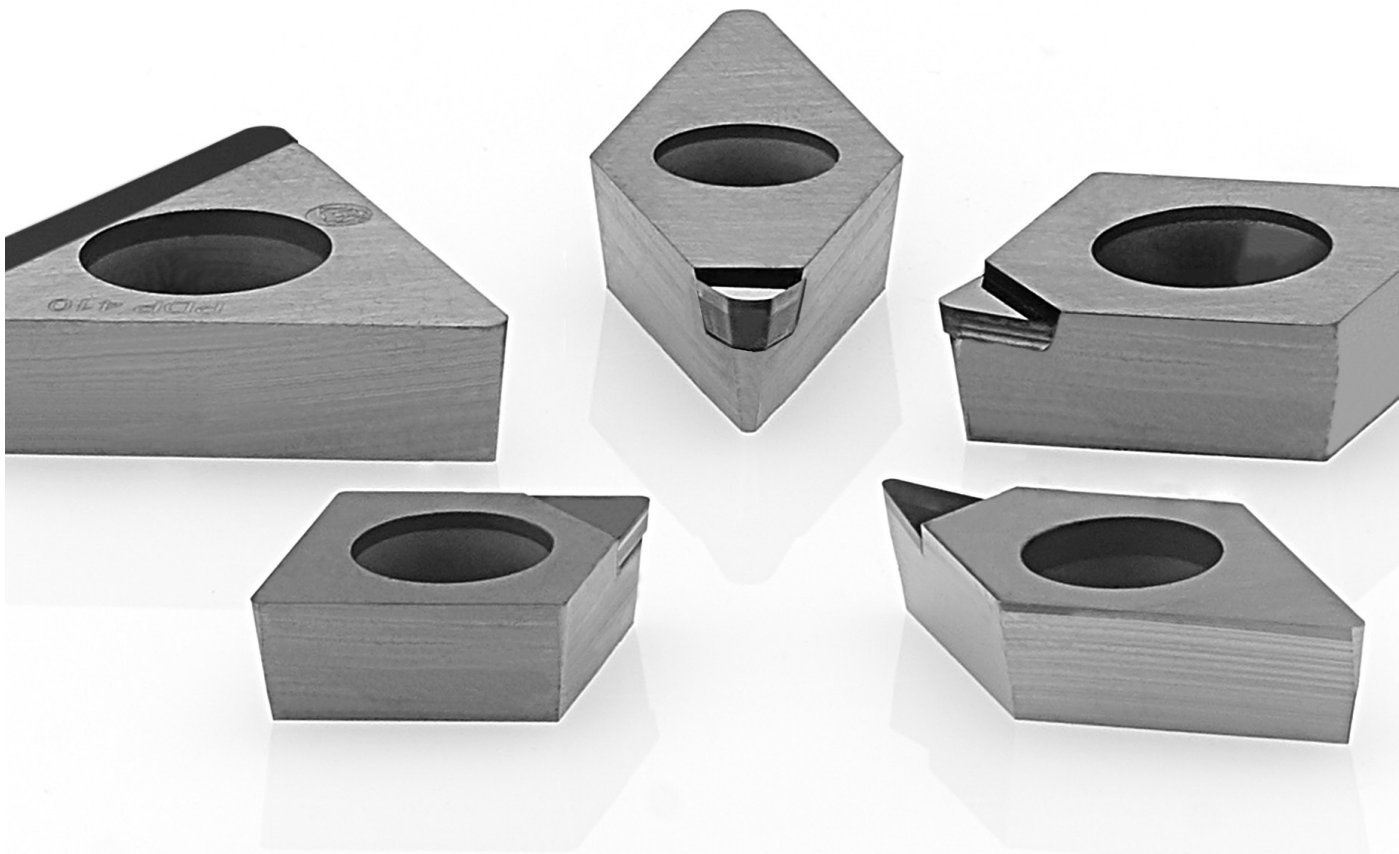
## Edge preparation:

PCD: F type cutting edge preparation:

	<p><b>F – Standard preparation without honing - Standard</b></p> <ul style="list-style-type: none"> <li>- Sharp cutting edge;</li> <li>- Standard and recommended edge preparation for aluminium or other non-ferrous materials.</li> </ul>
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### Note:

Based on our experience sometimes is necessary to define edge preparation during several tests to provide the best possible solution for each application.



# ISO PCD INSERTS CODE KEY

H		M	
O		V	
P		W	
S		L	
T		A	
C		B	
D		K	
E		R	
F		X	Special

1- Insert shape symbol

Symbol	m (mm)	d (mm)	s (mm)
A	±0.005	±0.025	±0.025
F	±0.005	±0.013	±0.025
C	±0.013	±0.025	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J	±0.005	±0.05~±0.13	±0.025
K*	±0.013	±0.05~±0.13	±0.025
L*	±0.025	±0.05~±0.13	±0.025
M*	±0.08~±0.20	±0.05~±0.13	±0.13
N*	±0.08~±0.20	±0.05~±0.13	±0.025
U*	±0.13~±0.38	±0.08~±0.25	±0.13

As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size, for the accuracy of class M, refer to the table on the right.

Triangular inserts with a facet (secondary cutting edge)

Detailed dimension of M class insert Insert height Tolerances (mm)					
Inscribed circle	T	S	C	D	V
6.35	±0.08	-	-	-	-
9.525	±0.08	±0.08	±0.11	±0.10	±0.13
12.70	±0.13	±0.13	±0.13	±0.15	-
15.875	±0.15	±0.15	±0.15	±0.18	-
19.05	±0.15	±0.15	±0.15	±0.18	-
25.40	-	±0.18	-	-	-
31.75	-	±0.25	-	-	-

Inscribed circle Tolerances (mm)					
Inscribed circle	T	S	C	D	V
6.35	±0.05	-	-	-	-
9.525	±0.05	±0.05	±0.05	±0.05	±0.05
12.70	±0.08	±0.08	±0.08	±0.08	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	±0.10
19.05	-	-	-	-	±0.10
25.40	-	±0.13	-	-	±0.10
31.75	-	±0.20	-	-	±0.12

3 - Tolerances symbol

A	B	C	D	E
F	G	N	P	O
				Other clearance angle

2 - Normal clearance symbol

ISO	D	C	G	W
ANSI	D	C	G	W

4 - Insert symbol									
symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape
W	with hole	Round hole one countersink (40°-60°)	Without chipbreaker		G	with hole	Round hole	Chipbreaker on both sides	
T			Chipbreaker on one side		N	without hole	-	Without chipbreaker	
A	with hole	Round hole	Without chipbreaker		R	without hole	-	Chipbreaker on one side	
M			Chipbreaker on one side		X		-	-	-

R's	35°	55°	80°	90°	60°	80°	IC		ANSI
	V's	D's	C's	S's	T's	W's	mm	inch	Symbol
-	06	04	-	03	06	02	3,97	5/32	1,20
-	08	05	04	04	08	L3	4,76	3/16	1,50
-	09	06	05	05	09	03	5,56	7/32	1,80
06**	-	-	-	-	-	-	6,00	0,236	
06*	11	07	06	06	11	04	6,35	1/4	2,00
07*	13	09	08	07	13	05	7,94	5/16	2,50
08*	-	-	-	-	-	-	8,00	0,315	
09*	16	11	09	09	16	06	9,525	3/8	3,00
10**	-	-	-	-	-	-	10,00	0,394	
12**	-	-	-	-	-	-	12,00	0,472	
12*	22	15	12	12	22	08	12,70	1/2	4,00
15*	27	19	16	15	27	10	15,875	5/8	5,00
16**	-	-	-	-	-	-	16,00	0,63	
19*	33	23	19	19	33	13	19,05	3/4	6,00
20**	-	-	-	-	-	-	20,00	0,787	
25**	-	-	-	-	-	-	25,00	0,984	
25*	44	31	25	25	44	17	25,40	1,00	8,00
31*	54	38	32	31	54	21	31,75	1 1/4	10,00
32**	-	-	-	-	-	-	32,00	1,26	

\* ANSI designation only (Radius Designation is R0)

\*\* Metric designation only (Radius Designation is M0)

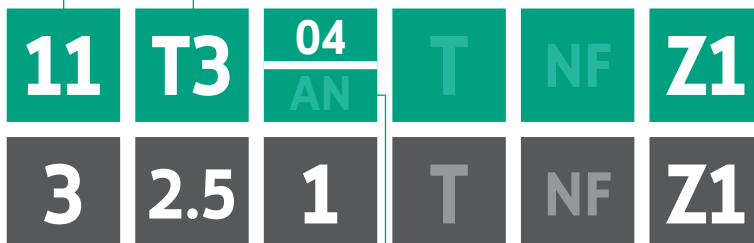
According to International Standard ISO 1832 - 2012(E)

"Indexable inserts for cutting tools - Designation"

ISO	mm	ANSI	inch
01	1.59	1	0.062
T1	1.98	1.2	0.078
02	2.38	1.5	0.094
03	3.18	2	0.125
T3	3.97	2.5	0.156
04	4.76	3	0.188
05	5.56	3.5	0.219
06	6.35	4	0.250
07	7.94	5	0.312
09	9.52	6	0.375
12	12.70	8	0.500

5 - Insert size symbol

6 - Insert thickness symbol



10 - Tip type	
Z1 (1 tip)	Z6 (6 tips)
Z2 (2 tips)	Z8 (8 tips)
Z3 (3 tips)	FL (Full edge left)
Z4 (4 tips)	FR (Full edge right)
Z5 (5 tips)	O (other)

7 - Insert corner symbol			
ISO	mm	inch	ANSI
00	Sharp nose		0
01	0.10	.004	0.2
02	0.20	.008	0.5
04	0.40	.015	1
08	0.80	.032	2
12	1.2	.047	3
16	1.6	.062	4
20	2.0	.078	5
24	2.4	.094	6
28	2.8	.109	7
32	3.2	.125	8
<sup>00</sup> (inch or M0/ metric)	Round insert		0

7.1* - Insert edges symbol			
For inserts having secondary edges two digits are used:			
1 <sup>st</sup> digit is secondary edge		2 <sup>nd</sup> digit is secondary edges relief angle	
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	special	F	25°
		G	30°
		N	0°
		P	11°
		Z	special

\*only when required.

8* - Cutting edge information		
Shape	Honing	Symbol
	No honing	F
	With honing	E
	Chamfered No honing	T
	Chamfered with honing	S

\*only when required.

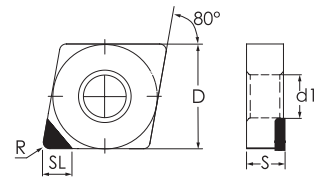
9 - Chipbreaker geometries	
NF	Finishing



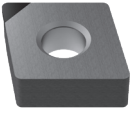
# NEGATIVE INSERTS

## CN - RHOMBIC 80° NEGATIVE

RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA



### CNGA Z1

	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	PDP410	PDP403	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	1124228	CNGA 120404 Z1	CNGA 431 Z1	<input checked="" type="radio"/>	<input checked="" type="radio"/>	12,70	4,76	0,40	5,16	-	3,50	0,10	0,07	0,40	0,10	0,06	0,20
	1124110	CNGA 120408 Z1	CNGA 432 Z1	<input checked="" type="radio"/>	<input type="radio"/>	12,70	4,76	0,80	5,16	-	3,50	0,15	0,07	0,80	0,15	0,08	0,30
	1124229	CNGA 120412 Z1	CNGA 433 Z1	<input type="radio"/>	<input type="radio"/>	12,70	4,76	1,20	5,16	-	3,50	0,25	0,08	1,20	0,30	0,10	0,40
	1124230	CNGA 120416 Z1	CNGA 434 Z1	<input type="radio"/>	<input type="radio"/>	12,70	4,76	1,60	5,16	-	3,50	0,50	0,08	1,60	0,35	0,10	0,50

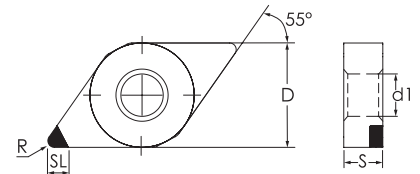
Stock Itens | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

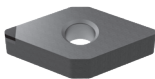
Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

## DN - RHOMBIC 55° NEGATIVE

RÔMBICA 55° NEGATIVA | RÓMBICA 55° NEGATIVA



### DNGA Z1

	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	PDP410	PDP403	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	1124235	DNGA 150404 Z1	DNGA 431 Z1	<input type="radio"/>	<input type="radio"/>	12,70	4,76	0,40	5,16	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124236	DNGA 150408 Z1	DNGA 432 Z1	<input type="radio"/>	<input type="radio"/>	12,70	4,76	0,80	5,16	-	3,50	0,15	0,07	0,80	0,15	0,05	0,25
	1124362	DNGA 150608 Z1	DNGA 442 Z1	<input type="radio"/>	<input type="radio"/>	12,70	6,35	0,80	5,16	-	3,50	0,15	0,07	0,80	0,15	0,05	0,25
	1124363	DNGA 150612 Z1	DNGA 443 Z1	<input type="radio"/>	<input type="radio"/>	12,70	6,35	1,20	5,16	-	3,50	0,20	0,08	1,20	0,20	0,05	0,30

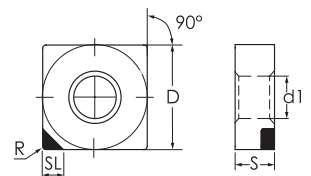
Stock Itens | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

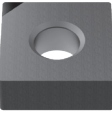
Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

## SN - SQUARE 90° NEGATIVE

QUADRADA 90° NEGATIVA | ESQUADRA 90° NEGATIVA



### SNGA Z1

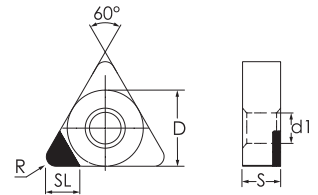
	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	PDP410	PDP403	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	1124243	SNGA 090304 Z1	SNGA 321 Z1	<input type="radio"/>	<input type="radio"/>	9,53	3,18	0,40	3,81	-	3,50	0,10	0,07	0,40	0,10	0,07	0,20
	1124244	SNGA 090308 Z1	SNGA 322 Z1	<input type="radio"/>	<input type="radio"/>	9,53	3,18	0,80	3,81	-	3,50	0,20	0,08	0,80	0,12	0,08	0,25
	1124245	SNGA 120404 Z1	SNGA 431 Z1	<input type="radio"/>	<input type="radio"/>	12,70	4,76	0,40	5,16	-	3,50	0,10	0,07	0,40	0,12	0,07	0,25
	1124246	SNGA 120408 Z1	SNGA 432 Z1	<input type="radio"/>	<input type="radio"/>	12,70	4,76	0,80	5,16	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30

Stock Itens | Itens de stock

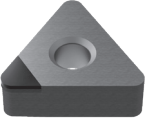
Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

TN - TRIANGULAR 60° NEGATIVE  
 TRIANGULAR 60° NEGATIVA | TRIANGULAR 60° NEGATIVA



TNGA Z1

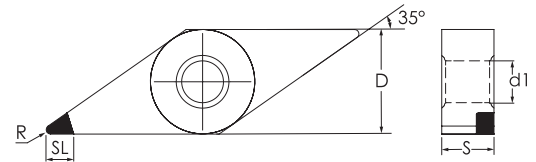
	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124256	TNGA 110304 Z1	TNGA 221 Z1	○	○	6,350	3,18	0,40	2,26	-	3,50	0,10	0,08	0,40	0,08	0,03	0,15
	1124257	TNGA 110308 Z1	TNGA 222 Z1	○	○	6,350	3,18	0,80	2,26	-	3,50	0,15	0,10	0,80	0,10	0,05	0,25
	1124258	TNGA 160404 Z1	TNGA 331 Z1	⊗	○	9,525	4,76	0,40	3,81	-	3,50	0,10	0,08	0,40	0,10	0,05	0,20
	1124259	TNGA 160408 Z1	TNGA 332 Z1	○	○	9,525	4,76	0,80	3,81	-	3,50	0,20	0,10	0,80	0,15	0,08	0,30
	1124385	TNGA 160412 Z1	TNGA 333 Z1	○	○	9,525	4,76	1,20	3,81	-	3,50	0,20	0,10	0,80	0,15	0,08	0,30

⊗ Stock items | Itens de stock


○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

VN - RHOMBIC 35° NEGATIVE  
 RÔMBICA 35° NEGATIVA | RÔMBICA 35° NEGATIVA



VNGA Z1

	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124285	VNGA 160404 Z1	VNGA 331 Z1	○	○	9,53	4,76	0,40	3,81	0,00	3,50	0,10	0,07	0,40	0,10	0,07	0,20
	1124286	VNGA 160408 Z1	VNGA 332 Z1	○	○	9,53	4,76	0,80	3,81	0,00	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124287	VNGA 160412 Z1	VNGA 333 Z1	○	○	9,53	4,76	1,20	3,81	0,00	3,50	0,25	0,10	1,20	0,17	0,10	0,35

⊗ Stock items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

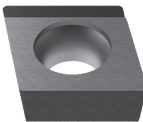
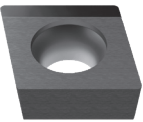
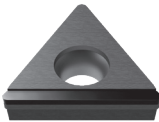
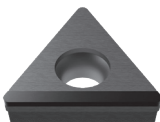
# POSITIVE INSERTS

OVERVIEW | VISTA GENÉRICA | VISIÓN GENERAL

## SINGLE TIP

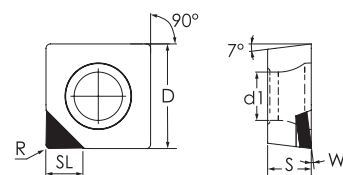
SCGT Z1		SCGW Z1					
							
Size 06   09   12		Size 06   09   12					
Page 487							
CCGT Z1		CCGW Z1		CPGT Z1		CPGW Z1	
							
Size 06   09   12		Size 06   09   12		Size 06   09   12		Size 06   09   12	
Page 488				Page 489			
DCGT Z1		DCGW Z1					
							
Size 07   11		Size 07   11   15					
Page 490							
VCGT Z1		VCGW Z1					
							
Size 07   11   16		Size 07   11   16					
Page 491							
TCGT Z1		TCGW Z1		TPGT Z1		TPGW Z1	
							
Size 09   11   16		Size 09   11   16		Size 11   16		Size 11   16	
Page 492				Page 493			

## FULL EDGE

CCGT FR/FL		CCGW FR/FL		TCGT FL		TCGW FL	
							
Size 06   09   12		Size 06   09   12		Size 11   16		Size 11   16   22	
Page 494				Page 495			

TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

SC = SQUARE 90° POSITIVE  
 QUADRADA 90° POSITIVA | ESQUADRA 90° POSITIVA



SCGT Z1

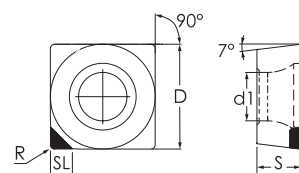
	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124386	SCGT 060202 Z1	SCGT 21.50.5 Z1	○	○	6,35	2,38	0,20	2,80	7°	3,50	0,08	0,05	0,20	0,07	0,05	0,15
	1124387	SCGT 060204 Z1	SCGT 21.51 Z1	○	○	6,35	2,38	0,40	2,80	7°	3,50	0,10	0,05	0,40	0,09	0,05	0,20
	1124388	SCGT 09T304 Z1	SCGT 32.51 Z1	○	○	9,52	3,97	0,40	4,40	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124389	SCGT 09T308 Z1	SCGT 32.52 Z1	⊗	○	9,52	3,97	0,80	4,40	10°	3,50	0,20	0,08	0,80	0,15	0,07	0,30
	1124390	SCGT 120404 Z1	SCGT 431 Z1	○	○	12,70	4,76	0,40	5,50	10°	3,50	0,12	0,07	0,40	0,10	0,05	0,20
	1124391	SCGT 120408 Z1	SCGT 432 Z1	⊗	○	12,70	4,76	0,80	5,50	10°	3,50	0,22	0,08	0,80	0,15	0,08	0,30

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

SCGW Z1



	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				D6	I3	D	S	R	L	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124237	SCGW 060202 Z1	SCGW 21.50.5 Z1	○	○	6,35	2,38	0,20	6,35	-	3,50	0,08	0,05	0,20	0,07	0,05	0,15
	1124238	SCGW 060204 Z1	SCGW 21.51 Z1	○	○	6,35	2,38	0,40	6,35	-	3,50	0,10	0,05	0,40	0,09	0,05	0,20
	1124239	SCGW 09T304 Z1	SCGW 32.51 Z1	○	○	9,53	3,97	0,40	9,53	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124240	SCGW 09T308 Z1	SCGW 32.52 Z1	○	○	9,53	3,97	0,80	9,53	-	3,50	0,20	0,08	0,80	0,15	0,07	0,30
	1124794	SCGW 09T312 Z1	SCGW 32.53 Z1	○	○	6,35	3,96	1,20	6,35	-	3,50	0,30	0,09	1,20	0,20	0,10	0,40
	1124241	SCGW 120404 Z1	SCGW 431 Z1	○	○	12,70	4,76	0,40	12,70	-	3,50	0,12	0,07	0,40	0,10	0,05	0,20
	1124242	SCGW 120408 Z1	SCGW 432 Z1	○	○	12,70	4,76	0,80	12,70	-	3,50	0,22	0,08	0,80	0,15	0,08	0,30

⊗ Stock Items | Itens de stock

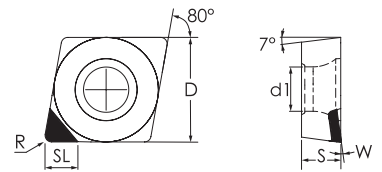
○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

# POSITIVE INSERTS

## CC - RHOMBIC 80° POSITIVE

RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA



### CCGT Z1

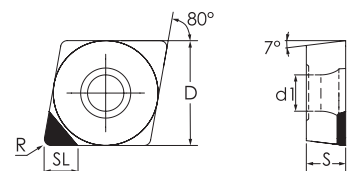
	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	1124113	CCGT 060202 Z1	CCGT 21.50.5 Z1	⊗	○	6,35	2,38	0,20	2,80	7°	3,50	0,08	0,05	0,20	0,08	0,05	0,15
	1124209	CCGT 060204 Z1	CCGT 21.51 Z1	○	○	6,35	2,38	0,40	2,80	7°	3,50	0,10	0,07	0,40	0,12	0,07	0,25
	1124487	CCGT 060220 Z1	CCGT 21.55 Z1	○	○	6,35	2,38	2,00	2,80	10°	3,14	0,20	0,10	0,50	0,15	0,10	0,30
	1112592	CCGT 09T304 Z1	CCGT 32.51 Z1	⊗	○	9,53	3,97	0,40	4,40	10°	3,50	0,10	0,07	0,40	0,12	0,07	0,25
	1124210	CCGT 09T308 Z1	CCGT 32.52 Z1	○	○	9,53	3,97	0,80	4,40	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124211	CCGT 120404 Z1	CCGT 431 Z1	⊗	○	12,70	4,76	0,40	5,50	10°	3,50	0,10	0,07	0,40	0,12	0,07	0,25
	1112630	CCGT 120408 Z1	CCGT 432 Z1	⊗	○	12,70	4,76	0,80	5,50	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124465	CCGT 09T304-NF Z1	CCGT 32.51-NF Z1	⊗	○	9,53	3,97	0,40	4,40	-	4,00	0,12	0,07	0,40	0,15	0,07	0,25
	1124726	CCGT 09T308-NF Z1	CCGT 32.52-NF Z1	⊗	○	9,53	3,97	0,80	4,40	-	4,00	0,20	0,08	0,80	0,20	0,08	0,30

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

### CCGW Z1



	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	1124114	CCGW 060202 Z1	CCGW 21.50.5 Z1	⊗	○	6,35	2,38	0,20	2,80	-	3,50	0,08	0,05	0,20	0,08	0,05	0,13
	1124218	CCGW 060204 Z1	CCGW 21.51 Z1	⊗	○	6,35	2,38	0,40	2,80	-	3,50	0,10	0,07	0,40	0,11	0,07	0,23
	1124793	CCGW 060220 Z1	CCGW 21.55 Z1	⊗	○	6,35	2,38	2,00	2,80	-	3,20	0,80	0,40	2,00	0,15	0,10	0,40
	1124219	CCGW 09T302 Z1	CCGW 32.50.5 Z1	○	○	9,53	3,97	0,20	4,40	-	3,50	0,08	0,05	0,20	0,08	0,05	0,15
	1112593	CCGW 09T304 Z1	CCGW 32.51 Z1	⊗	○	9,53	3,97	0,40	4,40	-	3,50	0,10	0,07	0,40	0,12	0,06	0,25
	1124220	CCGW 09T308 Z1	CCGW 32.2 Z1	○	○	9,53	3,97	0,80	4,40	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124221	CCGW 120404 Z1	CCGW 431 Z1	⊗	○	12,70	4,76	0,40	5,50	-	3,50	0,10	0,07	0,40	0,12	0,06	0,25
	1112631	CCGW 120408 Z1	CCGW 432 Z1	⊗	○	12,70	4,76	0,80	5,50	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30

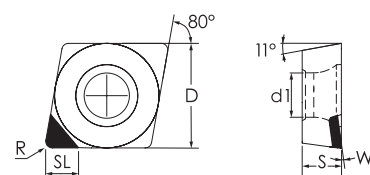
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

CP = RHOMBIC 80° POSITIVE

RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA



CPGT Z1

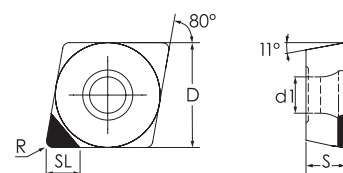
	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				D6	I3							ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403	D	S	R	d1	W	SL						
	1124392	CPGT 060202 Z1	CCGT 21.50.5 Z1	○	○	6,35	2,38	0,20	2,80	7°	3,50	0,08	0,05	0,2	0,08	0,05	0,15
	1124393	CPGT 060204 Z1	CCGT 21.51 Z1	○	○	6,35	2,38	0,40	2,80	7°	3,50	0,10	0,07	0,4	0,12	0,07	0,25
	1124394	CPGT 09T304 Z1	CCGT 32.51 Z1	○	○	9,53	3,97	0,40	4,40	10°	3,50	0,10	0,07	0,4	0,12	0,07	0,25
	1124395	CPGT 09T308 Z1	CCGT 32.52 Z1	○	○	9,53	3,97	0,80	4,40	10°	3,50	0,20	0,08	0,8	0,15	0,08	0,30
	1124396	CPGT 120404 Z1	CCGT 431 Z1	○	○	12,70	4,76	0,40	5,50	10°	3,50	0,10	0,07	0,4	0,12	0,07	0,25
	1124397	CPGT 120408 Z1	CCGT 432 Z1	○	○	12,70	4,76	0,80	5,50	10°	3,50	0,20	0,08	0,8	0,15	0,08	0,30

Stock items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

CPGW Z1



	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				D6	I3							ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403	D	S	R	d1	W	SL						
	1124398	CPGW 060202 Z1	CPGW 21.50.5 Z1	○	○	6,35	2,38	0,20	2,80	-	3,50	0,08	0,05	0,20	0,08	0,05	0,13
	1124399	CPGW 060204 Z1	CPGW 21.51 Z1	○	○	6,35	2,38	0,40	2,80	-	3,50	0,10	0,07	0,40	0,11	0,07	0,23
	1124400	CPGW 09T302 Z1	CPGW 32.50.5 Z1	○	○	9,53	3,97	0,20	4,40	-	3,50	0,08	0,05	0,20	0,08	0,05	0,15
	1124401	CPGW 09T304 Z1	CPGW 32.51 Z1	○	○	9,53	3,97	0,40	4,40	-	3,50	0,10	0,07	0,40	0,12	0,06	0,25
	1124402	CPGW 09T308 Z1	CPGW 32.52 Z1	○	○	9,53	3,97	0,80	4,40	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124403	CPGW 120404 Z1	CPGW 431 Z1	○	○	12,70	4,76	0,40	5,50	-	3,50	0,10	0,07	0,40	0,12	0,06	0,25
	1124404	CPGW 120408 Z1	CPGW 432 Z1	○	○	12,70	4,76	0,80	5,50	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30

Stock items | Itens de stock

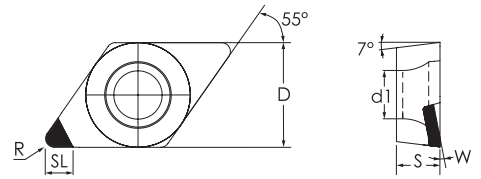
Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

# POSITIVE INSERTS

## DC - RHOMBIC 55° POSITIVE

RÔMBICA 55° POSITIVA | RÓMBICA 55° POSITIVA



### DCGT Z1

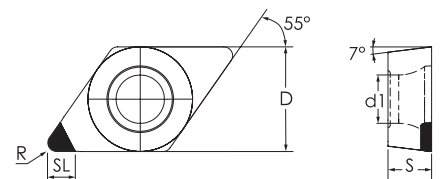
	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124116	DCGT 070202 Z1	DCGT 21.50.5 Z1	⊗	○	6,35	2,38	0,20	2,80	7°	3,50	0,08	0,05	0,20	0,08	0,05	0,15
	1124231	DCGT 070204 Z1	DCGT 21.51 Z1	⊗	○	6,35	2,38	0,40	2,80	7°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1112634	DCGT 11T304 Z1	DCGT 32.501 Z1	⊗	○	9,53	3,97	0,40	4,40	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124380	DCGT 11T308 Z1	DCGT 32.52 Z1	⊗	⊗	9,53	3,97	0,80	4,40	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124529	DCGT 150408 Z1	DCGT 432 Z1	⊗	○	12,70	4,76	0,80	5,50	10°	3,50	0,60	0,10	1,20	0,25	0,10	0,40

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

### DCGW Z1



	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124232	DCGW 070202 Z1	DCGW 21.50.5 Z1	⊗	○	6,35	2,38	0,20	2,80	-	3,50	0,08	0,05	0,20	0,08	0,05	0,15
	1124233	DCGW 070204 Z1	DCGW 21.51 Z1	⊗	○	6,35	2,38	0,40	2,80	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124458	DCGW 11T302 Z1	DCGW 32.50.5 Z1	⊗	○	9,53	3,97	0,20	4,40	-	3,50	0,10	0,05	0,35	0,10	0,05	0,15
	1112635	DCGW 11T304 Z1	DCGW 32.51 Z1	⊗	○	9,53	3,97	0,40	4,40	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124168	DCGW 11T308 Z1	DCGW 32.52 Z1	⊗	○	9,53	3,97	0,80	4,40	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124234	DCGW 150404 Z1	DCGW 431 Z1	○	○	12,70	4,76	0,40	5,50	-	3,50	0,10	0,08	0,40	0,10	0,05	0,20
	1124117	DCGW 150408 Z1	DCGW 432 Z1	⊗	○	12,70	4,76	0,80	5,50	-	3,50	0,20	0,10	0,80	0,15	0,08	0,30

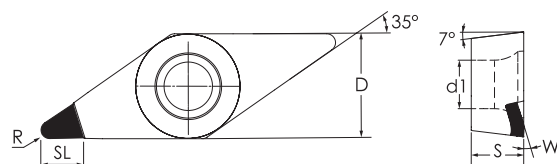
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

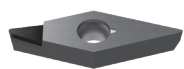
Insert Order Code: (1) Geometry code + (2) Grade code

VC = RHOMBIC 35° POSITIVE  
RÔMBICA 35° POSITIVA | RÓMBICA 35° POSITIVA

VCGT Z1



	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124275	VCGT 070202 Z1	VCGT 1.31.50.5 Z1	○	○	3,97	2,38	0,20	2,20	7°	3,00	0,08	0,05	0,20	0,08	0,03	0,10
	1124276	VCGT 070204 Z1	VCGT 1.31.51 Z1	○	○	3,97	2,38	0,40	2,20	7°	3,00	0,10	0,07	0,40	0,10	0,05	0,20
	1124277	VCGT 110302 Z1	VCGT 220.5 Z1	⊗	○	6,35	3,18	0,20	2,80	10°	3,50	0,08	0,05	0,20	0,08	0,03	0,10
	1124071	VCGT 110304 Z1	VCGT 221 Z1	⊗	○	6,35	3,18	0,40	2,80	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124278	VCGT 160404 Z1	VCGT 331 Z1	⊗	○	9,53	4,76	0,40	4,40	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1112640	VCGT 160408 Z1	VCGT 332 Z1	⊗	○	9,53	4,76	0,80	4,40	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124279	VCGT 160412 Z1	VCGT 333 Z1	○	○	9,53	4,76	1,20	4,40	10°	3,50	0,30	0,10	1,20	0,17	0,08	0,35

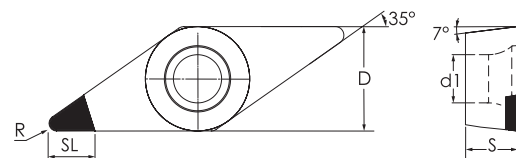


⊗ Stock Items | Itens de stock

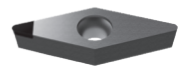
○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

VCGW Z1



	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124280	VCGW 070202 Z1	VCGW 1.31.50.5 Z1	○	○	3,97	2,38	0,20	2,20	-	3,00	0,08	0,05	0,20	0,08	0,03	0,10
	1124281	VCGW 070204 Z1	VCGW 1.31.51 Z1	⊗	○	3,97	2,38	0,40	2,20	-	3,00	0,10	0,07	0,40	0,10	0,05	0,20
	1124796	VCGW 110302 Z1	VCGW 220.5 Z1	⊗	○	6,35	3,18	0,20	2,80	-	3,50	0,13	0,05	0,20	0,10	0,05	0,15
	1124378	VCGW 110304 Z1	VCGW 221 Z1	⊗	○	6,35	3,18	0,40	2,80	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124282	VCGW 110308 Z1	VCGW 222 Z1	⊗	○	6,35	3,18	0,80	2,80	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124795	VCGW 160402 Z1	VCGW 330.5 Z1	⊗	○	9,53	4,76	0,20	4,40	-	3,50	0,18	0,05	0,30	0,10	0,05	0,15
	1124283	VCGW 160404 Z1	VCGW 331 Z1	⊗	○	9,53	4,76	0,40	4,40	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1112641	VCGW 160408 Z1	VCGW 332 Z1	⊗	○	9,53	4,76	0,80	4,40	-	4,00	0,20	0,08	0,80	0,15	0,08	0,30
	1124284	VCGW 160412 Z1	VCGW 333 Z1	⊗	○	9,53	4,76	1,20	4,40	-	3,50	0,30	0,10	1,20	0,17	0,08	0,35



⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

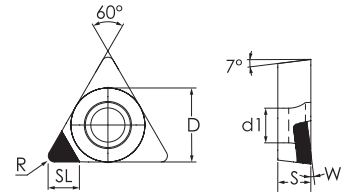
Insert Order Code: (1) Geometry code + (2) Grade code



# POSITIVE INSERTS

## TC - TRIANGULAR 60° POSITIVE

TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA



### TCGT Z1

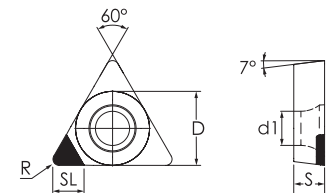
	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124186	TCGT 090202 Z1	TCGT 1.81.50.5 Z1	⊗	○	5,56	2,38	0,20	2,50	7°	3,00	0,07	0,04	0,20	0,07	0,03	0,10
	1124188	TCGT 090204 Z1	TCGT 1.81.51 Z1	⊗	○	5,56	2,38	0,40	2,50	7°	3,00	0,10	0,07	0,40	0,10	0,05	0,20
	1124501	TCGT 090208 Z1	TCGT 1.81.52 Z1	⊗	○	7,54	2,38	0,80	2,50	7°	3,00	0,45	0,10	0,80	0,18	0,08	0,30
	1124119	TCGT 110204 Z1	TCGT 21.51 Z1	⊗	○	6,35	2,38	0,40	2,80	7°	3,00	0,10	0,07	0,40	0,10	0,05	0,20
	1124190	TCGT 110208 Z1	TCGT 21.52 Z1	⊗	○	6,35	2,38	0,80	2,80	7°	3,00	0,20	0,08	0,80	0,15	0,08	0,30
	1124247	TCGT 16T304 Z1	TCGT 32.51 Z1	⊗	○	9,53	3,97	0,40	4,40	10°	3,00	0,10	0,07	0,40	0,10	0,05	0,20
	1112637	TCGT 16T308 Z1	TCGT 32.52 Z1	⊗	○	9,53	3,97	0,80	4,40	10°	3,00	0,20	0,08	0,80	0,15	0,08	0,30

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

### TCGW Z1



	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124185	TCGW 090202 Z1	TCGW 1.81.50.5 Z1	⊗	○	5,56	2,38	0,20	2,50	-	3,00	0,07	0,04	0,20	0,07	0,03	0,10
	1124187	TCGW 090204 Z1	TCGW 1.81.51 Z1	⊗	○	5,56	2,38	0,40	2,50	-	3,00	0,10	0,07	0,40	0,10	0,05	0,20
	1124507	TCGW 110202 Z1	TCGW 21.50.5 Z1	⊗	○	6,35	2,38	0,20	2,80	-	3,00	0,07	0,04	0,20	0,07	0,03	0,10
	1124192	TCGW 110204 Z1	TCGW 21.51 Z1	⊗	○	6,35	2,38	0,40	2,80	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124189	TCGW 110208 Z1	TCGW 21.52 Z1	⊗	○	6,35	2,38	0,80	2,80	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124251	TCGW 16T304 Z1	TCGW 32.51 Z1	⊗	○	9,53	3,97	0,40	4,40	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1112638	TCGW 16T308 Z1	TCGW 32.52 Z1	⊗	○	9,53	3,97	0,80	4,40	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30

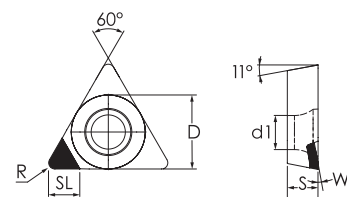
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

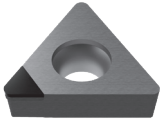
Insert Order Code: (1) Geometry code + (2) Grade code

TP - TRIANGULAR 60° POSITIVE

TRIANGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA



TPGT Z1

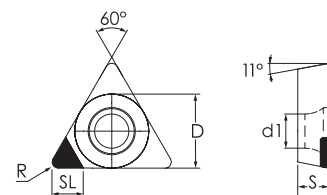
	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124260	TPGT 110302 Z1	TPGT 220.5 Z1	○	○	6,35	3,18	0,20	3,40	10°	3,50	0,07	0,04	0,20	0,07	0,05	0,10
	1124261	TPGT 110304 Z1	TPGT 221 Z1	○	○	6,35	3,18	0,40	3,40	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124262	TPGT 110308 Z1	TPGT 222 Z1	○	○	6,35	3,18	0,80	3,40	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124263	TPGT 16T304 Z1	TPGT 32.51 Z1	○	○	9,53	3,97	0,40	4,30	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124174	TPGT 16T308 Z1	TPGT 32.52 Z1	○	○	9,53	3,97	0,80	4,30	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124264	TPGT 160404 Z1	TPGT 331 Z1	○	○	9,53	4,76	0,40	4,30	10°	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124265	TPGT 160408 Z1	TPGT 332 Z1	○	○	9,53	4,76	0,80	4,30	10°	3,50	0,20	0,08	0,80	0,15	0,08	0,30

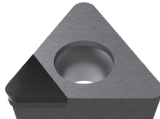
Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

TPGW Z1



	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124266	TPGW 110202 Z1	TPGW 21.50.5 Z1	○	○	6,35	2,38	0,20	2,80	-	3,50	0,07	0,04	0,20	0,07	0,05	0,10
	1124267	TPGW 110204 Z1	TPGW 21.51 Z1	○	○	6,35	2,38	0,40	2,80	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124268	TPGW 110208 Z1	TPGW 21.52 Z1	○	○	6,35	2,38	0,80	2,80	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124269	TPGW 110302 Z1	TPGW 220.5 Z1	○	○	6,35	3,18	0,20	2,80	-	3,50	0,07	0,04	0,20	0,07	0,05	0,10
	1124270	TPGW 110304 Z1	TPGW 221 Z1	⊗	○	6,35	3,18	0,40	2,80	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124379	TPGW 110308 Z1	TPGW 222 Z1	⊗	○	6,35	3,18	0,80	2,80	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124271	TPGW 16T304 Z1	TPGW 32.51 Z1	○	○	9,53	3,97	0,40	4,30	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124272	TPGW 16T308 Z1	TPGW 32.52 Z1	○	○	9,53	3,97	0,80	4,30	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30
	1124273	TPGW 160404 Z1	TPGW 331 Z1	○	○	9,53	4,76	0,40	4,30	-	3,50	0,10	0,07	0,40	0,10	0,05	0,20
	1124274	TPGW 160408 Z1	TPGW 332 Z1	○	○	9,53	4,76	0,80	4,30	-	3,50	0,20	0,08	0,80	0,15	0,08	0,30

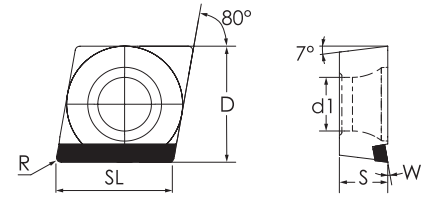
Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

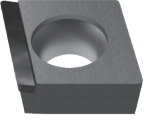
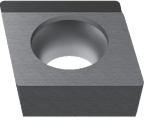
Insert Order Code: (1) Geometry code + (2) Grade code

# POSITIVE INSERTS

CC = RHOMBIC 80° POSITIVE  
RÔMBICA 80° POSITIVA | RÓMBICA 80° POSITIVA



## CCGT FR/FL

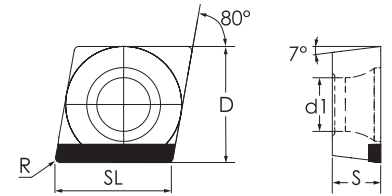
	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte				
		ISO Reference	ANSI Reference	D6	I3	L	S	R	D	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
 CCGT FR	1124212	CCGT 09T302 FR	CCGT 32.50.5 FR	○	○	9,53	3,97	0,20	4,40	10°	9,70	4,85	0,2	6,40	0,08	0,05	0,15
	1124165	CCGT 09T304 FR	CCGT 32.51 FR	⊗	○	9,53	3,97	0,40	4,40	10°	9,70	4,85	0,40	6,40	0,12	0,07	0,25
	1124213	CCGT 120404 FR	CCGT 431 FR	○	○	12,70	4,76	0,40	5,50	10°	12,90	6,45	0,40	8,50	0,15	0,08	0,30
	1124214	CCGT 120408 FR	CCGT 432 FR	○	○	12,70	4,76	0,80	5,50	10°	12,90	6,45	0,80	8,50	0,3	0,10	0,40
 CCGT FL	1124215	CCGT 09T302 FL	CCGT 32.50.5 FL	○	○	9,53	3,97	0,20	4,40	10°	9,70	4,85	0,20	6,40	0,08	0,05	0,15
	1124166	CCGT 09T304 FL	CCGT 32.51 FL	⊗	○	9,53	3,97	0,40	4,40	10°	9,70	4,85	0,40	6,40	0,12	0,07	0,25
	1124216	CCGT 120404 FL	CCGT 431 FL	⊗	○	12,70	4,76	0,40	5,50	10°	12,90	6,45	0,40	8,50	0,15	0,08	0,30
	1124217	CCGT 120408 FL	CCGT 432 FL	⊗	○	12,70	4,76	0,80	5,50	10°	12,90	6,45	0,80	8,50	0,30	0,10	0,40

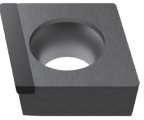
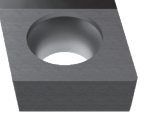
⊗ Stock Itens | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

## CCGW FR/FL



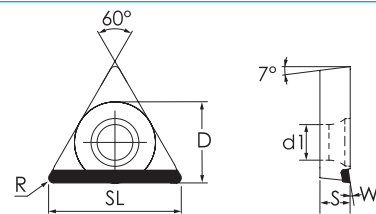
	(1) Geometry code	(2) Grade code		N		Dimensions Dimensões Dimensiones (mm)							Cutting conditions Condições de corte Condiciones de corte				
		ISO Reference	ANSI Reference	D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
 CCGW FR	1124547	CCGW 060204 FR	CCGW 21.51 FR	⊗	○	9,53	3,97	0,40	4,40	-	9,70	4,85	0,40	6,40	0,12	0,07	0,25
	1124170	CCGW 09T304 FR	CCGW 32.51 FR	○	○	9,53	3,97	0,40	4,40	-	9,70	4,85	0,40	6,40	0,12	0,07	0,25
	1124222	CCGW 09T308 FR	CCGW 32.52 FR	○	○	9,53	3,97	0,80	4,40	-	9,70	4,85	0,80	6,40	0,16	0,10	0,35
	1124223	CCGW 120404 FR	CCGW 431 FR	○	○	12,70	4,76	0,40	5,50	-	12,90	6,45	0,40	8,50	0,15	0,08	0,30
	1124224	CCGW 120408 FR	CCGW 432 FR	○	○	12,70	4,76	0,80	5,50	-	12,90	6,45	0,80	8,50	0,3	0,10	0,40
 CCGW FL	1124548	CCGW 060204 FL	CCGW 21.51 FL	⊗	○	6,35	2,38	0,40	2,80	-	6,50	3,25	0,40	4,20	0,08	0,07	0,25
	1124171	CCGW 09T304 FL	CCGW 32.51 FL	○	○	9,53	3,97	0,40	4,40	-	9,70	4,85	0,40	6,40	0,12	0,07	0,25
	1124225	CCGW 09T308 FL	CCGW 32.52 FL	○	○	9,53	3,97	0,80	4,40	-	9,70	4,85	0,80	6,40	0,16	0,10	0,35
	1124226	CCGW 120404 FL	CCGW 431 FL	○	○	12,70	4,76	0,40	5,50	-	12,90	6,45	0,40	8,50	0,15	0,08	0,30
	1124227	CCGW 120408 FL	CCGW 432 FL	⊗	○	12,70	4,76	0,80	5,50	-	12,90	6,45	0,80	8,50	0,30	0,10	0,40

⊗ Stock Itens | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

TC - TRIANGULAR 60° POSITIVE  
 TRIÂNGULAR 60° POSITIVA | TRIANGULAR 60° POSITIVA



TCGT FL

	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124173	TCGT 110204 FL	TCGT 21.51 FL	⊗	○	6,35	2,38	0,40	2,80	7°	10,41	5,20	0,40	6,90	0,10	0,05	0,20
	1124248	TCGT 110208 FL	TCGT 21.52 FL	○	○	6,35	2,38	0,80	2,80	7°	9,83	4,92	0,80	6,50	0,15	0,08	0,30
	1124249	TCGT 16T304 FL	TCGT 32.51 FL	⊗	○	9,53	3,97	0,40	4,40	10°	15,91	7,96	0,40	10,50	0,10	0,05	0,20
	1124250	TCGT 16T308 FL	TCGT 32.52 FL	⊗	○	9,53	3,97	0,80	4,40	10°	15,33	7,67	0,80	10,15	0,15	0,08	0,30

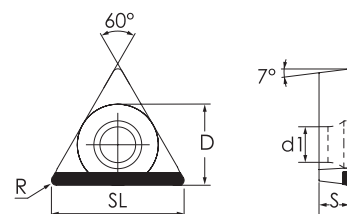
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

Note: Can be used as FR geometry.

TCGW FL



	<sup>(1)</sup> Geometry code	<sup>(2)</sup> Grade code		N		Dimensions Dimensões Dimensiones (mm)						Cutting conditions Condições de corte Condiciones de corte					
				D6	I3	D	S	R	d1	W	SL	ap (mm)	Min	Max	fn (mm/r)	Min	Max
				PDP410	PDP403												
	1124252	TCGW 110202 FL	TCGW 21.50.5 FL	○	○	6,35	2,38	0,20	2,80	-	10,71	5,20	0,40	6,90	0,10	0,05	0,20
	1112777	TCGW 110204 FL	TCGW 21.51 FL	⊗	○	6,35	2,38	0,40	2,80	-	10,41	5,21	0,80	6,50	0,15	0,08	0,30
	1124253	TCGW 16T304 FL	TCGW 32.51 FL	⊗	○	9,53	3,97	0,40	4,40	-	15,91	7,96	0,40	10,50	0,10	0,05	0,20
	1124254	TCGW 16T308 FL	TCGW 32.52 FL	⊗	○	9,53	3,97	0,80	4,40	-	15,33	7,67	0,80	10,15	0,15	0,08	0,30
	1124255	TCGW 220404 FL	TCGW 431 FL	○	○	12,70	4,76	0,40	5,50	-	21,40	8,00	0,40	10,70	0,10	0,08	0,20
	1124382	TCGW 220408 FL	TCGW 432 FL	⊗	○	12,70	4,76	0,80	5,50	-	20,83	7,84	0,80	10,45	0,15	0,10	0,30

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

Note: Can be used as FR geometry.

# PCD RECOMMENDED CUTTING DATA

Condições de corte recomendadas para PCD | Datos de corte recomendadas para PCD

Workpiece material	VC (m/min)		Recommend grade for PCD	
			PDP 410	PDP 403
<b>Aluminium alloys:</b> Aluminium, Si<14%	Roughing	800-3000	⊗	
	Finishing	800-3000	⊗	
<b>Aluminium:</b> Aluminium, Si≥14%	Roughing	300-700	○	⊗
	Finishing	250-700	○	⊗
<b>Copper alloys:</b> Copper, Zinc, Brass	Roughing	600-1200	⊗	
	Finishing	700-1500	⊗	
<b>Metal matrix composites:</b> Al (10-20%) SiC	Roughing	300-1150		⊗
	Finishing	400-1260		⊗
<b>Tungsten carbide 10-16% Co:</b> Unsintered	Roughing	50-200		⊗
	Finishing	60-220		⊗
<b>Tungsten carbide 10-16% Co:</b> Sintered	Roughing	20-40		⊗
	Finishing	25-45		⊗
Ebonite, Fiberglass, Plastic materials, Graphite, Glass.	Roughing	200-1500	⊗	⊗
	Finishing	300-2000	⊗	⊗
<b>Ceramic:</b> Unsintered	Roughing	50-150		⊗
	Finishing	50-200		⊗
<b>Ceramic:</b> Sintered	Roughing	20-35		⊗
	Finishing	20-40		⊗
<b>Wood</b>	Finishing	1000-4000	⊗	

⊗ Recommended ○ Second choice





# BAR PEELING

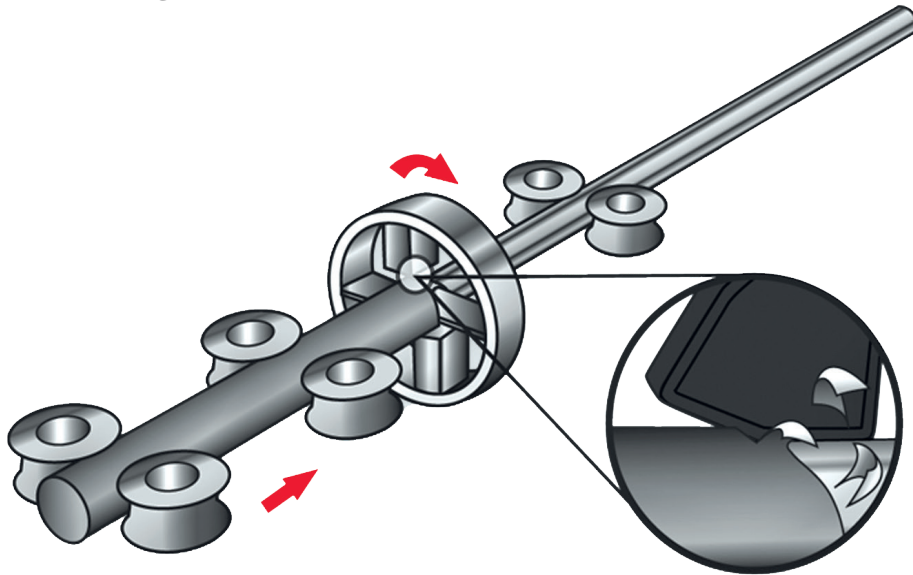


BAR PEELING

Bar Peeling is the machining process by which a raw forged blank is converted into a polished bar.

During this peeling process, surface cracks and oxide layers are removed giving a perfect roundness with good surface and dimensional accuracy to the bar.

The range of materials that can be machined with these tools is vast and goes from all kind of Steels to Cast Iron parts.

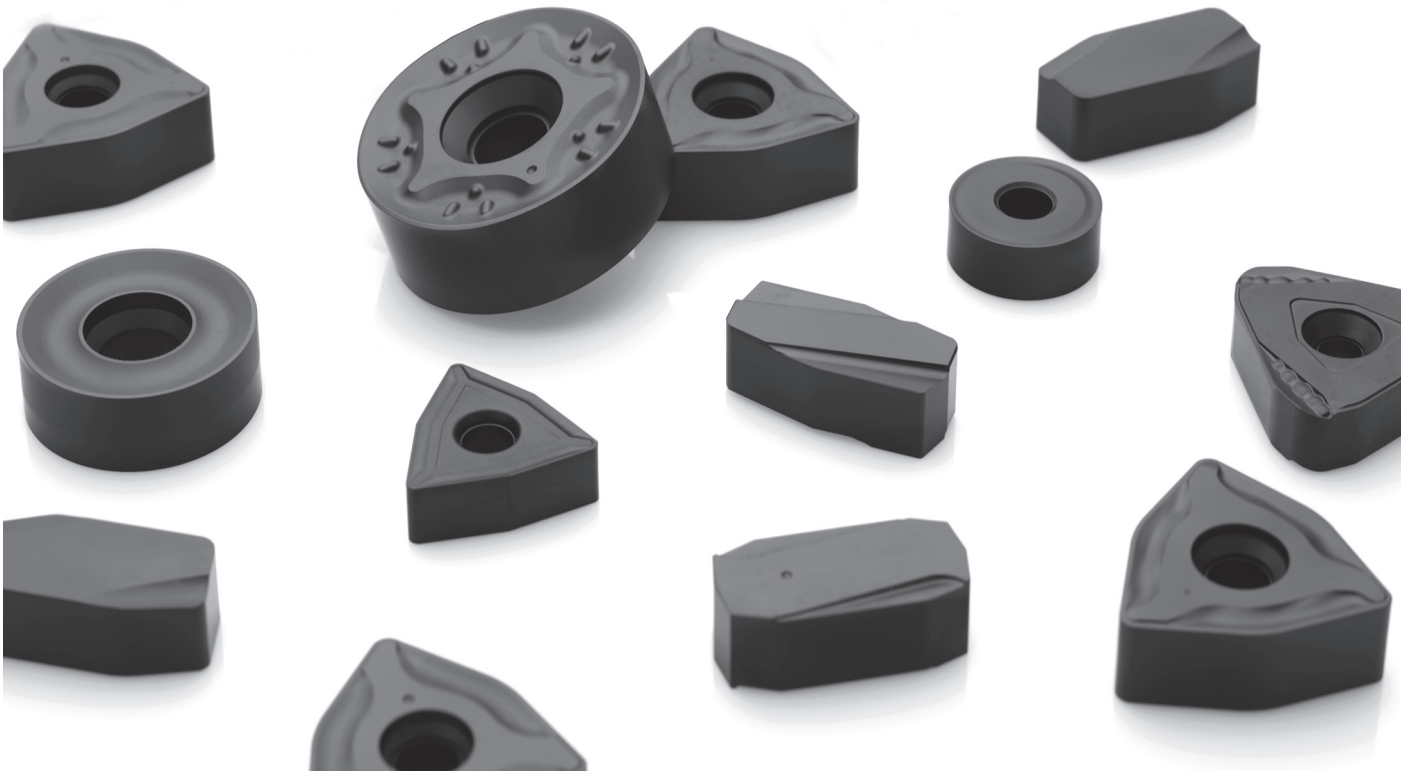


The size of blank bar can go from 4 mm (157 inch) to over 400 mm (15.75 inch) in diameter.

The surface quality and dimensional tolerances are also high, which leads to less machining at later stages.

Our aim is at the same time improving your productivity (by removing maximal chips volume) and, at the same time, matching or surpassing your surface quality requirements. This is why our Bar Peeling program is vast, comprising both standard tools and also special custom-made solutions to every customer needs.

This flyer has only a small portion of our possible range of production. Please don't hesitate to contact us regarding other possible geometries that we may have although not presented in this brochure.



<b>L</b>	<b>N</b>	<b>G</b>	<b>F</b>	<b>20</b>	<b>10</b>	<b>35</b>	-	<b>MP</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>		<b>8</b>

### 1 - Insert Shape

<b>I</b>	<b>J</b>	<b>L</b>	<b>R</b>	<b>S</b>
<b>T</b>	<b>U</b>	<b>W</b>	<b>X</b>	

### 2 - Clearance Angle

### 5 - Length of Cutting Edge (In)

The length of the secondary cutting edge is indicated in mm

13 mm	25 mm
14 mm	27 mm
15 mm	28 mm
17 mm	38 mm
20 mm	44 mm
22 mm	50 mm

### 3 - Tolerances

symbol	m (mm)	d (mm)	s (mm)
<b>A</b>	±0.005	±0.025	±0.025
<b>F</b>	±0.005	±0.013	±0.025
<b>C</b>	±0.013	±0.025	±0.025
<b>H</b>	±0.013	±0.013	±0.025
<b>E</b>	±0.025	±0.025	±0.025
<b>G</b>	±0.025	±0.025	±0.13
<b>J</b>	±0.005	±0.05-±0.13	±0.025
<b>K*</b>	±0.013	±0.05-±0.13	±0.025
<b>L*</b>	±0.025	±0.05-±0.13	±0.025
<b>M*</b>	±0.08-±0.20	±0.05-±0.13	±0.13
<b>N*</b>	±0.08-±0.20	±0.05-±0.13	±0.025
<b>U*</b>	±0.13-±0.38	±0.08-0.25	±0.13

### 4 - Insert type

symbol	Type	Type of hole	Chipbreaker	Shape
<b>W</b>	with hole	Round hole / one countersink (40°-60°)	Without chipbreaker	
<b>T</b>	with hole		Chipbreaker on one side	
<b>Q</b>	with hole	Round hole / one countersink (40°-60°)	Without chipbreaker	
<b>U</b>	with hole		Chipbreaker on both sides	
<b>B</b>	with hole	Round hole / one countersink (70°-90°)	Without chipbreaker	
<b>H</b>	with hole		Chipbreaker on one side	
<b>C</b>	with hole	Round hole / double countersink (70°-90°)	Without chipbreaker	
<b>J</b>	with hole		Chipbreaker on both sides	
<b>A</b>	with hole	Round hole	Without chipbreaker	
<b>M</b>	with hole		Chipbreaker on one side	
<b>G</b>	with hole		Chipbreaker on both sides	
<b>N</b>	without hole	--	Without chipbreaker	
<b>R</b>	without hole	--	Chipbreaker on one side	
<b>F</b>	without hole	--	Chipbreaker on both sides	
<b>X</b>	-	-	--	On request

### 6 - Thickness (S)

The length of the secondary cutting edge is indicated in mm

08 = 8,00 mm
09 = 9,52 mm
10 = 10,00 mm
12 = 12,00 mm
12 = 12,70 mm
13 = 13,00 mm
14 = 14,00 mm
18 = 18,00 mm

\* As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size, for the accuracy of Class M, refer to the table on the right.

### 8 - Chip Breaker

Chip breaker according to Palbit geometries

FP	MH
ST	RP
MP	LH

### 7 - Depth of Cut (ap)









Maximum depth of cut

20 = 2,00 mm
25 = 2,50 mm
35 = 3,50 mm
40 = 4,00 mm
80 = 8,00 mm



# BAR PEELING INSERTS RANGE

NEGATIVE INSERTS | PASTILHAS NEGATIVAS | PLAQUITAS NEGATIVAS

	(1) Geometry code	(2) Grade code ANSI   ISO Reference	P									M						K		Cutting conditions Condições de corte Condiciones de Corte								
			L7	R2	L8	R3	U5	P1	V8	N2	S9	L9	U4	L8	U5	N2	P1	V8	V6	L5	L6	L9	ap (mm)	Min	Max	fn (mm/r)	Min	Max
			PH5115	PHG115	PH5125	PHG125	PHS225	PHS228	PHS228	PH5135	PHG135	PH5740	PHS215	PH5125	PHS225	PH5135	PHS228	PHS228	PHS240	PH5705	PH5320	PH5740						
 INGR-MP Rectangular 90°	1123828	INGR 221240-MP	⊗	○	○								○									2,00	0,40	4,00	3,50	1,00	8,00	
	1123830	JNGF 201220-MP	○	⊗	○					○		⊗										1,50	1,00	2,00	3,50	1,50	6,00	
 JNGF-MP Rectangular 90°	1123996	JNGF 201220-MP SP1		○								○									1,50	1,00	2,00	3,50	1,50	6,00		
	1123997	JNGF 201220-MP SP2	⊗	⊗								⊗							○		1,50	1,00	2,00	3,50	1,50	6,00		
	1124043	JNGF 271220-MP		⊗						○		⊗								○	1,50	1,00	2,00	3,50	1,50	6,00		
 JNGF-PM Rectangular 90°	1124452	JNGF 201220-PM		○								⊗									1,50	1,00	2,00	4,00	2,00	6,00		
	1124567	JNGF 201220-PM SP		○																		1,50	1,00	2,00	4,00	2,00	6,00	
 LNGF-MP Rectangular 90°	1123826	LNGF 201035-MP	○	⊗	○		○					○		○					⊗	2,00	0,80	3,50	2,50	1,00	6,50			
	1123827	LNGF 201235-MP	○	○	○								○								2,00	0,80	3,50	2,50	1,00	6,50		
 UNGF-MP Rectangular 90°	1123829	UNGF 171240-MP	○	○	⊗							○									1,50	0,35	4,00	2,00	1,00	5,00		
 TNMJ-MP Triangular 60°	1123838	TNMJ 201025-MP	⊗	⊗	⊗	⊗	⊗						⊗	⊗							1,00	0,70	2,50	3,00	1,00	5,50		
	1123843	TNMJ 201425-MP		⊗	○								⊗									1,00	0,70	2,50	3,00	1,00	5,50	
 TNGM-MP Triangular 60°	1124104	TNGM 220812-MP		⊗					⊗	⊗			⊗	⊗							0,70	0,20	1,30	14,00	5,00	18,00		
 TNMM-LH Triangular 60°	1124102	TNMM 441116-LH							○	⊗			○								12,00	2,00	25,00	0,80	0,50	1,60		

⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code








⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Dimensions Dimensões Dimensiones (mm)									Technical Drawing Desenho Técnico Diseño Técnico
L	D	ln	B	S	d1	r	ap	K°	
38,25	-	22,00	17,50	12,00	-	-	4,00	20	
36,90	-	20,00	18,00	12,35	-	-	2,00	20	
36,30	-	20,00	18,00	12,45	-	-	2,00	20	
36,50	-	20,00	18,00	12,45	-	-	2,00	20	
36,90	-	27,00	18,00	12,45	-	-	2,00	20	
37,52	-	21,00	18,00	12,45	-	-	3,00	20	
37,52	-	21,00	18,00	12,45	-	-	3,00	20	
40,00	-	20,00	20,00	10,00	-	-	3,50	25	
40,00	-	20,00	20,00	12,00	-	-	3,50	25	
36,50	-	17,00	18,00	12,00	-	-	4,00	15	
-	28,60	20,00	-	10,00	7,00	-	2,50	20	
-	28,60	20,00	-	14,00	7,00	-	2,50	20	
-	19,05	22,00	-	8,00	7,96	-	1,20	15	
-	25,40	11,50	-	25,40	44,00	1,60	-	-	

# BAR PEELING INSERTS RANGE

NEGATIVE INSERTS | PASTILHAS NEGATIVAS | PLAQUITAS NEGATIVAS

	(1) Geometry code	(2) Grade code ANSI   ISO Reference	P									M						K	Cutting conditions Condições de corte Condiciones de Corte									
			L7	R2	L8	R3	U5	P1	V8	N2	S9	L9	U4	L8	U5	N2	P1	V8	V6	L5	L6	L9	ap (mm)	Min	Max	fn (mm/r)	Min	Max
			PH5115	PHG115	PH5125	PHG125	PHS225	PHS228	PHS228	PH5135	PHG135	PH5740	PHS215	PH5125	PHS225	PH5135	PHS228	PHS228	PHS240	PH5705	PH5320	PH5740						
<b>XNMJ-MP</b>  Special 85°	1123835	XNMJ 151380-MP	○	⊗			⊗	○				⊗	○	⊗								3,00	1,00	6,50	6,00	4,00	12,00	
<b>XNMJ-MH</b>  Special 85°	1123836	XNMJ 151380-MH	○	○	⊗		⊗			○		⊗		⊗						○		3,00	1,00	6,50	6,00	4,00	12,00	
<b>XNGF-FP</b>  Special 85°	1123837	XNGF 150980-FP			○				○			○	○	⊗								3,00	1,00	4,50	6,00	4,00	12,00	
<b>XNGJ-RP</b>  Special 85°	1123834	XNGJ 151380-RP			○							○		⊗								3,00	1,00	6,50	6,00	4,00	12,00	
<b>WNGJ-MP</b>  Special 75°	1124041	WNGJ 130950-MP			⊗	○		⊗					⊗		⊗				○	⊗		3,00	0,50	5,00	6,00	3,00	11,00	
<b>RNMX-MP</b>  Round R°	1123831	RNMX 381200-MP	○	○	⊗		○					○		⊗	○							4,00	2,00	8,00	2,00	1,00	4,00	
	1123832	RNMX 5018M0-MP	○	○			⊗					○		○	⊗								6,00	2,00	12,00	3,50	2,50	6,50
<b>RNMX-RP</b>  Round R°	1123833	RNMX 5018M0-RP	○	○			○					○		⊗	○							6,00	2,00	12,00	6,00	4,00	10,50	

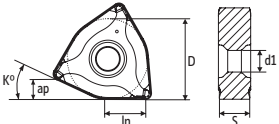
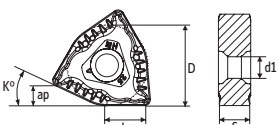
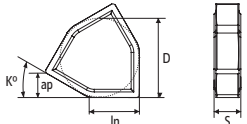
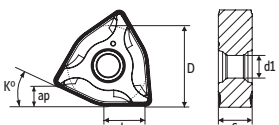
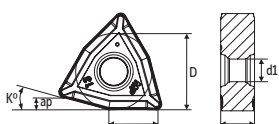
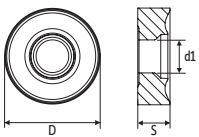
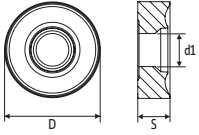
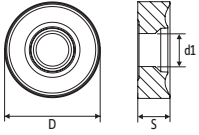
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

Insert Order Code: (1) Geometry code + (2) Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Dimensions Dimensões Dimensiones (mm)									Technical Drawing Desenho Técnico Diseño Técnico
L	D	ln	B	S	d1	r	ap	K°	
-	31,75	15,00	-	13,00	9,00	-	8,00	25	
-	31,75	15,00	-	13,00	9,00	-	8,00	25	
-	28,58	15,00	-	8,88	-	-	8,00	30,00	
-	31,75	15,00	-	13,00	9,00	-	8,00	25	
-	22,23	13,00	-	9,56	7,93	-	5,00	15	
-	38,10	-	-	12,70	13,00	-	-	-	
-	50,00	-	-	18,00	12,70	-	-	-	
-	50,00	-	-	18,00	12,70	-	-	-	



RAILWAY

## RAILWAY

Palbit is constantly investing in new technologies, research and development of cutting tools for the railway industry.

We supply a complete range of tooling solutions based on a wide experience and know-how to achieve high efficiency machining on new rails and weels as well as re-profiling, crossing rails, joints and more.

## FACE TURNING

Inserts with MT-CVD coating grade and high wear resistance for the machining of forged steels providing longer tool file.

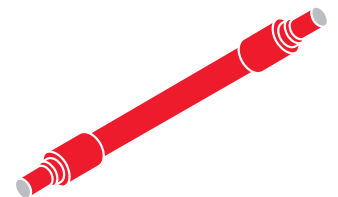


## WHEEL TURNING

Inserts with special design geometry for wheel re-profiling providing productivity through a better chip evacuation. High built-up edge resistance and wear providing efficiency and increasing tool life.

## EXTERNAL TURNING

MT-CVD coating inserts with high wear resistance for turning long axle shafts.





Torneamento para a indústria ferroviária | Torneado para la industria de ferrocarril



# ISO RAILWAY INSERTS CODE KEY

H		M	
O		V	
P		W	
S		L	
T		A	
C		B	
D		K	
E		R	
F		X	Special

1- Insert shape symbol

Symbol	m (mm)	d (mm)	s (mm)
A	±0.005	±0.025	±0.025
F	±0.005	±0.013	±0.025
C	±0.013	±0.025	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J	±0.005	±0.05~±0.13	±0.025
K*	±0.013	±0.05~±0.13	±0.025
L*	±0.025	±0.05~±0.13	±0.025
M*	±0.08~±0.20	±0.05~±0.13	±0.13
N*	±0.08~±0.20	±0.05~±0.13	±0.025
U*	±0.13~±0.38	±0.08~±0.25	±0.13

\*As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size, for the accuracy of class M, refer to the table on the right.

Detailed dimension of M class insert Insert height Tolerances (mm)					
Inscribed circle	T	S	C	D	V
6.35	±0.08	-	-	-	-
9.525	±0.08	±0.08	±0.11	±0.10	±0.13
12.70	±0.13	±0.13	±0.13	±0.15	-
15.875	±0.15	±0.15	±0.15	±0.18	-
19.05	±0.15	±0.15	±0.15	±0.18	-
25.40	-	±0.18	-	-	-
31.75	-	±0.25	-	-	-

Inscribed circle Tolerances (mm)					
Inscribed circle	T	S	C	D	V
6.35	±0.05	-	-	-	-
9.525	±0.05	±0.05	±0.05	±0.05	±0.05
12.70	±0.08	±0.08	±0.08	±0.08	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	±0.10
19.05	-	-	-	-	±0.10
25.40	-	±0.13	-	-	±0.10
31.75	-	±0.20	-	-	±0.12

3 - Tolerances symbol

A	B	C	D	E
				Other clearance angle

2 - Normal clearance symbol

ISO	C	N	M	M
ANSI	C	N	M	M

4 - Insert symbol															
symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape	
W	with hole	Round hole / one countersink (40°-60°)	Without chipbreaker		H	with hole	Round hole / one countersink (70°-90°)	Chipbreaker on one side		G	with hole	Round hole	Chipbreaker on both sides		
T			Chipbreaker on one side		C		Round hole / double countersink (70°-90°)	Without chipbreaker		N		-	Without chipbreaker		
Q		Round hole / double countersink (40°-60°)	Without chipbreaker		J		Round hole	Round hole	Chipbreaker on both sides		R	without hole	-	Chipbreaker on one side	
U			Chipbreaker on both sides		A				Without chipbreaker		F		-	Chipbreaker on both sides	
B		Round hole / one countersink (70°-90°)	Without chipbreaker		M		Chipbreaker on one side		X	-	-	-	-	On request	



R's	35° V's	55° D's	80° C's	90° S's	60° T's	80° W's	Ø CI		ANSI
							mm	inch	Symbol
-	06	04	-	03	06	02	3,97	5/32	1,20
-	08	05	04	04	08	L3	4,76	3/16	1,50
-	09	06	05	05	09	03	5,56	7/32	1,80
06**	-	-	-	-	-	-	6,00	0,236	
06*	11	07	06	06	11	04	6,35	1/4	2,00
07*	13	09	08	07	13	05	7,94	5/16	2,50
08*	-	-	-	-	-	-	8,00	0,315	
09*	16	11	09	09	16	06	9,525	3/8	3,00
10**	-	-	-	-	-	-	10,00	0,394	
12**	-	-	-	-	-	-	12,00	0,472	
12*	22	15	12	12	22	08	12,70	1/2	4,00
15*	27	19	16	15	27	10	15,875	5/8	5,00
16**	-	-	-	-	-	-	16,00	0,63	
19*	33	23	19	19	33	13	19,05	3/4	6,00
20**	-	-	-	-	-	-	20,00	0,787	
25**	-	-	-	-	-	-	25,00	0,984	
25*	44	31	25	25	44	17	25,40	1,00	8,00
31*	54	38	32	31	54	21	31,75	1 1/4	10,00
32**	-	-	-	-	-	-	32,00	1,26	

5 - Insert size symbol

\* ANSI designation only  
(Radius Designation is R0)

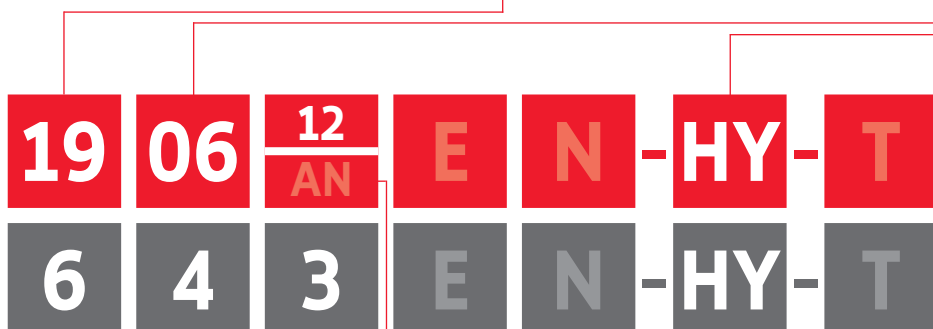
\*\* Metric designation only  
(Radius Designation is M0)

According to International Standard ISO 1832 - 2012(E)

"Indexable inserts for cutting tools - Designation"

ISO	mm	ANSI	inch
01	1.59	1	0.062
T1	1.98	1.2	0.078
02	2.38	1.5	0.094
03	3.18	2	0.125
T3	3.97	2.5	0.156
04	4.76	3	0.188
05	5.56	3.5	0.219
06	6.35	4	0.250
07	7.94	5	0.312
09	9.52	6	0.375
12	12.70	8	0.500

6 - Insert thickness symbol



10 - Chipbreaker geometries					
	HY	HZ	RMM	RRM	RHR
NEGATIVE Chipbreakers					
POSITIVE Chipbreakers	RM	RR	ST		

T	Tangential
*only when required.	

7 - Insert corner symbol			
ISO	mm	inch	ANSI
00	Sharp nose		0
01	0.10	.004	0.2
02	0.20	.008	0.5
04	0.40	.015	1
08	0.80	.032	2
12	1.2	.047	3
16	1.6	.062	4
20	2.0	.078	5
24	2.4	.094	6
28	2.8	.109	7
32	3.2	.125	8
00 (inch or M0/metric)	Round insert		0

7.1* - Insert edges symbol			
For inserts having secondary edges two digits are used:			
1 <sup>st</sup> digit is secondary edge		2 <sup>nd</sup> digit is secondary edges relief angle	
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	special	F	25°
		G	30°
		N	0°
		P	11°
		Z	special
*only when required.			



8* - Cutting edge information		
Shape	Honing	Symbol
	No honing	F
	With honing	E
	Chamfered No honing	T
	Chamfered with honing	S
*only when required.		

9* - Cutting direction		
Shape	Hand	Symbol
	Right	R
	Left	L
	None	N
*only when required.		



# CN = RHOMBIC 80° NEGATIVE



RÔMBICA 80° NEGATIVA | RÓMBICA 80° NEGATIVA

			P					M					K			N	S								
			CVD					PVD	CVD					PVD	UNC	CVD			UNC	PVD					
			(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 CNMM-HY Heavy to Roughing	1121608	CNMM 190612-HY		○	⊗						⊗														
	1121252	CNMM 190616-HY		⊗	⊗						⊗														
	1121434	CNMM 190624-HY		○	⊗	⊗																			
	1121248	CNMM 250924-HY		○	⊗	⊗																			
 CNMM-HZ Heavy to Roughing	1121607	CNMM 190612-HZ		○	⊗	⊗												⊗	⊗						
	1121251	CNMM 190616-HZ		⊗	⊗	⊗												⊗	⊗						
	1121435	CNMM 190624-HZ		⊗	⊗	⊗												⊗	⊗						
	1121247	CNMM 250924-HZ		○	⊗		⊗											⊗							

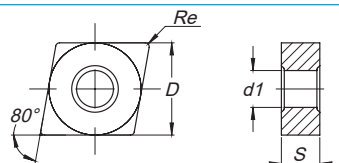
⊗ First choice | 1ª Escolha | 1ª Opción     
 ⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock     
 Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code  
⊗ Stock Items | Itens de stock     
 ○ Available under request | Disponível sob consulta | Disponible bajo consulta

# SN = SQUARE 90° NEGATIVE

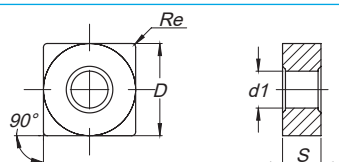
QUADRADA 90° NEGATIVA | ESQUADRA 90° NEGATIVA

			P					M					K			N	S								
			CVD					PVD	CVD					PVD	UNC	CVD			UNC	PVD					
			(2) Grade code	T6	R2	R3	S9	V5	G1	U4	U5	V6	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquitas	(1) Geometry code	ISO Reference	PHG105	PHG115	PHG125	PHG135	PHG140	PH7910	PHS215	PHS225	PHS240	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920	
 SNMM-HY Heavy to Roughing	1121606	SNMM 190612-HY		⊗	⊗		⊗				⊗														
	1121250	SNMM 190616-HY		⊗	⊗						○														
	1121452	SNMM 190624-HY		○	○						○														
	1121160	SNMM 250724-HY		○	⊗		⊗				⊗														
1121161	SNMM 250924-HY		○	○		⊗				⊗															
 SNMM-HZ Heavy to Roughing	1121605	SNMM 190612-HZ		⊗	○		⊗											⊗	⊗						
	1121249	SNMM 190616-HZ		○	⊗		⊗											⊗	○						
	1121440	SNMM 190624-HZ		○	⊗	○												⊗	⊗						
	1121158	SNMM 250724-HZ		⊗	⊗		⊗											⊗	○						
	11213786	SNMM 250732-HZ		○	⊗													⊗							
1121159	SNMM 250924-HZ		○	⊗		⊗											⊗	○							

⊗ First choice | 1ª Escolha | 1ª Opción     
 ⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock     
 Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code  
⊗ Stock Items | Itens de stock     
 ○ Available under request | Disponível sob consulta | Disponible bajo consulta






ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
CNMM 190612-HY	CNMM 643-HY	19,050	6,35	1,20	7,94	6,00	2,00	12,00	0,50	0,35	0,80
CNMM 190616-HY	CNMM 644-HY	19,050	6,35	1,60	7,94	6,00	2,00	12,00	0,60	0,35	1,00
CNMM 190624-HY	CNMM 646-HY	19,050	6,35	2,40	7,94	6,00	2,00	12,00	0,60	0,35	1,20
CNMM 250924-HY	CNMM 866-HY	25,400	9,52	2,40	9,12	8,00	2,50	15,00	0,70	0,40	1,40
CNMM 190612-HZ	CNMM 643-HZ	19,050	6,35	1,20	7,94	10,00	2,40	12,00	0,65	0,50	0,80
CNMM 190616-HZ	CNMM 644-HZ	19,050	6,35	1,60	7,94	10,00	2,40	12,00	0,80	0,50	1,10
CNMM 190624-HZ	CNMM 646-HZ	19,050	6,35	2,40	7,94	10,00	3,20	12,00	1,00	0,60	1,60
CNMM 250924-HZ	CNMM 866-HZ	25,400	9,52	2,40	9,12	10,00	3,20	17,00	1,00	0,60	1,60



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
SNMM 190612-HY	SNMM 643-HY	19,050	6,35	1,20	7,94	6,00	2,00	12,00	0,60	0,35	0,90
SNMM 190616-HY	SNMM 644-HY	19,050	6,35	1,60	7,94	6,00	2,00	12,00	0,60	0,35	1,20
SNMM 190624-HY	SNMM 646-HY	19,050	6,35	2,40	7,94	6,00	2,00	12,00	1,00	0,60	1,60
SNMM 250724-HY	SNMM 856-HY	25,400	7,94	2,40	9,12	8,50	2,50	15,00	1,00	0,60	1,60
SNMM 250924-HY	SNMM 866-HY	25,400	9,52	2,40	9,12	8,50	3,00	15,00	1,00	0,60	1,60
SNMM 190612-HZ	SNMM 643-HZ	19,050	6,35	1,20	7,94	10,00	2,40	13,00	0,60	0,35	0,90
SNMM 190616-HZ	SNMM 644-HZ	19,050	6,35	1,60	7,94	10,00	2,40	13,00	0,60	0,35	1,20
SNMM 190624-HZ	SNMM 646-HZ	19,050	6,35	2,40	7,94	10,00	3,20	13,00	1,00	0,60	1,60
SNMM 250724-HZ	SNMM 856-HZ	25,400	7,94	2,40	9,12	10,00	3,20	17,00	1,00	0,60	1,60
SNMM 250732-HZ	SNMM 858-HZ	25,400	7,94	3,20	9,12	10,00	3,20	17,00	1,20	0,80	1,80
SNMM 250924-HZ	SNMM 866-HZ	25,400	9,52	2,40	9,12	10,00	3,20	17,00	1,00	0,60	1,60

# LNUX = RECTANGULAR 90° NEGATIVE

RECTANGULAR 90° NEGATIVA | RETANGULAR 90° NEGATIVA

			P									M						K					
			CVD-MT									CVD-MT						CVD-MT					
		(2) Grade code	L7	R2	L8	R3	U5	V8	N2	S9	L9	V5	U4	L8	U5	N2	P1	V8	V6	L5	L6	L9	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PH5115	PHG115	PH5125	PHG125	PHS225	PHS228	PH5135	PHG135	PH5740	PHG140	PHS215	PH5125	PHS225	PH5135	PH5228	PHS228	PHS240	PH5705	PH5320	PH5740	
LNUX-RMM																							
	1123640	LNUX 321248-RMM		⊗		○																	
Medium																							
LNUX-RRM																							
	1123639	LNUX 321248-RRM	⊗	⊗		○																	○
Roughing																							
LNUX-RHR																							
	1123643	LNUX 321248-RHR	⊗	⊗		○																	
Heavy Roughing																							

⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

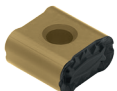
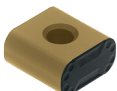
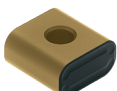
Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

# LNUX-T = TANGENTIAL 90° NEGATIVE

TANGENCIAL 90° NEGATIVA | TANGENCIAL 90° NEGATIVA

			P									M						K					
			CVD-MT									CVD-MT						CVD-MT					
		(2) Grade code	L7	R2	L8	R3	U5	V8	N2	S9	L9	V5	U4	L8	U5	N2	P1	V8	V6	L5	L6	L9	
Inserts Pastilhas Plaquetas	(1) Geometry code	ISO Reference	PH5115	PHG115	PH5125	PHG125	PHS225	PHS228	PH5135	PHG135	PH5740	PHG140	PHS215	PH5125	PHS225	PH5135	PH5228	PHS228	PHS240	PH5705	PH5320	PH5740	
LNUX-RMM-T																							
	1121953	LNUX 191940-RMM-T		⊗		⊗																	
Medium	1122005	LNUX 301940-RMM-T		⊗	⊗	⊗																	
LNUX-RRM-T																							
	1120404	LNUX 191940-RRM-T	⊗	⊗		⊗																	
Roughing	1123985	LNUX 301940-RRM-T	⊗	⊗		⊗																	
LNUX-RHR-T																							
	1191628	LNUX 191940-RHR-T		⊗		⊗																	
Heavy Roughing	1191969	LNUX 301940-RHR-T	⊗	⊗		⊗																	

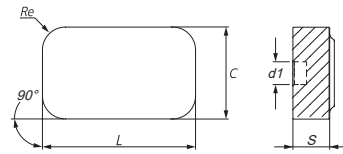
⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock

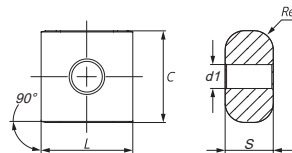
Insert Order Code: <sup>(1)</sup> Geometry code + <sup>(2)</sup> Grade code

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)					Cutting Conditions Condições de Corte Condiciones de Corte					
		L	C	Re	S	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
LNUX 321248-RMM	LNUX 321248-RMM	31,75	19,05	4,76	12,7	7,87	3,00	1,50	18,00	0,80	0,30	1,50
LNUX 321248-RRM	LNUX 321248-RRM	31,75	19,05	4,76	12,7	7,87	3,00	1,50	18,00	1,00	0,80	1,50
LNUX 321248-RHR	LNUX 321248-RHR	31,75	19,05	4,76	12,7	7,87	3,00	1,50	18,00	1,20	0,50	1,80



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)					Cutting Conditions Condições de Corte Condiciones de Corte					
		L	C	Re	S	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
LNUX 191940-RMM-T	LNUX 191940-RMM-T	19,05	19,05	4,00	10,00	6,35	2,50	1,60	8,00	0,80	0,30	1,50
LNUX 301940-RMM-T	LNUX 301940-RMM-T	30,00	19,05	4,00	12,00	6,35	3,00	1,60	12,00	0,80	0,30	1,50
LNUX 191940-RRM-T	LNUX 191940-RRM-T	19,05	19,05	4,00	10,00	6,35	5,50	2,50	10,00	1,00	0,80	1,50
LNUX 301940-RRM-T	LNUX 301940-RRM-T	30,00	19,05	4,00	12,00	6,35	4,50	2,50	13,00	1,00	0,50	2,00
LNUX 191940-RHR-T	LNUX 191940-RHR-T	19,05	19,05	4,00	10,00	6,35	5,50	2,50	10,00	1,20	0,50	1,80
LNUX 301940-RHR-T	LNUX 301940-RHR-T	30,00	19,05	4,00	12,00	6,35	6,50	3,00	15,00	1,20	0,50	1,80

# RC = ROUND R° POSITIVE

## REDONDA R° POSITIVA | REDONDA R° POSITIVA

			P								M						K		N		S				
			CVD-MT					PVD			CVD-MT					PVD		UNC	CVD-MT		UNC	PVD			
			L7	R2	L8	R3	L9	V5	G1	G4	L7	U4	L8	U5	L9	V6	G1	G4	25	L5	L6	L9	10	G1	G4
Inserts Pastilhas Plaquetas	(1) Geometry code	(2) Grade code ISO Reference	PH5115	PHG115	PH5125	PHG125	PH5740	PHG140	PH7910	PH7920	PH5115	PHS215	PH5125	PHS225	PH5740	PHS240	PH7910	PH7920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PH7920
RCMR-RR																									
	1122009	RCMR 2507M0-RR	⊗		⊗																				
	1122008	RCMR 3209M0-RR	⊗		⊗																				
Roughing to Medium																									

⊗ First choice | 1ª Escolha | 1ª Opción      ⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock      Insert Order Code: (1) Geometry code + (2) Grade code  
 ⊗ Stock Items | Itens de stock      ○ Available under request | Disponível sob consulta | Disponible bajo consulta

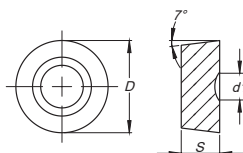
# RC = ROUND R° POSITIVE

## REDONDA R° POSITIVA | REDONDA R° POSITIVA

			P											M					K		N		S						
			CVD							PVD				CVD		PVD			UNC	CVD		UNC	PVD						
			T6	L7	R2	L8	R3	S9	L9	V5	G1	X5	G4	T1	U4	U5	G1	X6	G4	Y3	25	L5	L6	L9	10	G1	X6	G4	Y3
Inserts Pastilhas Plaquetas	(1) Geometry code	(2) Grade code ISO Reference	PHG105	PH5115	PHG115	PH5125	PHG125	PHG135	PH5740	PHG140	PH7910	PHP910	PH7920	PHP920	PHS215	PHS225	PH7910	PHH910	PH7920	PHH920	PH0705	PH5705	PH5320	PH5740	PH0910	PH7910	PHH910	PH7920	PHH920
RCMX-ST																													
	1121428	RCMX 2006M0-ST			⊗		⊗			⊗																			
	1121429	RCMX 2507M0-ST			⊗		⊗																						
	1123910	RCMX 3009M0-ST			○		○																						
Roughing to Medium					○		⊗																						
RCMX-RM																													
	1123678	RCMX 3209M0-RM			⊗		⊗																						
Roughing to Medium																													
RCMX-RR																													
	1123667	RCMX 2507M0-RR			⊗		⊗																						
Roughing to Medium							⊗			⊗																			
	1123666	RCMX 3209M0-RR					⊗			⊗																			

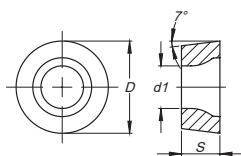
⊗ First choice | 1ª Escolha | 1ª Opción      ⊗ Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock      Insert Order Code: (1) Geometry code + (2) Grade code  
 ⊗ Stock Items | Itens de stock      ○ Available under request | Disponível sob consulta | Disponible bajo consulta

RELIEF ANGLE 7°



ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RCMR 2507M0-RR	RCMR 2507M0-RR	25,00	7,94	-	9,00	5,00	3,20	8,00	1,80	0,80	2,50
RCMR 3209M0-RR	RCMR 3209M0-RR	32,00	9,52	-	12,00	6,50	3,20	13,00	1,80	0,80	2,50

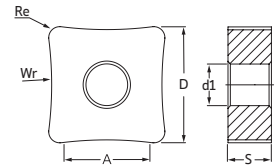
RELIEF ANGLE 7°




ISO Reference	ANSI Reference	Dimensions (mm) Dimensões (mm) Dimensiones (mm)				Cutting Conditions Condições de Corte Condiciones de Corte					
		D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RCMX 2006M0-ST	RCMX 2006M0-ST	20,00	6,35	-	6,50	5,00	2,00	8,00	0,63	0,20	2,00
RCMX 2507M0-ST	RCMX 2507M0-ST	25,00	7,94	-	7,20	6,30	2,50	10,00	0,79	0,25	2,50
RCMX 3009M0-ST	RCMX 3009M0-ST	30,00	9,55	-	10,00	7,00	3,00	11,00	0,85	0,30	2,80
RCMX 3209M0-ST	RCMX 3209M0-ST	32,00	9,52	-	9,50	8,00	3,20	12,80	1,01	0,32	3,20
RCMX 3209M0-RM	RCMX 3209M0-RM	32,00	9,52	-	9,50	6,50	3,20	13,00	1,80	0,80	2,50
RCMX 2507M0-RR	RCMX 2507M0-RR	25,00	7,94	-	7,20	5,00	3,20	8,00	1,80	0,80	2,50
RCMX 3209M0-RR	RCMX 3209M0-RR	32,00	9,52	-	9,50	6,50	3,20	13,00	1,80	0,80	2,50

# SCARFING = SNMA

## Negative Inserts



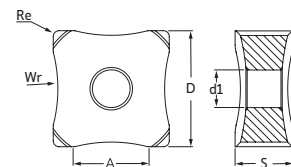
Inserts Pastilhas Plaquiças	(1) Geometry code	(2) Grade code		P	M	Dimensions (mm) Dimensões (mm) Dimensiones (mm)						Tube Diameter (mm)
				CVD	CVD	D	S	A	Re	d1	Wr	
				L8	L8							
PH5125	PH5125											
	1123927	SNMA 150612-R020	SNMA 543-R020	○	○	15,88	6,35	10	1,2	6,35	20	23-29
	1123928	SNMA 150612-R022	SNMA 543-R022	○	○	15,88	6,35	10	1,2	6,35	22	25-32
	1123929	SNMA 150612-R025	SNMA 543-R025	○	○	15,88	6,35	10	1,2	6,35	25	29-36
	1123930	SNMA 150612-R027	SNMA 543-R027	○	○	15,88	6,35	10	1,2	6,35	27	31-39
	1123931	SNMA 150612-R030	SNMA 543-R030	○	○	15,88	6,35	10	1,2	6,35	30	35-44
	1123932	SNMA 150612-R035	SNMA 543-R035	○	○	15,88	6,35	10	1,2	6,35	35	40-51
	1123933	SNMA 150612-R040	SNMA 543-R040	○	○	15,88	6,35	10	1,2	6,35	40	46-58
	1123934	SNMA 150612-R050	SNMA 543-R050	○	○	15,88	6,35	10	1,2	6,35	50	58-73
	1123935	SNMA 150612-R060	SNMA 543-R060	○	○	15,88	6,35	10	1,2	6,35	60	69-87
	1123936	SNMA 150612-R070	SNMA 543-R070	○	○	15,88	6,35	10	1,2	6,35	70	80-95
 SNMA Roughing	1123937	SNMA 190612-R030	SNMA 643-R030	○	○	19,05	6,35	12	1,2	7,94	30	35-44
	1123938	SNMA 190612-R040	SNMA 643-R040	○	○	19,05	6,35	12	1,2	7,94	40	46-58
	1123939	SNMA 190612-R050	SNMA 643-R050	○	○	19,05	6,35	12	1,2	7,94	50	58-73
	1123940	SNMA 190612-R060	SNMA 643-R060	○	○	19,05	6,35	12	1,2	7,94	60	69-87
	1123941	SNMA 190612-R070	SNMA 643-R070	○	○	19,05	6,35	12	1,2	7,94	70	80-95
	1123942	SNMA 190612-R080	SNMA 643-R080	○	○	19,05	6,35	12	1,2	7,94	80	92-116
	1123943	SNMA 190612-R090	SNMA 643-R090	○	○	19,05	6,35	12	1,2	7,94	90	104-131
	1123944	SNMA 250924-R000	SNMA 866-R000	○	○	25,40	9,52	17	2,4	9,12	0	-
	1123945	SNMA 250924-R060	SNMA 866-R060	○	○	25,40	9,52	17	2,4	9,12	60	69-87
	1123946	SNMA 250924-R070	SNMA 866-R070	○	○	25,40	9,52	17	2,4	9,12	70	80-95
	1123947	SNMA 250924-R080	SNMA 866-R080	○	○	25,40	9,52	17	2,4	9,12	80	92-116
	1123948	SNMA 250924-R100	SNMA 866-R100	○	○	25,40	9,52	17	2,4	9,12	100	115-145
	1123949	SNMA 250924-R150	SNMA 866-R150	○	○	25,40	9,52	17	2,4	9,12	150	165-215
	1123950	SNMA 250924-R200	SNMA 866-R200	○	○	25,40	9,52	17	2,4	9,12	200	230-290

🔴 First choice | 1ª Escolha | 1ª Opción
🟢 Stock Items | Itens de stock
○ Available under request | Disponível sob consulta | Disponible bajo consulta
Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code



# SCARFING = SNMX

## Negative Inserts



Inserts Pastilhas Plaquitas	(1) Geometry code	(2) Grade code		P	M	Dimensions (mm) Dimensões (mm) Dimensiones (mm)						Tube Diameter (mm)
		ISO Reference	ANSI Reference	CVD	CVD	D	S	A	Re	d1	Wr	
				L8	L8							
				PH5125	PH5125							
	1123879	SNMX 150708-R000	SNMX 552-R000	○	○	15,88	7,94	10	0,8	5,16	0	-
	1123880	SNMX 150708-R007	SNMX 552-R007	○	○	15,88	7,94	10	0,8	5,16	7	08-10
	1123881	SNMX 150708-R009	SNMX 552-R009	○	○	15,88	7,94	10	0,8	5,16	9	10-13
	1123882	SNMX 150708-R011	SNMX 552-R011	○	○	15,88	7,94	10	0,8	5,16	11	13-16
	1123883	SNMX 150708-R013	SNMX 552-R013	○	○	15,88	7,94	10	0,8	5,16	13	15-19
	1123884	SNMX 150708-R015	SNMX 552-R015	○	○	15,88	7,94	10	0,8	5,16	15	17-22
	1123885	SNMX 150708-R018	SNMX 552-R018	○	○	15,88	7,94	10	0,8	5,16	18	21-26
	1123886	SNMX 150708-R020	SNMX 552-R020	⊗	⊗	15,88	7,94	10	0,8	5,16	20	23-29
	1123887	SNMX 150708-R022	SNMX 552-R022	○	○	15,88	7,94	10	0,8	5,16	22	25-32
	1123888	SNMX 150708-R025	SNMX 552-R025	○	○	15,88	7,94	10	0,8	5,16	25	29-36
	1123889	SNMX 150708-R027	SNMX 552-R027	○	○	15,88	7,94	10	0,8	5,16	27	31-39
	1123890	SNMX 150708-R030	SNMX 552-R030	○	○	15,88	7,94	10	0,8	5,16	30	35-44
	1123891	SNMX 150708-R035	SNMX 552-R035	○	○	15,88	7,94	10	0,8	5,16	35	40-51
	1123892	SNMX 150708-R040	SNMX 552-R040	○	○	15,88	7,94	10	0,8	5,16	40	46-58
	1123893	SNMX 150708-R045	SNMX 552-R045	○	○	15,88	7,94	10	0,8	5,16	45	52-65
	1123894	SNMX 150708-R050	SNMX 552-R050	○	○	15,88	7,94	10	0,8	5,16	50	58-73
	1123895	SNMX 150708-R060	SNMX 552-R060	○	○	15,88	7,94	10	0,8	5,16	60	69-87
	1124461	SNMX 150708-R070	SNMX 552-R070	○	○	15,88	7,94	10	0,8	5,16	70	80-95
	1124462	SNMX 150708-R075	SNMX 552-R075	○	○	15,88	7,94	10	0,8	5,16	75	86-102
	1123896	SNMX 190912-R000	SNMX 663-R000	○	○	19,05	9,12	12	1,2	6,35	0	-
	1122012	SNMX 190912-R020	SNMX 663-R020	⊗	⊗	19,05	9,12	12	1,2	6,35	20	23-29
	1123897	SNMX 190912-R030	SNMX 663-R030	⊗	⊗	19,05	9,12	12	1,2	6,35	30	35-44
	1123898	SNMX 190912-R040	SNMX 663-R040	⊗	⊗	19,05	9,12	12	1,2	6,35	40	46-58
	1123899	SNMX 190912-R050	SNMX 663-R050	⊗	⊗	19,05	9,12	12	1,2	6,35	50	58-73
	1122013	SNMX 190912-R060	SNMX 663-R060	○	○	19,05	9,12	12	1,2	6,35	60	69-87
	1123900	SNMX 190912-R070	SNMX 663-R070	○	○	19,05	9,12	12	1,2	6,35	70	80-95
	1123901	SNMX 190912-R080	SNMX 663-R080	○	○	19,05	9,12	12	1,2	6,35	80	92-116
	1123902	SNMX 190912-R090	SNMX 663-R090	○	○	19,05	9,12	12	1,2	6,35	90	104-131
	1123903	SNMX 190912-R100	SNMX 663-R100	○	○	19,05	9,12	12	1,2	6,35	100	115-145
	1123864	SNMX 251216-R000	SNMX 884-R000	⊗	⊗	25,40	12,70	17	1,6	9,12	0	-
	1123904	SNMX 251216-R050	SNMX 884-R050	⊗	⊗	25,40	12,70	17	1,6	9,12	50	58-73
	1122015	SNMX 251216-R080	SNMX 884-R080	⊗	⊗	25,40	12,70	17	1,6	9,12	80	92-116
	1123905	SNMX 251216-R090	SNMX 884-R090	⊗	⊗	25,40	12,70	17	1,6	9,12	90	104-131
	1123906	SNMX 251216-R100	SNMX 884-R100	⊗	⊗	25,40	12,70	17	1,6	9,12	100	115-145
	1122016	SNMX 251216-R120	SNMX 884-R120	⊗	⊗	25,40	12,70	17	1,6	9,12	120	138-174
	1123907	SNMX 251216-R150	SNMX 884-R150	⊗	⊗	25,40	12,70	17	1,6	9,12	150	165-215
	1123908	SNMX 251216-R200	SNMX 884-R200	⊗	⊗	25,40	12,70	17	1,6	9,12	200	230-290
	1123909	SNMX 251216-R250	SNMX 884-R250	⊗	⊗	25,40	12,70	17	1,6	9,12	250	275-315



Medium to Finishing

First choice | 1ª Escolha | 1ª Opción

Stock Items | Itens de stock

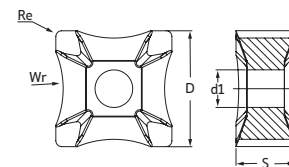
Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

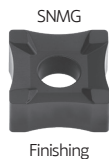
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

# SCARFING = SNMG

## Negative Inserts



Inserts Pastilhas Plaquitas	(1) Geometry code	(2) Grade code		P	M	Dimensions (mm) Dimensões (mm) Dimensiones (mm)						Tube Diameter (mm)
				CVD	CVD	D	S	A	Re	d1	Wr	
				L7	L8							
	ISO Reference	ANSI Reference	PH5115	PH5125								
	1123951	SNMG 15M808-R000	SNMG 55.12-R000	○	○	15,88	8,15	10	0,8	5,16	0	-
	1123952	SNMG 15M808-R007	SNMG 55.12-R007	○	○	15,88	8,15	10	0,8	5,16	7	08-10
	1123953	SNMG 15M808-R009	SNMG 55.12-R009	○	○	15,88	8,15	10	0,8	5,16	9	10-13
	1123954	SNMG 15M808-R011	SNMG 55.12-R011	⊗	○	15,88	8,15	10	0,8	5,16	11	13-16
	1123955	SNMG 15M808-R013	SNMG 55.12-R013	⊗	○	15,88	8,15	10	0,8	5,16	13	15-19
	1123956	SNMG 15M808-R015	SNMG 55.12-R015	⊗	○	15,88	8,15	10	0,8	5,16	15	17-22
	1123957	SNMG 15M808-R018	SNMG 55.12-R018	⊗	○	15,88	8,15	10	0,8	5,16	18	21-26
	1123958	SNMG 15M808-R020	SNMG 55.12-R020	⊗	○	15,88	8,15	10	0,8	5,16	20	23-29
	1123959	SNMG 15M808-R022	SNMG 55.12-R022	○	○	15,88	8,15	10	0,8	5,16	22	25-32
	1123960	SNMG 15M808-R025	SNMG 55.12-R025	⊗	○	15,88	8,15	10	0,8	5,16	25	29-36
	1123961	SNMG 15M808-R027	SNMG 55.12-R027	⊗	○	15,88	8,15	10	0,8	5,16	27	31-39
	1123962	SNMG 15M808-R030	SNMG 55.12-R030	⊗	○	15,88	8,15	10	0,8	5,16	30	35-44
	1123963	SNMG 15M808-R035	SNMG 55.12-R035	⊗	○	15,88	8,15	10	0,8	5,16	35	40-51
	1123964	SNMG 15M808-R040	SNMG 55.12-R040	⊗	○	15,88	8,15	10	0,8	5,16	40	46-58
	1123965	SNMG 15M808-R045	SNMG 55.12-R045	⊗	○	15,88	8,15	10	0,8	5,16	45	52-65
	1123966	SNMG 15M808-R050	SNMG 55.12-R050	○	○	15,88	8,15	10	0,8	5,16	50	58-73
	1123967	SNMG 15M808-R060	SNMG 55.12-R060	⊗	○	15,88	8,15	10	0,8	5,16	60	69-87
	1123968	SNMG 19M808-R000	SNMG 65.13-R000	○	○	19,05	8,15	12	0,8	8,00	20	-
	1123969	SNMG 19M808-R010	SNMG 65.13-R010	○	○	19,05	8,15	12	0,8	8,00	10	12-15
	1123970	SNMG 19M808-R020	SNMG 65.13-R020	⊗	○	19,05	8,15	12	0,8	8,00	20	23-29
	1123971	SNMG 19M808-R030	SNMG 65.13-R030	⊗	○	19,05	8,15	12	0,8	8,00	30	35-44
	1123972	SNMG 19M808-R040	SNMG 65.13-R040	○	○	19,05	8,15	12	0,8	8,00	40	46-58
	1123973	SNMG 19M808-R050	SNMG 65.13-R050	○	○	19,05	8,15	12	0,8	8,00	50	58-73
	1123974	SNMG 19M808-R060	SNMG 65.13-R060	○	○	19,05	8,15	12	0,8	8,00	60	69-87
	1123975	SNMG 19M808-R070	SNMG 65.13-R070	○	○	19,05	8,15	12	0,8	8,00	70	80-95
	1123976	SNMG 19M808-R080	SNMG 65.13-R080	○	○	19,05	8,15	12	0,8	8,00	80	92-116
	1123977	SNMG 19M808-R090	SNMG 65.13-R090	○	○	19,05	8,15	12	0,8	8,00	90	104-131
	1123978	SNMG 19M808-R100	SNMG 65.13-R100	○	○	19,05	8,15	12	0,8	8,00	100	115-145

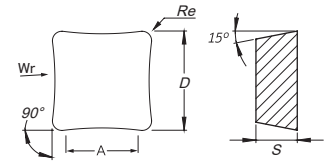



⊗ First choice | 1ª Escolha | 1ª Opción
⊗ Stock Items | Itens de stock
○ Available under request | Disponível sob consulta | Disponible bajo consulta
Insert Order Code: <sup>(1)</sup>Geometry code + <sup>(2)</sup>Grade code

# SCARFING = SDMX

## Positive Inserts

RELIEF ANGLE 15°



Inserts Pastilhas Plaquetas	(1) Geometry code	(2) Grade code		P	M	Dimensions (mm) Dimensões (mm) Dimensiones (mm)						Tube Diameter (mm)
				CVD	CVD	D	S	A	Re	d1	Wr	
				9B	9B							
		ISO Reference	ANSI Reference	PHY125	PHY125							
 SDMX Medium to Finishing	1124752	SDMX 250616-R000	SDMX 250616-R000	○	○	25,40	6,35	20	1,60	-	0	-
	1124822	SDMX 250616-R080	SDMX 250616-R080	⊗	⊗	25,40	6,35	20	1,60	-	80	92-116
	1124753	SDMX 250616-R180	SDMX 250616-R180	○	○	25,40	6,35	20	1,60	-	180	210-270
	1124754	SDMX 250616-R300	SDMX 250616-R300	⊗	⊗	25,40	6,35	20	1,60	-	300	340-410
	1124755	SDMX 250616-R400	SDMX 250616-R400	○	○	25,40	6,35	20	1,60	-	400	440-520
	1124756	SDMX 250616-R550	SDMX 250616-R550	○	○	25,40	6,35	20	1,60	-	550	600-700
	1124757	SDMX 350900-R000	SDMX 350900-R000	○	○	35,00	9,60	30	-	-	0	-
	1124758	SDMX 350900-R105	SDMX 350900-R105	○	○	35,00	9,60	30	-	-	105	115-145
	1124759	SDMX 350900-R145	SDMX 350900-R145	○	○	35,00	9,60	30	-	-	145	160-210
	1124760	SDMX 350900-R300	SDMX 350900-R300	○	○	35,00	9,60	30	-	-	300	340-410
	1124761	SDMX 350900-R400	SDMX 350900-R400	○	○	35,00	9,60	30	-	-	400	440-520
	1124762	SDMX 350900-R550	SDMX 350900-R550	○	○	35,00	9,60	30	-	-	550	600-700

⊗ First choice | 1ª Escolha | 1ª Opción

⊗ Stock Items | Itens de stock

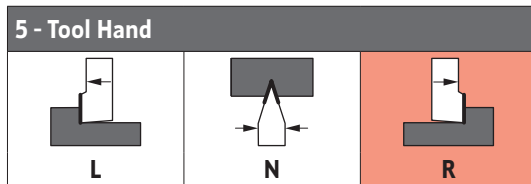
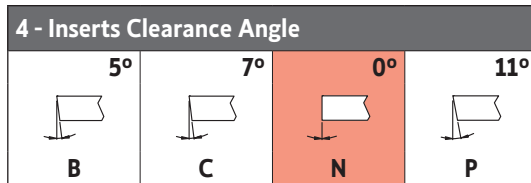
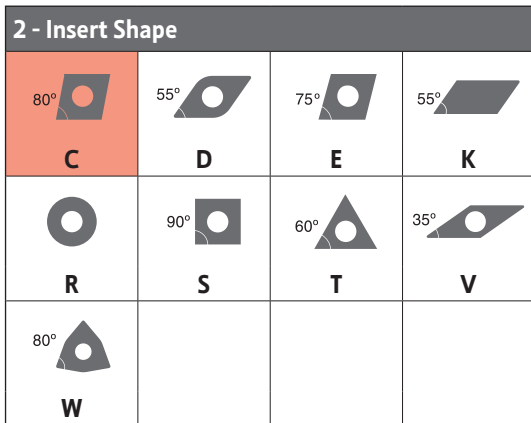
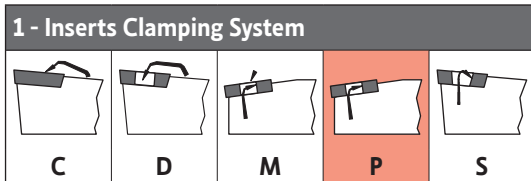
○ Available under request | Disponível sob consulta | Disponible bajo consulta

Insert Order Code: (1) Geometry code + (2) Grade code

# CODE KEY FOR EXTERNAL TURNING TOOLHOLDERS

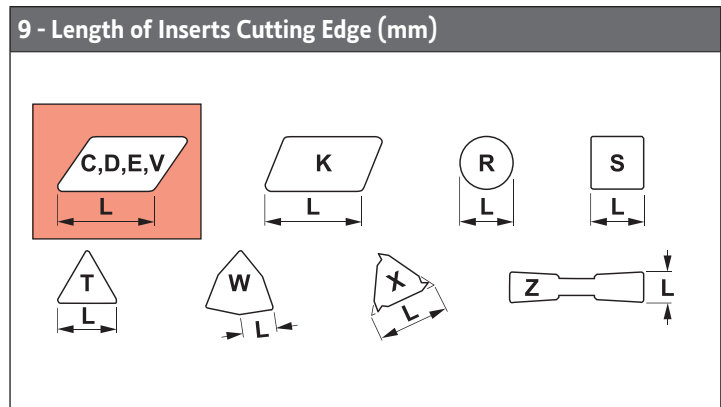
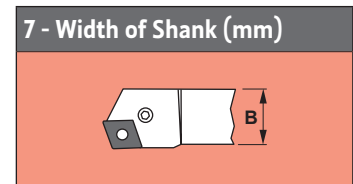
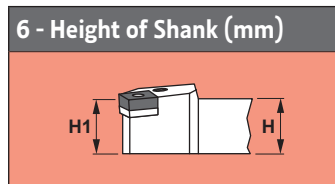
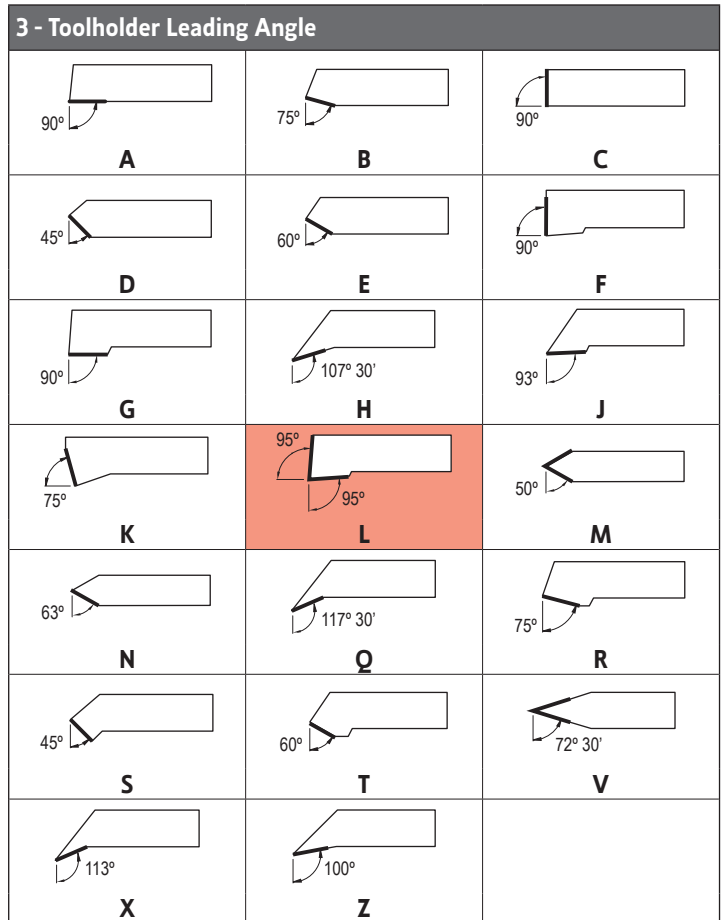
Sistema De Codificação Para Suportes De Torneamento Externo (ISO) | Codificación De Herramientas De Torneado Exterior (ISO)

<b>P</b>	<b>C</b>	<b>L</b>	<b>N</b>	<b>R</b>	<b>25</b>	<b>25</b>	<b>M</b>	<b>12</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>



### 8 - Length of Holder (mm)

	<b>D</b>	60	<b>P</b>	170
	<b>E</b>	70	<b>R</b>	200
	<b>F</b>	80	<b>S</b>	250
	<b>G</b>	90	<b>T</b>	300
	<b>H</b>	100	<b>U</b>	350
	<b>K</b>	125	<b>V</b>	400
	<b>L</b>	140	<b>X</b>	Special
	<b>M</b>	150		





- C - 526 | Top Clamp Toolholders (C)
- C - 541 | Dimple Lock Toolholders (D)
- C - 547 | Wedge Clamp (M) & Double Lock (M-K) Toolholders
- C - 562 | Lever Lock Toolholders (P)
- C - 585 | Center Screw Toolholders (S)

# EXTERNAL TURNING



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

Automatic Lathes

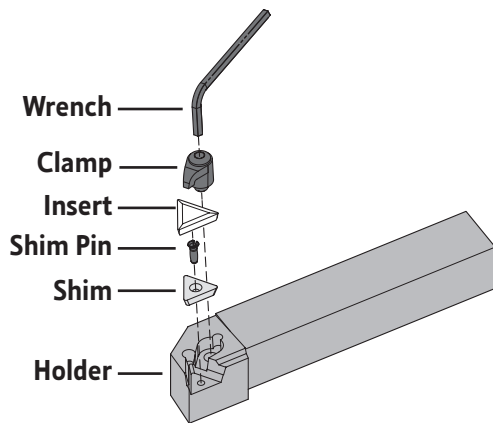
Spare Parts

Technical Data

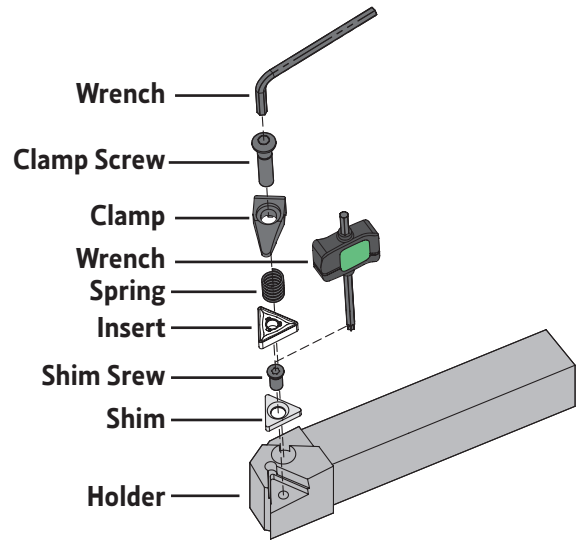
# CLAMPING SYSTEMS FOR EXTERNAL TOOLHOLDERS

Sistemas De Fixação Para Ferramentas De Torneamento Externo | Sistemas De Fijación Para Herramientas De Torneado Exterior

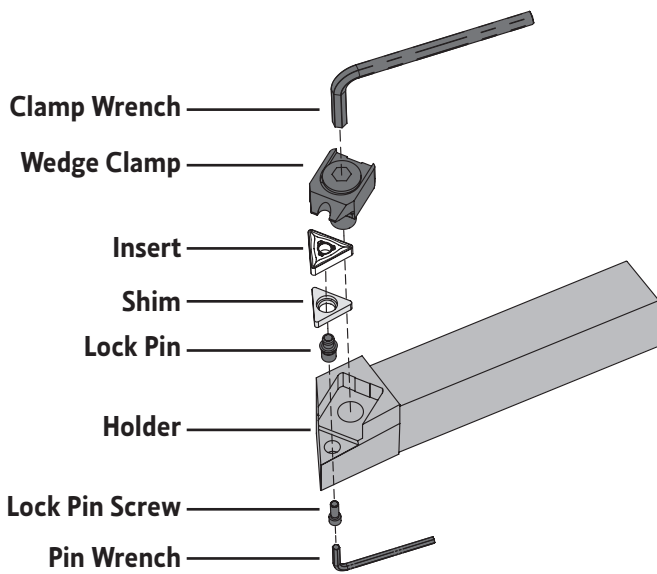
(C) TOP CLAMP SYSTEM



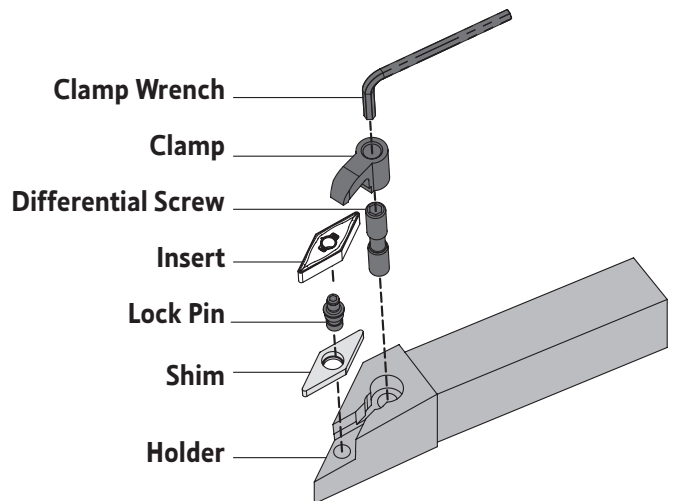
(D) DIMPLE LOCK SYSTEM



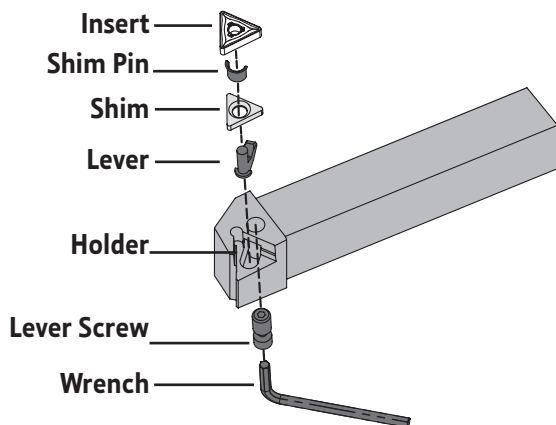
(M) WEDGE CLAMP SYSTEM



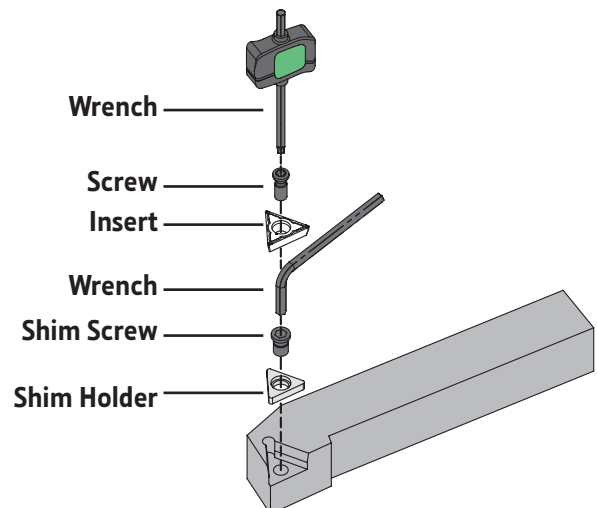
(M-K) DOUBLE LOCK SYSTEM



(P) LEVER LOCK SYSTEM



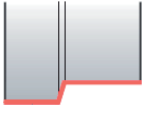
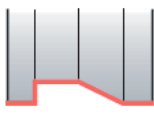


(S) CENTER SCREW SYSTEM



TURNING  
 Insert selection  
 Overview  
 Negative inserts  
 Positive inserts  
 PCBN & PCD inserts  
 Heavy turning  
 External Toolholders  
 Internal Toolholders  
 Automatic Lathes  
 Spare Parts  
 Technical Data

# SUITABLE CLAMPING SYSTEM DEFINITION

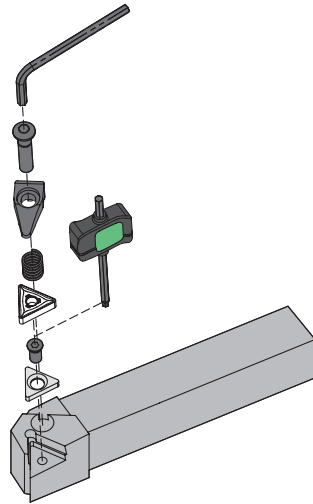
Definição do sistema de fixação | Definición del sistema de Fijación

Operation		Longitudinal turning	Profiling	Facing	Plunging
					
Negative inserts	(C) TOP CLAMP SYSTEM	●	●	●	●
	(D) DIMPLE LOCK SYSTEM	● ●	● ●	● ●	
	(M) WEDGE CLAMP SYSTEM = (M-K) DOUBLE LOCK SYSTEM	●	●	●	
	(P) LEVER LOCK SYSTEM	●	●	●	
Positive inserts	(C) TOP CLAMP SYSTEM	●	●	●	●
	(P) LEVER LOCK SYSTEM		●		
	(S) CENTER SCREW SYSTEM	● ●	● ●	● ●	

● ● Recommended Insert Shape      ● Alternative Insert Shape

- TURNING
- Insert selection
- Overview
- Negative inserts
- Positive inserts
- PCBN & PCD inserts
- Heavy turning
- External Toolholders
- Internal Toolholders
- Automatic Lathes
- Spare Parts
- Technical Data

# (D) DIMPLE LOCK SYSTEM

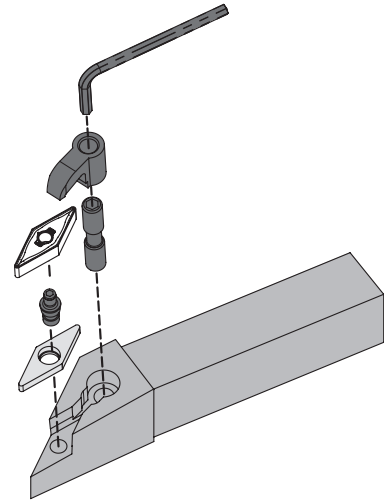
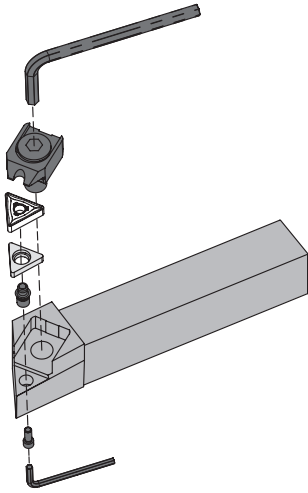


Positive inserts	Negative inserts	Overview	Insert selection	TURNING
<p><b>DCLN 95°</b></p> <p>PAGE C - 542    CN.. 1204..                   CN.. 1906..</p>	<p><b>DDJN 93°</b></p> <p>PAGE C - 543    DN.. 1104..                   DN.. 1506..</p>	<p><b>DSSN 45°</b></p> <p>PAGE C - 544    SN.. 1204..                   SN.. 1906..</p>	<p><b>DTGN 90°</b></p> <p>PAGE C - 545    TN.. 1604..                   TN.. 2204..</p>	<p><b>DWLN 95°</b></p> <p>PAGE C - 546    WN.. 0604..                   WN.. 0804..</p>



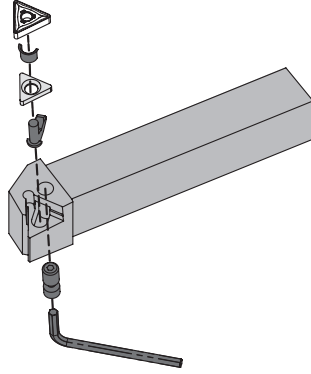
# (M) WEDGE CLAMP SYSTEM

# (M-K) DOUBLE LOCK SYSTEM



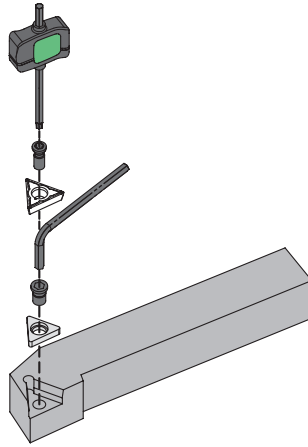
<b>MCLN 95°</b>  PAGE C - 548 CN.. 1204.. CN.. 1906..	<b>MCLN-K 95°</b>  PAGE C - 549 CN.. 1204.. CN.. 1906..	<b>MDJN-K 93°</b>  PAGE C - 550 DN.. 1506..	<b>MSSN-K 45°</b>  PAGE C - 551 SN.. 1204..	<b>MSSN 45°</b>  PAGE C - 552 SN.. 1204.. SN.. 1906..	<b>MTEN 60°</b>  PAGE C - 553 TN.. 1604.. TN.. 2204..
<b>MTJN 93°</b>  PAGE C - 554 TN.. 1604.. TN.. 2204..	<b>MTJN-K 93°</b>  PAGE C - 555 TN.. 1604.. TN.. 2204..	<b>MTNN 63°</b>  PAGE C - 556 TN.. 1604.. TN.. 2204..	<b>MVJN-K 93°</b>  PAGE C - 557 VN.. 1604..	<b>MVQN-K 117°30'</b>  PAGE C - 558 VN.. 1604..	<b>MVVN-K 72°30'</b>  PAGE C - 559 VN.. 1604..
<b>MWLN 95°</b>  PAGE C - 560 WN.. 0604.. WN.. 0804..	<b>MWLN-K 95°</b>  PAGE C - 561 WN.. 0804..				

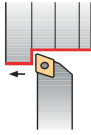
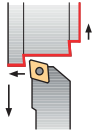
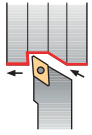
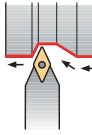
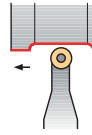
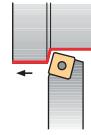
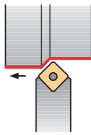
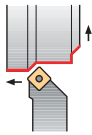
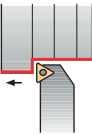
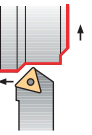
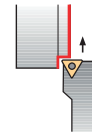
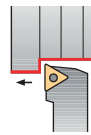
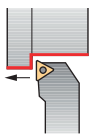
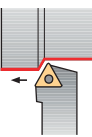
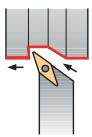
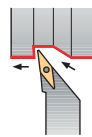
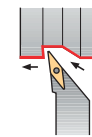

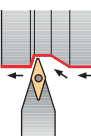
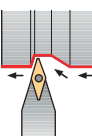
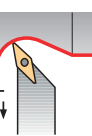
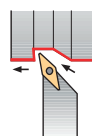
# (P) LEVER LOCK SYSTEM



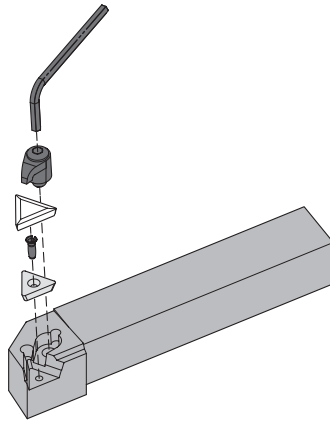
<p><b>PCBN 75°</b></p> <p>PAGE C - 563 CN.. 1204.. CN.. 1606.. CN.. 1906.. CN..2509..</p>	<p><b>PCFN 90°</b></p> <p>PAGE C - 564 CN.. 1204.. CN.. 1606.. CN.. 1906..</p>	<p><b>PCKN 75°</b></p> <p>PAGE C - 565 CN.. 1204... CN.. 1906.. CN.. 2506..</p>	<p><b>PCLN 95°</b></p> <p>PAGE C - 566 CN..0903.. ... CN..2509..</p>	<p><b>PCMN 50°</b></p> <p>PAGE C - 568 SN.. 1204.. SN.. 1906..</p>	<p><b>PCSN 45°</b></p> <p>PAGE C - 569 CN.. 1204.. CN.. 1606.. CN.. 1906..</p>
<p><b>PDJN 93°</b></p> <p>PAGE C - 570 DN.. 1104.. DN.. 1504.. DN.. 1506..</p>	<p><b>PDNN 63°</b></p> <p>PAGE C - 571 DN.. 1504.. DN.. 1506..</p>	<p><b>PRDC</b></p> <p>PAGE C - 572 RC.. 1003M0 ... RC.. 3209M0</p>	<p><b>PRSC</b></p> <p>PAGE C - 574 RC.. 10..32</p>	<p><b>PRSN</b></p> <p>PAGE C - 575 RN.. 09..25</p>	<p><b>PSBN 75°</b></p> <p>PAGE C - 576 SN.. 0903.. ... SN.. 2507..</p>
<p><b>PSDN 45°</b></p> <p>PAGE C - 577 SN.. 0903.. ... SN.. 2507..</p>	<p><b>PSKN 75°</b></p> <p>PAGE C - 578 SN.. 0903.. ... SN.. 2507..</p>	<p><b>PSSN 45°</b></p> <p>PAGE C - 579 SN.. 0903.. ... SN.. 2507..</p>	<p><b>PTDN 45°</b></p> <p>PAGE C - 580 TN.. 2204..</p>	<p><b>PTFN 90°</b></p> <p>PAGE C - 581 TN.. 1604.. TN.. 2204.. TN.. 2706..</p>	<p><b>PTGN 90°</b></p> <p>PAGE C - 582 TN.. 1604.. ... TN.. 3307..</p>
<p><b>PTTN 60°</b></p> <p>PAGE C - 583 TN.. 1604.. TN.. 2204..</p>	<p><b>PWLN 95°</b></p> <p>PAGE C - 584 WN.. 0604.. WN.. 0804..</p>				

# (S) CENTER SCREW SYSTEM



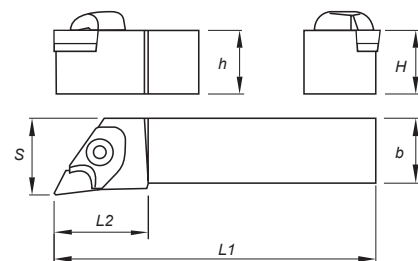
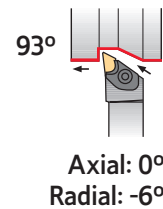
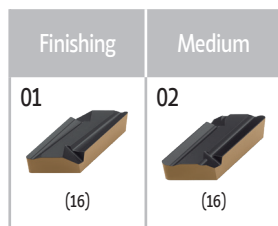
<p><b>SCAC 90°</b></p>  <p>PAGE C - 586 CC.. 0602.. CC.. 09T3.. CC.. 1204..</p>	<p><b>SCLC 95°</b></p>  <p>PAGE C - 587 CC.. 0602.. CC.. 09T3.. CC.. 1204..</p>	<p><b>SDJC 93°</b></p>  <p>PAGE C - 588 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDNC 62°30'</b></p>  <p>PAGE C - 589 DC.. 0702.. DC.. 11T3..</p>	<p><b>SRDC</b></p>  <p>PAGE C - 590 RC.. 0602M0.. ... RC.. 1204M0..</p>	<p><b>SSBC 75°</b></p>  <p>PAGE C - 591 SC.. 09T3.. SC.. 1204..</p>
<p><b>SSDC 45°</b></p>  <p>PAGE C - 592 SC.. 09T3.. SC.. 1204..</p>	<p><b>SSSC 45°</b></p>  <p>PAGE C - 593 SC.. 09T3.. SC.. 1204..</p>	<p><b>STAC 90°</b></p>  <p>PAGE C - 594 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>	<p><b>STDC 45°</b></p>  <p>PAGE C - 595 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>	<p><b>STFC 90°</b></p>  <p>PAGE C - 596 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>	<p><b>STGC 90°</b></p>  <p>PAGE C - 597 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>
<p><b>STJC 93°</b></p>  <p>PAGE C - 598 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>	<p><b>STTC 60°</b></p>  <p>PAGE C - 599 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>	<p><b>SVHC 107°30'</b></p>  <p>PAGE C - 600 VC.. 1604..</p>	<p><b>SVJB 93°</b></p>  <p>PAGE C - 601 VB.. 1604..</p>	<p><b>SVJC 93°</b></p>  <p>PAGE C - 602 VC.. 1103.. VC.. 1604..</p>	<p><b>SVLC 95°</b></p>  <p>PAGE C - 603 VC.. 1303..</p>
<p><b>SVVB 72°30'</b></p>  <p>PAGE C - 604 VB.. 1604..</p>	<p><b>SVVC 72°30'</b></p>  <p>PAGE C - 605 VC.. 1103.. VC.. 1604..</p>	<p><b>SVXC 113°</b></p>  <p>PAGE C - 606 VC.. 1803..</p>	<p><b>SVZC 100°</b></p>  <p>PAGE C - 607 VC.. 1604..</p>		











# (C) TOP CLAMP SYSTEM



<p><b>CKJN 93°</b></p> <p>PAGE C - 527 KNUX 1604...</p>	<p><b>CKNN 63°</b></p> <p>PAGE C - 528 KNUX 1604...</p>	<p><b>CSBP 75°</b></p> <p>PAGE C - 529 SP. 0903.. SP. 1203.. SP. 1904..</p>	<p><b>CSDP 45°</b></p> <p>PAGE C - 530 SP. 0903.. SP. 1203..</p>	<p><b>CSKP 75°</b></p> <p>PAGE C - 531 SP. 0903.. SP. 1203.. SP. 1904..</p>	<p><b>CSSP 45°</b></p> <p>PAGE C - 532 SP. 0903.. SP. 1203.. SP. 1904..</p>
<p><b>CSTP 60°</b></p> <p>PAGE C - 533 SP.0903.. SP.1203..</p>	<p><b>CTBP 75°</b></p> <p>PAGE C - 534 TP. 1103.. TP. 1603.. TP. 2204..</p>	<p><b>CTCP N 90°</b></p> <p>PAGE C - 535 TP. 1103.. TP. 1603.. TP. 2204..</p>	<p><b>CTCP 90°</b></p> <p>PAGE C - 536 TP. 1103.. TP. 1603.. TP. 2204..</p>	<p><b>CTDP 45°</b></p> <p>PAGE C - 537 TP. 1103.. TP. 1603.. TP. 2204..</p>	<p><b>CTFP 90°</b></p> <p>PAGE C - 538 TP. 1103.. TP. 1603.. TP. 2204..</p>
<p><b>CTGP 90°</b></p> <p>PAGE C - 539 TP. 1103.. TP. 1603.. TP. 2204..</p>	<p><b>CTTP 60°</b></p> <p>PAGE C - 540 TP. 0902.. TP. 1103.. TP. 2204..</p>				

(C) TOP CLAMP TOOLHOLDERS










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212034800	212034900	CKJN R/L 2020 K16	20	20	125	34	30	KNUX 1604..	0,390		
212026300	212035000	CKJN R/L 2525 M16	25	25	150	34	32	KNUX 1604..	0,700		
212010300	212260400	CKJN R/L 3225 P16	32	25	170	34	32	KNUX 1604..	1,000		
212260500	212260600	CKJN R/L 3232 P16	32	32	170	34	40	KNUX 1604..	1,250		
212260700	212260800	CKJN R/L 4025 R16	40	25	200	34	32	KNUX 1604..	1,500		

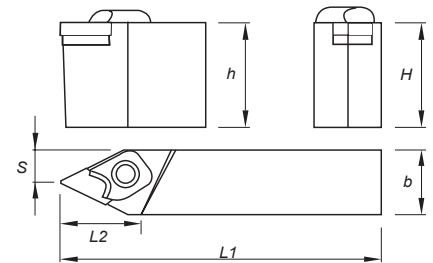
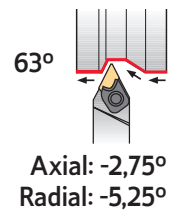
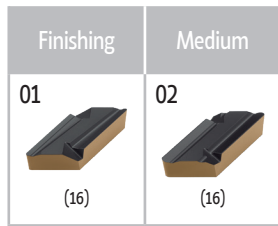
 Stock Items | Itens de stock





 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately						
	Shim	Shim Pin	Shim Pin Punch	Spring	Clamp	Screw	Wrench
CKJN R 2020 K16							
CKJN R 2525 M16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40
CKJN R 3225 P16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40
CKJN R 3232 P16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40
CKJN R 4025 R16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40
CKJN L 2020 K16	CK160501	BE03000	BF04813	M09513	GAW1401	DW142600	SS40
CKJN L 2525 M16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40
CKJN L 3225 P16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40
CKJN L 3232 P16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40
CKJN L 4025 R16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40

## (C) TOP CLAMP TOOLHOLDERS










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H-h	b	L1	L2	S			R	L
212260900	212261000	CKNN R/L 4025 R16	40	25	200	37	14,3	KNUX 1604..	1,500		
212261100	212261200	CKNN R/L 5032 S16	50	32	250	37	16,8	KNUX 1604..	3,000		




 Stock Items | Itens de stock

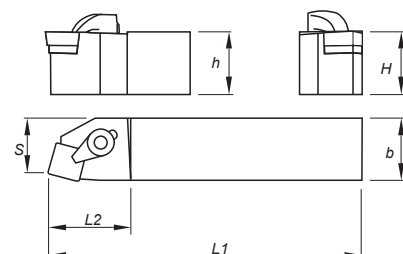
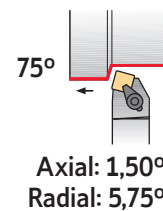
 Available under request | Disponível sob consulta | Disponible bajo consulta



















## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately						
	Shim	Shim Pin	Shim Pin Punch	Spring	Clamp	Screw	Wrench
CKNN R 4025 R16							
CKNN R 5032 S16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40
CKNN L 4025 R16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40
CKNN L 5032 S16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40

(C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (09-12-19)	12  (09-12)	13  (09-12)










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212042000	212261300	CSBP R/L 1212 F09	12	12	80	22	11	SP..0903..	0,070		
212261400	212261500	CSBP R/L 1616 H09	16	16	100	22	13	SP..0903..	0,200		
212261600	212261700	CSBP R/L 2020 K09	20	20	125	22	17	SP..0903..	0,400		
212261800	212033900	CSBP R/L 2020 K12	20	20	125	34	17	SP..1203..	0,400		
212034000	212034100	CSBP R/L 2525 M12	25	25	150	34	22	SP..1203..	0,700		
212261900	212262000	CSBP R/L 3225 P12	32	25	170	34	22	SP..1203..	1,000		
212262100	212262200	CSBP R/L 3232 P19	32	32	170	40	27	SP..1904..	1,250		
212262300	212262400	CSBP R/L 4040 S19	40	40	250	40	35	SP..1904..	3,000		
212262500	212262600	CSBP R/L 5050 T19	50	50	300	40	43	SP..1904..	5,650		

 Stock Items | Itens de stock

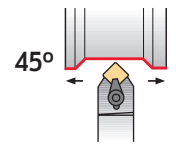
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Complementary Accessories - Flat Inserts

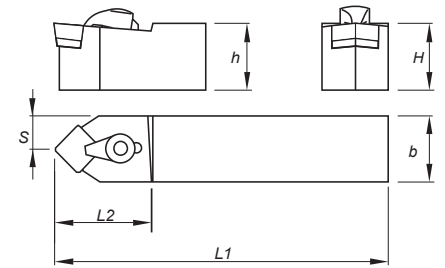
Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
CSBP R/L 1212 F09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSBP R/L 1616 H09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSBP R/L 2020 K09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSBP R/L 2020 K12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSBP R/L 2525 M12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSBP R/L 3225 P12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSBP R/L 3232 P19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901
CSBP R/L 4040 S19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901
CSBP R/L 5050 T19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901

(C) TOP CLAMP TOOLHOLDERS



Axial: 4,25°  
Radial: 4,25°

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (09-12)	12  (09-12)	13  (09-12)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212262700	212262800	CSDP R/L 1010 E09	10	10	70	22	5,6	SP.. 0903..	0,030		
212262900	212263000	CSDP R/L 1212 F09	12	12	80	22	7,6	SP.. 0903..	0,070		
212263100	212263200	CSDP R/L 1616 H09	16	16	100	22	11,6	SP.. 0903..	0,200		
212263300	212263400	CSDP R/L 2020 K12	20	20	125	28	14,0	SP.. 1203..	0,400		
212263500	212263600	CSDP R/L 2525 M12	25	25	150	28	19,0	SP.. 1203..	0,700		
212263700		CSDP N 1010 E09	10	10	70	22	5,0	SP.. 0903..	0,030		
212263800		CSDP N 1212 F09	12	12	80	22	6,0	SP.. 0903..	0,070		
212263900		CSDP N 1616 H09	16	16	100	22	8,0	SP.. 0903..	0,200		
212018400		CSDP N 2020 K12	20	20	125	28	10,0	SP.. 1203..	0,400		
212264000		CSDP N 2525 M12	25	25	150	28	12,5	SP.. 1203..	0,700		

Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

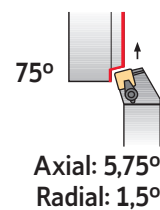
SPARE PARTS | Complementos | Repuestos

Complementary Accessories - Flat Inserts

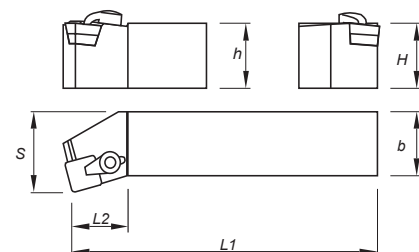
Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
CSDP R/L 1010 E09	-	-	GS05000	SS25	-	QCS0901	QCS0902
CSDP R/L 1212 F09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0901	QCS0902
CSDP R/L 1616 H09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0901	QCS0902
CSDP R/L 2020 K12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203
CSDP R/L 2525 M12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203
CSDP N 1010 E09	-	-	GS05000	SS25	-	QCS0901	QCS0902
CSDP N 1212 F09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0901	QCS0902
CSDP N 1616 H09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0901	QCS0902
CSDP N 2020 K12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203
CSDP N 2525 M12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203



(C) TOP CLAMP TOOLHOLDERS



Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (09-12-19)	12  (09-12)	13  (09-12)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212042100	212264100	CSKP R/L 1212 F09	12	12	80	18	16	SP.0903..	0,070		
212264200	212264300	CSKP R/L 1616 H09	16	16	100	22	20	SP.0903..	0,200		
212264400	212264500	CSKP R/L 2020 K09	20	20	125	22	25	SP.0903..	0,400		
212034200	212034300	CSKP R/L 2020 K12	20	20	125	28	25	SP.1203..	0,400		
212036000	212034400	CSKP R/L 2525 M12	25	25	150	28	32	SP.1203..	0,700		
212264600	212264700	CSKP R/L 3225 P12	32	25	170	28	32	SP.1203..	1,000		
212264800	212264900	CSKP R/L 3232 P19	32	32	170	42	40	SP.1904..	1,250		
212265000	212265100	CSKP R/L 4040 S19	40	40	250	42	50	SP.1904..	3,000		
212265200	212265300	CSKP R/L 5050 T19	50	50	300	42	60	SP.1904..	5,650		

Stock Items | Itens de stock

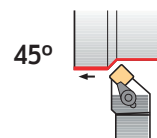
Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos




Complementary Accessories - Flat Inserts

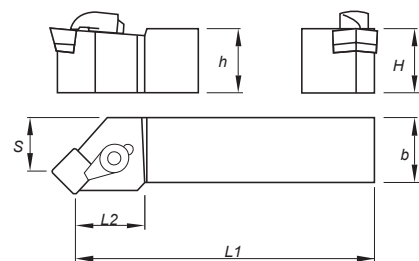
Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
CSKP R/L 1212 F09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSKP R/L 1616 H09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSKP R/L 2020 K09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSKP R/L 2020 K12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSKP R/L 2525 M12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSKP R/L 3225 P12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSKP R/L 3232 P19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901
CSKP R/L 4040 S19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901
CSKP R/L 5050 T19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901















C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data



Axial: 4,25°  
Radial: 4,25°

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat	12	13
		
(09-12-19)	(09-12)	(09-12)








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212019000	212018800	CSSP R/L 1212 F09	12	12	80	22	16	SP.. 0903..	0,070		
212265400	212265500	CSSP R/L 1616 H09	16	16	100	22	20	SP.. 0903..	0,200		
212034500	212034600	CSSP R/L 2020 K12	20	20	125	22	25	SP.. 1203..	0,400		
212036100	212034700	CSSP R/L 2525 M12	25	25	150	28	32	SP.. 1203..	0,700		
212265600	212265700	CSSP R/L 3225 P12	32	25	170	28	32	SP.. 1203..	1,000		
212265800	212265900	CSSP R/L 3232 P19	32	32	170	42	40	SP.. 1904..	1,250		
212266000	212266100	CSSP R/L 4040 S19	40	40	250	42	50	SP.. 1904..	3,000		

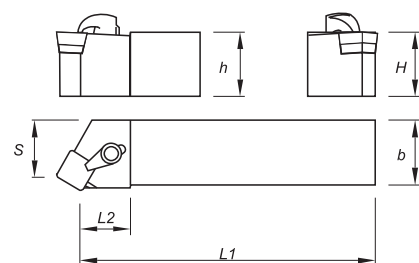
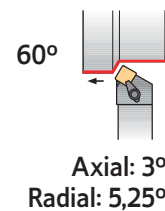
 Stock Items | Itens de stock









 Available under request | Disponivel sob consulta | Disponible bajo consulta

Complementary Accessories - Flat Inserts

Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
CSSP R/L 1212 F09							
CSSP R/L 1616 H09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0901	QCS0902
CSSP R/L 2020 K12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203
CSSP R/L 2525 M12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203
CSSP R/L 3225 P12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1202	QCS1203
CSSP R/L 3232 P19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1902	QCS1903
CSSP R/L 4040 S19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1902	QCS1903

Medium to Finishing	Finishing to Fine Finishing	Medium
<b>Flat</b>	<b>12</b>	<b>13</b>
		
(09-12)	(09-12)	(09-12)










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212266200	212266300	CSTP R/L 1616 H09	16	16	100	22	13	SP.0903..	0,200		
212266400	212266500	CSTP R/L 2020 K09	20	20	125	22	17	SP.0903..	0,350		
212266600	212266700	CSTP R/L 2020 K12	20	20	125	28	17	SP.1203..	0,400		
212266800	212266900	CSTP R/L 2525 M12	25	25	150	28	22	SP.1203..	0,700		




 Stock Items | Itens de stock

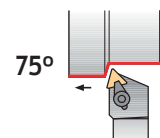
 Available under request | Disponível sob consulta | Disponible bajo consulta

### Complementary Accessories - Flat Inserts

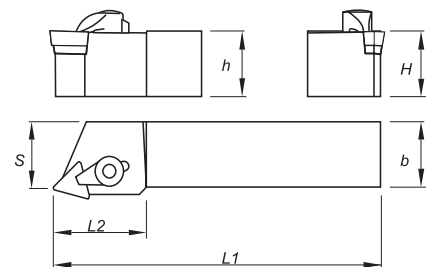
Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
CSTP R/L 1616 H09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSTP R/L 2020 K09	CS090300	BE02100	GS05001	SS25	GS05004	QCS0900	-
CSTP R/L 2020 K12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201
CSTP R/L 2525 M12	CS120300	BE02100	GS06000	SS30	GS05005	QCS1200	QCS1201









TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (11-16)	12  (11-16)	13  (11-16)



Axial: 1,5°  
Radial: 5,75°









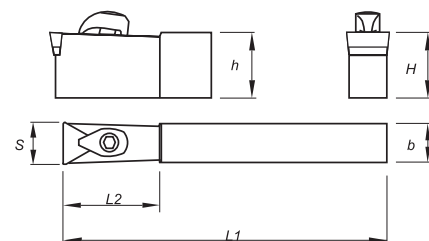
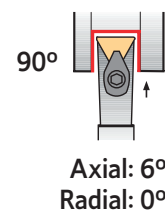
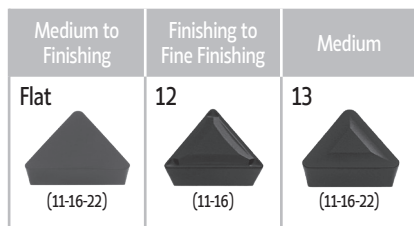
Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212267000	212267100	CTBP R/L 1212 F11	12	12	80	18	11	TP. 1103..	0,070		
212267200	212267300	CTBP R/L 1616 H11	16	16	100	22	13	TP. 1103..	0,200		
212267400	212267500	CTBP R/L 2020 K16	20	20	125	28	17	TP. 1603..	0,400		
212267600	212267700	CTBP R/L 2525 M16	25	25	150	28	22	TP. 1603..	0,700		







 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

Complementary Accessories - Flat Inserts







Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
CTBP R/L 1212 F11	-	-	GS05001	SS25	GS05004	QCT1100	-
CTBP R/L 1616 H11	-	-	GS05001	SS25	GS05004	QCT1100	-
CTBP R/L 2020 K16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTBP R/L 2525 M16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601



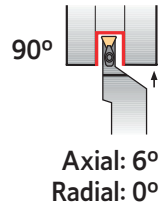
Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212267800	CTCP N 1009 E11	10	9	70	22	11	TP.. 1103..	0,040	
212267900	CTCP N 2009 K11	20	9	125	22	11	TP.. 1103..	0,150	
212268000	CTCP N 2509 R11	25	9	200	22	11	TP.. 1103..	0,350	
212268100	CTCP N 2513 R16	25	13	200	28	16	TP.. 1603..	0,500	
212268200	CTCP N 2518 R22	25	18	200	34	22	TP.. 2204..	0,650	
212268300	CTCP N 4018 R22	40	18	200	34	22	TP.. 2204..	1,100	

 Stock Items | Itens de stock

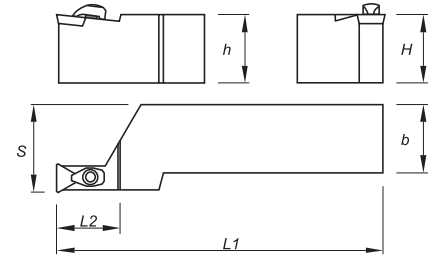
 Available under request | Disponível sob consulta | Disponible bajo consulta

Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Chip Breaker 1	Chip Breaker 2
						
CTCP N 1009 E11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP N 2009 K11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP N 2509 R11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP N 2513 R16	CT160301	BE02100	GS05002	SS30	QCT1600	QCT1601
CTCP N 2518 R22	CT220301	BE03000	GS08000	SS40	QCT2200	QCT2201
CTCP N 4018 R22	CT220301	BE03000	GS08000	SS40	QCT2200	QCT2201

(C) TOP CLAMP TOOLHOLDERS



Medium to Finishing	Finishing to Fine Finishing	Medium
Flat (11-16-22)	12 (11-16)	13 (11-16-22)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212268400	212268500	CTCP R/L 1212 F11	12	12	80	22	16	TP.. 1103..	0,070		
212268600	212268700	CTCP R/L 1616 H11	16	16	100	22	20	TP.. 1103..	0,200		
212268800	212268900	CTCP R/L 2020 K11	20	20	125	22	25	TP.. 1103..	0,400		
212269000	212269100	CTCP R/L 2525 M11	25	25	150	22	32	TP.. 1103..	0,700		
212269200	212269300	CTCP R/L 3225 P16	32	32	170	28	32	TP.. 1603..	1,000		
212269400	212269500	CTCP R/L 3232 P16	32	32	170	28	40	TP.. 1603..	1,250		
212269600	212269700	CTCP R/L 3225 P22	32	25	170	34	32	TP.. 2204..	1,000		
212269800	212269900	CTCP R/L 3232 P22	32	32	170	34	40	TP.. 2204..	1,250		




Stock Items | Itens de stock

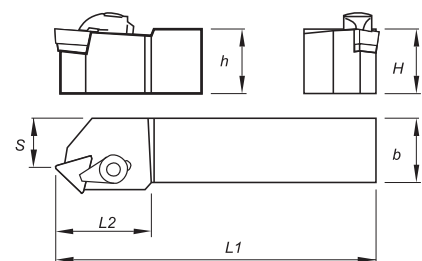
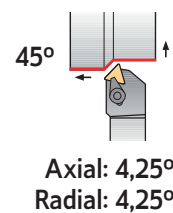
Available under request | Disponível sob consulta | Disponible bajo consulta













SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Chip Breaker 1	Chip Breaker 2
CTCP R/L 1212 F11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP R/L 1616 H11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP R/L 2020 K11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP R/L 2525 M11	-	-	GS04000	SS25	QCT1100	QCT1101
CTCP R/L 3225 P16	CT160301	BE02100	GS05002	SS30	QCT1600	QCT1601
CTCP R/L 3232 P16	CT160301	BE02100	GS05002	SS30	QCT1600	QCT1601
CTCP R/L 3225 P22	CT220301	BE03000	GS08000	SS40	QCT2200	QCT2201
CTCP R/L 3232 P22	CT220301	BE03000	GS08000	SS40	QCT2200	QCT2201

## (C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (11-16-22)	12  (11-16)	13  (11-16-22)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212270000	212270100	CTDP R/L 1212 F11	12	12	80	20	6,3	TP.. 1103..	0,070		
212019400	212270200	CTDP R/L 1616 H11	16	16	100	22	10,3	TP.. 1103..	0,200		
212270300	212270400	CTDP R/L 2020 K16	20	20	125	28	12,2	TP.. 1603..	0,400		
212270500	212019300	CTDP R/L 2525 M16	25	25	150	28	17,2	TP.. 1603..	0,700		
212270600	212270700	CTDP R/L 3232 P16	32	32	170	28	23,5	TP.. 1603..	1,250		
212270800	212270900	CTDP R/L 3232 P22	32	32	170	34	20,5	TP.. 2204..	1,250		




 Stock Items | Itens de stock

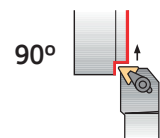
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS | Complementos | Repuestos

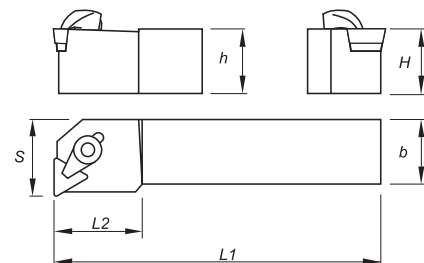
Cutter Reference	Complementary Accessories - Flat Inserts						
	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
CTDP R/L 1212 F11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTDP R/L 1616 H11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTDP R/L 2020 K16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTDP R/L 2525 M16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTDP R/L 3232 P16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTDP R/L 3232 P22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201



























## (C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (11-16-22)	12  (11-16)	13  (11-16-22)



Axial: 6°  
Radial: 0°










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212271000	212271100	CTFP R/L 1010 E11	10	10	70	16	12	TP.. 1103..	0,030		
212019800	212271200	CTFP R/L 1212 F11	12	12	80	18	16	TP.. 1103..	0,070		
212019900	212271300	CTFP R/L 1616 H11	16	16	100	22	20	TP.. 1103..	0,200		
212033600	212019500	CTFP R/L 2020 K11	20	20	125	22	25	TP.. 1103..	0,400		
212033700	212024000	CTFP R/L 2020 K16	20	20	125	22	25	TP.. 1603..	0,400		
212035900	212033800	CTFP R/L 2525 M16	25	25	150	22	32	TP.. 1603..	0,700		
212271400	212271500	CTFP R/L 3225 P16	32	25	170	22	32	TP.. 1603..	1,000		
212271600	212271700	CTFP R/L 3232 P16	32	32	170	28	40	TP.. 1603..	1,250		
212271800	212271900	CTFP R/L 4040 S16	40	40	250	34	50	TP.. 1603..	3,000		
212272000	212272100	CTFP R/L 5050 T16	50	50	300	34	60	TP.. 1603..	5,650		
212272200	212272300	CTFP R/L 3232 P22	32	32	170	34	40	TP.. 2204..	1,250		
212272400	212272500	CTFP R/L 4040 S22	40	40	250	34	50	TP.. 2204..	3,000		
212272600	212272700	CTFP R/L 5050 T22	50	50	300	34	60	TP.. 2204..	5,650		

 Stock Items | Itens de stock

 Available under request | Disponivel sob consulta | Disponible bajo consulta




## SPARE PARTS | Complementos | Repuestos

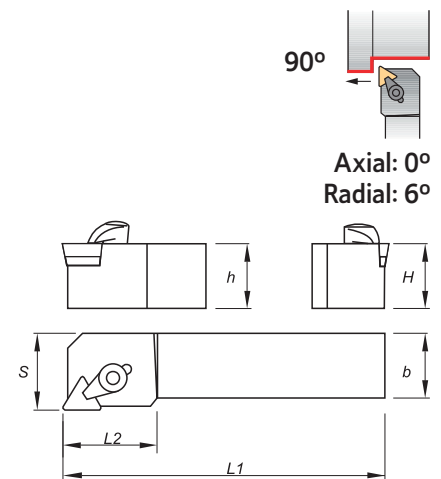
### Complementary Accessories - Flat Inserts





















Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
CTFP R/L 1010 E11	-	-	GS03000	SS15	-	-	-
CTFP R/L 1212 F11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTFP R/L 1616 H11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTFP R/L 2020 K11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTFP R/L 2020 K16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTFP R/L 2525 M16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTFP R/L 3225 P16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTFP R/L 3232 P16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTFP R/L 4040 S16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTFP R/L 5050 T16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTFP R/L 3232 P22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201
CTFP R/L 4040 S22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201
CTFP R/L 5050 T22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201



(C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (11-16-22)	12  (11-16)	13  (11-16-22)










Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212272800	212272900	CTGP R/L 1010 E11	10	10	70	16	12	TP.. 1103..	0,030		
212273000	212020200	CTGP R/L 1212 F11	12	12	80	18	16	TP.. 1103..	0,070		
212273100	212273200	CTGP R/L 1616 H11	16	16	100	22	20	TP.. 1103..	0,200		
212033100	212033200	CTGP R/L 2020 K11	20	20	125	22	25	TP.. 1103..	0,400		
212033300	212033400	CTGP R/L 2020 K16	20	20	125	28	25	TP.. 1603..	0,400		
212035800	212033500	CTGP R/L 2525 M16	25	25	150	28	32	TP.. 1603..	0,700		
212273300	212273400	CTGP R/L 3225 P16	32	25	170	28	32	TP.. 1603..	1,000		
212273500	212273600	CTGP R/L 3232 P22	32	32	170	34	40	TP.. 2204..	1,250		
212273700	212273800	CTGP R/L 4040 S22	40	40	250	34	50	TP.. 2204..	3,000		
212273900	212274000	CTGP R/L 5050 T22	50	50	300	34	60	TP.. 2204..	5,650		

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta




SPARE PARTS | Complementos | Repuestos

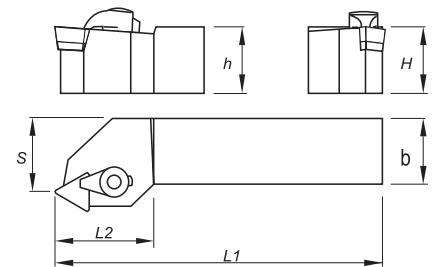
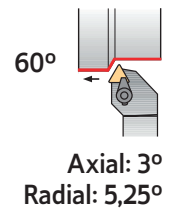
Complementary Accessories - Flat Inserts

















Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
CTGP R/L 1010 E11	-	-	GS03000	SS15	-	-	-
CTGP R/L 1212 F11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTGP R/L 1616 H11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTGP R/L 2020 K11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTGP R/L 2020 K16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTGP R/L 2525 M16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTGP R/L 3225 P16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTGP R/L 3232 P22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201
CTGP R/L 4040 S22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201
CTGP R/L 5050 T22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201

C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (11-16)	12  (09-11-16)	13  (09-11-16)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212249500	212274100	CTTP R/L 0808 D09	8	8	60	16	7	TP.. 0902..	0,020		
212274200	212274300	CTTP R/L 1010 E09	10	10	70	16	9	TP.. 0902..	0,030		
212274400	212274500	CTTP R/L 1010 E11	10	10	70	16	9	TP.. 1103..	0,030		
212274600	212274700	CTTP R/L 1212 F11	12	12	80	18	11	TP.. 1103..	0,070		
212274800	212274900	CTTP R/L 1616 H11	16	16	100	22	13	TP.. 1103..	0,200		
212275000	212275100	CTTP R/L 2020 K11	20	20	125	22	17	TP.. 1103..	0,400		
212275200	212275300	CTTP R/L 2020 K16	20	20	125	28	17	TP.. 1603..	0,400		
212247400	212275400	CTTP R/L 2525 M16	25	25	150	28	22	TP.. 1603..	0,700		

 Stock Items | Itens de stock

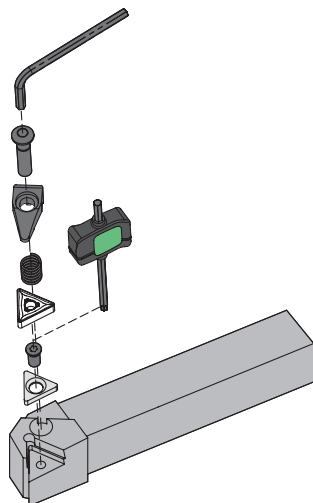
 Available under request | Disponível sob consulta | Disponible bajo consulta

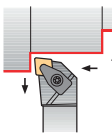
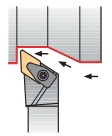
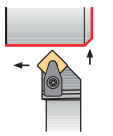
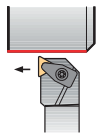
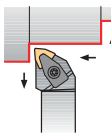
SPARE PARTS | Complementos | Repuestos

Complementary Accessories - Flat Inserts

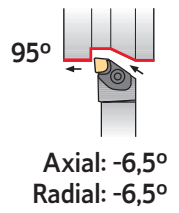
Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
CTTP R/L 0808 D09	-	-	GS03000	SS15	-	-	-
CTTP R/L 1010 E09	-	-	GS03000	SS15	-	-	-
CTTP R/L 1010 E11	-	-	GS03000	SS15	GS05004	QCT1100	QCT1101
CTTP R/L 1212 F11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTTP R/L 1616 H11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTTP R/L 2020 K11	-	-	GS05001	SS25	GS05004	QCT1100	QCT1101
CTTP R/L 2020 K16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
CTTP R/L 2525 M16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601

# (D) DIMPLE LOCK SYSTEM

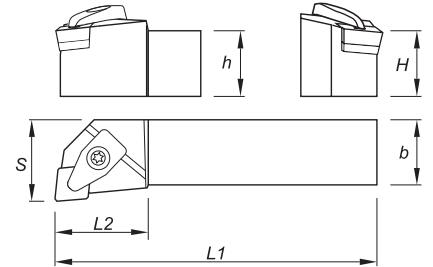


<p><b>DCLN 95°</b></p>  <p>PAGE C - 542    CN.. 1204..                          CN.. 1906..</p>	<p><b>DDJN 93°</b></p>  <p>PAGE C - 543    DN.. 1104..                          DN.. 1506..</p>	<p><b>DSSN 45°</b></p>  <p>PAGE C - 544    SN.. 1204..                          SN.. 1906..</p>	<p><b>DTGN 90°</b></p>  <p>PAGE C - 545    TN.. 1604..                          TN.. 2204..</p>	<p><b>DWLN 95°</b></p>  <p>PAGE C - 546    WN.. 0604..                          WN.. 0804..</p>
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(D) DIMPLE LOCK TOOLHOLDERS



Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat <b>Flat</b> (12-19)	<b>MF</b> (12)	<b>SF</b> (12)	<b>LC</b> (12)	<b>MS</b> (12)	<b>MR</b> (12-19)	<b>PM</b> (12)
Medium	Medium Wiper	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing
<b>ST</b> (12-19)	<b>MW</b> (12)	<b>SS</b> (12-19)	<b>HR</b> (12-19)	<b>RP</b> (19)	<b>HY</b> (19)	<b>HZ</b> (19)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212275500	212275600	DCLN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	0,400		
212219600	212246600	DCLN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	0,750		
212275700	212249200	DCLN R/L 3232 P12	32	32	170	28	40	CN.. 1204..	1,300		
212275800	212275900	DCLN R/L 3232 P19	32	32	170	42	40	CN.. 1906..	1,300		
212276000	212276100	DCLN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	3,050		
















Stock Items | Itens de stock

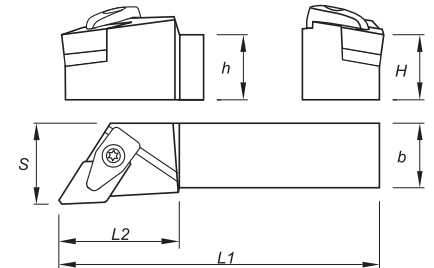
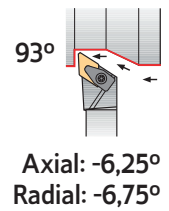
Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
DCLN R/L 2020 K12	CC120600	T06010000	M09513	GA07002	D0602900	SS40
DCLN R/L 2525 M12	CC120600	T06010000	M09513	GA07002	D0602900	SS40
DCLN R/L 3232 P12	CC120600	T06010000	M09513	GA07002	D0602900	SS40
DCLN R/L 3232 P19	CC190502	T06015000	M09513	GA07003	D0602900	SS40
DCLN R/L 4040 S19	CC190502	T06015000	M09513	GA07003	D0602900	SS40

## (D) DIMPLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
 (11-15)	 (11-15)	 (11-15)	 (15)	 (15)	 (11-15)	 (15)	 (11-15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
 (15)	 (11-15)	 (15)	 (15)	 (15)	 (15)	 (15)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212422900	212423000	DDJN R/L 2020 K11	20	20	125	34	25,0	DN.. 1104..	0,400		
212065900	212276200	DDJN R/L 2020 K15	20	20	125	34	25	DN.. 1506..	0,400		
212219300	212168000	DDJN R/L 2525 M15	25	25	150	34	32	DN.. 1506..	0,750		
212276300	212249400	DDJN R/L 3232 P15	32	32	170	34	40	DN.. 1506..	1,300		












 Stock Items | Itens de stock

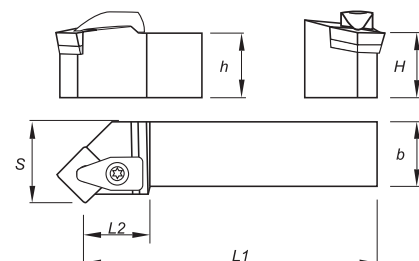
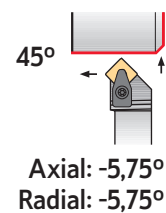
 Available under request | Disponível sob consulta | Disponible bajo consulta











## SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
DDJN R/L 2020 K11						
DDJN R/L 2020 K15	CD110302	T05008000	M06511	GA05001	D0500801	SS40
DDJN R/L 2525 M15	CD150501	T06010000	M09513	GA07002	D0602900	SS40
DDJN R/L 3232 P15	CD150501	T06010000	M09513	GA07002	D0602900	SS40

(D) DIMPLE LOCK TOOLHOLDERS







Roughing	Finishing	Medium	Medium	Medium	Medium
Flat  (12-19)	MF  (12)	SF  (12)	MR  (12-19)	PM  (12)	ST  (12-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS  (12-19)	HR  (12-19)	RP  (19)	HY  (19)	HZ  (19)	














Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212066000	212276400	DSSN R/L 2020 K12	20	20	125	28	25	SN.. 1204..	0,400		
212245800	212276500	DSSN R/L 2525 M12	25	25	150	28	32	SN.. 1204..	0,750		
212276600	212276700	DSSN R/L 3225 P12	32	25	170	28	32	SN.. 1204..	1,050		
212276800	212276900	DSSN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	1,300		
212277000	212277100	DSSN R/L 4040 S19	40	40	250	45	50	SN.. 1906..	3,050		

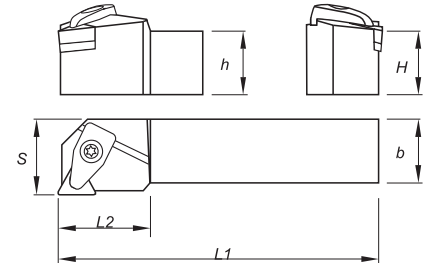
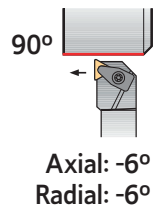
 Stock Items | Itens de stock     Available under request | Disponível sob consulta | Disponible bajo consulta     Stock available until sold out | Stock disponível até acabar o stock | Stock disponible hasta acabar el stock









SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
DSSN R/L 2020 K12						
DSSN R/L 2525 M12	CS120600	T06010000	M09513	GA07002	D0602900	SS40
DSSN R/L 3225 P12	CS120600	T06010000	M09513	GA07002	D0602900	SS40
DSSN R/L 3232 P19	CS190501	T06015000	M09513	GA07003	D0602900	SS40
DSSN R/L 4040 S19	CS190400	P0801411	M09513	GA07001	D0702800	SS40


(D) DIMPLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212277200	212277300	DTGN R/L 2020 K16	20	20	125	28	25	TN.. 1604..	0,400		
212219500	212277400	DTGN R/L 2525 M16	25	25	150	28	32	TN.. 1604..	0,750		
212277500	212277600	DTGN R/L 2525 M22	25	25	150	34	32	TN.. 2204..	0,750		
212277700	212277800	DTGN R/L 3232 P22	32	32	170	34	40	TN.. 2204..	1,300		

 Stock Items | Itens de stock

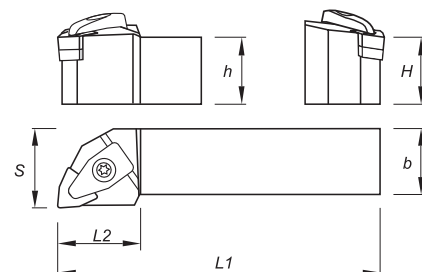
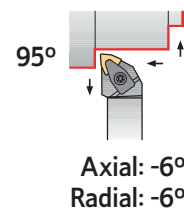
 Available under request | Disponivel sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
DTGN R/L 2020 K16						
DTGN R/L 2525 M16	CT160600	T05008000	M06511	GA05001	D0500801	SS40
DTGN R/L 2525 M22	CT220600	T06010000	M09513	GA07002	D0602900	SS40
DTGN R/L 3232 P22	CT220600	T06010000	M09513	GA07002	D0602900	SS40

(D) DIMPLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium to Finishing	Medium
Flat (06-08)	MF (06-08)	SF (06-08)	LC (08)	MS (06-08)	PM (06-08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR (06-08)	ST (08)	MW (06-08)	SS (06-08)	HR (08)	

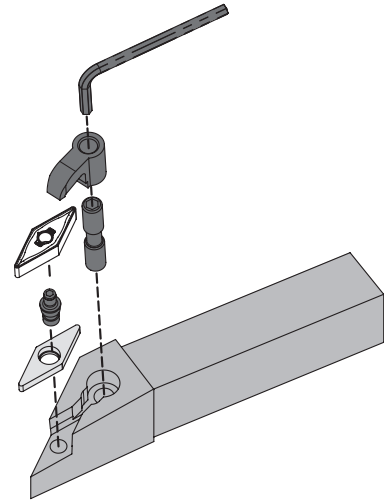
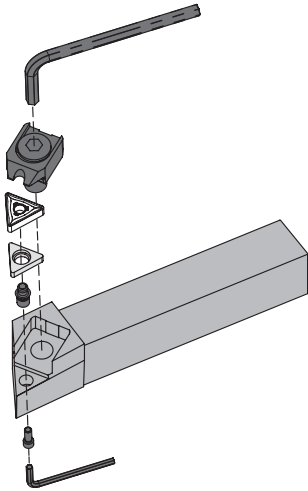


Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212425100	212425200	DWLN R/L 2020 K06	20	20	125	34	25	WN.. 0604..	0,400		
212425300	212425400	DWLN R/L 2525 M06	25	25	150	34	25	WN.. 0604..	0,400		
212277900	212278000	DWLN R/L 2020 K08	20	20	125	34	25	WN.. 0804..	0,400		
212219400	212246300	DWLN R/L 2525 M08	25	25	150	34	32	WN.. 0804..	0,750		
212278100	212278200	DWLN R/L 3232 P08	32	32	170	34	40	WN.. 0804..	1,300		

Stock Items | Itens de stock       Available under request | Disponível sob consulta | Disponible bajo consulta















Cutter Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
DWLN R/L 2020 K06	CW060302	T05008000	M06511	GA05001	D0500801	SS40
DWLN R/L 2525 M06	CW060302	T05008000	M06511	GA05001	D0500801	SS40
DWLN R/L 2020 K08	CW080500	T06010000	M09513	GA07002	D0602900	SS40
DWLN R/L 2525 M08	CW080500	T06010000	M09513	GA07002	D0602900	SS40
DWLN R/L 3232 P08	CW080500	T06010000	M09513	GA07002	D0602900	SS40

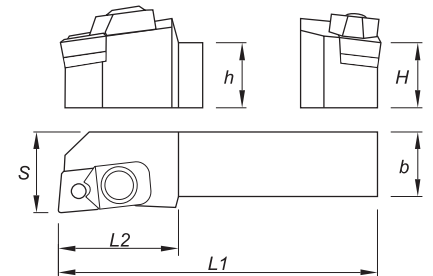
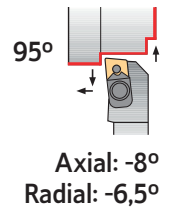
















<b>MCLN 95°</b>  PAGE C - 548 CN.. 1204.. CN.. 1906..	<b>MCLN-K 95°</b>  PAGE C - 549 CN.. 1204.. CN.. 1906..	<b>MDJN-K 93°</b>  PAGE C - 550 DN.. 1506..	<b>MSSN-K 45°</b>  PAGE C - 551 SN.. 1204..	<b>MSSN 45°</b>  PAGE C - 552 SN.. 1204.. SN.. 1906..	<b>MTEN 60°</b>  PAGE C - 553 TN.. 1604.. TN.. 2204..
<b>MTJN 93°</b>  PAGE C - 554 TN.. 1604.. TN.. 2204..	<b>MTJN-K 93°</b>  PAGE C - 555 TN.. 1604.. TN.. 2204..	<b>MTNN 63°</b>  PAGE C - 556 TN.. 1604.. TN.. 2204..	<b>MVJN-K 93°</b>  PAGE C - 557 VN.. 1604..	<b>MVQN-K 117°30'</b>  PAGE C - 558 VN.. 1604..	<b>MVVN-K 72°30'</b>  PAGE C - 559 VN.. 1604..
<b>MWLN 95°</b>  PAGE C - 560 WN.. 0604.. WN.. 0804..	<b>MWLN-K 95°</b>  PAGE C - 561 WN.. 0804..				

(M) WEDGE CLAMP SYSTEM

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat  (12-19)	MF  (12)	SF  (12)	LC  (12)	MS  (12)	MR  (12-19)	PM  (12)
Medium	Medium Wiper	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing
ST  (12-19)	MW  (12)	SS  (12-19)	HR  (12-19)	RP  (19)	HY  (19)	HZ  (19)








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212245900	212278300	MCLN R/L 2020 K12	20	20	125	34	25	CN.. 1204..	0,450		
212246000	212010500	MCLN R/L 2525 M12	25	25	150	34	32	CN.. 1204..	0,800		
212278400	212278500	MCLN R/L 3225 P12	32	25	170	34	32	CN.. 1204..	1,200		
212278600	212278700	MCLN R/L 2525 M19	25	25	150	42	32	CN.. 1906..	0,800		
212278800	212278900	MCLN R/L 3225 P19	32	25	170	42	32	CN.. 1906..	1,200		
212279000	212279100	MCLN R/L 4040 S19	40	40	250	42	50	CN.. 1906..	3,100		















 Stock Items | Itens de stock

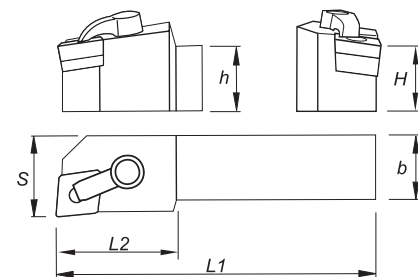
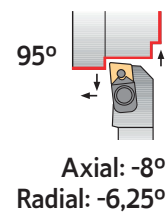
 Available under request | Disponível sob consulta | Disponible bajo consulta











SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim 	Lock Pin 	lock Pin Screw 	Wedge Clamp 	Wrench 
MCLN R/L 2020 K12	CC120500	BC06000	D0400900	GW08002	SS50
MCLN R/L 2525 M12	CC120500	BC06000	D0400900	GW08002	SS50
MCLN R/L 3225 P12	CC120500	BC06000	D0400900	GW08002	SS50
MCLN R/L 2525 M19	CC190500	BC08000	D0602200	GW08003	SS50
MCLN R/L 3225 P19	CC190500	BC08000	D0602200	GW08003	SS50
MCLN R/L 4040 S19	CC190500	BC08000	D0602200	GW08003	SS50

## (M-K) DOUBLE LOCK SYSTEM

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
<b>Flat</b>  (12-19)	<b>MF</b>  (12)	<b>SF</b>  (12)	<b>LC</b>  (12)	<b>MS</b>  (12)	<b>MR</b>  (12-19)	<b>PM</b>  (12)
Medium	Medium Wiper	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing
<b>ST</b>  (12-19)	<b>MW</b>  (12)	<b>SS</b>  (12-19)	<b>HR</b>  (12-19)	<b>RP</b>  (19)	<b>HY</b>  (19)	<b>HZ</b>  (19)

































Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212286200	212286300	MCLN R/L 2020 K12-K	20	20	125	28	25	CN.. 1204..	0,450		
212286400	212286500	MCLN R/L 2525 M12-K	25	25	150	28	32	CN.. 1204..	0,800		
212286600	212286700	MCLN R/L 3225 P12-K	32	25	170	28	32	CN.. 1204..	1,200		
212286800	212286900	MCLN R/L 2525 M19-K	25	25	150	42	32	CN.. 1906..	0,800		
212287000	212287100	MCLN R/L 3232 P19-K	32	32	170	42	40	CN.. 1906..	1,400		

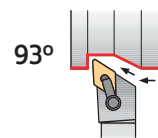
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

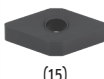
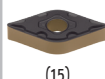
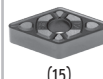
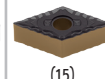
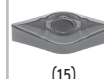
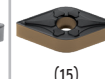
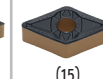
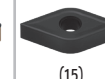
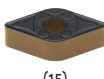
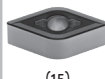
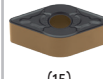
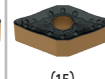
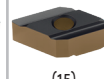
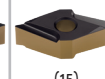
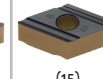
## SPARE PARTS | Complementos | Repuestos

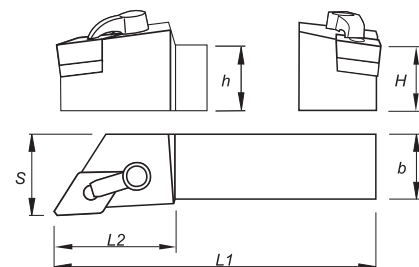
Cutter Reference	Shim	Lock Pin	Lock Pin Wrench	Clamp	Differential Screw	Clamp Wrench
MCLN R/L 2020 K12-K	 CC120500	 BS1-400	 SS25	 GA06000	 F0602900	 SS30
MCLN R/L 2525 M12-K	 CC120500	 BS1-400	 SS25	 GA06000	 F0602900	 SS30
MCLN R/L 3225 P12-K	 CC120500	 BS1-400	 SS25	 GA06000	 F0602900	 SS30
MCLN R/L 2525 M19-K	 CC190502	 BS3-800	 SS40	 GA06003	 F0802900	 SS40
MCLN R/L 3232 P19-K	 CC190502	 BS3-800	 SS40	 GA06003	 F0802900	 SS40







## (M-K) DOUBLE LOCK SYSTEM



Axial: -6°  
Radial: -7°

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	 (15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212287200	212287300	MDJN R/L 2020 K15-K	20	20	125	34	25	DN.. 1506..	0,450		
212287400	212287500	MDJN R/L 2525 M15-K	25	25	150	34	32	DN.. 1506..	0,800		
212287600	212287700	MDJN R/L 3225 P15-K	32	25	170	34	32	DN.. 1506..	1,200		









 Stock Items | Itens de stock

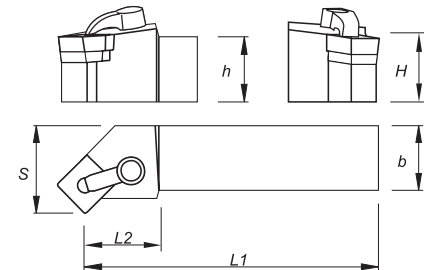
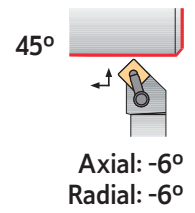
 Available under request | Disponível sob consulta | Disponible bajo consulta



## SPARE PARTS || Complementos | Repuestos


Cutter Reference	Shim	Lock Pin	Lock Pin Wrench	Clamp	Differential Screw	Clamp Wrench
						
MDJN R/L 2020 K15-K	CD150501	BS1-401	SS25	GA06001	F0602900	SS30
MDJN R/L 2525 M15-K	CD150501	BS1-401	SS25	GA06001	F0602900	SS30
MDJN R/L 3225 P15-K	CD150501	BS1-401	SS25	GA06001	F0602900	SS30

## (M-K) DOUBLE LOCK SYSTEM

Roughing	Finishing	Medium to finishing	Medium
Flat  (12)	MF  (12)	SF  (12)	MR  (12)
Medium	Medium	Roughing to Medium	Roughing
PM  (12)	ST  (12)	SS  (12)	HR  (12)









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212287800	212287900	MSSN R/L 2020 K12-K	20	20	125	28	27	SN.. 1204..	0,450		
212288000	212288100	MSSN R/L 2525 M12-K	25	25	150	28	32	SN.. 1204..	0,800		

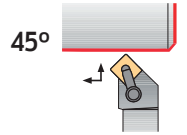
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS | Complementos | Repuestos

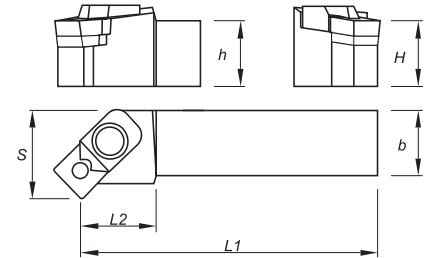
Cutter Reference	Shim 	Lock Pin 	Lock Pin Wrench 	Clamp 	Differential Screw 	Clamp Wrench 
MSSN R/L 2020 K12-K	CS120500	BS1-400	SS25	GA06000	F0602900	SS30
MSSN R/L 2525 M12-K	CS120500	BS1-400	SS25	GA06000	F0602900	SS30

(M) WEDGE CLAMP SYSTEM



Axial: -6°  
Radial: -6°

Roughing	Finishing	Medium	Medium	Medium	Medium
Flat  (12-19)	MF  (12)	SF  (12)	MR  (12-19)	PM  (12)	ST  (12-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS  (12-19)	HR  (12-19)	RP  (19)	HY  (19)	HZ  (19)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212279200	212279300	MSSN R/L 2020 K12	20	20	125	34	27	SN.. 1204..	0,450		
212279400	212279500	MSSN R/L 2525 M12	25	25	150	34	32	SN.. 1204..	0,800		
212279600	212279700	MSSN R/L 3225 P12	32	25	170	34	32	SN.. 1204..	1,200		
212279800	212279900	MSSN R/L 2525 M19	25	25	150	42	32	SN.. 1906..	0,800		
212280000	212280100	MSSN R/L 3225 P19	32	25	170	42	32	SN.. 1906..	1,200		
212280200	212280300	MSSN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	1,400		
212280400	212280500	MSSN R/L 4040 S19	40	40	250	42	50	SN.. 1906..	3,100		












Stock Items | Itens de stock

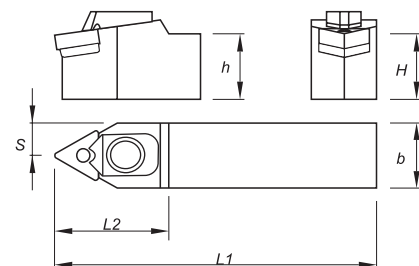
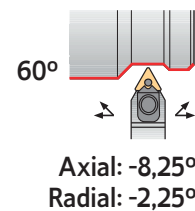
Available under request | Disponível sob consulta | Disponible bajo consulta

























SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim 	Lock Pin 	Lock Pin Screw 	Wedge Clamp 	Wrench 
MSSN R/L 2020 K12	CS120400	BC06000	D0400900	GW08001	SS50
MSSN R/L 2525 M12	CS120400	BC06000	D0400900	GW08001	SS50
MSSN R/L 3225 P12	CS120400	BC06000	D0400900	GW08001	SS50
MSSN R/L 2525 M19	CS190400	BC08000	D0601400	GW08003	SS50
MSSN R/L 3225 P19	CS190400	BC08000	D0601400	GW08003	SS50
MSSN R/L 3232 P19	CS190400	BC08000	D0601400	GW08003	SS50
MSSN R/L 4040 S19	CS190400	BC08000	D0601400	GW08003	SS50

## (M) WEDGE CLAMP SYSTEM

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212280600	212280700	MTEN R/L 2020 K16	20	20	125	34	10,5	TN.. 1604..	0,450		
212054800	212280900	MTEN R/L 2525 M16	25	25	150	34	13,0	TN.. 1604..	0,800		
212281000	212281100	MTEN R/L 3225 P16	32	25	170	34	13,0	TN.. 1604..	1,200		
212168800	212281300	MTEN R/L 2525 M22	25	25	150	42	13,0	TN.. 2204..	0,800		
212281500	212281600	MTEN R/L 3225 P22	32	25	170	42	13,0	TN.. 2204..	1,200		
212281800	212281900	MTEN R/L 3232 P22	32	32	170	42	16,5	TN.. 2204..	1,400		
212282100	212282200	MTEN R/L 4025 R22	40	25	200	42	13,0	TN.. 2204..	1,500		
212282400	212282500	MTEN R/L 5032 S22	50	32	250	45	16,5	TN.. 2204..	2,950		
212280800		MTEN N 2020 K16	20	20	125	34	10,5	TN.. 1604..	0,450		
212169700		MTEN N 2525 M16	25	25	150	34	13,0	TN.. 1604..	0,800		
212281200		MTEN N 3225 P16	32	25	170	34	13,0	TN.. 1604..	1,200		
212281400		MTEN N 2525 M22	25	25	150	42	13,0	TN.. 2204..	0,800		
212281700		MTEN N 3225 P22	32	25	170	42	13,0	TN.. 2204..	1,200		
212282000		MTEN N 3232 P22	32	32	170	42	16,5	TN.. 2204..	1,400		
212282300		MTEN N 4025 R22	40	25	200	42	13,0	TN.. 2204..	1,500		
212282600		MTEN N 5032 S22	50	32	250	45	16,5	TN.. 2204..	2,950		

 Stock Items | Itens de stock

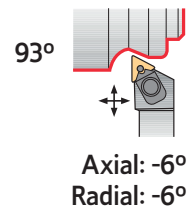
 Available under request | Disponível sob consulta | Disponible bajo consulta













## SPARE PARTS || Complementos | Repuestos

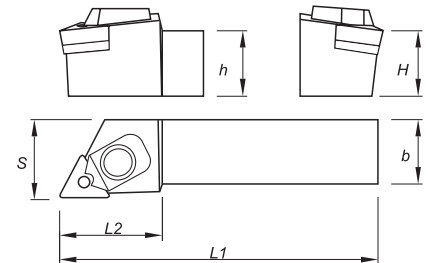
Cutter Reference	Shim	Lock Pin	Lock Pin Screw	Wedge Clamp	Wrench
					
MTEN R/L/N 2020 K16	CT160302	BC04500	D0300700	GW08001	SS50
MTEN R/L/N 2525 M16	CT160302	BC04500	D0300700	GW08001	SS50
MTEN R/L/N 3225 P16	CT160302	BC04500	D0300700	GW08001	SS50
MTEN R/L/N 2525 M22	CT220500	BC06000	D0400900	GW08003	SS50
MTEN R/L/N 3225 P22	CT220500	BC06000	D0400900	GW08003	SS50
MTEN R/L/N 3232 P22	CT220500	BC06000	D0400900	GW08003	SS50
MTEN R/L/N 4025 R22	CT220500	BC06000	D0400900	GW08003	SS50
MTEN R/L/N 5032 S22	CT220500	BC06000	D0400900	GW08003	SS50

















C  
 TURNING  
 Insert selection  
 Overview  
 Negative inserts  
 Positive inserts  
 PCBN & PCD inserts  
 Heavy turning  
 External Toolholders  
 Internal Toolholders  
 Automatic Lathes  
 Spare Parts  
 Technical Data


(M) WEDGE CLAMP SYSTEM



Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing
PM	ST	MW	SS	HR	O1
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212054100	212282700	MTJN R/L 2020 K16	20	20	125	34	25	TN.. 1604..	0,450		
212026100	212047700	MTJN R/L 2525 M16	25	25	150	34	32	TN.. 1604..	0,800		
212010600	212282800	MTJN R/L 3225 P16	32	25	170	34	32	TN.. 1604..	1,200		
212282900	212283000	MTJN R/L 2525 M22	25	25	150	42	32	TN.. 2204..	0,800		
212283100	212283200	MTJN R/L 3225 P22	32	25	170	42	32	TN.. 2204..	1,200		
212283300	212283400	MTJN R/L 3232 P22	32	32	170	42	40	TN.. 2204..	1,400		
212283500	212283600	MTJN R/L 4025 R22	40	25	200	42	32	TN.. 2204..	1,500		
212010700	212283700	MTJN R/L 5032 S22	50	32	250	45	40	TN.. 2204..	2,950		

 Stock Items | Itens de stock













 Available under request | Disponível sob consulta | Disponible bajo consulta

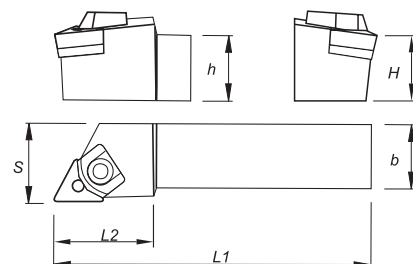
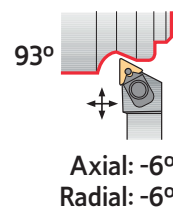
SPARE PARTS | Complementos | Repuestos















Cutter Reference	Shim	Lock Pin	Lock Pin Screw	Wedge Clamp	Wrench
MTJN R/L 2020 K16	 CT160302	 BC04500	 D0300700	 GW08001	 SS50
MTJN R/L 2525 M16	CT160302	BC04500	D0300700	GW08001	SS50
MTJN R/L 3225 P16	CT160302	BC04500	D0300700	GW08001	SS50
MTJN R/L 2525 M22	CT220500	BC06000	D0400900	GW08003	SS50
MTJN R/L 3225 P22	CT220500	BC06000	D0400900	GW08003	SS50
MTJN R/L 3232 P22	CT220500	BC06000	D0400900	GW08003	SS50
MTJN R/L 4025 R22	CT220500	BC06000	D0400900	GW08003	SS50
MTJN R/L 5032 S22	CT220500	BC06000	D0400900	GW08003	SS50



## (M-K) DOUBLE LOCK SYSTEM

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing
PM	ST	MW	SS	HR	O1
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)






































Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212289300	212289400	MTJN R/L 2020 K16-K	20	20	125	22	25	TN.. 1604..	0,450		
212228600	212289500	MTJN R/L 2525 M16-K	25	25	150	22	32	TN.. 1604..	0,800		
212169600	212289600	MTJN R/L 2525 M22-K	25	25	150	28	32	TN.. 2204..	0,800		
212289700	212289800	MTJN R/L 3225 P22-K	32	25	170	28	32	TN.. 2204..	1,200		
212289900	212290000	MTJN R/L 3232 P22-K	32	32	170	28	40	TN.. 2204..	1,400		
212290100	212290200	MTJN R/L 4025 R22-K	40	25	200	34	32	TN.. 2204..	1,500		
212290300	212290400	MTJN R/L 5032 S22-K	50	32	250	34	40	TN.. 2204..	2,950		

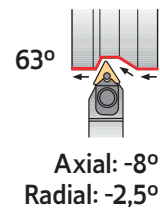
 Stock Items | Itens de stock












 Available under request | Disponível sob consulta | Disponible bajo consulta

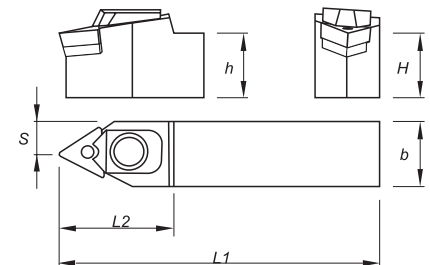
## SPARE PARTS || Complementos | Repuestos

















Cutter Reference	Shim	Lock Pin	Lock Pin Screw	Wedge Clamp	Wrench
MTJN R/L 2020 K16-K	 CT160302	 BC04500	 D0300700	 GW05001	 SS25
MTJN R/L 2525 M16-K	 CT160302	 BC04500	 D0300700	 GW05001	 SS25
MTJN R/L 2525 M22-K	 CT220500	 BC06000	 D0400900	 GW06001	 SS30
MTJN R/L 3225 P22-K	 CT220500	 BC06000	 D0400900	 GW06001	 SS30
MTJN R/L 3232 P22-K	 CT220500	 BC06000	 D0400900	 GW06001	 SS30
MTJN R/L 4025 R22-K	 CT220500	 BC06000	 D0400900	 GW06001	 SS30
MTJN R/L 5032 S22-K	 CT220500	 BC06000	 D0400900	 GW06001	 SS30

(M) WEDGE CLAMP SYSTEM



Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212283800	212283900	MTNN R/L 2020 K16	20	20	125	34	10,0	TN.. 1604..	0,450		
212284000	212043900	MTNN R/L 2525 M16	25	25	150	34	12,5	TN.. 1604..	0,800		
212284100	212284200	MTNN R/L 3225 P16	32	25	170	34	12,5	TN.. 1604..	1,200		
212284300	212284400	MTNN R/L 2525 M22	25	25	150	42	12,5	TN.. 2204..	0,800		
212284500	212284600	MTNN R/L 3225 P22	32	25	170	42	12,5	TN.. 2204..	1,200		
212284700	212284800	MTNN R/L 3232 P22	32	32	170	42	16,0	TN.. 2204..	1,400		
212284900	212285000	MTNN R/L 4025 R22	40	25	200	42	12,5	TN.. 2204..	1,500		
212285100	212285200	MTNN R/L 5032 S22	50	32	250	45	16,0	TN.. 2204..	2,950		

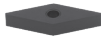
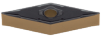


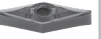
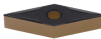



 Stock items | Itens de stock

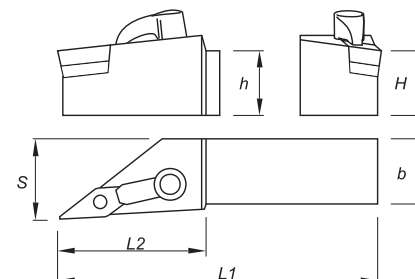
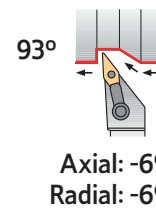
 Available under request | Disponível sob consulta | Disponible bajo consulta







SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Lock Pin	Lock Pin Screw	Wedge Clamp	Wrench
MTNN R/L 2020 K16					
MTNN R/L 2525 M16	CT160302	BC04500	D0300700	GW08001	SS50
MTNN R/L 3225 P16	CT160302	BC04500	D0300700	GW08001	SS50
MTNN R/L 2525 M22	CT220500	BC06000	D0400900	GW08003	SS50
MTNN R/L 3225 P22	CT220500	BC06000	D0400900	GW08003	SS50
MTNN R/L 3232 P22	CT220500	BC06000	D0400900	GW08003	SS50
MTNN R/L 4025 R22	CT220500	BC06000	D0400900	GW08003	SS50
MTNN R/L 5032 S22	CT220500	BC06000	D0400900	GW08003	SS50


## (M-K) DOUBLE LOCK SYSTEM

Roughing	Medium to Finishing	Medium to Finishing	Medium to Finishing	Medium to Finishing
Flat	MF	SF	LC	MS
 (16)	 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	Roughing to Medium	
MR	PM	ST	SS	
 (16)	 (16)	 (16)	 (16)	





















Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212050100	212057700	MVJN R/L 2020 K16-K	20	20	125	43	25	VN.. 1604..	0,450		
212246100	212288200	MVJN R/L 2525 M16-K	25	25	150	43	32	VN.. 1604..	0,800		
212288300	212288400	MVJN R/L 3225 P16-K	32	25	170	43	32	VN.. 1604..	1,200		

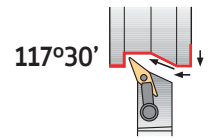
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

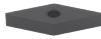
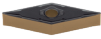


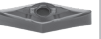
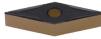

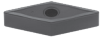

## SPARE PARTS || Complementos | Repuestos

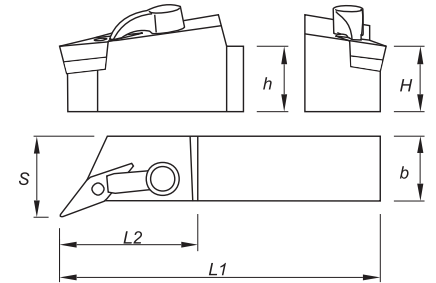
Cutter Reference	Shim	Lock Pin	Lock Pin Wrench	Clamp	Differential Screw	Clamp Wrench
MVJN R/L 2020 K16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30
MVJN R/L 2525 M16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30
MVJN R/L 3225 P16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30







## (M-K) DOUBLE LOCK SYSTEM




Axial: -8°  
Radial: -10°

Roughing	Medium to Finishing	Medium to Finishing	Medium to Finishing	Medium to Finishing
Flat	MF	SF	LC	MS
 (16)	 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	Roughing to Medium	
MR	PM	ST	SS	
 (16)	 (16)	 (16)	 (16)	







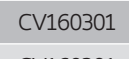





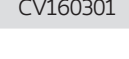







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
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212288500	212288600	MVQN R/L 2020 K16-K	20	20	125	43	25	VN.. 1604..	0,450		
212288700	212288800	MVQN R/L 2525 M16-K	25	25	150	43	32	VN.. 1604..	0,800		
212288900	212289000	MVQN R/L 3225 P16-K	32	25	170	43	32	VN.. 1604..	1,200		

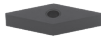
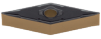


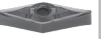
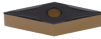

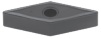

 Stock Items | Itens de stock

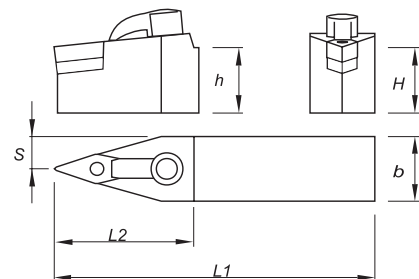
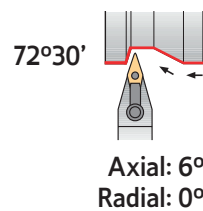
 Available under request | Disponível sob consulta | Disponible bajo consulta





## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Lock Pin	Lock Pin Wrench	Clamp	Differential Screw	Clamp Wrench
MVQN R/L 2020 K16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30
MVQN R/L 2525 M16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30
MVQN R/L 3225 P16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30

## (M-K) DOUBLE LOCK SYSTEM

Roughing	Medium to Finishing	Medium to Finishing	Medium to Finishing	Medium to Finishing
Flat	MF	SF	LC	MS
 (16)	 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	Roughing to Medium	
MR	PM	ST	SS	
 (16)	 (16)	 (16)	 (16)	







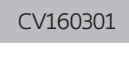







Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock	
		H=h	b	L1	L2	S			R	L
212289100	MVVN N 2020 K16-K	20	20	125	43	10,0	VN..1604..	0,450		
212289200	MVVN N 2525 M16-K	25	25	150	43	12,5	VN..1604..	0,800		












 Stock Items | Itens de stock

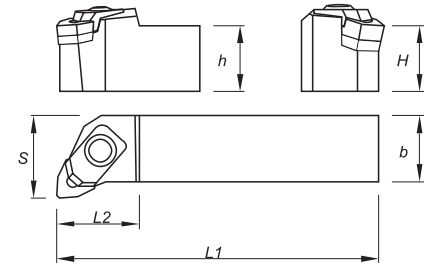
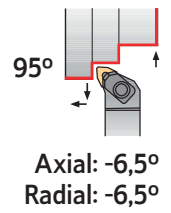
 Available under request | Disponível sob consulta | Disponible bajo consulta















## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Lock Pin	Lock Pin Wrench	Clamp	Differential Screw	Clamp Wrench
MVVN N 2020 K16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30
MVVN N 2525 M16-K	 CV160301	 BS05000	 SS20	 GA06002	 F0602900	 SS30

(M) WEDGE CLAMP SYSTEM

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (08)	MF  (06-08)	SF  (06-08)	LC  (08)	MS  (06-08)	PM  (06-08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR  (06-08)	ST  (08)	MW  (06-08)	SS  (06-08)	HR  (08)	








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212285300	212285400	MWLN R/L 1616 H06	16	16	100	15	20	WN.. 0604..	0,200		
212048200	212285500	MWLN R/L 2020 K06	20	20	125	25	25	WN.. 0604..	0,450		
212285600	212285700	MWLN R/L 2525 M06	25	25	150	25	32	WN.. 0604..	0,800		
212246200	212285800	MWLN R/L 2020 K08	20	20	125	34	25	WN.. 0804..	0,450		
212054000	212042400	MWLN R/L 2525 M08	25	25	150	34	32	WN.. 0804..	0,800		
212285900	212286000	MWLN R/L 3225 P08	32	25	170	34	32	WN.. 0804..	1,200		
212010800	212286100	MWLN R/L 3232 P08	32	32	170	34	40	WN.. 0804..	1,400		












 Stock Items | Itens de stock

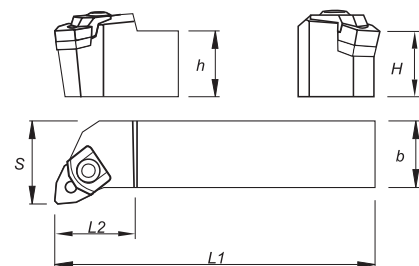
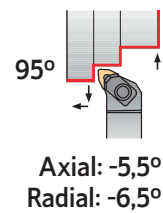
 Available under request | Disponível sob consulta | Disponible bajo consulta







SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim 	Lock Pin 	Lock Pin Screw 	Wedge Clamp 	Wrench 
MWLN R/L 1616 H06	CW060300	BC04501	D0300700	GW05000	SS25
MWLN R/L 2020 K06	CW060300	BC04500	D0300700	GW05000	SS25
MWLN R/L 2525 M06	CW060300	BC04500	D0300700	GW05000	SS25
MWLN R/L 2020 K08	CW080500	BC06000	D0400900	GW08000	SS50
MWLN R/L 2525 M08	CW080500	BC06000	D0400900	GW08000	SS50
MWLN R/L 3225 P08	CW080500	BC06000	D0400900	GW08000	SS50
MWLN R/L 3232 P08	CW080500	BC06000	D0400900	GW08000	SS50


## (M-K) DOUBLE LOCK SYSTEM

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (08)	MF  (08)	SF  (08)	LC  (08)	MS  (08)	PM  (08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR  (08)	ST  (08)	MW  (08)	SS  (08)	HR  (08)	








Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212290500	212290600	MWLN R/L 2020 K08-K	20	20	125	34	25	WN.. 0804..	0,450		
212250200	212290700	MWLN R/L 2525 M08-K	25	25	150	34	32	WN.. 0804..	0,800		
212290800	212290900	MWLN R/L 3232 P08-K	32	32	170	34	40	WN.. 0804..	1,400		

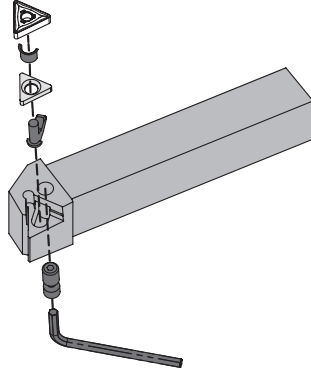
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim 	Lock Pin 	Lock Pin Screw 	Wedge Clamp 	Wrench 
MWLN R/L 2020 K08-K	CW080500	BC06000	D0400900	GW06000	SS25
MWLN R/L 2525 M08-K	CW080500	BC06000	D0400900	GW06000	SS25
MWLN R/L 3232 P08-K	CW080500	BC06000	D0400900	GW06000	SS25














# (P) LEVER LOCK SYSTEM

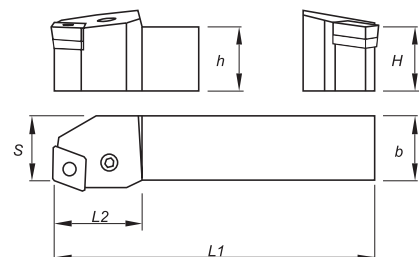
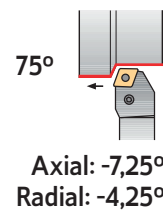
























<p><b>PCBN 75°</b></p> <p>PAGE C - 563 CN.. 1204.. CN.. 1606.. CN.. 1906.. CN..2509..</p>	<p><b>PCFN 90°</b></p> <p>PAGE C - 564 CN.. 1204.. CN.. 1606.. CN.. 1906..</p>	<p><b>PCKN 75°</b></p> <p>PAGE C - 565 CN.. 1204... CN.. 1906.. CN.. 2506..</p>	<p><b>PCLN 95°</b></p> <p>PAGE C - 566 CN..0903.. ... CN..2509..</p>	<p><b>PCMN 50°</b></p> <p>PAGE C - 568 SN.. 1204.. SN.. 1906..</p>	<p><b>PCSN 45°</b></p> <p>PAGE C - 569 CN.. 1204.. CN.. 1606.. CN.. 1906..</p>
<p><b>PDJN 93°</b></p> <p>PAGE C - 570 DN.. 1104.. DN.. 1504.. DN.. 1506..</p>	<p><b>PDNN 63°</b></p> <p>PAGE C - 571 DN.. 1504.. DN.. 1506..</p>	<p><b>PRDC</b></p> <p>PAGE C - 572 RC.. 1003M0 ... RC.. 3209M0</p>	<p><b>PRSC</b></p> <p>PAGE C - 574 RC.. 10..32</p>	<p><b>PRSN</b></p> <p>PAGE C - 575 RN.. 09..25</p>	<p><b>PSBN 75°</b></p> <p>PAGE C - 576 SN.. 0903.. ... SN.. 2507..</p>
<p><b>PSDN 45°</b></p> <p>PAGE C - 577 SN.. 0903.. ... SN.. 2507..</p>	<p><b>PSKN 75°</b></p> <p>PAGE C - 578 SN.. 0903.. ... SN.. 2507..</p>	<p><b>PSSN 45°</b></p> <p>PAGE C - 579 SN.. 0903.. ... SN.. 2507..</p>	<p><b>PTDN 45°</b></p> <p>PAGE C - 580 TN.. 2204..</p>	<p><b>PTFN 90°</b></p> <p>PAGE C - 581 TN.. 1604.. TN.. 2204.. TN.. 2706..</p>	<p><b>PTGN 90°</b></p> <p>PAGE C - 582 TN.. 1604.. ... TN.. 3307..</p>
<p><b>PTTN 60°</b></p> <p>PAGE C - 583 TN.. 1604.. TN.. 2204..</p>	<p><b>PWLN 95°</b></p> <p>PAGE C - 584 WN.. 0604.. WN.. 0804..</p>				



(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat  (12-16-19)	MF  (12)	SF  (12)	LC  (12)	MS  (12)	MR  (12-16-19)	PM  (12)
Medium	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
ST  (12-16-19)	SS  (12-16-19)	HR  (12-16-19-25)	RP  (16-19)	HY  (19-25)	HZ  (19-25)	




Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212291000	212291100	PCBN R/L 2020 K12	20	20	125	28	17	CN.. 1204..	0,400		
212011200	212010900	PCBN R/L 2525 M12	25	25	150	28	22	CN.. 1204..	0,750		
212423100	212423200	PCBN R/L 3225 P12	32	25	170	34	22,0	CN.. 1204..	0,750		
212291200	212291300	PCBN R/L 2525 M16	25	25	150	34	22	CN.. 1606..	0,750		
212291400	212291500	PCBN R/L 3225 P16	32	25	170	34	22	CN.. 1606..	1,050		
212291600	212291700	PCBN R/L 3232 P16	32	32	170	34	27	CN.. 1606..	1,300		
212291800	212291900	PCBN R/L 3225 P19	32	25	170	42	22	CN.. 1906..	1,050		
212011300	212011000	PCBN R/L 3232 P19	32	32	170	42	27	CN.. 1906..	1,300		
212011400	212011100	PCBN R/L 4040 S19	40	40	250	45	35	CN.. 1906..	3,050		
212387900	212388000	PCBN R/L 4040 P25	40	40	250	48	41	CN.. 2509..	3,100		
212388100	212388200	PCBN R/L 5050 T25	50	50	300	50	51	CN.. 2509..	4,000		

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

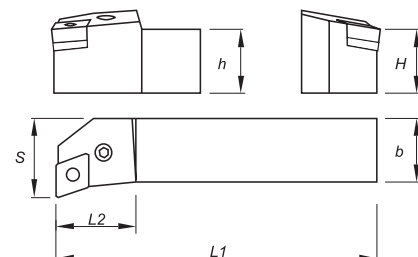
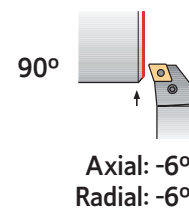
SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PCBN R/L 2020 K12						
PCBN R/L 2525 M12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCBN R/L 3225 P12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCBN R/L 2525 M16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCBN R/L 3225 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCBN R/L 3232 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCBN R/L 3225 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCBN R/L 3232 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCBN R/L 4040 S19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCBN R/L 4040 S25	CC250700	BE10500	BF12520	AN25200	PA1203600	SS50
PCBN R/L 5050 T25	CC250700	BE10500	BF12520	AN25200	PA1203600	SS50

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Technical Data

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat (12-16-19)	MF (12)	SF (12)	LC (12)	MS (12)	MR (12-16-19)	PM (12)
Medium	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
ST (12-16-19)	SS (12-16-19)	HR (12-16-19)	RP (16-19)	HY (19)	HZ (19)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212292000	212292100	PCFN R/L 2525 M12	25	25	150	28	32	CN..1204..	0,750		
212292200	212292300	PCFN R/L 2525 M16	25	25	150	34	32	CN..1606..	0,750		
212292400	212292500	PCFN R/L 3225 P16	32	25	170	34	32	CN..1606..	1,050		
212292600	212292700	PCFN R/L 3232 P16	32	32	170	34	40	CN..1606..	1,300		
212292800	212292900	PCFN R/L 3225 P19	32	25	170	42	32	CN..1906..	1,050		
212293000	212293100	PCFN R/L 3232 P19	32	32	170	42	40	CN..1906..	1,300		
212293200	212293300	PCFN R/L 4040 S19	40	40	250	45	50	CN..1906..	3,050		














Stock Items | Itens de stock

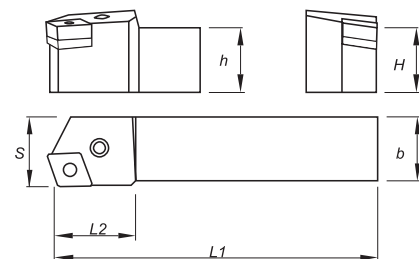
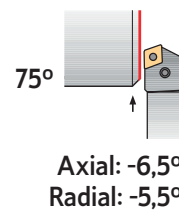
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




SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PCFN R/L 2525 M12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCFN R/L 2525 M16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCFN R/L 3225 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCFN R/L 3232 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCFN R/L 3225 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCFN R/L 3232 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCFN R/L 4040 S19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat  (12-19)	MF  (12)	SF  (12)	LC  (12)	MS  (12)	MR  (12-19)	PM  (12)
Medium	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
ST  (12-19)	SS  (12-19)	HR  (12-19-25)	RP  (19)	HY  (19-25)	HZ  (19-25)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212011600	212293400	PCKN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	0,400		
212011700	212293500	PCKN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	0,750		
212293600	212011500	PCKN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	1,050		
212293800	212293900	PCKN R/L 3232 P19	32	32	170	34	40	CN.. 1906..	1,300		
212294000	212294100	PCKN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	3,050		
212294200	212294300	PCKN R/L 4040 S25	40	40	250	45	50	CN.. 2509..	3,050		
212294400	212294500	PCKN R/L 5050 T25	50	50	300	45	60	CN.. 2509..	5,850		

 Stock Items | Itens de stock














 Available under request | Disponível sob consulta | Disponible bajo consulta

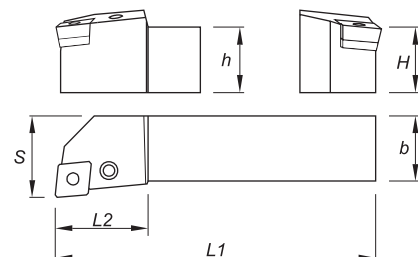
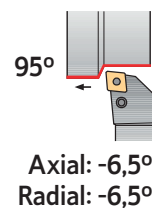
SPARE PARTS | Complementos | Repuestos







































Cutter Reference	Order separately					
	Shim 	Shim Pin 	Shim Pin Punch 	Lever 	Lever Screw 	Wrench 
PCKN R/L 2020 K12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCKN R/L 2525 M12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCKN R/L 3225 P12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCKN R/L 3232 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCKN R/L 4040 S19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCKN R/L 4040 S25	CC250700	BE10500	BF12520	AN25200	PA1203600	SS50
PCKN R/L 5050 T25	CC250700	BE10500	BF12520	AN25200	PA1203600	SS50

C  
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External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat  (09-12-16-19)	MF  (09-12)	SF  (12)	LC  (12)	MS  (12)	MR  (09-12-16-19)	PM  (12)
Medium	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
ST  (09-12-16-19)	SS  (09-12-16-19)	HR  (12-16-19-25)	RP  (16-19)	HY  (19-25)	HZ  (19-25)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212294600	212294700	PCLN R/L 1616 H09	16	16	100	25	20	CN.. 0903..	0,250		
212294800	212294900	PCLN R/L 2020 K09	20	20	125	27	25	CN.. 0903..	0,400		
212295000	212295100	PCLN R/L 2525 M09	25	25	150	27	32	CN.. 0903..	0,750		
212012300	212011800	PCLN R/L 1616 H12	16	16	100	26	20	CN.. 1204..	0,250		
212012400	212011900	PCLN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	0,400		
212044800	212031500	PCLN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	0,750		
212295200	212295300	PCLN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	1,050		
212058200	212295400	PCLN R/L 3232 P12	32	32	170	28	40	CN.. 1204..	1,300		
212036400	212168100	PCLN R/L 2525 M16	25	25	150	34	32	CN.. 1606..	0,750		
212295500	212295600	PCLN R/L 3225 P16	32	25	170	34	32	CN.. 1606..	1,050		
212295700	212012100	PCLN R/L 3232 P16	32	32	170	34	40	CN.. 1606..	1,300		
212295800	212012200	PCLN R/L 4040 S16	40	40	250	34	50	CN.. 1606..	3,050		
212058100	212295900	PCLN R/L 2525 M19	25	25	150	42	32	CN.. 1906..	0,750		
212296000	212296100	PCLN R/L 3225 P19	32	25	170	42	32	CN.. 1906..	1,050		
212058300	212296200	PCLN R/L 3232 P19	32	32	170	42	40	CN.. 1906..	1,300		
212058400	212296300	PCLN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	3,050		
212422700	212422800	PCLN R/L 5050 T19	50	50	300	50	60	CN.. 1906..	3,050		
212296400	212296500	PCLN R/L 4040 S25	40	40	250	45	50	CN.. 2509..	3,050		
212296600	212296700	PCLN R/L 5050 T25	50	50	300	45	60	CN.. 2509..	5,850		

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta


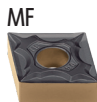



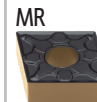







(P) LEVER LOCK TOOLHOLDERS

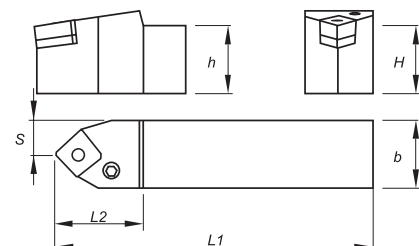
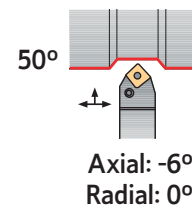
SPARE PARTS | Complementos | Repuestos






Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PCLN R/L 1616 H09	CC090300	BE04400	BF40009	AN01200	PA0601700	SS25
PCLN R/L 2020 K09	CC090300	BE04400	BF40009	AN01200	PA0601700	SS25
PCLN R/L 2525 M09	CC090300	BE04400	BF40009	AN01200	PA0601700	SS25
PCLN R/L 1616 H12	CC120301	BE05500	BF47509	AC13200	PA0801700	SS30
PCLN R/L 2020 K12	CC120301	BE05500	BF47509	AC13200	PA0802100	SS30
PCLN R/L 2525 M12	CC120301	BE05500	BF47509	AC13200	PA0802100	SS30
PCLN R/L 3225 P12	CC120301	BE05500	BF47509	AC13200	PA0802100	SS30
PCLN R/L 3232 P12	CC120301	BE05500	BF47509	AC13200	PA0802100	SS30
PCLN R/L 2525 M16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCLN R/L 3225 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCLN R/L 3232 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCLN R/L 4040 S16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCLN R/L 2525 M19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCLN R/L 3225 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCLN R/L 3232 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCLN R/L 4040 S19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCLN R/L 5050 T19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCLN R/L 4040 S25	CC250700	BE10500	BF12520	AN25200	PA1203600	SS50
PCLN R/L 5050 T25	CC250700	BE10500	BF12520	AN25200	PA1203600	SS50

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(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat  (12-19)	MF  (12)	SF  (12)	LC  (12)	MS  (12)	MR  (12-19)	PM  (12)
Medium	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
ST  (12-19)	SS  (12-19)	HR  (12-19)	RP  (19)	HY  (19)	HZ  (19)	









Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212296800	PCMN N 2020 K12	20	20	125	34	10,0	CN.. 1204..	0,400	
212296900	PCMN N 2525 M12	25	25	150	34	12,5	CN.. 1204..	0,750	
212297000	PCMN N 3225 P12	32	25	170	34	12,5	CN.. 1204..	1,050	
212297100	PCMN N 3232 P19	32	32	170	42	16,0	CN.. 1906..	1,300	
212297200	PCMN N 4040 S19	40	40	250	42	20,0	CN.. 1906..	3,050	














 Stock Items | Itens de stock

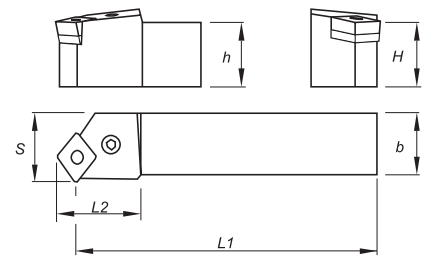
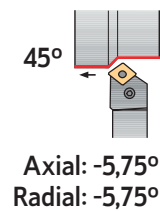
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







SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PCMN N 2020 K12						
PCMN N 2525 M12	CC120301	BE05500	BF47509	AN13100	A0802100	SS30
PCMN N 3225 P12	CC120301	BE05500	BF47509	AN13100	A0802100	SS30
PCMN N 3232 P19	CC190500	BE08500	BF80012	AN20800	A1002700	SS40
PCMN N 4040 S19	CC190500	BE08500	BF80012	AN20800	A1002700	SS40

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat  (12-16-19)	MF  (12)	SF  (12)	LC  (12)	MS  (12)	MR  (12-16-19)	PM  (12)
Medium	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
ST  (12-19)	SS  (12-16-19)	HR  (12-16-19)	RP  (19)	HY  (19)	HZ  (19)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212297300	212297400	PCSN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	0,400		
212297500	212012800	PCSN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	0,750		
212297600	212297700	PCSN R/L 2525 M16	25	25	150	34	32	CN.. 1606..	0,750		
212297800	212297900	PCSN R/L 3225 P16	32	25	170	34	32	CN.. 1606..	1,050		
212013100	212298000	PCSN R/L 3232 P16	32	32	170	34	40	CN.. 1606..	1,300		
212298100	212298200	PCSN R/L 3225 P19	32	25	170	42	32	CN.. 1906..	1,050		
212298300	212298400	PCSN R/L 3232 P19	32	32	170	42	40	CN.. 1906..	1,300		
212298500	212298600	PCSN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	3,050		

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta
















SPARE PARTS | Complementos | Repuestos

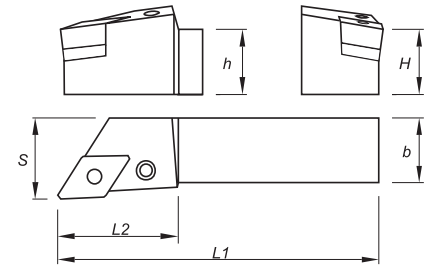
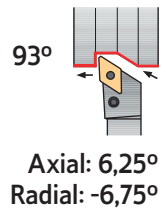
Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PCSN R/L 2020 K12						
PCSN R/L 2525 M12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCSN R/L 2525 M16	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
PCSN R/L 3225 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCSN R/L 3232 P16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCSN R/L 3225 P19	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
PCSN R/L 3232 P19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
PCSN R/L 4040 S19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40





















C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data



(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
 (11-15)	 (11-15)	 (11-15)	 (15)	 (15)	 (11-15)	 (15)	 (11-15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
 (15)	 (11-15)	 (15)	 (15)	 (15)	 (15)	 (15)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212057800	212298700	PDJN R/L 1616 H11	16	16	100	28	20	DN.. 1104..	0,250		
212246900	212246800	PDJN R/L 2020 K11	20	20	125	28	25	DN.. 1104..	0,400		
212247500	212247600	PDJN R/L 2525 M11	25	25	150	28	32	DN.. 1104..	0,750		
212298800	212298900	PDJN R/L 3225 P11	32	25	170	28	32	DN.. 1104..	1,050		
212013600	212013200	PDJN R/L 2020 K15	20	20	125	34	25	DN.. 1506..	0,400		
212037300	212031600	PDJN R/L 2525 M15	25	25	150	34	32	DN.. 1506..	0,750		
212299000	212013400	PDJN R/L 3225 P15	32	25	170	34	32	DN.. 1506..	1,050		
212013800	212013500	PDJN R/L 3232 P15	32	32	170	34	40	DN.. 1506..	1,300		
212299100	212299200	PDJN R/L 4025 R15	40	25	200	34	32	DN.. 1506..	1,850		
212299300	212299400	PDJN R/L 5032 S15	50	32	250	34	40	DN.. 1506..	2,900		

 Stock Items | Itens de stock
















 Available under request | Disponível sob consulta | Disponible bajo consulta

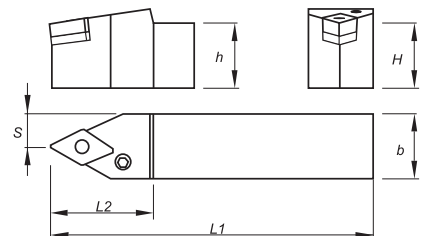
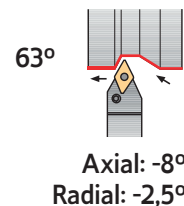
SPARE PARTS | Complementos | Repuestos



















Cutter Reference	Order separately						for inserts DN. 1504..	
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench	Shim	Shim Pin
PDJN R/L 1616 H11							-	-
PDJN R/L 2020 K11	CD110300	BE04400	BF40009	AN01200	PA0601700	SS25	-	-
PDJN R/L 2525 M11	CD110300	BE04400	BF40009	AN01200	PA0601700	SS25	-	-
PDJN R/L 3225 P11	CD110300	BE04400	BF40009	AN01200	PA0601700	SS25	-	-
PDJN R/L 2020 K15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDJN R/L 2525 M15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDJN R/L 3225 P15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDJN R/L 3232 P15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDJN R/L 4025 R15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDJN R/L 5032 S15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401



(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
							
(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
							
(15)	(15)	(15)	(15)	(15)	(15)	(15)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212299500	212299600	PDNN R/L 2020 K15	20	20	125	34	10,0	DN.. 1506..	0,400		
212299800	212299900	PDNN R/L 2525 M15	25	25	150	34	12,5	DN.. 1506..	0,750		
212300100	212300200	PDNN R/L 3225 P15	32	25	170	34	12,5	DN.. 1506..	1,050		
212300300	212300400	PDNN R/L 3232 P15	32	32	170	34	16,0	DN.. 1506..	1,300		
212300600	212300700	PDNN R/L 4025 S15	40	25	250	34	12,5	DN.. 1506..	1,850		
212300900	212301000	PDNN R/L 5032 S15	50	32	250	34	16,0	DN.. 1506..	2,900		
212299700		PDNN N 2020 K15	20	20	125	34	10,0	DN.. 1506..	0,400		
212300000		PDNN N 2525 M15	25	25	150	34	12,5	DN.. 1506..	0,750		
212250000		PDNN N 3225 P15	32	25	170	34	12,5	DN.. 1506..	1,050		
212300500		PDNN N 3232 P15	32	32	170	34	16,0	DN.. 1506..	1,300		
212300800		PDNN N 4025 S15	40	25	250	34	12,5	DN.. 1506..	1,850		
212301100		PDNN N 5032 S15	50	32	250	34	16,0	DN.. 1506..	2,900		

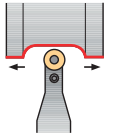
 Stock items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

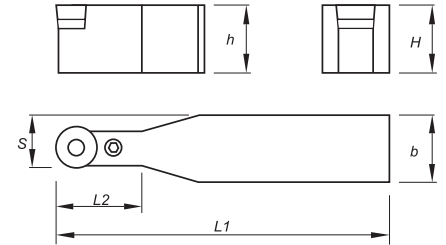
Cutter Reference	Order separately						for inserts DN.. 1504..	
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench	Shim	Shim Pin
PDNN R/L/N 2020 K15								
PDNN R/L/N 2525 M15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDNN R/L/N 3225 P15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDNN R/L/N 3232 P15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDNN R/L/N 4025 S15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
PDNN R/L/N 5032 S15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401

(P) LEVER LOCK TOOLHOLDERS



Axial: 0°  
Radial: 0°

Roughing to Medium ..MT-ST  (10-12-16-20)	Roughing to Medium ..MT-RF  (25)	Roughing to Medium ..MT-RM  (20)	Roughing to Medium ..MX-ST  (10-12-16-20-25-32)
Roughing to Medium ..MX-RM  (32)	Roughing to Medium ...MX-RR  (25-32)	Finishing to Fine Finishing LN  (10-12)	



Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212051100	PRDC N 2020 K10	20	20	125	22	15,0	RC.. 1003M0	0,400	⊗
212169000	PRDC N 2525 M10	25	25	150	22	18,5	RC.. 1003M0	0,750	⊗
212301200	PRDC N 3225 P10	32	25	170	22	18,5	RC.. 1003M0	1,050	⊗
212301300	PRDC N 2020 K12	20	20	125	28	16,0	RC.. 1204M0	0,400	⊗
212042800	PRDC N 2525 M12	25	25	150	28	18,5	RC.. 1204M0	0,750	⊗
212301400	PRDC N 3225 P12	32	25	170	28	18,5	RC.. 1204M0	1,050	⊗
212422400	PRDC N 3232 P12	32	32	180	28	22,0	RC.. 1204M0	1,300	○
212301500	PRDC N 4025 S12	40	25	250	28	18,5	RC.. 1204M0	1,850	⊗
212020600	PRDC N 3225 P16	32	25	170	34	20,5	RC.. 1606M0	1,050	⊗
212301600	PRDC N 3232 P16	32	32	170	34	24,0	RC.. 1606M0	1,300	⊗
212301700	PRDC N 3232 P20	32	32	170	42	26,0	RC.. 2006M0	1,300	⊗
212301800	PRDC N 4040 S20	40	40	250	42	30,0	RC.. 2006M0	3,050	⊗
212301900	PRDC N 4040 S25	40	40	250	45	32,5	RC.. 2507M0	3,050	⊗
212293700	PRDC N 4040 U25	40	40	350	45	32,5	RC.. 2507M0	3,050	○
212302000	PRDC N 5050 U25	50	50	350	45	37,5	RC.. 2507M0	5,850	○
212302100	PRDC N 5050 V32	50	50	400	52	41,0	RC.. 3209M0	5,850	○

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

(P) LEVER LOCK TOOLHOLDERS

SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PRDC N 2020 K10	CR100300	BE03800	BF40009	AC11700	PA0501400	SS20
PRDC N 2525 M10	CR100300	BE03800	BF40009	AC11700	PA0501400	SS20
PRDC N 3225 P10	CR100300	BE03800	BF40009	AC11700	PA0501400	SS20
PRDC N 2020 K12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRDC N 2525 M12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRDC N 3225 P12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRDC N 3232 P12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRDC N 4025 S12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRDC N 3225 P16	CR160500	BE05400	BF47509	AC18000	PA0602100	SS25
PRDC N 3232 P16	CR160500	BE05400	BF47509	AC18000	PA0602100	SS25
PRDC N 3232 P20	CR200500	BE07000	BF65012	AC18700	PA0802400	SS30
PRDC N 4040 S20	CR200500	BE07000	BF65012	AC18700	PA0802400	SS30
PRDC N 4040 S25	CR250600	BE08500	BF80012	AC23000	PA1003000	SS40
PRDC N 4040 U25	CR250600	BE08500	BF80012	AC23000	PA1003000	SS40
PRDC N 5050 U25	CR250600	BE08500	BF80012	AC23000	PA1003000	SS40
PRDC N 5050 V32	CR320600	BE10500	BF12520	AC26700	PA1203600	SS50



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

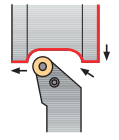
Automatic Lathes

Spare Parts

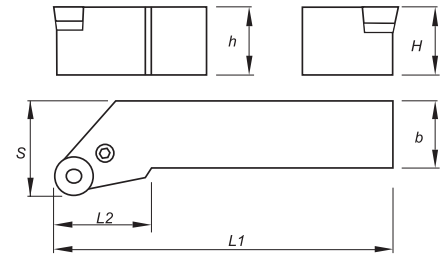
Technical Data

(P) LEVER LOCK TOOLHOLDERS

Roughing to Medium <b>..MT-ST</b>  (10-12-16-20)	Roughing to Medium <b>..MT-RF</b>  (25)	Roughing to Medium <b>..MT-RM</b>  (20)	Roughing to Medium <b>..MX-ST</b>  (10-12-16-20-25-32)
Roughing to Medium <b>..MX-RM</b>  (32)	Roughing to Medium <b>..MX-RR</b>  (25-32)	Finishing to Fine Finishing <b>LN</b>  (10-12)	



Axial: 0°  
Radial: 0°



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212302200	212302300	PRSC R/L 2020 K10	20	20	125	28	25	RC.. 1003M0	0,400		
212302400	212302500	PRSC R/L 2525 M10	25	25	150	28	32	RC.. 1003M0	0,750		
212302600	212302700	PRSC R/L 3225 P10	32	25	170	28	32	RC.. 1003M0	1,050		
212302800	212302900	PRSC R/L 2020 K12	20	20	125	28	25	RC.. 1204M0	0,400		
212303000	212303100	PRSC R/L 2525 M12	25	25	150	28	32	RC.. 1204M0	0,750		
212303200	212303300	PRSC R/L 3225 P12	32	25	170	28	32	RC.. 1204M0	1,050		
212303500	212303400	PRSC R/L 2525 M16	25	25	150	34	32	RC.. 1606M0	0,750		
212020800	212020700	PRSC R/L 3225 P16	32	25	170	34	32	RC.. 1606M0	1,050		
212303700	212303600	PRSC R/L 3232 P20	32	32	170	42	40	RC.. 2006M0	1,300		
212303900	212303800	PRSC R/L 4040 S20	40	40	250	42	50	RC.. 2006M0	3,050		
212304100	212304000	PRSC R/L 4040 S25	40	40	250	45	50	RC.. 2507M0	3,050		
212020900	212304200	PRSC R/L 5050 T32	50	50	300	45	63	RC.. 3209M0	5,850		



Stock Itens | Itens de stock

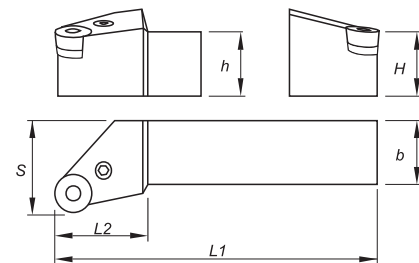
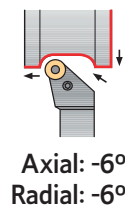
Available under request | Disponivel sob consulta | Disponible bajo consulta











SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PRSC R/L 2020 K10	CR100300	BE03800	BF40009	AC11700	PA0501400	SS20
PRSC R/L 2525 M10	CR100300	BE03800	BF40009	AC11700	PA0501400	SS20
PRSC R/L 3225 P10	CR100300	BE03800	BF40009	AC11700	PA0501400	SS20
PRSC R/L 2020 K12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRSC R/L 2525 M12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRSC R/L 3225 P12	CR120300	BE03800	BF40009	AC13300	PA0601700	SS25
PRSC R/L 2525 M16	CR160500	BE05400	BF47509	AC18000	PA0602100	SS25
PRSC R/L 3225 P16	CR160500	BE05400	BF47509	AC18000	PA0602100	SS25
PRSC R/L 3232 P20	CR200500	BE07000	BF65012	AC18700	PA0802400	SS30
PRSC R/L 4040 S20	CR200500	BE07000	BF65012	AC18700	PA0802400	SS30
PRSC R/L 4040 S25	CR250600	BE08500	BF80012	AC23000	PA0802400	SS40
PRSC R/L 5050 T32	CR320600	BE10500	BF12520	AC26700	PA1203600	SS50

(P) LEVER LOCK TOOLHOLDERS

Roughing to Medium	Roughing to Medium
Flat  (15-25)	ST  (09-12-15-19-25)









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212046800	212304300	PRSN R/L 2020 K09	20	20	125	22	25	RNMG 090300	0,400		
212046900	212304400	PRSN R/L 2525 M12	25	25	150	28	32	RNMG 120400	0,750		
212047000	212304500	PRSN R/L 3225 P15	32	25	170	34	32	RNMG 150600	1,050		
212304600	212304700	PRSN R/L 3232 P19	32	32	170	42	40	RNMG 190600	1,300		
212304800	212304900	PRSN R/L 4040 S25	40	40	250	45	50	RNMG 250900	3,050		









 Stock Items | Itens de stock

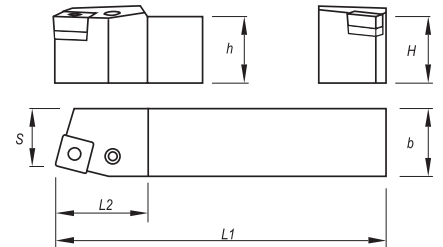
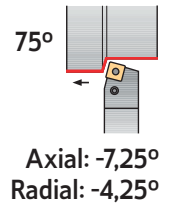
 Available under request | Disponível sob consulta | Disponible bajo consulta



























SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PRSN R/L 2020 K09						
PRSN R/L 2525 M12	CR090300	BE03800	BF40009	AN01200	PA0601700	SS25
PRSN R/L 3225 P15	CR120302	BE05500	BF47509	AN13100	PA0802100	SS30
PRSN R/L 3232 P19	CR150500	BE07000	BF65012	AN17200	PA0802400	SS30
PRSN R/L 4040 S25	CR190500	BE08500	BF80012	AN20800	PA1002700	SS40
PRSN R/L 4040 S25	CR250601	BE10500	BF12520	AN25200	PA1203600	SS50

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium	Medium	Medium
Flat  (09-12-15-19-25)	MF  (12)	SF  (12)	MR  (12-15-19)	PM  (12)	ST  (09-12-15-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS  (09-12-15-19)	HR  (12-15-19-25)	RP  (15-19)	HY  (19-25)	HZ  (19-25)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212305000	212305100	PSBN R/L 1212 F09	12	12	80	18	11	SN.. 0903..	0,100		
212305200	212305300	PSBN R/L 1616 H09	16	16	100	22	13	SN.. 0903..	0,250		
212305400	212305500	PSBN R/L 2020 K09	20	20	125	22	17	SN.. 0903..	0,400		
212032200	212032300	PSBN R/L 2020 K12	20	20	125	28	17	SN.. 1204..	0,400		
212014300	212032400	PSBN R/L 2525 M12	25	25	150	28	22	SN.. 1204..	0,750		
212305600	212305700	PSBN R/L 3225 P12	32	25	170	28	22	SN.. 1204..	1,050		
212014400	212305800	PSBN R/L 2525 M15	25	25	150	34	22	SN.. 1506..	0,750		
212305900	212306000	PSBN R/L 3232 P15	32	32	170	34	27	SN.. 1506..	1,300		
212306100	212306200	PSBN R/L 3232 P19	32	32	170	42	27	SN.. 1906..	1,300		
212306300	212306400	PSBN R/L 4040 S19	40	40	250	45	35	SN.. 1906..	3,050		
212422500	212422600	PSBN R/L 5050 T19	50	50	300	50	43	SN.. 1906..	3,050		
212306500	212014100	PSBN R/L 4040 S25	40	40	250	45	35	SN.. 2507..	3,050		
212306600	212306700	PSBN R/L 5050 T25	50	50	300	45	43	SN.. 2507..	5,850		











 Stock Items | Itens de stock

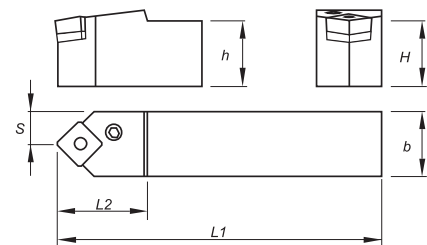
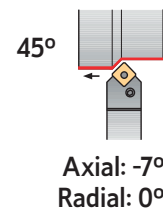
Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PSBN R/L 1212 F09	-	-	-	AN07800	PA0501000	SS20
PSBN R/L 1616 H09	CS090301	BE03800	-	AN01200	PA0601700	SS25
PSBN R/L 2020 K09	CS090301	BE03800	-	AN01200	PA0601700	SS25
PSBN R/L 2020 K12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSBN R/L 2525 M12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSBN R/L 3225 P12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSBN R/L 2525 M15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSBN R/L 3232 P15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSBN R/L 3232 P19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSBN R/L 4040 S19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSBN R/L 5050 T19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSBN R/L 4040 S25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50
PSBN R/L 5050 T25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium	Medium	Medium
Flat  (09-12-19-25)	MF  (12)	SF  (12)	MR  (12-19)	PM  (12)	ST  (09-12-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS  (09-12-19)	HR  (12-19-25)	RP  (19)	HY  (19-25)	HZ  (19-25)	



Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock	
		H=h	b	L1	L2	S			R	L
212306800	PSDN N 1010 E09	10	10	70	16	5,0	SN.. 0903..	0,070	⊗	
212306900	PSDN N 1212 F09	12	12	80	18	6,0	SN.. 0903..	0,100	⊗	
212307000	PSDN N 1616 H09	16	16	100	22	8,0	SN.. 0903..	0,250	⊗	
212056700	PSDN N 2020 K12	20	20	125	28	10,0	SN.. 1204..	0,400	⊗	
212307100	PSDN N 2525 M12	25	25	150	28	12,5	SN.. 1204..	0,750	⊗	
212307200	PSDN N 3225 P12	32	25	170	28	12,5	SN.. 1204..	1,050	⊗	
212307300	PSDN N 3232 P12	32	32	170	28	16,0	SN.. 1204..	1,300	⊗	
212307400	PSDN N 3225 P19	32	25	170	42	12,5	SN.. 1906..	1,050	⊗	
212249100	PSDN N 3232 P19	32	32	170	42	16,0	SN.. 1906..	1,300	⊗	
212307500	PSDN N 4040 S25	40	40	250	45	20,0	SN.. 2507..	3,050	⊗	
212307600	PSDN N 5050 T25	50	50	300	45	25,0	SN.. 2507..	5,850	⊗	

⊗ Stock Items | Itens de stock

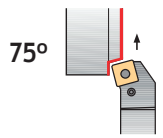
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SPARE PARTS | Complementos | Repuestos

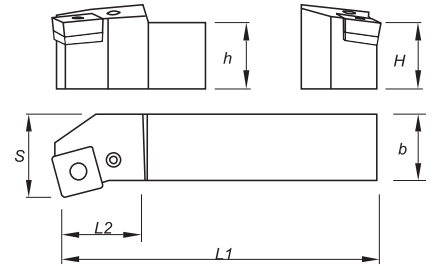
Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PSDN N 1010 E09	-	-	-	AN07800	PA0501000	SS20
PSDN N 1212 F09	-	-	-	AN07800	PA0501000	SS20
PSDN N 1616 H09	CS090301	BE03800	BF40009	AN01200	PA0601700	SS25
PSDN N 2020 K12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSDN N 2525 M12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSDN N 3225 P12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSDN N 3232 P12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSDN N 3225 P19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSDN N 3232 P19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSDN N 4040 S25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50
PSDN N 5050 T25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50

TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(P) LEVER LOCK TOOLHOLDERS



Axial: -4,25°  
Radial: -7,25°



Roughing	Finishing	Medium	Medium	Medium	Medium
Flat (09-12-15-19-25)	MF (12)	SF (12)	MR (12-15-19)	PM (12)	ST (09-12-15-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS (09-12-15-19)	HR (12-15-19-25)	RP (15-19)	HY (19-25)	HZ (19-25)	

Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212307700	212307800	PSKN R/L 1616 H09	16	16	100	22	20	SN.. 0903..	0,250		
212307900	212308000	PSKN R/L 2020 K09	20	20	125	22	25	SN.. 0903..	0,400		
212032500	212032600	PSKN R/L 2020 K12	20	20	125	28	25	SN.. 1204..	0,400		
212032700	212032800	PSKN R/L 2525 M12	25	25	150	28	32	SN.. 1204..	0,750		
212308100	212308200	PSKN R/L 3225 P12	32	25	170	28	32	SN.. 1204..	1,050		
212308300	212308400	PSKN R/L 2525 M15	25	25	150	34	32	SN.. 1506..	0,750		
212308500	212308600	PSKN R/L 3232 P15	32	32	170	34	40	SN.. 1506..	1,300		
212308700	212308800	PSKN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	1,300		
212308900	212309000	PSKN R/L 4040 S19	40	40	250	45	50	SN.. 1906..	3,050		
212309100	212309200	PSKN R/L 4040 S25	40	40	250	45	50	SN.. 2507..	3,050		
212309300	212309400	PSKN R/L 5050 T25	50	50	300	45	60	SN.. 2507..	5,850		

Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

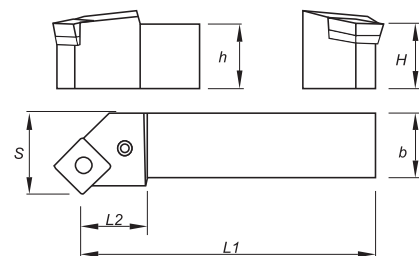
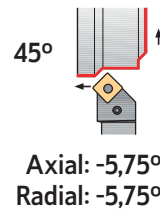
SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PSKN R/L 1616 H09	CS090301	BE03800	BF40009	AN01200	PA0601700	SS25
PSKN R/L 2020 K09	CS090301	BE03800	BF40009	AN01200	PA0601700	SS25
PSKN R/L 2020 K12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSKN R/L 2525 M12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSKN R/L 3225 P12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSKN R/L 2525 M15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSKN R/L 3232 P15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSKN R/L 3232 P19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSKN R/L 4040 S19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSKN R/L 4040 S25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50
PSKN R/L 5050 T25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50



(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	MR	PM	ST
(09-12-15-19-25)	(12)	(12)	(12-15-19)	(12)	(09-12-15-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS	HR	RP	HY	HZ	
(09-12-15-19)	(12-15-19-25)	(15-19)	(19-25)	(19-25)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212066500	212309500	PSSN R/L 1616 H09	16	16	100	22	20	SN.. 0903..	0,250		
212066600	212309600	PSSN R/L 2020 K09	20	20	125	22	25	SN.. 0903..	0,400		
212032900	212033000	PSSN R/L 2020 K12	20	20	125	28	25	SN.. 1204..	0,400		
212026600	212026700	PSSN R/L 2525 M12	25	25	150	28	32	SN.. 1204..	0,750		
212309700	212309800	PSSN R/L 3225 P12	32	25	170	28	32	SN.. 1204..	1,050		
212066700	212309900	PSSN R/L 2525 M15	25	25	150	34	32	SN.. 1506..	0,750		
212420500	212420600	PSSN R/L 3225 P15	32	25	170	42	32	SN.. 1506..	1,050		
212066800	212015400	PSSN R/L 3232 P15	32	32	170	34	40	SN.. 1506..	1,300		
212066900	212310000	PSSN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	1,300		
212067000	212310100	PSSN R/L 4040 S19	40	40	250	45	50	SN.. 1906..	3,050		
212310200	212310300	PSSN R/L 5050 T19	50	50	300	45	60	SN.. 1906..	5,850		
212310400	212310500	PSSN R/L 4040 S25	40	40	250	45	50	SN.. 2507..	3,050		
212310600	212310700	PSSN R/L 5050 T25	50	50	300	45	60	SN.. 2507..	5,850		

Stock Items | Itens de stock

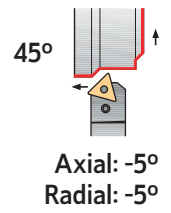
Available under request | Disponível sob consulta | Disponible bajo consulta










SPARE PARTS | Complementos | Repuestos

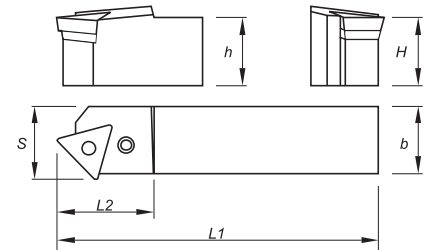
Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PSSN R/L 1616 H09	CS090301	BE03800	BF40009	AN01200	PA0601700	SS25
PSSN R/L 2020 K09	CS090301	BE03800	BF40009	AN01200	PA0601700	SS25
PSSN R/L 2020 K12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSSN R/L 2525 M12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSSN R/L 3225 P12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
PSSN R/L 2525 M15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSSN R/L 3225 P15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSSN R/L 3232 P15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
PSSN R/L 3232 P19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSSN R/L 4040 S19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSSN R/L 5050 T19	CS190400	BE08500	BF80012	AN20800	PA1002700	SS40
PSSN R/L 4040 S25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50
PSSN R/L 5050 T25	CS250600	BE10500	BF12520	AN25200	PA1203600	SS50





TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data


(P) LEVER LOCK TOOLHOLDERS



Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium
Flat	MF	SF	LC	MR
 (22)	 (22)	 (22)	 (22)	 (22)
Medium	Medium	Roughing to Medium	Roughing	
PM	ST	SS	HR	
 (22)	 (22)	 (22)	 (22)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212310800	212310900	PTDN R/L 2525 M22	25	25	150	34	27	TN.. 2204..	0,750		
212311000	212311100	PTDN R/L 3225 P22	32	25	170	34	27	TN.. 2204..	1,050		












 Stock Items | Itens de stock

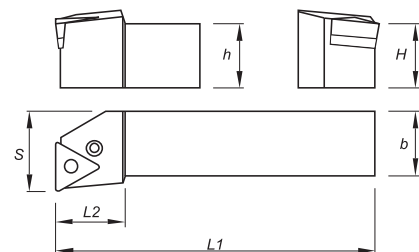
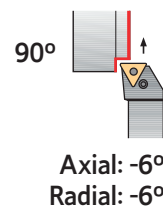
 Available under request | Disponível sob consulta | Disponible bajo consulta



















SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PTDN R/L 2525 M22						
PTDN R/L 3225 P22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22-27)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22-27)	 (16-22)	 (16-22-27)	 (16)	









Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212056500	212311200	PTFN R/L 1616 H16	16	16	100	22	20	TN.. 1604..	0,250		
212031700	212015800	PTFN R/L 2020 K16	20	20	125	22	25	TN.. 1604..	0,400		
212036500	212015900	PTFN R/L 2525 M16	25	25	150	22	32	TN.. 1604..	0,750		
212311300	212311400	PTFN R/L 3225 P16	32	25	170	22	32	TN.. 1604..	1,050		
212031800	212311500	PTFN R/L 2525 M22	25	25	150	28	32	TN.. 2204..	0,750		
212016300	212311600	PTFN R/L 3225 P22	32	25	170	28	32	TN.. 2204..	1,050		
212311700	212311800	PTFN R/L 3232 P22	32	32	170	28	40	TN.. 2204..	1,300		
212311900	212312000	PTFN R/L 3232 P27	32	32	170	42	40	TN.. 2706..	1,300		
212312100	212312200	PTFN R/L 4040 S27	40	40	250	45	50	TN.. 2706..	3,050		

 Stock Items | Itens de stock

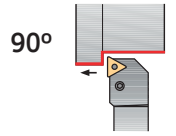
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PTFN R/L 1616 H16						
PTFN R/L 2020 K16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTFN R/L 2525 M16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTFN R/L 3225 P16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTFN R/L 2525 M22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTFN R/L 3225 P22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTFN R/L 3232 P22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTFN R/L 3232 P27	CT270500	BE05500	BF65012	AN17200	PA0802400	SS30
PTFN R/L 4040 S27	CT270500	BE05500	BF65012	AN17200	PA0802400	SS30

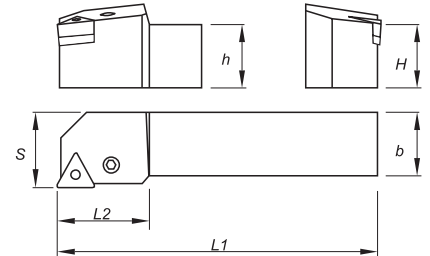
C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(P) LEVER LOCK TOOLHOLDERS



90°  
Axial: -6°  
Radial: -6°

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
(16-22-27-33)	(16-22)	(16-22)	(16-22)	(16)	(16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
(16-22)	(16-22-27-33)	(16-22)	(16-22-27-33)	(16)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212052700	212312300	PTGN R/L 1616 H16	16	16	100	22	20	TN.. 1604..	0,250		
212031900	212016500	PTGN R/L 2020 K16	20	20	125	22	25	TN.. 1604..	0,400		
212026500	212037400	PTGN R/L 2525 M16	25	25	150	22	32	TN.. 1604..	0,750		
212312400	212312500	PTGN R/L 3225 P16	32	25	170	22	32	TN.. 1604..	1,050		
212032000	212032100	PTGN R/L 2525 M22	25	25	150	28	32	TN.. 2204..	0,750		
212312600	212312700	PTGN R/L 3225 P22	32	25	170	28	32	TN.. 2204..	1,050		
212058500	212312800	PTGN R/L 3232 P22	32	32	170	28	40	TN.. 2204..	1,300		
212058600	212312900	PTGN R/L 4040 S22	40	40	250	34	50	TN.. 2204..	3,050		
212066100	212313000	PTGN R/L 3232 P27	32	32	170	42	40	TN.. 2706..	1,300		
212313100	212313200	PTGN R/L 4040 S27	40	40	250	45	50	TN.. 2706..	3,050		
212250300	212313300	PTGN R/L 5050 T33	50	50	300	45	60	TN.. 3307..	5,850		












Stock Items | Itens de stock

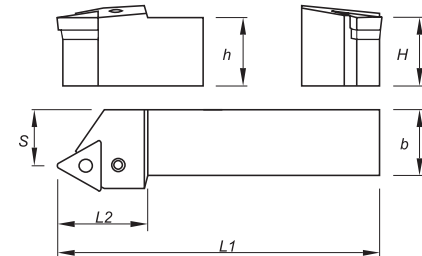
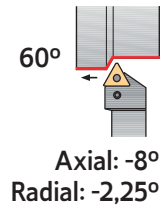
Available under request | Disponível sob consulta | Disponible bajo consulta











SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PTGN R/L 1616 H16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTGN R/L 2020 K16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTGN R/L 2525 M16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTGN R/L 3225 P16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
PTGN R/L 2525 M22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTGN R/L 3225 P22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTGN R/L 3232 P22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTGN R/L 4040 S22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
PTGN R/L 3232 P27	CT270500	BE07000	BF65012	AN17200	PA0802400	SS30
PTGN R/L 4040 S27	CT270500	BE07000	BF65012	AN17200	PA0802400	SS30
PTGN R/L 5050 T33	CT330500	BE08301	BF80012	AN20800	PA1002700	SS40

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	

































Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212313400	212313500	PTTN R/L 1616 H16	16	16	100	25	13	TN.. 1604..	0,250		
212313600	212313700	PTTN R/L 2020 K16	20	20	125	28	17	TN.. 1604..	0,400		
212313800	212313900	PTTN R/L 2525 M16	25	25	150	28	22	TN.. 1604..	0,750		
212314000	212314100	PTTN R/L 2525 M22	25	25	150	34	22	TN.. 2204..	0,750		
212314200	212314300	PTTN R/L 3225 P22	32	25	170	34	22	TN.. 2204..	1,050		












 Stock Items | Itens de stock

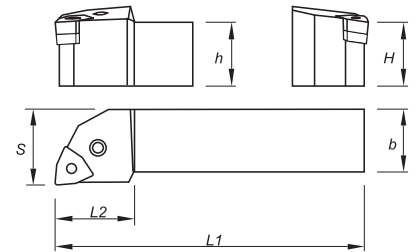
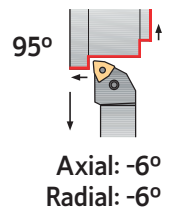
 Available under request | Disponível sob consulta | Disponible bajo consulta















SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PTTN R/L 1616 H16	 CT160303	 BE04400	 BF40009	 AN01200	 PA0601700	 SS25
PTTN R/L 2020 K16	 CT160303	 BE04400	 BF40009	 AN01200	 PA0601700	 SS25
PTTN R/L 2525 M16	 CT160303	 BE04400	 BF40009	 AN01200	 PA0601700	 SS25
PTTN R/L 2525 M22	 CT220302	 BE05500	 BF47509	 AN13100	 PA0802100	 SS30
PTTN R/L 3225 P22	 CT220302	 BE05500	 BF47509	 AN13100	 PA0802100	 SS30


(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (08)	MF  (06-08)	SF  (06-08)	LC  (08)	MS  (06-08)	PM  (08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR  (06-08)	ST  (08)	MW  (06-08)	SS  (06-08)	HR  (08)	













































Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212314400	212314500	PWLN R/L 1616 H06	16	16	100	15	20	WN.. 0604..	0,250		
212314600	212046500	PWLN R/L 2020 K06	20	20	125	25	25	WN.. 0604..	0,400		
212314700	212314800	PWLN R/L 2525 M06	25	25	150	25	32	WN.. 0604..	0,750		
212049300	212314900	PWLN R/L 2020 K08	20	20	125	34	25	WN.. 0804..	0,400		
212052800	212079100	PWLN R/L 2525 M08	25	25	150	34	32	WN.. 0804..	0,750		
212046600	212315000	PWLN R/L 3225 P08	32	25	170	34	32	WN.. 0804..	1,050		
212058000	212315100	PWLN R/L 3232 P08	32	32	170	34	40	WN.. 0804..	1,300		

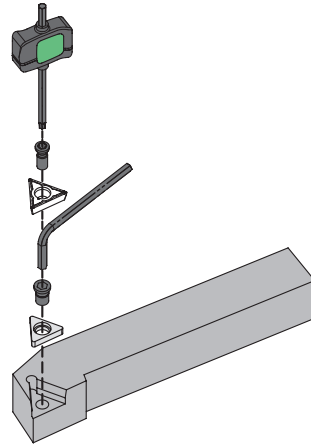
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos














Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
PWLN R/L 1616 H06	 CW060301	 BE04400	 BF40009	 AN01200	 PA0601700	 SS25
PWLN R/L 2020 K06	 CW060301	 BE04400	 BF40009	 AN01200	 PA0601700	 SS25
PWLN R/L 2525 M06	 CW060301	 BE04400	 BF40009	 AN01200	 PA0601700	 SS25
PWLN R/L 2020 K08	 CW080300	 BE05500	 BF47509	 AN13100	 PA0802100	 SS30
PWLN R/L 2525 M08	 CW080300	 BE05500	 BF47509	 AN13100	 PA0802100	 SS30
PWLN R/L 3225 P08	 CW080300	 BE05500	 BF47509	 AN13100	 PA0802100	 SS30
PWLN R/L 3232 P08	 CW080300	 BE05500	 BF47509	 AN13100	 PA0802100	 SS30

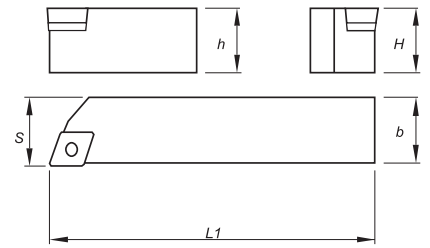
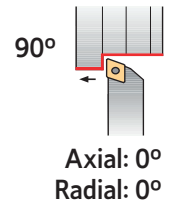
# (S) CENTER SCREW SYSTEM















<b>SCAC 90°</b>  PAGE C - 586 CC.. 0602.. CC.. 09T3.. CC.. 1204..	<b>SCLC 95°</b>  PAGE C - 587 CC.. 0602.. CC.. 09T3.. CC.. 1204..	<b>SDJC 93°</b>  PAGE C - 588 DC.. 0702.. DC.. 11T3..	<b>SDNC 62°30'</b>  PAGE C - 589 DC.. 0702.. DC.. 11T3..	<b>SRDC</b>  PAGE C - 590 RC.. 0602M0.. ... RC.. 1204M0..	<b>SSBC 75°</b>  PAGE C - 591 SC.. 09T3.. SC.. 1204..
<b>SSDC 45°</b>  PAGE C - 592 SC.. 09T3.. SC.. 1204..	<b>SSSC 45°</b>  PAGE C - 593 SC.. 09T3.. SC.. 1204..	<b>STAC 90°</b>  PAGE C - 594 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>STDC 45°</b>  PAGE C - 595 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>STFC 90°</b>  PAGE C - 596 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>STGC 90°</b>  PAGE C - 597 TC.. 0902.. TC.. 1102.. TC.. 16T3..
<b>STJC 93°</b>  PAGE C - 598 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>STTC 60°</b>  PAGE C - 599 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>SVHC 107°30'</b>  PAGE C - 600 VC.. 1604..	<b>SVJB 93°</b>  PAGE C - 601 VB.. 1604..	<b>SVJC 93°</b>  PAGE C - 602 VC.. 1103.. VC.. 1604..	<b>SVLC 95°</b>  PAGE C - 603 VC.. 1303..
<b>SVVB 72°30'</b>  PAGE C - 604 VB.. 1604..	<b>SVVC 72°30'</b>  PAGE C - 605 VC.. 1103.. VC.. 1604..	<b>SVXC 113°</b>  PAGE C - 606 VC.. 1803..	<b>SVZC 100°</b>  PAGE C - 607 VC.. 1604..		

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat  (06-09-12)	FP  (06-09-12)	BO  (06-09-12)	FM  (06-09-12)	FK  (06-09-12)	FW  (06-09)	LM  (06-09-12)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
MP  (06-09-12)	MM  (06-09-12)	MK  (06-09-12)	MW  (06-09-12)	FS  (06-09)	LN  (06-09-12)	







Order Code		Reference	Dimensions (mm)				Insert	Kg	Stock	
R	L		H=h	b	L1	S			R	L
212139500	212139400	SCAC R/L 0808 D06	8	8	60	8,5	CC.. 0602..	0,050		
212139700	212139600	SCAC R/L 1010 E06	10	10	70	10,5	CC.. 0602..	0,070		
212139900	212139800	SCAC R/L 1212 F09	12	12	80	12,5	CC.. 09T3..	0,100		
212140100	212140000	SCAC R/L 1616 H09	16	16	100	16,5	CC.. 09T3..	0,200		
212140300	212140200	SCAC R/L 2020 K12	20	20	125	20,5	CC.. 1204..	0,400		
212140500	212140400	SCAC R/L 2525 M12	25	25	150	25,5	CC.. 1204..	0,700		

 Stock Items | Itens de stock

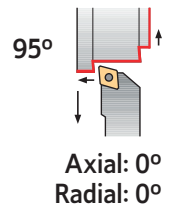
Available under request | Disponível sob consulta | Disponible bajo consulta














SPARE PARTS || Complementos | Repuestos

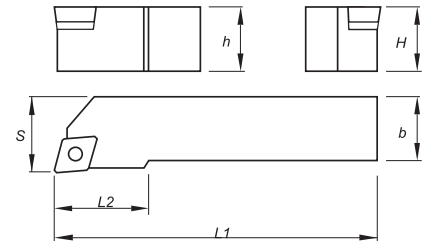
Cutter Reference	Shim 	Shim Screw 	Screw 	Wrench 
SCAC R/L 0808 D06	-	-	P0250700	XT07
SCAC R/L 1010 E06	-	-	P0250700	XT07
SCAC R/L 1212 F09	-	-	P0401100	XT15-S35
SCAC R/L 1616 H09	-	-	P0401100	XT15-S35
SCAC R/L 2020 K12	CC120401	T06004000	P0401400	XT15-S40
SCAC R/L 2525 M12	CC120401	T06004000	P0401400	XT15-S40

















(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat  (06-09-12)	FP  (06-09-12)	BO  (06-09-12)	FM  (06-09-12)	FK  (06-09-12)	FW  (06-09)	LM  (06-09-12)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
MP  (06-09-12)	MM  (06-09-12)	MK  (06-09-12)	MW  (06-09-12)	FS  (06-09)	LN  (06-09-12)	







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212140700	212140600	SCLC R/L 0808 D06	8	8	60	10	10	CC.. 0602..	0,050		
212045400	212140800	SCLC R/L 1010 E06	10	10	70	10	12	CC.. 0602..	0,070		
212037100	212140900	SCLC R/L 1212 F09	12	12	80	16	16	CC.. 09T3..	0,100		
212047600	212141000	SCLC R/L 1616 H09	16	16	100	16	20	CC.. 09T3..	0,200		
212037500	212141100	SCLC R/L 2020 K09	20	20	125	16	25	CC.. 09T3..	0,400		
212037700	212141200	SCLC R/L 2020 K12	20	20	125	25	25	CC.. 1204..	0,400		
212037900	212141300	SCLC R/L 2525 M12	25	25	150	25	32	CC.. 1204..	0,700		

 Stock Items | Itens de stock

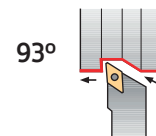
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

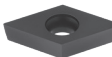
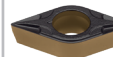


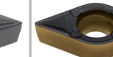



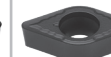

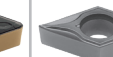

Cutter Reference	Shim 	Shim Screw 	Screw 	Wrench 
SCLC R/L 0808 D06	-	-	P0250700	XT07
SCLC R/L 1010 E06	-	-	P025070	XT07
SCLC R/L 1212 F09	-	-	P0401100	XT15-S35
SCLC R/L 1616 H09	-	-	P0401100	XT15-S35
SCLC R/L 2020 K09	-	-	P0401100	XT15-S35
SCLC R/L 2020 K12	CC120401	T06004000	P0401400	XT15-S40
SCLC R/L 2525 M12	CC120401	T06004000	P0401400	XT15-S40

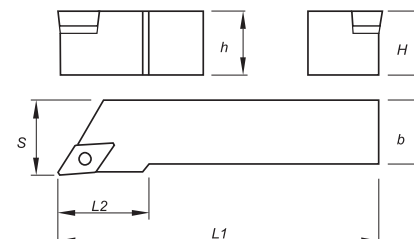
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data















(S) CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: 0°

Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat	FP	FM	FK	FW	LM
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	MW	FS	LN
 (07-11)	 (07-11)	 (07-11)	 (11)	 (07-11)	 (07-11)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212143800	212143700	SDJC R/L 1010 E07	10	10	70	16	12	DC.. 0702..	0,070		
212021500	212143900	SDJC R/L 1212 F07	12	12	80	18	16	DC.. 0702..	0,100		
212420700	212420800	SDJC R/L 1616 H07	16	16	100	16	20	DC.. 0702..	0,150		
212021600	212144000	SDJC R/L 1212 F11	12	12	80	18	16	DC.. 11T3..	0,100		
212035100	212035200	SDJC R/L 1616 H11	16	16	100	22	20	DC.. 11T3..	0,200		
212036200	212035300	SDJC R/L 2020 K11	20	20	125	22	25	DC.. 11T3..	0,400		
212042600	212144100	SDJC R/L 2525 M11	25	25	150	22	32	DC.. 11T3..	0,700		

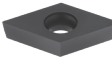



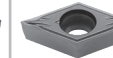



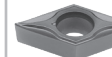

 Stock Items | Itens de stock

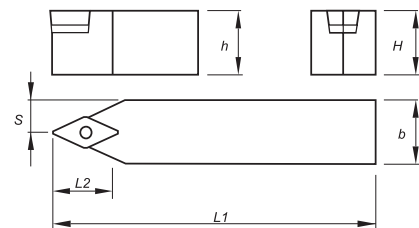
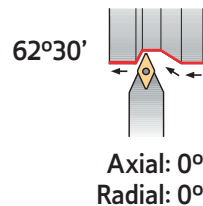
 Available under request | Disponível sob consulta | Disponible bajo consulta







SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
SDJC R/L 1010 E07				
SDJC R/L 1212 F07	-	-	P0250700	XT07
SDJC R/L 1616 H07	-	-	P0250700	XT07
SDJC R/L 1212 F11	-	-	P0401100	XT15-S35
SDJC R/L 1616 H11	CD110301	T05003500	P0351500	XT15-S35
SDJC R/L 2020 K11	CD110301	T05003500	P0351500	XT15-S35
SDJC R/L 2525 M11	CD110301	T05003500	P0351500	XT15-S35

## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Medium to Finishing
<b>Flat</b>	<b>FP</b>	<b>FM</b>	<b>FK</b>	<b>LM</b>
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing
<b>MP</b>	<b>MM</b>	<b>MK</b>	<b>FS</b>	<b>LN</b>
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)







Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212144200	SDNC N 0808 D07	8	8	60	16	4,0	DC.. 0702..	0,050	
212144300	SDNC N 1010 E07	10	10	70	16	5,0	DC.. 0702..	0,070	
212144400	SDNC N 1212 F07	12	12	80	18	6,0	DC.. 0702..	0,100	
212259700	SDNC N 1616 H11	16	16	100	22	8,0	DC.. 11T3..	0,200	
212144500	SDNC N 2020 K11	20	20	125	22	10,0	DC.. 11T3..	0,400	
212259800	SDNC N 2525 M11	25	25	150	22	12,5	DC.. 11T3..	0,700	

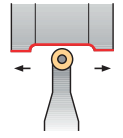
 Stock Items | Itens de stock

 Available under request | Disponible sob consulta | Disponible bajo consulta





## SPARE PARTS || Complementos | Repuestos

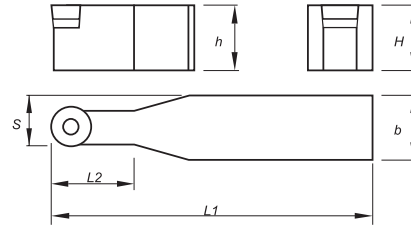
Cutter Reference	Shim	Shim Screw	Screw	Wrench
SDNC N 0808 D07	 -	 -	 P0250700	 XT07
SDNC N 1010 E07	-	-	P0250700	XT07
SDNC N 1212 F07	-	-	P0250700	XT07
SDNC N 1616 H11	CD110301	T05003500	P0351500	XT15-S35
SDNC N 2020 K11	CD110301	T05003500	P0351500	XT15-S35
SDNC N 2525 M11	CD110301	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: 0°

Medium	Roughing to Medium	Roughing to Medium	Finishing to Fine Finishing
CP  (06)	..MT-ST  (08-10-12)	..MX-ST  (12)	LN  (06-08-12)



Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212148500	SRDC N 1010 E06	10	10	70	10	8,0	RC.. 0602M0	0,070	⊗
212148600	SRDC N 1212 F06	12	12	80	12	11,0	RC.. 0602M0	0,100	⊗
212058700	SRDC N 1616 H06	16	16	100	16	13,0	RC.. 0602M0	0,200	⊗
212053400	SRDC N 2020 K06	20	20	125	20	15,0	RC.. 0602M0	0,400	⊗
212040000	SRDC N 2525 M06	25	25	150	25	17,5	RC.. 0602M0	0,700	⊗
212148700	SRDC N 1616 H08	16	16	100	16	13,0	RC.. 0803M0	0,200	⊗
212024400	SRDC N 2020 K08	20	20	125	20	15,0	RC.. 0803M1	0,400	⊗
212148800	SRDC N 2525 M08	25	25	150	25	17,5	RC.. 0803M2	0,700	⊗
212049500	SRDC N 2020 K10	20	20	125	22	15,0	RC.. 10T3M0	0,400	⊗
212040100	SRDC N 2525 M10	25	25	150	22	17,5	RC.. 10T3M0	0,700	⊗
212259900	SRDC N 2020 K12	20	20	125	28	16,0	RC.. 1204M0	0,400	⊗
212050800	SRDC N 2525 M12	25	25	150	28	18,5	RC.. 1204M0	0,700	⊗
212058800	SRDC N 3225 P12	32	25	170	28	18,5	RC.. 1204M0	0,900	⊗
212148900	SRDC N 3232 P12	32	32	170	28	22,0	RC.. 1204M0	1,200	⊗









⊗ Stock Items | Itens de stock

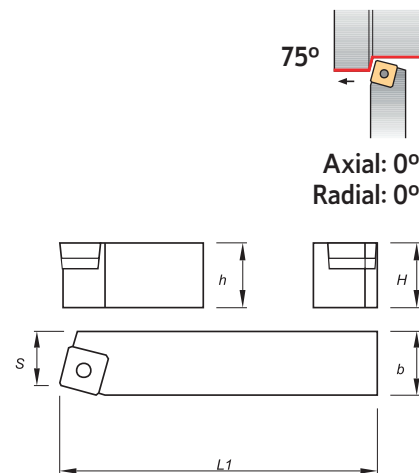
○ Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
SRDC N 1010 E06	-	-	P0250700	XT07
SRDC N 1212 F06	-	-	P0250700	XT07
SRDC N 1616 H06	-	-	P0250700	XT07
SRDC N 2020 K06	-	-	P0250700	XT07
SRDC N 2525 M06	-	-	P0250700	XT07
SRDC N 1616 H08	-	-	P0300900	XT08
SRDC N 2020 K08	-	-	P0300900	XT08
SRDC N 2525 M08	-	-	P0300900	XT08
SRDC N 2020 K10	CR100301	T05003500	P0351500	XT15-S35
SRDC N 2525 M10	CR100301	T05003500	P0351500	XT15-S35
SRDC N 2020 K12	CR120301	T05003500	P0351500	XT15-S35
SRDC N 2525 M12	CR120301	T05003500	P0351500	XT15-S35
SRDC N 3225 P12	CR120301	T05003500	P0351500	XT15-S35
SRDC N 3232 P12	CR120301	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09-12)	 (09)	 (09)	 (09)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09-12)	 (09-12)	 (09-12)	 (09-12)



















Order Code		Reference	Dimensions (mm)				Insert	Kg	Stock	
R	L		H=h	b	L1	S			R	L
212149100	212149000	SSBC R/L 1212 F09	12	12	80	11	SC.. 09T3..	0,100		
212045700	212149200	SSBC R/L 1616 H09	16	16	100	13	SC.. 09T3..	0,200		
212149400	212149300	SSBC R/L 2020 K12	20	20	125	17	SC.. 1204..	0,400		
212149600	212149500	SSBC R/L 2525 M12	25	25	150	22	SC.. 1204..	0,700		

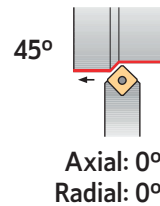
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

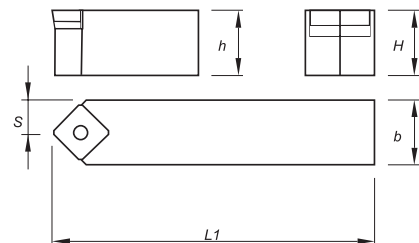
SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
SSBC R/L 1212 F09	 -	 -	 P0401100	 XT15-S35
SSBC R/L 1616 H09	 -	 -	 P0401100	 XT15-S35
SSBC R/L 2020 K12	 CS120400	 T06004000	 P0401400	 XT15-S40
SSBC R/L 2525 M12	 CS120400	 T06004000	 P0401400	 XT15-S40

(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat  (09-12)	FP  (09)	FM  (09)	FK  (09)
Medium	Medium	Medium	Medium to Finishing
MP  (09-12)	MM  (09-12)	MK  (09-12)	LN  (09-12)



Order Code	Reference	Dimensions (mm)				Insert	Kg	Stock
		H=h	b	L1	S			
212149700	SSDC N 1212 F09	12	12	80	6,0	SC.. 09T3..	0,100	
212050900	SSDC N 1616 H09	16	16	100	8,0	SC.. 09T3..	0,200	
212046000	SSDC N 2020 K12	20	20	125	10,0	SC.. 1204..	0,400	
212076800	SSDC N 2525 M12	25	25	150	12,5	SC.. 1204..	0,700	









Stock Items | Itens de stock

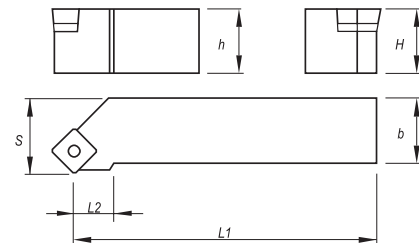
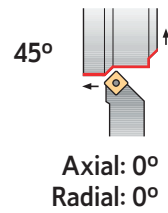
Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim 	Shim Screw 	Screw 	Wrench 
SSDC N 1212 F09	-	-	P0401100	XT15-S35
SSDC N 1616 H09	-	-	P0401100	XT15-S35
SSDC N 2020 K12	CS120400	T06004000	P0401400	XT15-S40
SSDC N 2525 M12	CS120400	T06004000	P0401400	XT15-S40

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09-12)	 (09)	 (09)	 (09)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09-12)	 (09-12)	 (09-12)	 (09-12)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212149900	212149800	SSSC R/L 1212 F09	12	12	80	11	16	SC.. 09T3..	0,100		
212150100	212150000	SSSC R/L 1616 H09	16	16	100	22	20	SC.. 09T3..	0,200		
212021900	212150200	SSSC R/L 2020 K12	20	20	125	22	25	SC.. 1204..	0,400		
212042700	212021800	SSSC R/L 2525 M12	25	25	150	22	32	SC.. 1204..	0,700		

 Stock Items | Items de stock

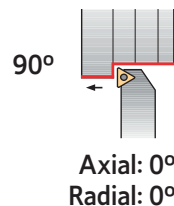
 Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS | Complementos | Repuestos

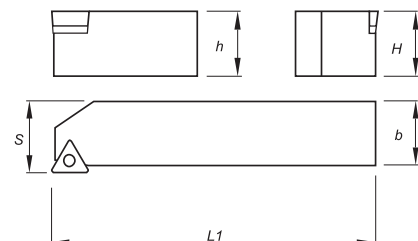
Cutter Reference	Shim	Shim Screw	Screw	Wrench
SSSC R/L 1212 F09				
SSSC R/L 1616 H09	-	-	P0401100	XT15-S35
SSSC R/L 2020 K12	CS120400	T06004000	P0401400	XT15-S40
SSSC R/L 2525 M12	CS120400	T06004000	P0401400	XT15-S40















C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

## (S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat  (09-11-16)	FP  (09-11-16)	FM  (09-11-16)	FK  (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP  (09-11-16)	MM  (09-11-16)	MK  (09-11-16)	LN  (11-16)







Order Code		Reference	Dimensions (mm)				Insert	Kg	Stock	
R	L		H=h	b	L1	S			R	L
212151400	212151300	STAC R/L 0808 D09	8	8	60	8,5	TC.. 0902..	0,050		
212151600	212151500	STAC R/L 1010 E09	10	10	70	10,5	TC.. 0902..	0,070		
212151800	212151700	STAC R/L 1212 F11	12	12	80	12,5	TC.. 1102..	0,100		
212152000	212151900	STAC R/L 1616 H11	16	16	100	16,5	TC.. 1102..	0,200		
212152200	212152100	STAC R/L 1616 H16	16	16	100	16,5	TC.. 16T3..	0,200		
212260000	212260100	STAC R/L 2020 K16	20	20	125	20,5	TC.. 16T3..	0,400		
212152600	212152400	STAC R/L 2525 M16	25	25	150	25,5	TC.. 16T3..	0,700		

 Stock Items | Itens de stock

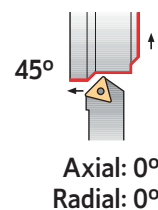
Available under request | Disponível sob consulta | Disponible bajo consulta









## SPARE PARTS | Complementos | Repuestos

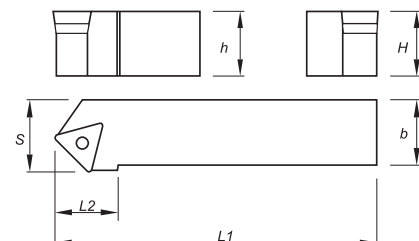
Cutter Reference	Shim	Shim Screw	Screw	Wrench
				
STAC R/L 0808 D09	-	-	P0220600	XT06
STAC R/L 1010 E09	-	-	P0220600	XT06
STAC R/L 1212 F11	-	-	P0250700	XT07
STAC R/L 1616 H11	-	-	P0250700	XT07
STAC R/L 1616 H16	CT160302	T05003500	P0351500	XT15-S35
STAC R/L 2020 K16	CT160302	T05003500	P0351500	XT15-S35
STAC R/L 2525 M16	CT160302	T05003500	P0351500	XT15-S35



















(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (11-16)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212152800	212152700	STDC R/L 0808 D09	8	8	60	11	10	TC.. 0902..	0,050		
212153000	212152900	STDC R/L 1010 E09	10	10	70	11	11	TC.. 0902..	0,070		
212153200	212153100	STDC R/L 1212 F11	12	12	80	16	13	TC.. 1102..	0,100		
212153400	212153300	STDC R/L 1616 H11	16	16	100	16	17	TC.. 1102..	0,200		
212153600	212153500	STDC R/L 1212 F16	12	12	80	21	17	TC.. 16T3..	0,100		
212153800	212153700	STDC R/L 1616 H16	16	16	100	21	17	TC.. 16T3..	0,200		
212154000	212153900	STDC R/L 2020 K16	20	20	125	21	22	TC.. 16T3..	0,400		
212154200	212154100	STDC R/L 2525 M16	25	25	150	21	27	TC.. 16T3..	0,700		

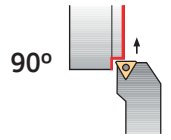
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS | Complementos | Repuestos

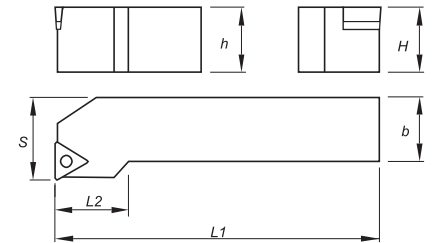
Cutter Reference	Shim	Shim Screw	Screw	Wrench
STDC R/L 0808 D09				
STDC R/L 1010 E09	-	-	P0220600	XT06
STDC R/L 1212 F11	-	-	P0250700	XT07
STDC R/L 1616 H11	-	-	P0250700	XT07
STDC R/L 1212 F16	-	-	P0401100	XT15-S35
STDC R/L 1616 H16	CT160302	T05003500	P0351500	XT15-S35
STDC R/L 2020 K16	CT160302	T05003500	P0351500	XT15-S35
STDC R/L 2525 M16	CT160302	T05003500	P0351500	XT15-S35

















## (S) CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: 0°

Finishing	Finishing	Finishing	Finishing
Flat  (09-11-16)	FP  (09-11-16)	FM  (09-11-16)	FK  (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP  (09-11-16)	MM  (09-11-16)	MK  (09-11-16)	LN  (11-16)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212154400	212154300	STFC R/L 0808 D09	8	8	60	16	10	TC.. 0902..	0,050		
212154600	212154500	STFC R/L 1010 E09	10	10	70	16	12	TC.. 0902..	0,070		
212154800	212154700	STFC R/L 1212 F11	12	12	80	18	16	TC.. 1102..	0,100		
212065800	212154900	STFC R/L 1616 H11	16	16	100	22	20	TC.. 1102..	0,200		
212155100	212155000	STFC R/L 1212 F16	12	12	80	18	16	TC.. 16T3..	0,100		
212056800	212155200	STFC R/L 1616 H16	16	16	100	22	20	TC.. 16T3..	0,200		
212056600	212155300	STFC R/L 2020 K16	20	20	125	22	25	TC.. 16T3..	0,400		
212155500	212155400	STFC R/L 2525 M16	25	25	150	22	32	TC.. 16T3..	0,700		

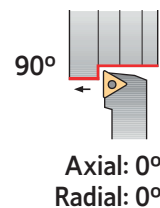
 Stock Items | Itens de stock







 Available under request | Disponível sob consulta | Disponible bajo consulta

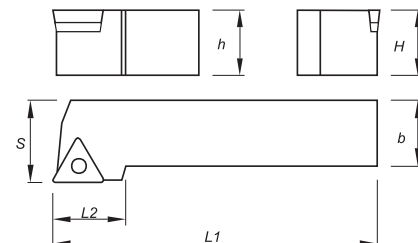
## SPARE PARTS | Complementos | Repuestos

















Cutter Reference	Shim 	Shim Screw 	Screw 	Wrench 
STFC R/L 0808 D09	-	-	P0220600	XT06
STFC R/L 1010 E09	-	-	P0220600	XT06
STFC R/L 1212 F11	-	-	P0250700	XT07
STFC R/L 1616 H11	-	-	P0250700	XT07
STFC R/L 1212 F16	-	-	P0401100	XT15-S35
STFC R/L 1616 H16	CT160302	T05003500	P0351500	XT15-S35
STFC R/L 2020 K16	CT160302	T05003500	P0351500	XT15-S35
STFC R/L 2525 M16	CT160302	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (11-16)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212155700	212155600	STGC R/L 0808 D09	8	8	60	16	10	TC.. 0902..	0,050		
212155900	212155800	STGC R/L 1010 E09	10	10	70	16	12	TC.. 0902..	0,070		
212156100	212156000	STGC R/L 1212 F11	12	12	80	18	16	TC.. 1102..	0,100		
212046100	212156200	STGC R/L 1616 H11	16	16	100	22	20	TC.. 1102..	0,200		
212156400	212156300	STGC R/L 1212 F16	12	12	80	18	16	TC.. 16T3..	0,100		
212156600	212156500	STGC R/L 1616 H16	16	16	100	22	20	TC.. 16T3..	0,200		
212156800	212156700	STGC R/L 2020 K16	20	20	125	22	25	TC.. 16T3..	0,400		
212157000	212156900	STGC R/L 2525 M16	25	25	150	22	32	TC.. 16T3..	0,700		

 Stock Items | Itens de stock

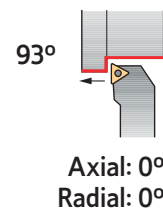
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

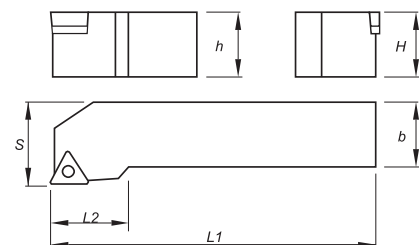
Cutter Reference	Shim	Shim Screw	Screw	Wrench
STGC R/L 0808 D09				
STGC R/L 1010 E09	-	-	P0220600	XT06
STGC R/L 1212 F11	-	-	P0250700	XT07
STGC R/L 1616 H11	-	-	P0250700	XT07
STGC R/L 1212 F16	-	-	P0401100	XT15-S35
STGC R/L 1616 H16	CT160302	T05003500	P0351500	XT15-S35
STGC R/L 2020 K16	CT160302	T05003500	P0351500	XT15-S35
STGC R/L 2525 M16	CT160302	T05003500	P0351500	XT15-S35

C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing	Finishing wiper
Flat  (09-11-16)	FP  (09-11-16)	FM  (09-11-16)	FK  (09-11-16)	FW  (09-11-16)
Medium	Medium	Medium	Medium to Finishing wiper	Medium to Finishing
MP  (09-11-16)	MM  (09-11-16)	MK  (09-11-16)	MW  (11-16)	LN  (11-16)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212157200	212157100	STJC R/L 0808 D09	8	8	60	16	10	TC.. 0902..	0,050		
212157400	212157300	STJC R/L 1010 E09	10	10	70	16	12	TC.. 0902..	0,070		
212157600	212157500	STJC R/L 1212 F11	12	12	80	18	16	TC.. 1102..	0,100		
212035400	212035500	STJC R/L 1616 H11	16	16	100	22	20	TC.. 1102..	0,200		
212157800	212157700	STJC R/L 1212 F16	12	12	80	18	16	TC.. 16T3..	0,100		
212035600	212035700	STJC R/L 1616 H16	16	16	100	22	20	TC.. 16T3..	0,200		
212036300	212031000	STJC R/L 2020 K16	20	20	125	22	25	TC.. 16T3..	0,400		
212038600	212038700	STJC R/L 2525 M16	25	25	150	22	32	TC.. 16T3..	0,700		









Stock Items | Itens de stock

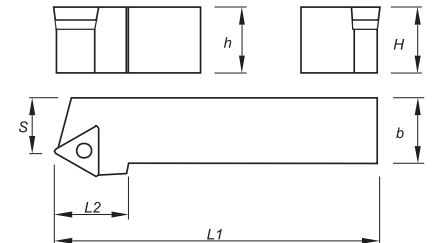
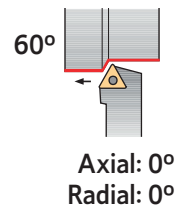
Available under request | Disponível sob consulta | Disponible bajo consulta

















SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
STJC R/L 0808 D09	-	-	P0220600	XT06
STJC R/L 1010 E09	-	-	P0220600	XT06
STJC R/L 1212 F11	-	-	P0250700	XT07
STJC R/L 1616 H11	-	-	P0250700	XT07
STJC R/L 1212 F16	-	-	P0401100	XT15-S35
STJC R/L 1616 H16	CT160302	T05003500	P0351500	XT15-S35
STJC R/L 2020 K16	CT160302	T05003500	P0351500	XT15-S35
STJC R/L 2525 M16	CT160302	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (11-16)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212158000	212157900	STTC R/L 0808 D09	8	8	60	16	7	TC.. 0902..	0,050		
212158200	212158100	STTC R/L 1010 E09	10	10	70	16	9	TC.. 0902..	0,070		
212158400	212158300	STTC R/L 1212 F11	12	12	80	18	11	TC.. 1102..	0,100		
212047500	212158500	STTC R/L 1616 H11	16	16	100	18	13	TC.. 1102..	0,200		
212158700	212158600	STTC R/L 1212 F16	12	12	80	22	11	TC.. 16T3..	0,100		
212158900	212158800	STTC R/L 1616 H16	16	16	100	22	13	TC.. 16T3..	0,200		
212159100	212159000	STTC R/L 2020 K16	20	20	125	22	17	TC.. 16T3..	0,400		
212159300	212159200	STTC R/L 2525 M16	25	25	150	22	22	TC.. 16T3..	0,700		

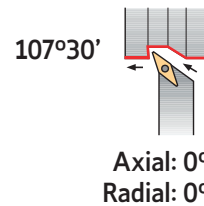
 Stock Items | Itens de stock









 Available under request | Disponível sob consulta | Disponible bajo consulta

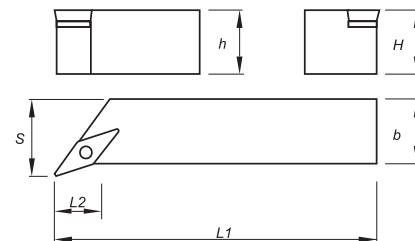
SPARE PARTS || Complementos | Repuestos











Cutter Reference	Shim	Shim Screw	Screw	Wrench
STTC R/L 0808 D09				
STTC R/L 1010 E09	-	-	P0220600	XT06
STTC R/L 1212 F11	-	-	P0250700	XT07
STTC R/L 1616 H11	-	-	P0250700	XT07
STTC R/L 1212 F16	-	-	P0401100	XT15-S35
STTC R/L 1616 H16	CT160302	T05003500	P0351500	XT15-S35
STTC R/L 2020 K16	CT160302	T05003500	P0351500	XT15-S35
STTC R/L 2525 M16	CT160302	T05003500	P0351500	XT15-S35

## (S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (16)	 (16)	 (16)	 (16-22)







Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212161000	212160900	SVHC R/L 2020 K16	20	20	125	15,4	25	VC.. 1604..	0,400		
212161200	212161100	SVHC R/L 2525 M16	25	25	150	21,0	32	VC.. 1604..	0,700		
212161400	212161300	SVHC R/L 3225 P16	32	25	170	21,0	32	VC.. 1604..	0,900		
212161500	212161600	SVHC R/L 2525 M22	25	25	150	19,6	32	VC.. 2205..	0,700		
212161700	212161800	SVHC R/L 3225 P22	32	25	170	19,6	32	VC.. 2205..	0,900		

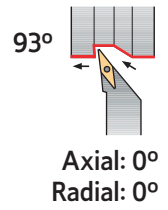
 Stock Items | Itens de stock


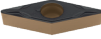


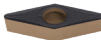


 Available under request | Disponível sob consulta | Disponible bajo consulta

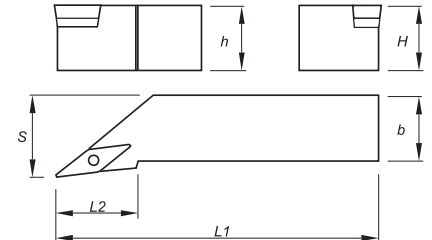
## SPARE PARTS || Complementos | Repuestos







Cutter Reference	Shim	Shim Screw	Screw	Wrench
SVHC R/L 2020 K16	 CV160300	 T05003500	 P0351500	 XT15-S35
SVHC R/L 2525 M16	CV160300	T05003500	P0351500	XT15-S35
SVHC R/L 3225 P16	CV160300	T05003500	P0351500	XT15-S35
SVHC R/L 2525 M22	CV220400	T06004000	P0401400	XT20-S40
SVHC R/L 3225 P22	CV220400	T06004000	P0401400	XT20-S40


(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	
MP	MM	MK	
 (16)	 (16)	 (16)	



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212055300	212363000	SVJB R/L 2020 K16	20	20	125	37	25	VB.. 1604..	0,400		
212022200	212022000	SVJB R/L 2525 M16	25	25	150	37	32	VB.. 1604..	0,700		
212022300	212022100	SVJB R/L 3225 P16	32	25	170	37	32	VB.. 1604..	0,900		

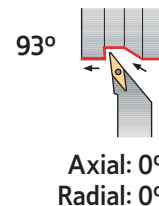
 Stock Items | Itens de stock









 Available under request | Disponível sob consulta | Disponible bajo consulta

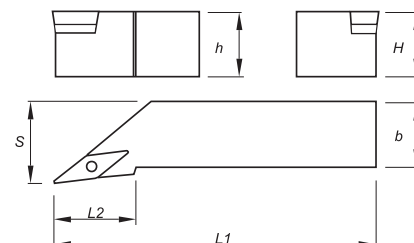
SPARE PARTS || Complementos | Repuestos















Cutter Reference	Shim	Shim Screw	Screw	Wrench
SVJB R/L 2020 K16	 CV160300	 T05003500	 P0351500	 XT15-S35
SVJB R/L 2525 M16	 CV160300	 T05003500	 P0351500	 XT15-S35
SVJB R/L 3225 P16	 CV160300	 T05003500	 P0351500	 XT15-S35

(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (11-16)	 (11-16)	 (11-16)	 (11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (11-16)	 (11-16)	 (11-16)	 (11-16)





Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212161900	212162000	SVJC R/L 1212 F11	12	12	80	25	16	VC.. 1103..	0,100		
212056400	212162100	SVJC R/L 1616 H11	16	16	100	25	20	VC.. 1103..	0,200		
212162200	212162300	SVJC R/L 2020 K11	20	20	125	25	25	VC.. 1103..	0,400		
212392400	212420900	SVJC R/L 2525 M11	25	25	150	28	32	VC.. 1103..	0,700		
212031100	212031200	SVJC R/L 2020 K16	20	20	125	37	25	VC.. 1604..	0,400		
212031300	212031400	SVJC R/L 2525 M16	25	25	150	37	32	VC.. 1604..	0,700		
212162500	212162400	SVJC R/L 3225 P16	32	25	170	37	32	VC.. 1604..	0,900		

 Stock Items | Itens de stock

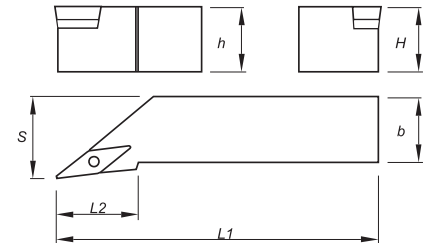
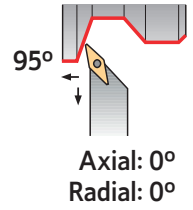
 Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
SVJC R/L 1212 F11		-	-	
SVJC R/L 1616 H11	-	-	P0250700	XT07
SVJC R/L 2020 K11	-	-	P0250700	XT07
SVJC R/L 2525 M11	-	-	P0250700	XT07
SVJC R/L 2020 K16	CV160300	T05003500	P0351500	XT15-S35
SVJC R/L 2525 M16	CV160300	T05003500	P0351500	XT15-S35
SVJC R/L 3225 P16	CV160300	T05003500	P0351500	XT15-S35



(S) CENTER SCREW TOOLHOLDERS




Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212041900	212162600	SVLC R/L 1212 G13	12	12	90	25	16	VCGT 1303..	0,100		
212162800	212162700	SVLC R/L 1616 H13	16	16	100	25	20	VCGT 1303..	0,200		
212163000	212162900	SVLC R/L 2020 K13	20	20	125	28	25	VCGT 1303..	0,400		
212163200	212163100	SVLC R/L 2525 M13	25	25	150	30	32	VCGT 1303..	0,700		

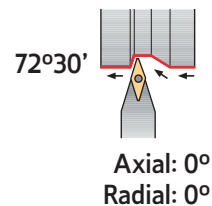
 Stock Items | Itens de stock








 Available under request | Disponível sob consulta | Disponible bajo consulta

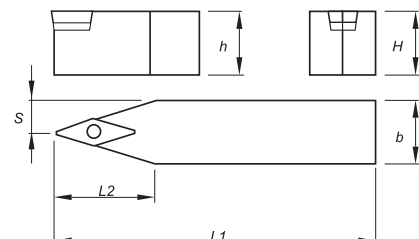
SPARE PARTS | Complementos | Repuestos

Cutter Reference	Screw	Wrench
		
SVLC R/L 1212 G13	P0300900	XT08
SVLC R/L 1616 H13	P0300900	XT08
SVLC R/L 2020 K13	P0300900	XT08
SVLC R/L 2525 M13	P0300900	XT08

(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
			
(16)	(16)	(16)	(16)
Medium	Medium	Medium	
MP	MM	MK	
			
(16)	(16)	(16)	







Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212260200	SVVB N 2020 K16	20	20	125	37	10,6	VB.. 1604..	0,400	☉
212169500	SVVB N 2525 M16	25	25	150	37	13,1	VB.. 1604..	0,700	☉
212260300	SVVB N 3225 P16	32	25	170	37	13,1	VB.. 1604..	0,900	☉


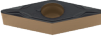






☉ Stock Items | Itens de stock

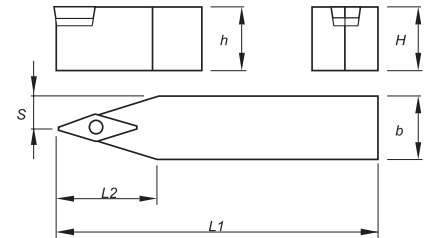
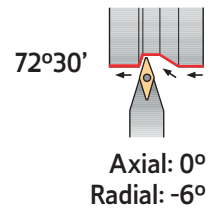
○ Available under request | Disponível sob consulta | Disponible bajo consulta







SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
SVVB N 2020 K16				
SVVB N 2525 M16	CV160300	T05003500	P0351500	XT15-S35
SVVB N 3225 P16	CV160300	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (11-16)	 (11-16)	 (11-16)	 (11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (11-16)	 (11-16)	 (11-16)	 (11-16)







Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212163300	SVVC N 1212 F11	12	12	80	25	6,6	VC.. 1103..	0,100	
212163400	SVVC N 1616 H11	16	16	100	25	8,6	VC.. 1103..	0,200	
212163500	SVVC N 2020 K11	20	20	125	25	10,6	VC.. 1103..	0,400	
212042500	SVVC N 2020 K16	20	20	125	37	10,6	VC.. 1604..	0,400	
212163600	SVVC N 2525 M16	25	25	150	37	13,1	VC.. 1604..	0,700	
212022400	SVVC N 3225 P16	32	25	170	37	13,1	VC.. 1604..	0,900	

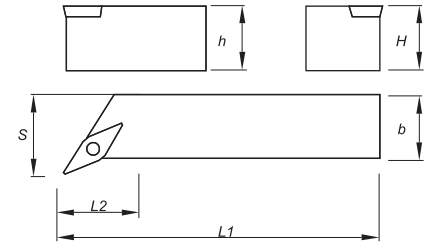
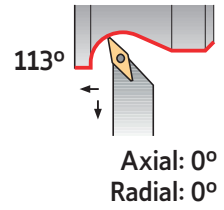
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
				
SVVC N 1212 F11	-	-	P0250700	XT07
SVVC N 1616 H11	-	-	P0250700	XT07
SVVC N 2020 K11	-	-	P0250700	XT07
SVVC N 2020 K16	CV160300	T05003500	P0351500	XT15-S35
SVVC N 2525 M16	CV160300	T05003500	P0351500	XT15-S35
SVVC N 3225 P16	CV160300	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212163800	212163700	SVXC R/L 1212 G13	12	12	90	11,5	16	VCGT 1303..	0,100		
212164000	212163900	SVXC R/L 1616 H13	16	16	100	13,8	20	VCGT 1303..	0,200		
212164200	212164100	SVXC R/L 2020 K13	20	20	125	10,4	25	VCGT 1303..	0,400		
212164400	212164300	SVXC R/L 2525 M13	25	25	150	20,2	32	VCGT 1303..	0,700		

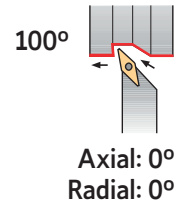
Stock Items | Itens de stock


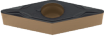






Available under request | Disponível sob consulta | Disponible bajo consulta

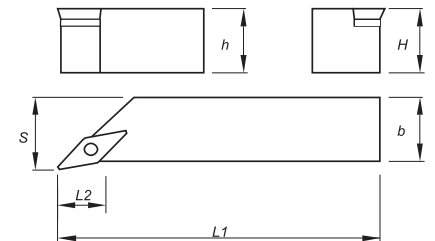
SPARE PARTS || Complementos | Repuestos







Cutter Reference	Screw	Wrench
SVXC R/L 1212 G13	P0300900	XT08
SVXC R/L 1616 H13	P0300900	XT08
SVXC R/L 2020 K13	P0300900	XT08
SVXC R/L 2525 M13	P0300900	XT08

(S) CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (16)	 (16)	 (16)	 (16)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212164600	212164500	SVZC R/L 2020 K16	20	20	125	25,7	25	VC..1604..	0,400		
212164700	212044500	SVZC R/L 2525 M16	25	25	150	28,5	32	VC..1604..	0,700		
212164900	212164800	SVZC R/L 3225 P16	32	25	170	28,5	32	VC..1604..	0,900		

 Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos




Cutter Reference	Shim	Shim Screw	Screw	Wrench
SVZC R/L 2020 K16	 CV160300	 T05003500	 P0351500	 XT15-S35
SVZC R/L 2525 M16	 CV160300	 T05003500	 P0351500	 XT15-S35
SVZC R/L 3225 P16	 CV160300	 T05003500	 P0351500	 XT15-S35

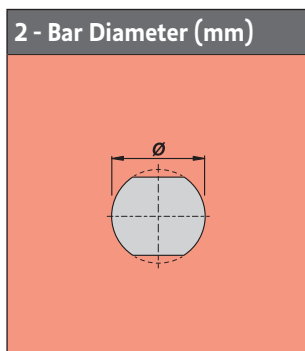
# CODE KEY FOR INTERNAL TURNING TOOLHOLDERS

Sistema De Codificação Para Suportes De Torneamento Interno (ISO) | Codificación De Herramientas De Torneado Interior (ISO)

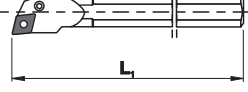
<b>S</b>	<b>25</b>	<b>T</b>	<b>S</b>	<b>D</b>	<b>U</b>	<b>C</b>	<b>R</b>	<b>11</b>	<b>-</b>	<b>BT</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>		<b>10</b>

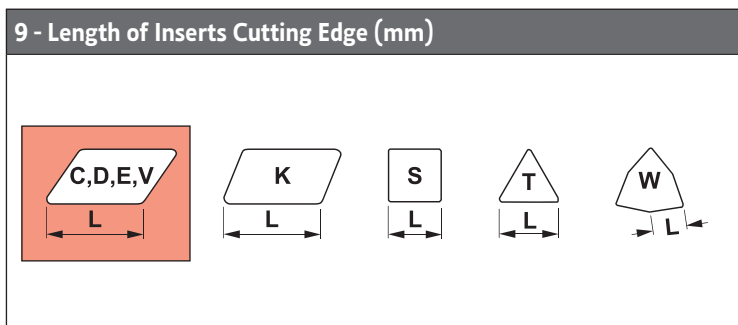
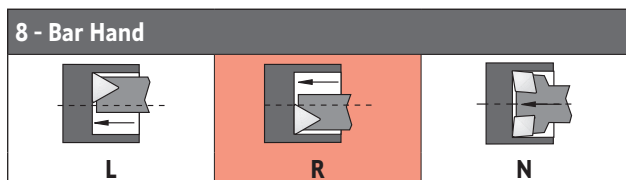
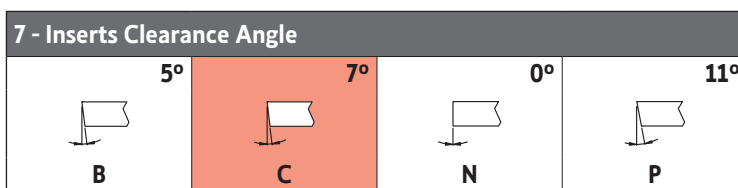
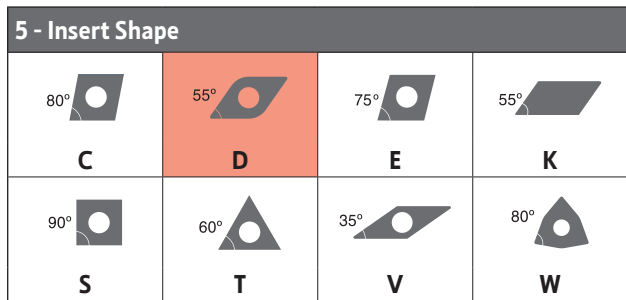
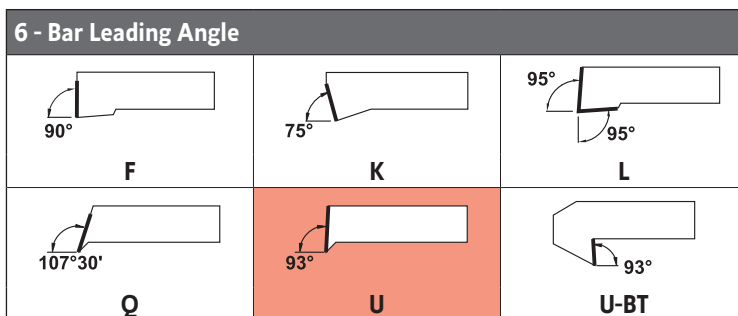
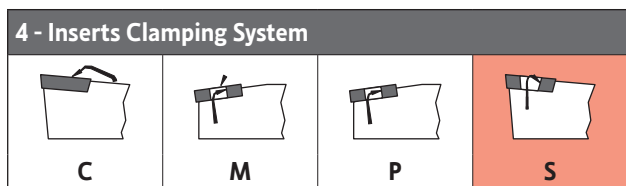
### 1 - Bar Type

<b>A</b>	Steel shank with internal coolant		
<b>E</b>	Anti-vibration shank (heavy metal) with internal coolant		
<b>S</b>	Steel shank		



### 3 - Bar Length (mm)

	<b>H</b>	100	<b>T</b>	300
	<b>J</b>	110	<b>U</b>	350
	<b>K</b>	125	<b>V</b>	400
	<b>L</b>	140	<b>W</b>	450
	<b>M</b>	150	<b>Y</b>	500
	<b>Q</b>	180	<b>X</b>	Special
	<b>R</b>	200		
	<b>S</b>	250		



### 10 - Manufacturer's Option



- C - 612 | Top Clamp Toolholders (C)
- C - 617 | Dimple Lock Toolholders (D)
- C - 620 | Wedge Clamp (M) & Double Lock (M-K) Toolholders
- C - 630 | Lever Lock Toolholders (P)
- C - 644 | Center Screw Toolholders (S)
- C - 668 | Anti-vibration tools
- C - 679 | Internal Toolholders set

# INTERNAL TURNING



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

Automatic Lathes

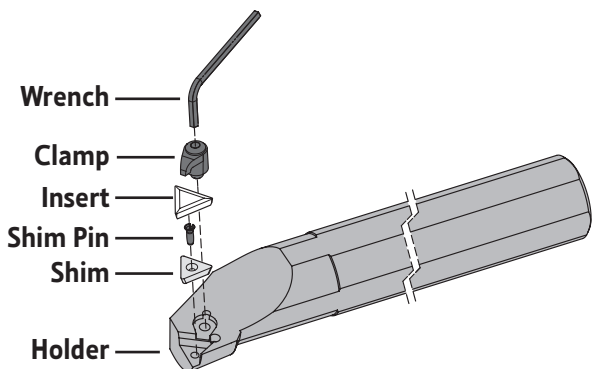
Spare Parts

Technical Data

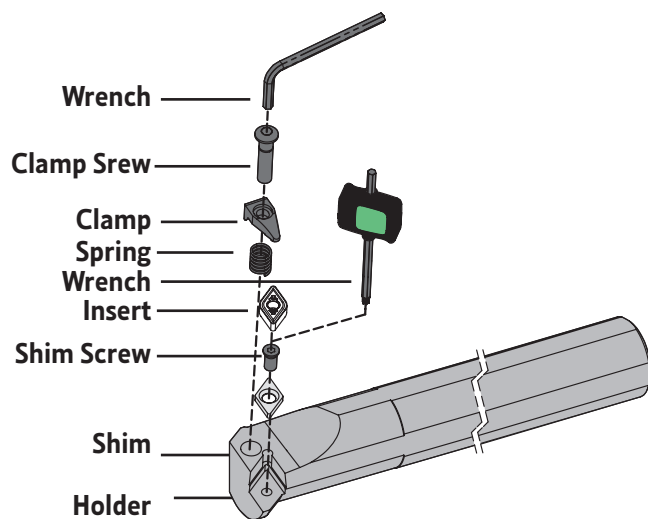
# CLAMPING SYSTEMS FOR INTERNAL TOOLHOLDERS

Sistemas De Fixação Para Ferramentas De Torneamento Interno | Sistemas De Fijación Para Herramientas De Torneado Interior

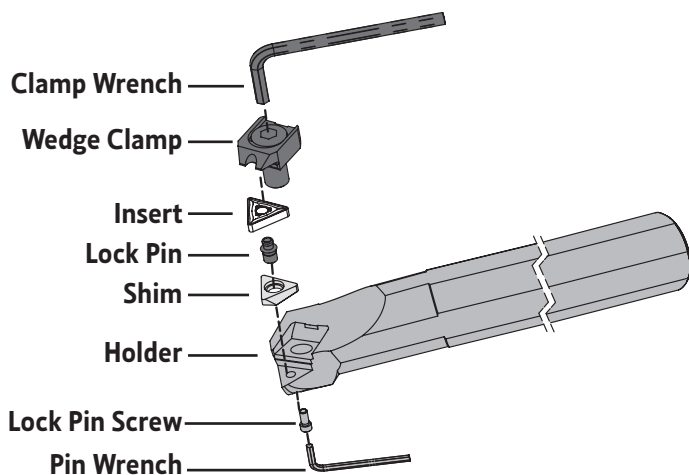
(C) TOP CLAMP SYSTEM



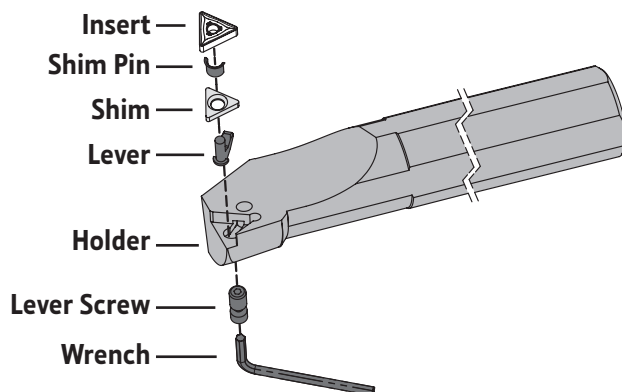
(D) DIMPLE LOCK SYSTEM



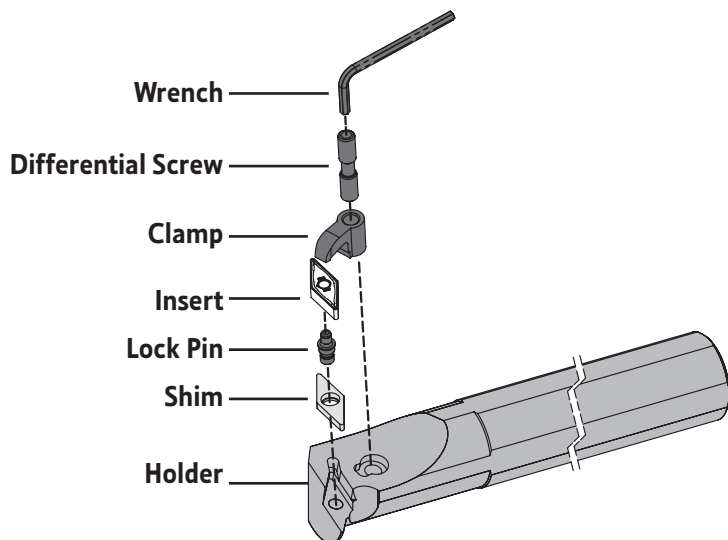
(M) WEDGE CLAMP SYSTEM



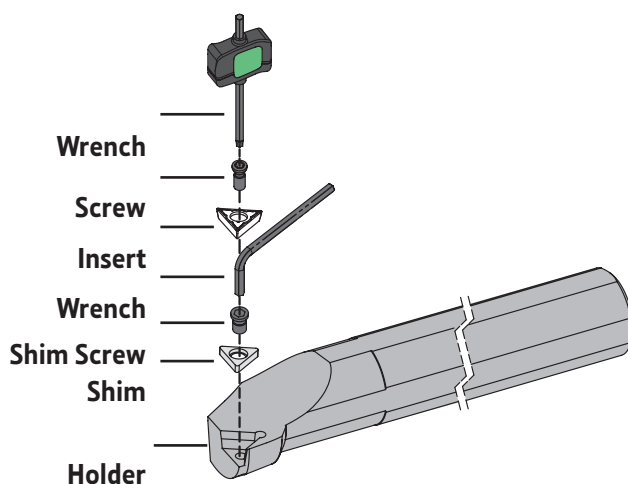
(P) LEVER LOCK SYSTEM



(M-K) DOUBLE LOCK SYSTEM



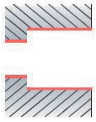


(S) CENTER SCREW SYSTEM



TURNING  
 Insert selection  
 Overview  
 Negative inserts  
 Positive inserts  
 PCBN & PCD inserts  
 Heavy turning  
 External Toolholders  
 Internal Toolholders  
 Automatic Lathes  
 Spare Parts  
 Technical Data

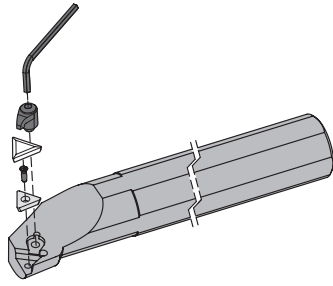


SUITABLE CLAMPING SYSTEM DEFINITION  
 Definição do sistema de fixação | Definición del sistema de Fijación

Insert Shape & page		Operation	Longitudinal turning	Profiling	Facing
					
Negative inserts	(C) TOP CLAMP SYSTEM	●	●	●	
	(D) DIMPLE LOCK SYSTEM	● ●	●		
	(M) WEDGE CLAMP SYSTEM	●	●	●	
	(P) LEVER LOCK SYSTEM	● ●	●	●	●
Positive inserts	(C) TOP CLAMP SYSTEM	●			
	(S) CENTER SCREW SYSTEM	● ●	● ●	● ●	● ●
			● ● Recommended Insert Shape	● Alternative Insert Shape	

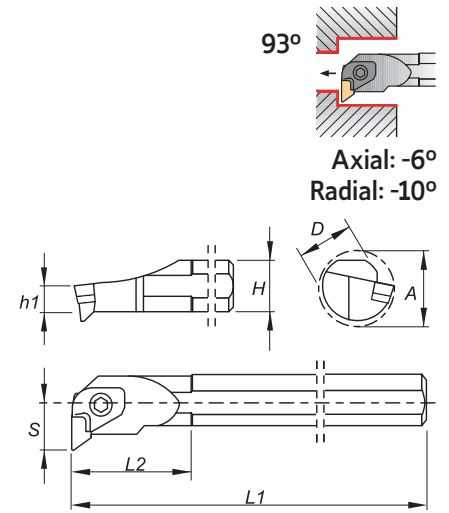
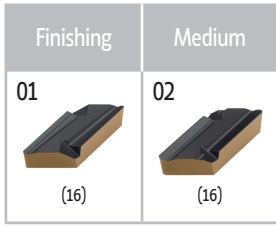
- TURNING
- Insert selection
- Overview
- Negative inserts
- Positive inserts
- PCBN & PCD inserts
- Heavy turning
- External Toolholders
- Internal Toolholders
- Automatic Lathes
- Spare Parts
- Technical Data

# (C) TOP CLAMP SYSTEM



CKUN 93°	CSKP 75°	CTFP 90°	CTUP 93°
PAGE C - 613    KNUX 1604..	PAGE C - 614    SP. 0903.. SP. 1203.. SP. 1904..	PAGE C - 615    TP. 0903.. ... TP. 2204..	PAGE C - 616    TP. 0903.. ... TP. 2204..

(C) TOP CLAMP TOOLHOLDERS



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212038300	212028200	S25T CKUN R/L 16	25	23	11,5	300	50	20,5	37	KNUX 1604..	0,700	⊗	⊗
212028300	212028400	S32U CKUN R/L 16	32	30	15,0	350	54	22,0	39	KNUX 1604..	2,050	○	○
212329300	212329400	S40V CKUN R/L 16	40	37	18,5	400	60	27,0	48	KNUX 1604..	3,750	○	○
212329500	212329600	S50W CKUN R/L 16	50	47	23,5	450	65	35,0	61	KNUX 1604..	6,500	○	○




⊗ Stock Items | Itens de stock

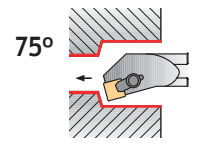
○ Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

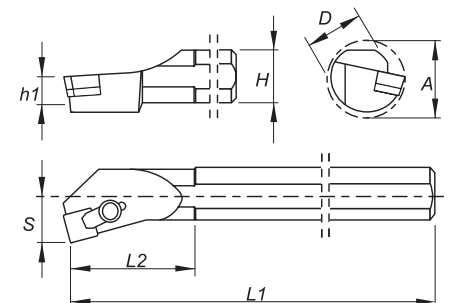
Cutter Reference	Order separately						
	Shim	Shim Pin	Shim Pin Punch	Spring	Clamp	Screw	Wrench
S25T CKUN R 16	-	-	BF04806	M09513	GAW1401	DW142600	SS40
S32U CKUN R 16	CK160501	BE03000	BF04808	M09513	GAW1401	DW142600	SS40
S40V CKUN R 16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40
S50W CKUN R 16	CK160501	BE03000	BF04815	M09513	GAW1401	DW142600	SS40
S25T CKUN L 16	-	-	BF04806	M09513	GAW1400	DW142600	SS40
S32U CKUN L 16	CK160500	BE03000	BF04808	M09513	GAW1400	DW142600	SS40
S40V CKUN L 16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40
S50W CKUN L 16	CK160500	BE03000	BF04815	M09513	GAW1400	DW142600	SS40















(C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (09-12-19)	12  (09-12)	13  (09-12)



Axial: 6,5°  
Radial: -1,25°










Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212027500	212027600	S16R CSKP R/L 09	16	15	7,5	200	30	11	20	SP.. 0903..	0,300		
212027700	212027800	S20S CSKP R/L 09	20	18	9,0	250	35	13	24	SP.. 0903..	0,550		
212329700	212027900	S25T CSKP R/L 12	25	23	11,5	300	40	17	31	SP.. 1203..	1,050		
212028000	212028100	S32U CSKP R/L 12	32	30	15,0	350	50	22	39	SP.. 1203..	2,050		
212329800	212329900	S40V CSKP R/L 12	40	37	18,5	400	60	27	48	SP.. 1203..	3,650		
212330000	212330100	S50W CSKP R/L 12	50	47	23,5	450	65	35	61	SP.. 1203..	6,450		
212330200	212330300	S50W CSKP R/L 19	50	47	23,5	450	65	35	61	SP.. 1904..	6,400		

 Stock Items | Itens de stock




 Available under request | Disponível sob consulta | Disponible bajo consulta

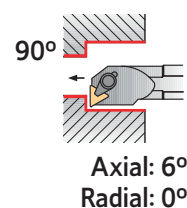
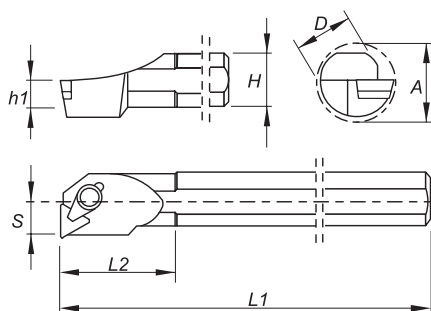
SPARE PARTS || Complementos | Repuestos



























Complementary Accessories - Flat Inserts

Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
S16R CSKP R/L 09							
S16R CSKP R/L 09	-	-	GS05000	SS25	-	QCS0900	-
S20S CSKP R/L 09	-	-	GS05000	SS25	-	QCS1200	QCS1201
S25T CSKP R/L 12	-	-	GS06001	SS30	GS06003	QCS1200	QCS1201
S32U CSKP R/L 12	CS120300	BE02100	GS06001	SS30	GS06003	QCS1200	QCS1201
S40V CSKP R/L 12	CS120300	BE02100	GS06001	SS30	GS06003	QCS1200	QCS1201
S50W CSKP R/L 12	CS120300	BE02100	GS06001	SS30	GS06003	QCS1200	QCS1201
S50W CSKP R/L 19	CS190300	BE03000	GS08000	SS40	GS08001	QCS1900	QCS1901

(C) TOP CLAMP TOOLHOLDERS

Medium to Finishing	Finishing to Fine Finishing	Medium
Flat  (11-16-22)	12  (09-11-16)	13  (09-11-16-22)










Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212330400	212330500	S10M CTFP R/L 09	10	9	4,5	150	25	7	13	TP.. 0902..	0,060		
212330600	212330700	S12M CTFP R/L 09	12	11	5,5	150	25	9	16	TP.. 0902..	0,150		
212170200	212330800	S12M CTFP R/L 11	12	11	5,5	150	25	9	16	TP.. 1103..	0,150		
212026800	212026900	S16R CTFP R/L 11	16	15	7,5	200	30	11	20	TP.. 1103..	0,300		
212027000	212027100	S20S CTFP R/L 11	20	18	9,0	250	35	13	24	TP.. 1103..	0,550		
212330900	212331000	S16R CTFP R/L 16	16	15	7,5	200	30	11	20	TP.. 1603..	0,300		
212331100	212331200	S20S CTFP R/L 16	20	18	9,0	250	35	13	24	TP.. 1603..	0,550		
212036700	212027200	S25T CTFP R/L 16	25	23	11,5	300	40	17	31	TP.. 1603..	0,700		
212027300	212027400	S32U CTFP R/L 16	32	30	15,0	350	50	22	39	TP.. 1603..	2,050		
212331300	212331700	S40V CTFP R/L 16	40	37	18,5	400	60	27	48	TP.. 1603..	3,750		
212331800	212331900	S50W CTFP R/L 16	50	47	23,5	450	65	35	61	TP.. 1603..	6,500		
212021300	212332000	S40V CTFP R/L 22	40	37	18,5	400	60	27	48	TP.. 2204..	3,750		
212332100	212332200	S50W CTFP R/L 22	50	47	23,5	450	65	35	61	TP.. 2204..	6,500		

 Stock Items | Itens de stock




 Available under request | Disponível sob consulta | Disponible bajo consulta

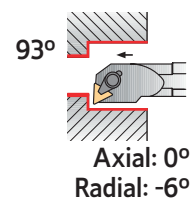
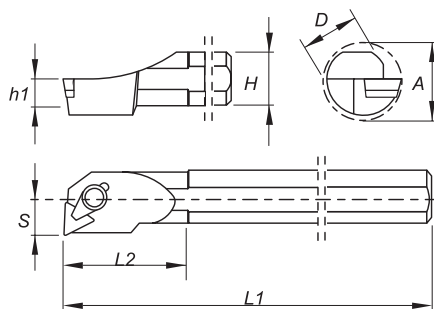
SPARE PARTS | Complementos | Repuestos



























Complementary Accessories - Flat Inserts

Cutter Reference	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
							
S10M CTFP R/L 09	-	-	GS03000	SS15	-	-	-
S12M CTFP R/L 09	-	-	GS03000	SS15	-	-	-
S12M CTFP R/L 11	-	-	GS04000	SS25	-	-	-
S16R CTFP R/L 11	-	-	GS05000	SS25	GS05003	QCT1100	QCT1101
S20S CTFP R/L 11	-	-	GS05000	SS25	GS05003	QCT1100	QCT1101
S16R CTFP R/L 16	-	-	GS06002	SS30	GS06003	QCT1600	QCT1601
S20S CTFP R/L 16	-	-	GS06002	SS30	GS06003	QCT1600	QCT1601
S25T CTFP R/L 16	-	-	GS06001	SS30	GS06003	QCT1600	QCT1601
S32U CTFP R/L 16	CT160301	BE02100	GS06000	SS30	GS06003	QCT1600	QCT1601
S40V CTFP R/L 16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
S50W CTFP R/L 16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
S40V CTFP R/L 22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201
S50W CTFP R/L 22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201

(C) TOP CLAMP TOOLHOLDERS

Medium to Finish	Finishing to Fine Finishing	Medium
Flat  (11-16-22)	12  (09-11-16)	13  (09-11-16-22)



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212245500	212332300	S10M CTUP R/L 09	10	9	4,5	150	25	7	13	TP.. 0902..	0,060		
212332400	212332500	S12M CTUP R/L 09	12	11	5,5	150	25	9	16	TP.. 0902..	0,150		
212332600	212332700	S12M CTUP R/L 11	12	11	5,5	150	25	9	16	TP.. 1103..	0,150		
212332800	212332900	S16R CTUP R/L 11	16	15	7,5	200	30	11	20	TP.. 1103..	0,300		
212333000	212333100	S20S CTUP R/L 11	20	18	9,0	250	35	13	24	TP.. 1103..	0,550		
212333200	212333300	S16R CTUP R/L 16	16	15	7,5	200	30	11	20	TP.. 1603..	0,300		
212333400	212333500	S20S CTUP R/L 16	20	18	9,0	250	35	13	24	TP.. 1603..	0,550		
212245600	212333600	S25T CTUP R/L 16	25	23	11,5	300	40	17	31	TP.. 1603..	0,700		
212333700	212333800	S32U CTUP R/L 16	32	30	15,0	350	50	22	39	TP.. 1603..	2,050		
212245700	212333900	S40V CTUP R/L 16	40	37	18,5	400	60	27	48	TP.. 1603..	3,750		
212334000	212334100	S50W CTUP R/L 16	50	47	23,5	450	65	35	61	TP.. 1603..	6,500		
212334200	212334300	S40V CTUP R/L 22	40	37	18,5	400	60	27	48	TP.. 2204..	3,750		
212334400	212334500	S50W CTUP R/L 22	50	47	23,5	450	65	35	61	TP.. 2204..	6,500		

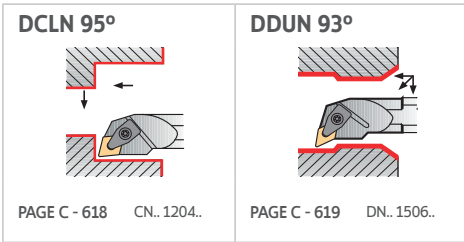
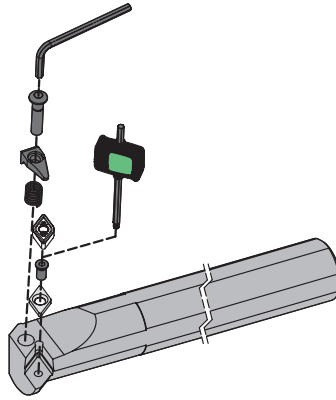
 Stock Items | Itens de stock

 Available under request | Disponible sob consulta | Disponible bajo consulta












SPARE PARTS | Complementos | Repuestos

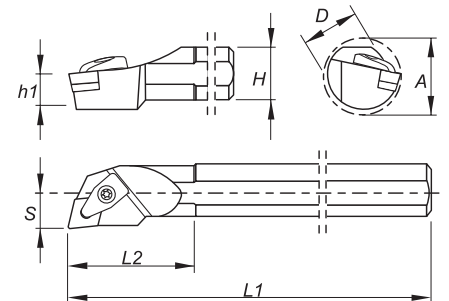
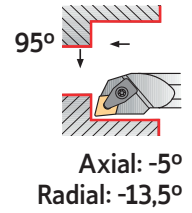
Cutter Reference	Complementary Accessories - Flat Inserts						
	Shim	Shim Pin	Clamp	Wrench	Clamp	Chip Breaker 1	Chip Breaker 2
S10M CTUP R/L 09	-	-	GS03000	SS15	-	-	-
S12M CTUP R/L 09	-	-	GS03000	SS15	-	-	-
S12M CTUP R/L 11	-	-	GS04000	SS25	-	-	-
S16R CTUP R/L 11	-	-	GS05000	SS25	GS05003	QCT1100	QCT1101
S20S CTUP R/L 11	-	-	GS05000	SS25	GS05003	QCT1100	QCT1101
S16R CTUP R/L 16	-	-	GS06002	SS30	GS06003	QCT1600	QCT1601
S20S CTUP R/L 16	-	-	GS06002	SS30	GS06003	QCT1600	QCT1601
S25T CTUP R/L 16	-	-	GS06001	SS30	GS06003	QCT1600	QCT1601
S32U CTUP R/L 16	CT160301	BE02100	GS06000	SS30	GS06003	QCT1600	QCT1601
S40V CTUP R/L 16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
S50W CTUP R/L 16	CT160301	BE02100	GS06000	SS30	GS05005	QCT1600	QCT1601
S40V CTUP R/L 22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201
S50W CTUP R/L 22	CT220301	BE03000	GS08000	SS40	GS08001	QCT2200	QCT2201







# (D) DIMPLE LOCK SYSTEM




(D) DIMPLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (12)	MF  (12)	SF  (12)	LC  (12)	MS  (12)	MR  (12)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
PM  (12)	ST  (12)	MW  (12)	SS  (12)	HR  (12)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212334600	212334700	S25T DCLN R/L 12	25	23	11,5	300	40	17	31	CN.. 1204..	0,700		
212334800	212334900	S32U DCLN R/L 12	32	30	15,0	350	50	22	39	CN.. 1204..	2,050		
212335000	212335100	S40V DCLN R/L 12	40	37	18,5	400	60	27	48	CN.. 1204..	3,750		

 Stock Items | Itens de stock


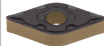

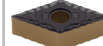


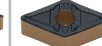

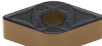


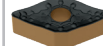



 Available under request | Disponível sob consulta | Disponible bajo consulta

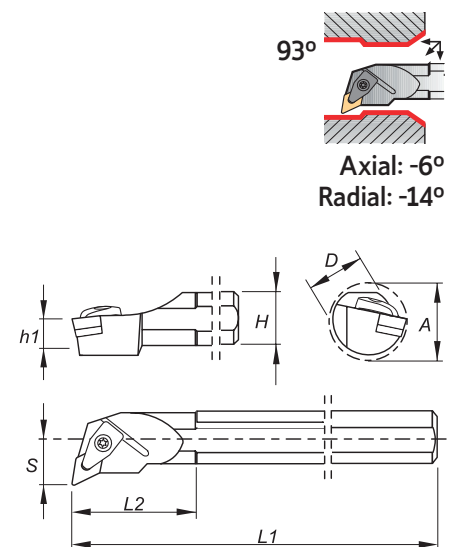
SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim 	Shim Screw 	Spring 	Clamp 	Clamp Screw 	Wrench 
S25T DCLN R/L 12	CC120300	T06010000	M09513	GA07002	D0602900	SS40
S32U DCLN R/L 12	CC120300	T06010000	M09513	GA07002	D0602900	SS40
S40V DCLN R/L 12	CC120300	T06010000	M09513	GA07002	D0602900	SS40



(D) DIMPLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
							
(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
							
(15)	(15)	(15)	(15)	(15)	(15)	(15)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212335200	212335300	S32U DDUN R/L 15	32	30	15,0	350	50	22	39	DN.. 1506..	2,050	○	○
212335400	212335500	S40V DDUN R/L 15	40	37	18,5	400	60	27	48	DN.. 1506..	3,750	○	○

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

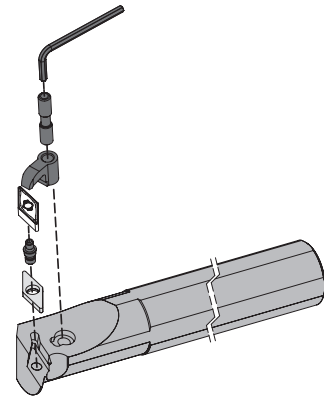
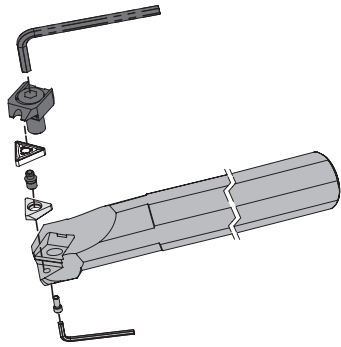
SPARE PARTS | Complementos | Repuestos

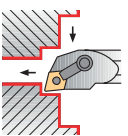
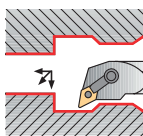
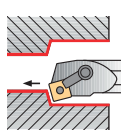
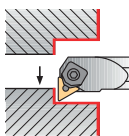
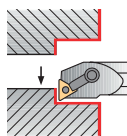
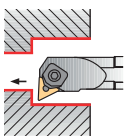
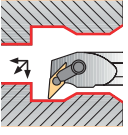
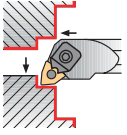
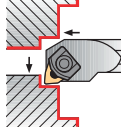
Cutter Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
S32U DDUN R/L 15						
S40V DDUN R/L 15	CD150501	T06010000	M09513	GA07002	D0602900	SS40
	CD150501	T06010000	M09513	GA07002	D0602900	SS40

C TURNING Insert selection Overview Negative inserts Positive inserts PCBN & PCD inserts Heavy turning External Toolholders Internal Toolholders Automatic Lathes Spare Parts Technical Data

# (M) WEDGE CLAMP SYSTEM












# (M-K) DOUBLE LOCK SYSTEM

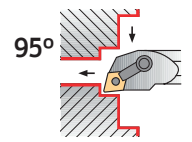


Negative inserts	<b>MCLN-K 95°</b>  PAGE C - 621 CN.. 1204..	<b>MDUN-K 93°</b>  PAGE C - 622 DN.. 1506..	<b>MSKN-K 75°</b>  PAGE C - 623 SN.. 1204..	<b>MTFN 90°</b>  PAGE C - 624 TN.. 1604.. TN.. 2204..	<b>MTFN-K 90°</b>  PAGE C - 625 TN.. 1604..	<b>MTUN 93°</b>  PAGE C - 626 TN.. 1604.. TN.. 2204..
	Positive inserts	<b>MVUN-K 93°</b>  PAGE C - 627 VN.. 1604..	<b>MWLN 95°</b>  PAGE C - 628 WN.. 0604.. WN.. 0804..	<b>MWLN-K 95°</b>  PAGE C - 629 WN.. 0804..		

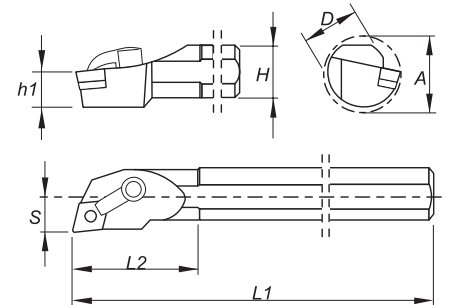
- TURNING
- Insert selection
- Overview
- Negative inserts
- Positive inserts
- PCBN & PCD inserts
- Heavy turning
- External Toolholders
- Internal Toolholders
- Automatic Lathes
- Spare Parts
- Technical Data







## (M-K) DOUBLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
<b>Flat</b>  (12)	<b>MF</b>  (12)	<b>SF</b>  (12)	<b>LC</b>  (12)	<b>MS</b>  (12)	<b>MR</b>  (12)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
<b>PM</b>  (12)	<b>ST</b>  (12)	<b>MW</b>  (12)	<b>SS</b>  (12)	<b>HR</b>  (12)	



Axial: -5°  
Radial: -13,5°



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212335600	212335700	S25T MCLN R/L 12-K	25	23	11,5	300	33	17	31	CN.. 1204..	0,700		
212335800	212335900	S32U MCLN R/L 12-K	32	30	15,0	350	50	22	39	CN.. 1204..	2,050		
212336000	212336100	S40V MCLN R/L 12-K	40	37	18,5	400	60	27	48	CN.. 1204..	3,750		

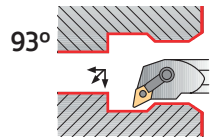
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta















## SPARE PARTS || Complementos | Repuestos

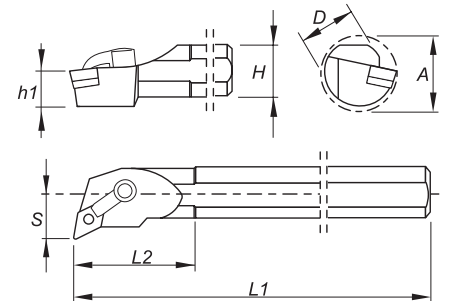
Cutter Reference	Shim	Lock Pin	Lock Pin Punch	Clamp	Differential Screw	Clamp Wrench
S25T MCLN R/L 12-K	-	BS1-402	SS25	GA06000	F0602100	SS30
S32U MCLN R/L 12-K	CC120500	BS1-400	SS25	GA06000	F0602900	SS30
S40V MCLN R/L 12-K	CC120500	BS1-400	SS25	GA06000	F0602900	SS30







## (M-K) DOUBLE LOCK TOOLHOLDERS



**Axial: -6°**  
**Radial: -12°**

Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
<b>MF</b>	<b>SF</b>	<b>LC</b>	<b>MS</b>	<b>MR</b>	<b>PM</b>	<b>ST</b>
						
(15)	(15)	(15)	(15)	(15)	(15)	(15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing
<b>MW</b>	<b>SS</b>	<b>HR</b>	<b>RP</b>	<b>O1</b>	<b>O2</b>	<b>O3</b>
						
(15)	(15)	(15)	(15)	(15)	(15)	(15)



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212245300	212336200	S25T MDUN R/L 15-K	25	23	11,5	300	40	17	31	DN.. 1506..	0,700		
212336300	212336400	S32U MDUN R/L 15-K	32	30	15,0	350	50	22	39	DN.. 1506..	2,050		
212245400	212336500	S40V MDUN R/L 15-K	40	37	18,5	400	60	27	48	DN.. 1506..	3,750		









 Stock Items | Itens de stock

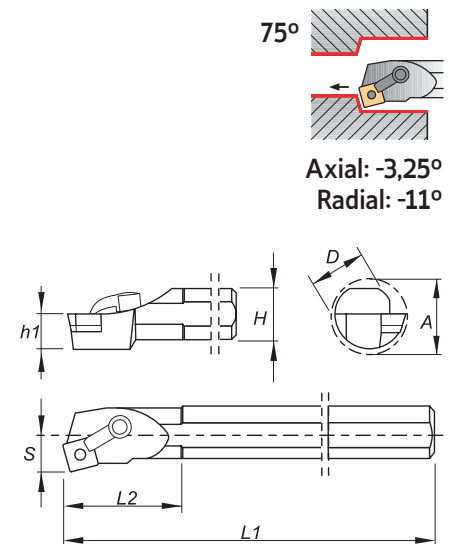
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Lock Pin	Lock Pin Punch	Clamp	Differential Screw	Clamp Wrench
S25T MDUN R/L 15-K	-	BS1-402	SS25	GA06001	F0602100	SS30
S32U MDUN R/L 15-K	CD150501	BS1-401	SS25	GA06001	F0602900	SS30
S40V MDUN R/L 15-K	CD150501	BS1-401	SS25	GA06001	F0602900	SS30

## (M-K) DOUBLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium
Flat  (12)	MF  (12)	SF  (12)	MR  (12)
Medium	Medium	Roughing to Medium	Roughing
PM  (12)	ST  (12)	SS  (12)	HR  (12)















Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212336600	212336700	S32U MSKN R/L 12-K	32	30	15,0	350	50	22	39	SN.. 1204..	2,050	○	○
212336800	212336900	S40V MSKN R/L 12-K	40	37	18,5	400	60	27	48	SN.. 1204..	3,750	○	○












⊗ Stock Items | Itens de stock

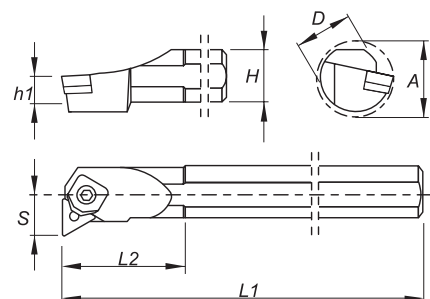
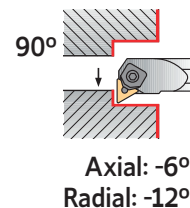
○ Available under request | Disponível sob consulta | Disponible bajo consulta

















## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Lock Pin	Lock Pin Punch	Clamp	Differential Screw	Clamp Wrench
S32U MSKN R/L 12-K	 CS120500	 BS1-400	 SS25	 GA06000	 F0602900	 SS30
S40V MSKN R/L 12-K	 CS120500	 BS1-400	 SS25	 GA06000	 F0602900	 SS30

## (M-K) DOUBLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	








Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212050300	212338100	S25T MTFN R/L 16	25	23	11,5	300	40	17	34	TN.. 1604..	0,700		
212168200	212338200	S32U MTFN R/L 16	32	30	15,0	350	50	22	39	TN.. 1604..	2,050		
212338300	212338400	S40V MTFN R/L 16	40	37	18,5	400	60	27	48	TN.. 1604..	3,750		
212338500	212338600	S50W MTFN R/L 16	50	47	23,5	450	65	35	61	TN.. 1604..	6,500		
212421000	212421100	S60Y MTFN R/L 16	60	57	28,5	600	75	43	80	TN.. 1604..	12,600		
212338700	212338800	S40V MTFN R/L 22	40	37	18,5	400	60	27	48	TN.. 2204..	3,750		
212017500	212338900	S50W MTFN R/L 22	50	47	23,5	450	65	35	61	TN.. 2204..	6,500		
212421800	212421900	S60Y MTFN R/L 22	60	57	28,5	600	75	43	80	TN.. 2204..	12,600		












 Stock Items | Itens de stock

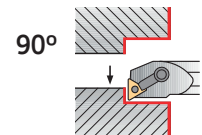
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

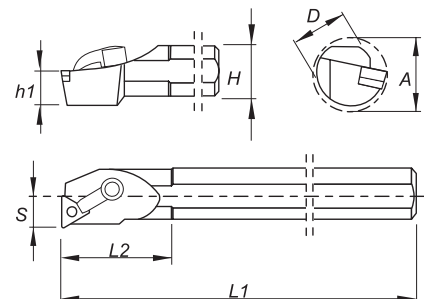
Cutter Reference	Shim	Lock Pin	Lock Pin Punch	Wedge Clamp	Wrench
S25T MTFN R/L 16					
S32U MTFN R/L 16	CT160302	BC04501	D0300691	GW08001	SS50
S40V MTFN R/L 16	CT160302	BC04501	D0300700	GW08001	SS50
S50W MTFN R/L 16	CT160302	BC04501	D0300700	GW08001	SS50
S60Y MTFN R/L 16	CT160302	BC04501	D0300691	GW08001	SS50
S40V MTFN R/L 22	CT220500	BC06000	D0400900	GW08003	SS50
S50W MTFN R/L 22	CT220500	BC06000	D0400900	GW08003	SS50
S60Y MTFN R/L 22	CT220500	BC06000	D0400900	GW08003	SS50







(M-K) DOUBLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (16-22)	MF  (16-22)	SF  (16-22)	LC  (16-22)	MS  (16)	MR  (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM  (16-22)	ST  (16-22)	SS  (16-22)	HR  (16-22)	O1  (16)	



Axial: -6°  
Radial: -11°









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212337000	212337100	S25T MTFN R/L 16-K	25	23	11,5	300	40	17	31	TN.. 1604..	0,700		
212337200	212337300	S32U MTFN R/L 16-K	32	30	15,0	350	50	22	39	TN.. 1604..	2,050		
212337400	212337500	S40V MTFN R/L 16-K	40	37	18,5	400	60	27	48	TN.. 1604..	3,750		













 Stock Items | Itens de stock

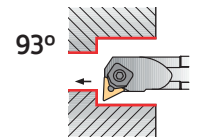
 Available under request | Disponible sob consulta | Disponibile bajo consulta

SPARE PARTS || Complementos | Repuestos

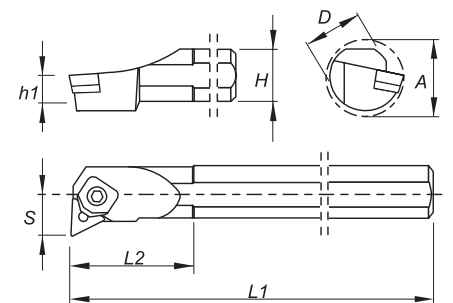
Cutter Reference	Shim 	Lock Pin 	Lock Pin Wrench 	Clamp 	Differential Screw 	Clamp Wrench 
S25T MTFN R/L 16-K	CT160304	BS05000	SS20	GA06000	F0602900	SS30
S32U MTFN R/L 16-K	CT160304	BS05000	SS20	GA06000	F0602900	SS30
S40V MTFN R/L 16-K	CT160304	BS05000	SS20	GA06000	F0602900	SS30













(M) WEDGE CLAMP TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Medium wiper	Roughing to Medium	Roughing	Medium to Finishing
PM	ST	MW	SS	HR	O1
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)



Axial: -6°  
Radial: -11°








Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212339000	212339100	S25T MTUN R/L 16	25	23	11,5	300	40	17	34	TN.. 1604..	0,700		
212339200	212339300	S32U MTUN R/L 16	32	30	15,0	350	50	22	39	TN.. 1604..	2,050		
212339400	212339500	S40V MTUN R/L 16	40	37	18,5	400	60	27	48	TN.. 1604..	3,750		
212339600	212339700	S50W MTUN R/L 16	50	47	23,5	450	65	35	61	TN.. 1604..	6,500		
212339800	212339900	S40V MTUN R/L 22	40	37	18,5	400	60	27	48	TN.. 2204..	3,750		
212340000	212340100	S50W MTUN R/L 22	50	47	23,5	450	65	35	61	TN.. 2204..	6,500		

 Stock Items | Itens de stock










 Available under request | Disponível sob consulta | Disponible bajo consulta

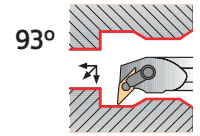
SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Lock Pin	Lock Pin Punch	Wedge Clamp	Wrench
S25T MTUN R/L 16	 CT160302	 BC04501	 D0300691	 GW08001	 SS50
S32U MTUN R/L 16	CT160302	BC04501	D0300700	GW08001	SS50
S40V MTUN R/L 16	CT160302	BC04501	D0300700	GW08001	SS50
S50W MTUN R/L 16	CT160302	BC04501	D0300700	GW08001	SS50
S40V MTUN R/L 22	CT220500	BC06000	D0400900	GW08003	SS50
S50W MTUN R/L 22	CT220500	BC06000	D0400900	GW08003	SS50

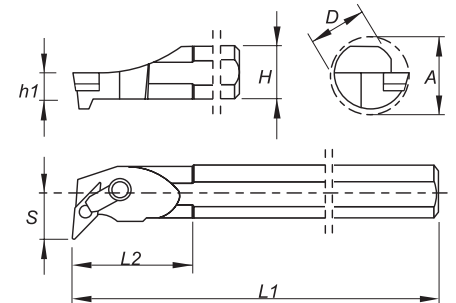








## (M-K) DOUBLE LOCK TOOLHOLDERS


Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium to Finishing
Flat	MF	SF	LC	MS
 (16)	 (16)	 (16)	 (16)	 (16)
Medium	Medium	Medium	Roughing to Medium	
MR	PM	ST	SS	
 (16)	 (16)	 (16)	 (16)	



Axial: -5°  
Radial: -15°







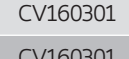





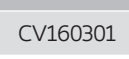







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212050400	212337600	S25T MVUN R/L 16-K	25	23	11,5	300	40	17	31	VN.. 1604..	0,700		
212337700	212337800	S32U MVUN R/L 16-K	32	30	15,0	350	50	22	39	VN.. 1604..	2,050		
212337900	212338000	S40V MVUN R/L 16-K	40	37	18,5	400	60	27	48	VN.. 1604..	3,750		












 Stock Items | Itens de stock

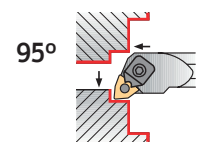
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

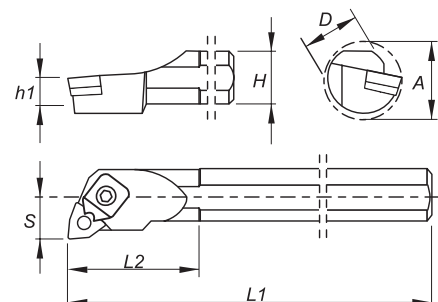
Cutter Reference	Shim	Lock Pin	Lock Pin Wrench	Clamp	Differential Screw	Clamp Wrench
S25T MVUN R/L 16-K	 CV160301	 BS05000	 SS20	 GA06001	 F0602100	 SS30
S32U MVUN R/L 16-K	 CV160301	 BS05000	 SS20	 GA06001	 F0602900	 SS30
S40V MVUN R/L 16-K	 CV160301	 BS05000	 SS20	 GA06001	 F0602900	 SS30

















(M) WEDGE CLAMP TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (08)	MF  (06-08)	SF  (06-08)	LC  (08)	MS  (06-08)	PM  (08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR  (06-08)	ST  (08)	MW  (06-08)	SS  (06-08)	HR  (08)	



Axial: -5°  
Radial: -11,5°








Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212050500	212340200	S20S MWLN R/L 06	20	18	9,0	250	36	13	27	WN.. 0604..	0,550		
212340300	212340400	S25T MWLN R/L 06	25	23	11,5	300	40	17	31	WN.. 0604..	0,700		
212340500	212340600	S32U MWLN R/L 06	32	30	15,0	350	50	22	39	WN.. 0604..	2,050		
212054400	212340700	S25T MWLN R/L 08	25	23	11,5	300	40	17	31	WN.. 0804..	0,700		
212044100	212044000	S32U MWLN R/L 08	32	30	15,0	350	50	22	39	WN.. 0804..	2,050		
212340800	212340900	S40V MWLN R/L 08	40	37	18,5	400	60	27	48	WN.. 0804..	3,750		
212341000	212341100	S50W MWLN R/L 08	50	47	23,5	450	65	35	61	WN.. 0804..	6,500		
212421200	212421300	S60Y MWLN R/L 08	60	57	28,5	600	75	43	80	WNM. 0804..	12,600		


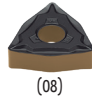


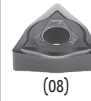



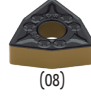

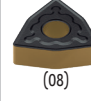
 Stock Items | Itens de stock

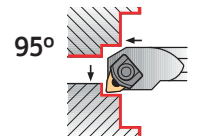
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

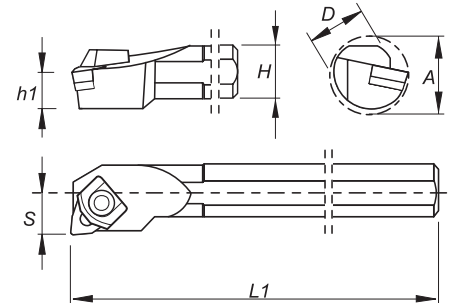
Cutter Reference	Shim 	Lock Pin 	Lock Pin Punch 	Wedge Clamp 	Wrench 
S20S MWLN R/L 06	-	BC04502	D0300691	GW05000	SS25
S25T MWLN R/L 06	CW060300	BC04501	D0300691	GW05000	SS25
S32U MWLN R/L 06	CW060300	BC04501	D0300691	GW05000	SS25
S25T MWLN R/L 08	-	BC06001	D0400691	GW08000	SS25
S32U MWLN R/L 08	CW080500	BC06000	D0400691	GW08000	SS25
S40V MWLN R/L 08	CW080500	BC06000	D0400691	GW08000	SS25
S50W MWLN R/L 08	CW080500	BC06000	D0400691	GW08000	SS25
S60Y MWLN R/L 08	CW080500	BC06000	D0400691	GW08000	SS25









## (M-K) DOUBLE LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	PM
 (08)	 (08)	 (08)	 (08)	 (08)	 (08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR	ST	MW	SS	HR	
 (08)	 (08)	 (08)	 (08)	 (08)	



Axial: -5°  
Radial: -11,5°







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212341200	212341300	S25T MWLN R/L 08-K	25	23	11,5	300	40	17	31	WN.. 0804..	0,700		
212341400	212341500	S32U MWLN R/L 08-K	32	30	15,0	350	50	22	39	WN.. 0804..	2,050		
212341600	212341700	S40V MWLN R/L 08-K	40	37	18,5	400	60	27	48	WN.. 0804..	3,750		
212341800	212341900	S50W MWLN R/L 08-K	50	47	23,5	450	65	35	61	WN.. 0804..	6,500		

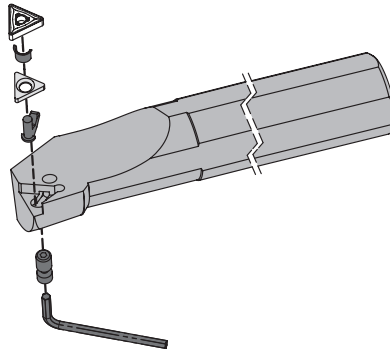
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos















Cutter Reference	Shim	Lock Pin	Lock Pin Screw	Wedge Clamp	Wrench
S25T MWLN R/L 08-K	-				
S32U MWLN R/L 08-K	CW080500	BC06001	D0400691	GW06000	SS25
S40V MWLN R/L 08-K	CW080500	BC06000	D0400691	GW06000	SS25
S50W MWLN R/L 08-K	CW080500	BC06000	D0400691	GW06000	SS25

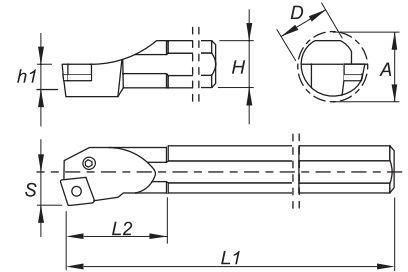
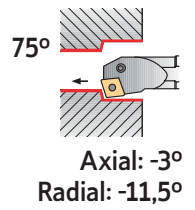
# (P) LEVER LOCK SYSTEM





















<p><b>PCKN 75°</b></p> <p>PAGE C - 631 CN.. 1204.. CN.. 1606.. CN.. 1906..</p>	<p><b>PCLN 95°</b></p> <p>PAGE C - 632 CN.. 0903.. ... CN.. 1906..</p>	<p><b>A-PCLN 95°</b></p> <p>PAGE C - 633 CN.. 0903.. ... CN.. 1204..</p>	<p><b>PDUN 93°</b></p> <p>PAGE C - 634 DN.. 1104.. DN.. 1506..</p>	<p><b>A-PDUN 93°</b></p> <p>PAGE C - 635 DN.. 1104.. DN.. 1506..</p>	<p><b>PDUN 93° - BT</b></p> <p>PAGE C - 636 DN.. 1506..</p>
<p><b>PSKN 75°</b></p> <p>PAGE C - 637 SN.. 1204.. SN.. 1906..</p>	<p><b>A-PSKN 75°</b></p> <p>PAGE C - 638 SN.. 1204..</p>	<p><b>A-PSSN 45°</b></p> <p>PAGE C - 639 SN.. 1204..</p>	<p><b>PTFN 90°</b></p> <p>PAGE C - 640 TN.. 1604.. TN.. 2204..</p>	<p><b>A-PTFN 90°</b></p> <p>PAGE C - 641 TN.. 1604.. TN.. 2204..</p>	<p><b>PWLN 95°</b></p> <p>PAGE C - 642 WN.. 0604.. WN.. 0804..</p>
<p><b>A-PWLN 95°</b></p> <p>PAGE C - 643 WN.. 0604.. WN.. 0804..</p>					

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
<b>Flat</b>  (12-16-19)	<b>MF</b>  (12)	<b>SF</b>  (12)	<b>LC</b>  (12)	<b>MS</b>  (12)	<b>MR</b>  (12-16-19)	<b>PM</b>  (12)
Medium	Medium Wiper	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing
<b>ST</b>  (12-19)	<b>MW</b>  (12)	<b>SS</b>  (12-16-19)	<b>HR</b>  (12-16-19)	<b>RP</b>  (19)	<b>HY</b>  (19)	<b>HZ</b>  (19)



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212342000	212342100	S25T PCKN R/L 12	25	23	11,5	300	40	17	31	CN.. 1204..	0,700		
212342200	212342300	S32U PCKN R/L 12	32	30	15,0	350	50	22	39	CN.. 1204..	2,050		
212342400	212342500	S40V PCKN R/L 12	40	37	18,5	400	60	27	48	CN.. 1204..	3,750		
212421400	212421500	S50W PCKN R/L 12	50	47	23,5	450	60	35	61	CN.. 1204..	6,500		
212421600	212421700	S60Y PCKN R/L 12	60	57	28,5	600	75	43	80	CN.. 1204..	12,600		
212342600	212342700	S50W PCKN R/L 16	50	47	23,5	450	65	35	61	CN.. 1606..	6,500		
212422000	212422100	S60Y PCKN R/L 16	60	57	28,5	600	75	43	80	CN.. 1606..	12,600		
212342800	212342900	S50W PCKN R/L 19	50	47	23,5	450	65	35	61	CN.. 1906..	6,500		
212422200	212422300	S60Y PCKN R/L 19	60	57	28,5	600	75	43	80	CN.. 1906..	12,600		

 Stock Items | Itens de stock

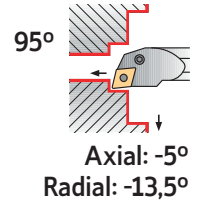
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

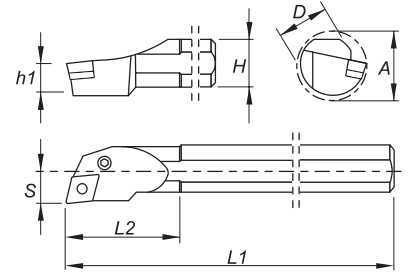
Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
S25T PCKN R/L 12	-	-	-	AN12100	PA0601300	SS25
S32U PCKN R/L 12	CC120301	BE05500	BF47509	AC13200	PA0801700	SS30
S40V PCKN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
S50W PCKN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
S60Y PCKN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
S50W PCKN R/L 16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
S60Y PCKN R/L 16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
S50W PCKN R/L 19	CC190500	BE08500	BF80012	AN20800	PA1002700	SS40
S60Y PCKN R/L 19	CC190500	BE08500	BF0012	AN20800	PA1002700	SS40

C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(P) LEVER LOCK TOOLHOLDERS



Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM
(09-12-16-19)	(09-12)	(12)	(12)	(12)	(09-12-16-19)	(12)
Medium	Medium Wiper	Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing
ST	MW	SS	HR	RP	HY	HZ
(09-12-16-19)	(12)	(09-12-16-19)	(12-16-19)	(19)	(19)	(19)














Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212247000	212343000	S16R PCLN R/L 09	16	15	7,5	200	26	11	20	CN.. 0903..	0,300	⊗	⊗
212050600	212343100	S20S PCLN R/L 09	20	18	9,0	250	29	13	25	CN.. 0903..	0,550	⊗	⊗
212247100	212343200	S25T PCLN R/L 09	25	23	11,5	300	33	17	32	CN.. 0903..	0,700	⊗	⊗
212048400	212343300	S25T PCLN R/L 12	25	23	11,5	300	40	17	31	CN.. 1204..	0,700	⊗	⊗
212169900	212343400	S32U PCLN R/L 12	32	30	15,0	350	50	22	39	CN.. 1204..	2,050	○	○
212247200	212017300	S40V PCLN R/L 12	40	37	18,5	400	60	27	48	CN.. 1204..	3,750	○	○
212343500	212343600	S50W PCLN R/L 12	50	47	23,5	450	65	35	61	CN.. 1204..	6,500	○	○
212423300	212423400	S60Y PCLN R/L 12	60	57	28,5	600	75	43	80	CN.. 1204..	12,600	○	○
212423500	212423600	S40V PCLN R/L 16	40	37	18,5	400	50	27	48	CN.. 1606..	3,750	○	○
212017700	212343700	S50W PCLN R/L 16	50	47	23,5	450	65	35	61	CN.. 1606..	6,500	○	○
212423700	212423800	S60Y PCLN R/L 16	60	57	28,5	600	75	43	80	CN.. 1606..	12,600	○	○
212017800	212017600	S50W PCLN R/L 19	50	47	23,5	450	65	35	61	CN.. 1906..	6,500	○	○
212423900	212424000	S60Y PCLN R/L 19	60	57	28,5	600	75	43	80	CN.. 1906..	12,600	○	○

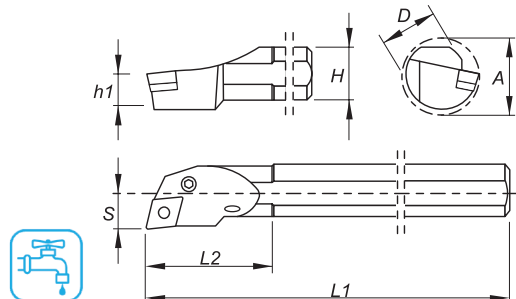
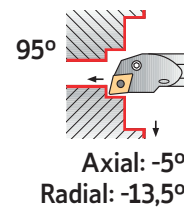
⊗ Stock Items | Itens de stock      ○ Available under request | Disponível sob consulta | Disponible bajo consulta











SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
S16R PCLN R/L 09	-	-	-	AN07800	PA0501200	SS20
S20S PCLN R/L 09	-	-	-	AN07800	PA0501200	SS20
S25T PCLN R/L 09	CC090300	BE04400	BF40009	AN01200	PA0601300	SS25
S25T PCLN R/L 12	-	-	-	AN12100	PA0601300	SS25
S32U PCLN R/L 12	CC120301	BE05500	BF47509	AC13200	PA0801700	SS30
S40V PCLN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
S50W PCLN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
S60Y PCLN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30
S40V PCLN R/L 16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
S50W PCLN R/L 16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
S60Y PCLN R/L 16	CC160500	BE07000	BF65012	AN17100	PA0802300	SS30
S50W PCLN R/L 19	CC190500	BE08300	BF80012	AN20200	PA1002700	SS40
S60Y PCLN R/L 19	CC190500	BE08300	BF80012	AN20200	PA1002700	SS40

## (P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
<b>Flat</b>  (09-12)	<b>MF</b>  (09-12)	<b>SF</b>  (12)	<b>LC</b>  (12)	<b>MS</b>  (12)	<b>MR</b>  (09-12)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
<b>PM</b>  (12)	<b>ST</b>  (09-12)	<b>MW</b>  (12)	<b>SS</b>  (09-12)	<b>HR</b>  (12)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212343800	212343900	A16M PCLN R/L 09	16	15	7,5	150	26	11	20	CN.. 0903..	0,200		
212344000	212344100	A20Q PCLN R/L 09	20	18	9,0	180	29	13	25	CN.. 0903..	0,400		
212344200	212344300	A25R PCLN R/L 12	25	23	11,5	200	40	17	31	CN.. 1204..	0,700		
212344400	212344500	A32S PCLN R/L 12	32	30	15,0	250	50	22	39	CN.. 1204..	1,400		
212344600	212344700	A40T PCLN R/L 12	40	37	18,5	300	60	27	48	CN.. 1204..	2,650		

 Stock Items | Itens de stock

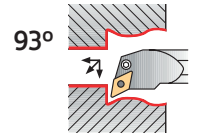
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS | Complementos | Repuestos
















Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
A16M PCLN R/L 09						
A20Q PCLN R/L 09	-	-	-	AN07800	PA0501200	SS20
A25R PCLN R/L 12	-	-	-	AN12100	PA0601300	SS25
A32S PCLN R/L 12	CC120301	BE05500	BF47509	AC13200	PA0801700	SS30
A40T PCLN R/L 12	CC120301	BE05500	BF47509	AN13100	PA0802100	SS30

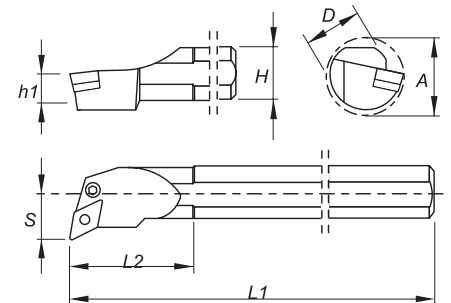












(P) LEVER LOCK TOOLHOLDERS




Axial: -6°  
Radial: -14°

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
 (11-15)	 (11-15)	 (11-15)	 (15)	 (15)	 (11-15)	 (15)	 (11-15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
 (15)	 (11-15)	 (15)	 (15)	 (15)	 (15)	 (15)	



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212079300	212344800	S25T PDUN R/L 11	25	23	11,5	300	35	17	32	DN.. 1104..	0,700		
212247300	212344900	S32U PDUN R/L 11	32	30	15,0	350	40	22	40	DN.. 1104..	2,050		
212079400	212079500	S32U PDUN R/L 15	32	30	15,0	350	50	22	39	DN.. 1506..	2,050		
212345000	212345100	S40V PDUN R/L 15	40	37	18,5	400	60	27	48	DN.. 1506..	3,750		
212018000	212017900	S50W PDUN R/L 15	50	47	23,5	450	65	35	61	DN.. 1506..	6,500		

 Stock Items | Itens de stock

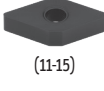
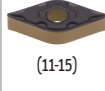
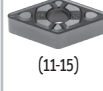

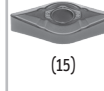



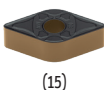

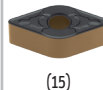

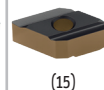

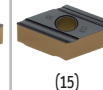
 Available under request | Disponível sob consulta | Disponible bajo consulta

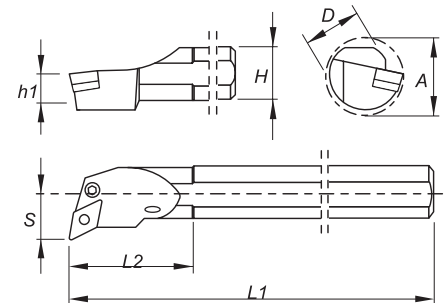
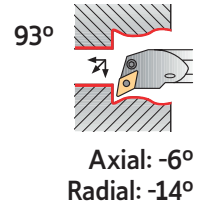
SPARE PARTS || Complementos | Repuestos







Cutter Reference	Order separately						for inserts DN.. 1504..	
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench	Shim	Shim Pin
S25T PDUN R/L 11							-	-
S32U PDUN R/L 11	CD110300	BE04400	BF40009	AN01200	PA0601700	SS25	-	-
S32U PDUN R/L 15	CD150300	BE05500	BF47509	AN14700	PA0801700	SS30	CD150500	BE05401
S40V PDUN R/L 15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
S50W PDUN R/L 15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401



(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
 (11-15)	 (11-15)	 (11-15)	 (15)	 (15)	 (11-15)	 (15)	 (11-15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
 (15)	 (11-15)	 (15)	 (15)	 (15)	 (15)	 (15)	





Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212345200	212345300	A25R PDUN R/L 11	25	23	11,5	200	40	17	31	DN.. 1104..	0,700		
212345400	212345500	A32S PDUN R/L 15	32	30	15,0	250	50	22	39	DN.. 1506..	1,400		
212345600	212345700	A40T PDUN R/L 15	40	37	18,5	300	60	27	48	DN.. 1506..	2,650		

 Stock Items | Itens de stock

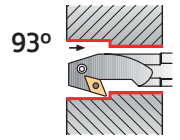
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

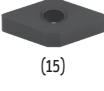
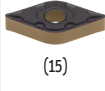
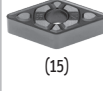
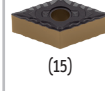
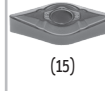

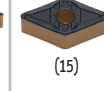
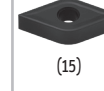
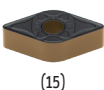
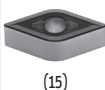
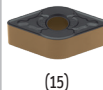

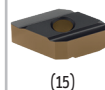
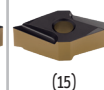
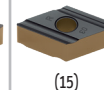
Cutter Reference	Order separately						for inserts DN.. 1504..	
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench	Shim	Shim Pin
A25R PDUN R/L 11							-	-
A32S PDUN R/L 15	CD150300	BE05500	BF47509	AN14700	PA0801700	SS30	CD150500	BE05401
A40T PDUN R/L 15	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401

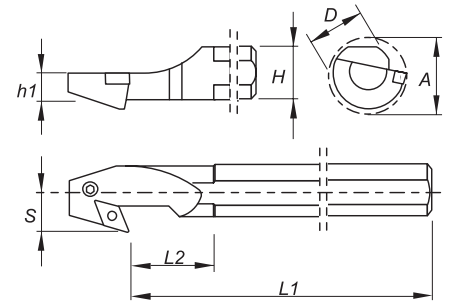
C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(P) LEVER LOCK TOOLHOLDERS



Axial: -6°  
Radial: -14°

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium	Medium	Medium
Flat	MF	SF	LC	MS	MR	PM	ST
 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	 (15)
Medium Wiper	Roughing to Medium	Roughing	Roughing	Roughing to Medium	Medium to Finishing	Medium to Finishing	
MW	SS	HR	RP	O1	O2	O3	
 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	 (15)	



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212345800	212345900	S32U PDUN R/L 15-BT	32	30	15,0	350	50	22	39	DN.. 1506..	2,050	○	○
212346000	212346100	S40V PDUN R/L 15-BT	40	37	18,5	400	60	27	48	DN.. 1506..	3,750	○	○
212346200	212346300	S50W PDUN R/L 15-BT	50	47	23,5	450	65	35	61	DN.. 1506..	6,500	○	○











⊗ Stock Items | Itens de stock

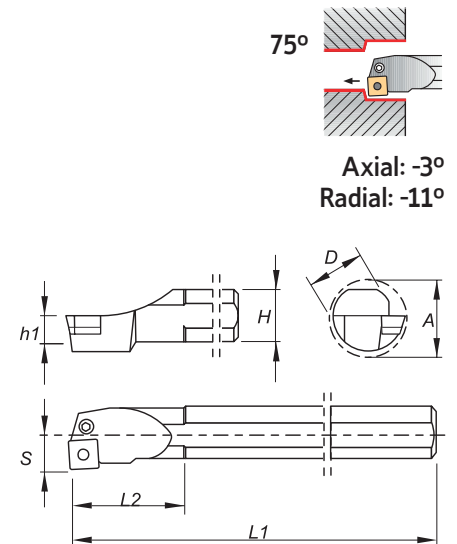
○ Available under request | Disponível sob consulta | Disponible bajo consulta















SPARE PARTS || Complementos | Repuestos


Cutter Reference	Order separately						for inserts DN.. 1504..	
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench	Shim	Shim Pin
S32U PDUN R/L 15-BT	-	-	-	AN14700	PA0801700	SS30	-	-
S40V PDUN R/L 15-BT	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401
S50W PDUN R/L 15-BT	CD150300	BE05500	BF47509	AN14700	PA0802101	SS30	CD150500	BE05401

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium	Medium	Medium
Flat  (12-19)	MF  (12)	SF  (12)	MR  (12-19)	PM  (12)	ST  (12-19)
Roughing to Medium	Roughing	Roughing	Heavy to Roughing	Heavy to Roughing	
SS  (12-19)	HR  (12-19)	RP  (15-19)	HY  (19)	HZ  (19)	



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212050700	212346400	S25T PSKN R/L 12	25	23	11,5	300	40	17	31	SN.. 1204..	0,700		
212346500	212346600	S32U PSKN R/L 12	32	30	15,0	350	50	22	39	SN.. 1204..	2,050		
212346700	212346800	S40V PSKN R/L 12	40	37	18,5	400	60	27	48	SN.. 1204..	3,750		
212424100	212424200	S40V PSKN R/L 15	40	37	18,5	400	50	27	48	SN.. 1506..	3,750		
212424300	212424400	S50W PSKN R/L 15	50	47	23,5	450	60	35	61	SN.. 1506..	6,500		
212346900	212347000	S50W PSKN R/L 19	50	47	23,5	450	65	35	61	SN.. 1906..	6,500		
212424500	212424600	S60Y PSKN R/L 19	60	57	28,5	600	75	43	80	SN.. 1906..	12,600		

 Stock Items | Itens de stock









 Available under request | Disponível sob consulta | Disponible bajo consulta

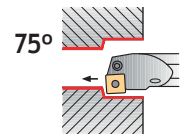
SPARE PARTS | Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
S25T PSKN R/L 12	-	-	-	AN12100	PA0601300	SS25
S32U PSKN R/L 12	CS120302	BE05500	BF47509	AC13200	PA0801700	SS30
S40V PSKN R/L 12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30
S40V PSKN R/L 15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
S50W PSKN R/L 15	CS150400	BE07000	BF65012	AN17100	PA0802300	SS30
S50W PSKN R/L 19	CS190400	BE08300	BF80012	AN20200	PA1003000	SS40
S60Y PSKN R/L 19	CS150400	BE08300	BF80012	AN20200	PA1003000	SS40

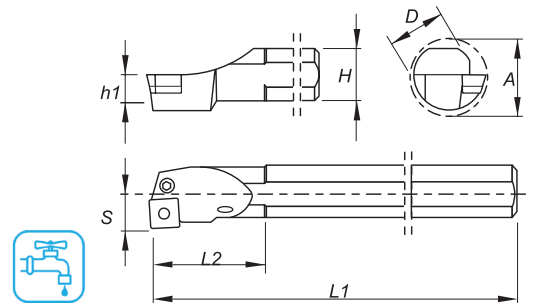
C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data







## (P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium
<b>Flat</b>	<b>MF</b>	<b>SF</b>	<b>MR</b>
 (12)	 (12)	 (12)	 (12)
Medium	Medium	Roughing to Medium	Roughing
<b>PM</b>	<b>ST</b>	<b>SS</b>	<b>HR</b>
 (12)	 (12)	 (12)	 (12)



Axial: -3°  
Radial: -11°



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212347100	212347200	A25R PSKN R/L 12	25	23	11,5	200	40	17	31	SN.. 1204..	0,700		
212347300	212347400	A32S PSKN R/L 12	32	30	15,0	250	50	22	39	SN.. 1204..	1,400		
212347500	212347600	A40T PSKN R/L 12	40	37	18,5	300	60	27	48	SN.. 1204..	2,650		









 Stock Items | Itens de stock

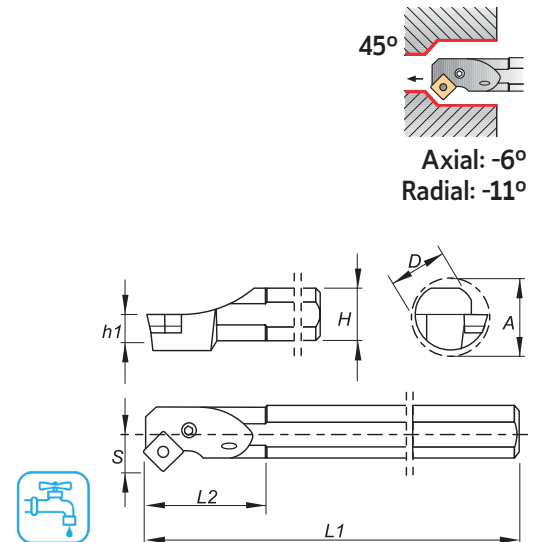
Available under request | Disponível sob consulta | Disponible bajo consulta





## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
A25R PSKN R/L 12	-	-	-	AN12100	PA0601300	SS25
A32S PSKN R/L 12	CS120302	BE05500	BF47509	AC13200	PA0801700	SS30
A40T PSKN R/L 12	CS120302	BE05500	BF47509	AN13100	PA0802100	SS30

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium	Medium
Flat  (12)	MF  (12)	SF  (12)	MR  (12)
Medium	Medium	Roughing to Medium	Roughing
PM  (12)	ST  (12)	SS  (12)	HR  (12)









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212347700	212347800	A25R PSSN R/L 12	25	23	11,5	200	40	17	31	SN.. 1204..	0,700		
212347900	212348000	A32S PSSN R/L 12	32	30	15,0	250	50	22	39	SN.. 1204..	2,050		












 Stock Items | Itens de stock

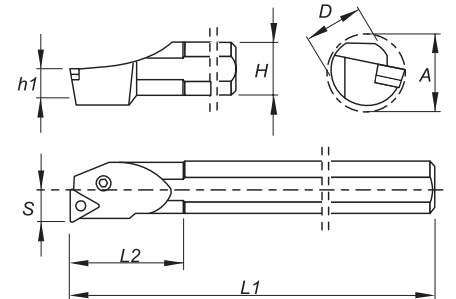
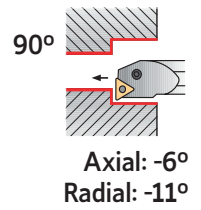
 Available under request | Disponível sob consulta | Disponible bajo consulta













SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
A25R PSKN R/L 12						
A32S PSKN R/L 12	-	-	-	AN12100	PA0601300	SS25
A32S PSKN R/L 12	CS120302	BE05500	BF47509	AC13200	PA0801700	SS30

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212054300	212348100	S25T PTFN R/L 16	25	23	11,5	300	40	17	31	TN.. 1604..	0,700		
212045000	212348200	S32U PTFN R/L 16	32	30	15,0	350	50	22	39	TN.. 1604..	2,050		
212424700	212424800	S40V PTFN R/L 16	40	37	18,5	400	50	27	48	TN.. 1604..	3,750		
212424900	212425000	S50W PTFN R/L 16	50	47	23,5	450	60	35	61	TN.. 1604..	6,500		
212348300	212348400	S40V PTFN R/L 22	40	37	18,5	400	60	27	48	TN.. 2204..	3,750		
212348500	212348600	S50W PTFN R/L 22	50	47	23,5	450	65	35	61	TN.. 2204..	6,500		












 Stock Items | Itens de stock

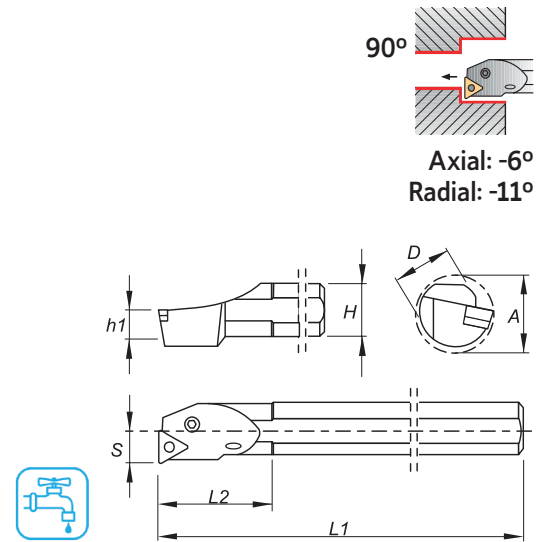
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





SPARE PARTS | Complementos | Repuestos


Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
S25T PTFN R/L 16						
S32U PTFN R/L 16	-	-	-	AN09500	PA0501200	SS20
S40V PTFN R/L 16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
S50W PTFN R/L 16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
S40V PTFN R/L 22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30
S50W PTFN R/L 22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat	MF	SF	LC	MS	MR
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	 (16-22)
Medium	Medium	Roughing to Medium	Roughing	Medium to Finishing	
PM	ST	SS	HR	O1	
 (16-22)	 (16-22)	 (16-22)	 (16-22)	 (16)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212348700	212348800	A25R PTFN R/L 16	25	23	11,5	200	40	17	31	TN.. 1604..	0,700		
212348900	212349000	A32S PTFN R/L 16	32	30	15,0	250	50	22	39	TN.. 1604..	1,400		
212349100	212349200	A40T PTFN R/L 22	40	37	18,5	300	60	27	48	TN.. 2204..	2,650		












 Stock Items | Itens de stock

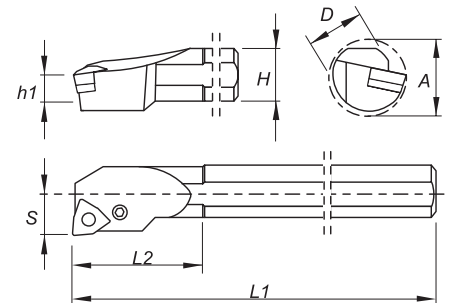
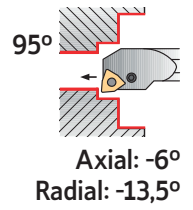
 Available under request | Disponível sob consulta | Disponible bajo consulta













SPARE PARTS || Complementos | Repuestos


Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
A25R PTFN R/L 16						
A25R PTFN R/L 16	-	-	-	AN09500	PA0501200	SS20
A32S PTFN R/L 16	CT160303	BE04400	BF40009	AN01200	PA0601700	SS25
A40T PTFN R/L 22	CT220302	BE05500	BF47509	AN13100	PA0802100	SS30

(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (06-08)	MF  (06-08)	SF  (06-08)	LC  (08)	MS  (06-08)	PM  (08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR  (06-08)	ST  (08)	MW  (06-08)	SS  (06-08)	HR  (08)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212046300	212349300	S16R PWLN R/L 06	16	15	7,5	200	24	11	20	WN..0604..	0,300		
212219100	212349400	S20S PWLN R/L 06	20	18	9,0	250	36	13	27	WN..0604..	0,550		
212249900	212349500	S25T PWLN R/L 06	25	23	11,5	300	40	17	31	WN..0604..	0,700		
212046400	212349600	S25T PWLN R/L 08	25	23	11,5	300	40	17	31	WN..0804..	0,700		
212349700	212349800	S32U PWLN R/L 08	32	30	15,0	350	50	22	39	WN..0804..	2,050		
212349900	212350000	S40V PWLN R/L 08	40	37	18,5	400	60	27	48	WN..0804..	3,750		

 Stock Items | Itens de stock












 Available under request | Disponível sob consulta | Disponible bajo consulta

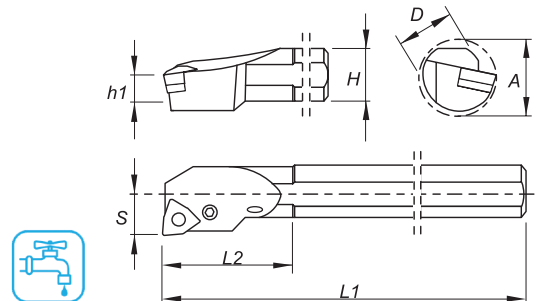
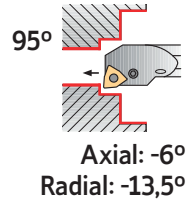
SPARE PARTS || Complementos | Repuestos















Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
S16R PWLN R/L 06						
S20S PWLN R/L 06	-	-	-	AN09500	PA0501200	SS20
S25T PWLN R/L 06	CW060301	BE04400	BF40009	AN01200	PA0601700	SS25
S25T PWLN R/L 08	-	-	-	AC13200	PA0801700	SS30
S32U PWLN R/L 08	CW080300	BE05500	BF47509	AN13100	PA0802100	SS30
S40V PWLN R/L 08	CW080300	BE05500	BF47509	AN13100	PA0802100	SS30




(P) LEVER LOCK TOOLHOLDERS

Roughing	Finishing	Medium to Finishing	Medium to Finishing	Medium	Medium
Flat  (06-08)	MF  (06-08)	SF  (06-08)	LC  (08)	MS  (06-08)	PM  (08)
Medium	Medium	Medium Wiper	Roughing to Medium	Roughing	
MR  (06-08)	ST  (08)	MW  (06-08)	SS  (06-08)	HR  (08)	









Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212350100	212350200	A16M PWLN R/L 06	16	15	7,5	150	24	11	20	WN..0604..	0,200		
212350300	212350400	A20Q PWLN R/L 06	20	18	9,0	180	36	13	27	WN..0604..	0,400		
212350500	212350600	A25R PWLN R/L 06	25	23	11,5	200	40	17	31	WN..0604..	0,700		
212350700	212350800	A32S PWLN R/L 06	32	30	15,0	250	50	22	39	WN..0604..	1,400		
212350900	212351000	A25R PWLN R/L 08	40	37	11,5	200	40	17	31	WN..0804..	0,700		
212351300	212351400	A32S PWLN R/L 08	32	30	15,0	250	50	22	39	WN..0804..	1,400		
212351100	212351200	A40T PWLN R/L 08	40	37	18,5	300	60	27	48	WN..0804..	2,650		

 Stock Items | Itens de stock

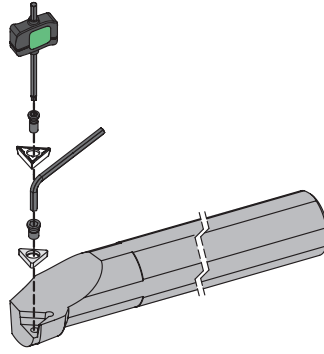
 Available under request | Disponivel sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Cutter Reference	Order separately					
	Shim	Shim Pin	Shim Pin Punch	Lever	Lever Screw	Wrench
A16M PWLN R/L 06						
A20Q PWLN R/L 06	-	-	-	AN09500	PA0501200	SS20
A25R PWLN R/L 06	-	-	-	AN09500	PA0501200	SS20
A25R PWLN R/L 06	CW060301	BE04400	BF40009	AN01200	PA0601700	SS25
A32S PWLN R/L 06	CW060301	BE04400	BF40009	AN01200	PA0601700	SS25
A25R PWLN R/L 08	-	-	-	AC13200	PA0801700	SS30
A32S PWLN R/L 08	CW080300	BE05500	BF47509	AN13100	PA0802100	SS30
A40T PWLN R/L 08	CW080300	BE05500	BF47509	AN13100	PA0802100	SS30














C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Spare Parts  
Technical Data

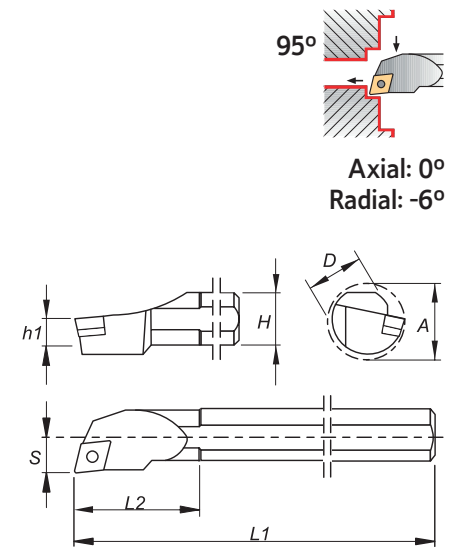
# (S) CENTER SCREW SYSTEM



<b>SCLC 95°</b>  PAGE C - 645 CC.. 0602.. CC.. 09T3.. CC.. 1204..	<b>A-SCLC 95°</b>  PAGE C - 646 CC.. 0602.. CC.. 09T3.. CC.. 1204..	<b>E-SCLC 95°</b>  PAGE C - 647 CC.. 0602.. CC.. 09T3..	<b>SCLCN 95°</b>  PAGE C - 648 CC.. 0602.. CC.. 09T3.. CC.. 1204..		
<b>SDQC 107°30'</b>  PAGE C - 649 DC.. 0702.. DC.. 11T3..	<b>A-SDQC 107°30'</b>  PAGE C - 650 DC.. 0702.. DC.. 11T3..				
<b>SDUC 93°</b>  PAGE C - 651 DC.. 0702.. DC.. 11T3..	<b>A-SDUC 93°</b>  PAGE C - 652 DC.. 0702.. DC.. 11T3..	<b>E-SDUC 93°</b>  PAGE C - 653 DC.. 0702..	<b>SDUC 93° - BT</b>  PAGE C - 654 DC.. 0702.. DC.. 11T3..	<b>A-SDUC 93° - BT</b>  PAGE C - 655 DC.. 0702.. DC.. 11T3..	
<b>SSKC 75°</b>  PAGE C - 656 SC..09T3.. SC.. 1204..	<b>A-SSKC 45°</b>  PAGE C - 657 SC.. 09T3..	<b>STFC 90°</b>  PAGE C - 658 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>A-STFC 90°</b>  PAGE C - 659 TC.. 0902.. TC.. 1102.. TC.. 16T3..	<b>E-STFC 90°</b>  PAGE C - 660 TC.. 0902.. TC.. 1102..	
<b>STUC 93°</b>  PAGE C - 661 TC.. 1102.. TC.. 16T3..	<b>SVQC 107°30'</b>  PAGE C - 662 VC.. 1103.. VC.. 1604..	<b>A-SVQC 107°30'</b>  PAGE C - 663 VC.. 1103.. VC.. 1604..	<b>SVUB 93°</b>  PAGE C - 664 VB.. 1604..	<b>SVUC 93°</b>  PAGE C - 665 VC.. 1103.. VC.. 1604..	<b>A-SVUC 93°</b>  PAGE C - 666 VC.. 1103.. VC.. 1604..
<b>A-SVJC 93°</b>  PAGE C - 667 VC.. 1103.. VC.. 1604..					

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat  (06-09-12)	FP  (06-09-12)	BO  (06-09-12)	FM  (06-09-12)	FK  (06-09-12)	FW  (06-09)	LM  (06-09-12)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
MP  (06-09-12)	MM  (06-09-12)	MK  (06-09-12)	MW  (06-09-12)	FS  (06-09)	LN  (06-09-12)	



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212046700	212141400	S08K SCLC R/L 06	8	7	3,5	125	16	5	11	CC.. 0602..	0,040		
212039800	212141500	S10M SCLC R/L 06	10	9	4,5	150	25	7	13	CC.. 0602..	0,060		
212047300	212141600	S12M SCLC R/L 06	12	11	5,5	150	25	9	16	CC.. 0602..	0,150		
212079200	212141700	S12M SCLC R/L 09	12	11	5,5	150	25	9	16	CC.. 09T3..	0,150		
212315200	212315300	S12Q SCLC R/L 09	12	11	5,5	180	25	9	16	CC.. 09T3..	0,150		
212041600	212044200	S16R SCLC R/L 09	16	15	7,5	200	30	11	20	CC.. 09T3..	0,300		
212141900	212141800	S20S SCLC R/L 09	20	18	9,0	250	35	13	24	CC.. 09T3..	0,550		
212142100	212142000	S25T SCLC R7L 09	25	23	11,5	300	40	17	31	CC.. 09T3..	0,550		
212047400	212142200	S20S SCLC R/L 12	20	18	9,0	250	35	13	24	CC.. 1204..	0,550		
212045500	212142300	S25T SCLC R/L 12	25	23	11,5	300	40	17	31	CC.. 1204..	0,700		
212142500	212142400	S32U SCLC R/L 12	32	30	15,0	350	50	22	39	CC.. 1204..	2,050		
212142700	212142600	S40V SCLC R/L 12	40	37	18,5	400	60	27	48	CC.. 1204..	3,750		
212142900	212142800	S50W SCLC R/L 12	50	47	23,5	450	65	35	61	CC.. 1204..	6,500		

Stock Items | Itens de stock


Available under request | Disponível sob consulta | Disponible bajo consulta

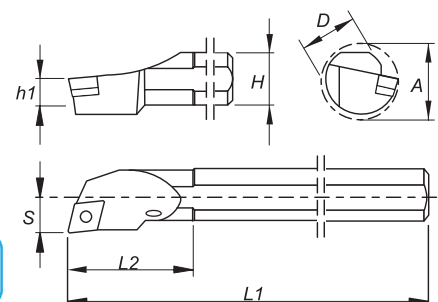
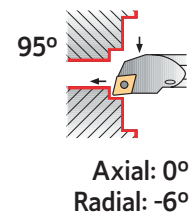
SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim S crew	Screw	Wrench
S08K SCLC R/L 06				
S08K SCLC R/L 06	-	-	P0200601	XT07
S10M SCLC R/L 06	-	-	P0200601	XT07
S12M SCLC R/L 06	-	-	P0200601	XT07
S12M SCLC R/L 09	-	-	P0400802	XT15-S35
S12Q SCLC R/L 09	-	-	P0400802	XT15-S35
S16R SCLC R/L 09	-	-	P0400802	XT15-S35
S20S SCLC R/L 09	-	-	P0400802	XT15-S35
S25T SCLC R7L 09	-	-	P0400802	XT15-S35
S20S SCLC R/L 12	-	-	P0501200	XT15-S40
S25T SCLC R/L 12	-	-	P0501200	XT15-S40
S32U SCLC R/L 12	CC120401	T06004000	P0401400	XT15-S40
S40V SCLC R/L 12	CC120401	T06004000	P0401400	XT15-S40
S50W SCLC R/L 12	CC120401	T06004000	P0401400	XT15-S40

TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
<b>Flat</b>  (06-09-12)	<b>FP</b>  (06-09-12)	<b>BO</b>  (06-09-12)	<b>FM</b>  (06-09-12)	<b>FK</b>  (06-09-12)	<b>FW</b>  (06-09)	<b>LM</b>  (06-09-12)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
<b>MP</b>  (06-09-12)	<b>MM</b>  (06-09-12)	<b>MK</b>  (06-09-12)	<b>MW</b>  (06-09-12)	<b>FS</b>  (06-09)	<b>LN</b>  (06-09-12)	



Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212315400	212315500	A08F SCLC R/L 06	8	7	3,5	80	16	5	11	CC.. 0602..	0,030		
212315600	212315700	A10H SCLC R/L 06	10	9	4,5	100	25	7	13	CC.. 0602..	0,040		
212315800	212315900	A12K SCLC R/L 06	12	11	5,5	125	25	9	16	CC.. 0602..	0,100		
212316000	212316100	A16M SCLC R/L 09	16	15	7,5	150	30	11	20	CC.. 09T3..	0,200		
212316200	212316300	A20Q SCLC R/L 09	20	18	9,0	180	35	13	24	CC.. 09T3..	0,400		
212316400	212316500	A25R SCLC R/L 09	25	23	11,5	200	40	17	31	CC.. 09T3..	0,700		
212316600	212316700	A32S SCLC R/L 12	32	30	15,0	250	50	22	39	CC.. 1204..	1,400		
212316800	212316900	A40T SCLC R/L 12	40	37	18,5	300	60	27	48	CC.. 1204..	2,650		














Stock Itens | Itens de stock

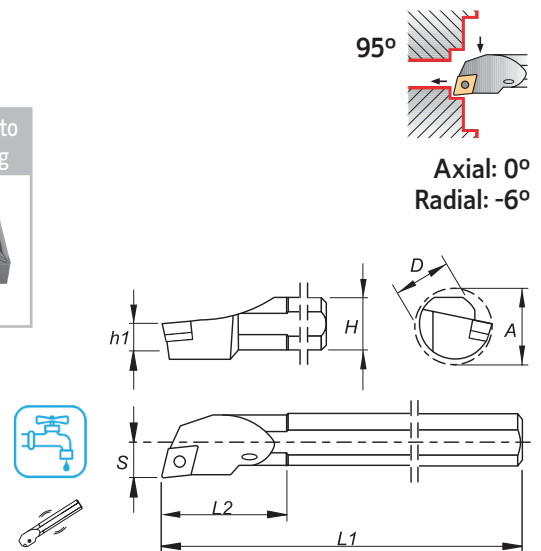
Available under request | Disponível sob consulta | Disponible bajo consulta









## SPARE PARTS || Complementos | Repuestos


Cutter Reference	Shim	Shim S crew	Screw	Wrench
A08F SCLC R/L 06				
A10H SCLC R/L 06	-	-	P0200601	XT07
A12K SCLC R/L 06	-	-	P0200601	XT07
A16M SCLC R/L 09	-	-	P0400802	XT15-S35
A20Q SCLC R/L 09	-	-	P0400802	XT15-S35
A25R SCLC R/L 09	-	-	P0400802	XT15-S35
A32S SCLC R/L 12	CC120401	T06004000	P0401400	XT15-S40
A40T SCLC R/L 12	CC120401	T06004000	P0401400	XT15-S40

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat  (06-09)	FP  (06-09)	BO  (06-09)	FM  (06-09)	FK  (06-09)	FW  (06-09)	LM  (06-09)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
MP  (06-09)	MM  (06-09)	MK  (06-09)	MW  (06-09)	FS  (06-09)	LN  (06-09)	




Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212317800	212317900	E08K SCLC R/L 06	8	7	3,5	125	16	5	11	CC.. 0602..	0,080		
212318000	212318100	E10M SCLC R/L 06	10	9	4,5	150	25	7	13	CC.. 0602..	0,150		
212317400	212318300	E12Q SCLC R/L 06	12	11	5,5	180	25	9	16	CC.. 0602..	0,250		
212318400	212317600	E16R SCLC R/L 09	16	15	7,5	200	30	11	20	CC.. 09T3..	0,600		

 Stock items | Itens de stock









 Available under request | Disponível sob consulta | Disponible bajo consulta

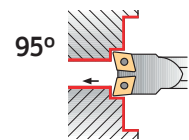
SPARE PARTS | Complementos | Repuestos

Cutter Reference	Screw	Wrench
		
E08K SCLC R/L 06	P0200601	XT07
E10M SCLC R/L 06	P0200601	XT07
E12M SCLC R/L 06	P0200601	XT07
E16R SCLC R/L 09	P0400802	XT15-S35

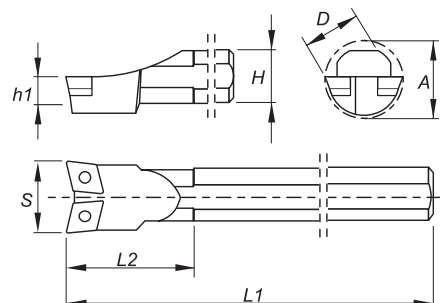
C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat  (06-09-12)	FP  (06-09-12)	BO  (06-09-12)	FM  (06-09-12)	FK  (06-09-12)	FW  (06-09)	LM  (06-09-12)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
MP  (06-09-12)	MM  (06-09-12)	MK  (06-09-12)	MW  (06-09-12)	FS  (06-09)	LN  (06-09-12)	



Axial: 0°  
Radial: -9°







Order Code	Reference	Dimensions (mm)							Insert	Kg	Stock
		D	H	h1	L1	L2	S	A			
212143000	S12M SCLC N 06	12	11	5,5	150	25	18	20	CC.. 0602..	0,150	⊗
212143100	S16R SCLC N 06	16	15	7,5	200	30	22	25	CC.. 0602..	0,300	⊗
212143200	S20S SCLC N 06	20	18	9,0	250	35	26	30	CC.. 0602..	0,550	⊗
212143300	S25T SCLC N 09	25	23	11,5	300	40	34	40	CC.. 09T3..	0,700	⊗
212143400	S32U SCLC N 12	32	30	15,0	350	50	44	50	CC.. 1204..	2,050	○
212143500	S40V SCLC N 12	40	37	18,5	400	60	54	60	CC.. 1204..	3,750	○
212143600	S50W SCLC N 12	50	47	23,5	450	65	62	68	CC.. 1204..	6,500	○





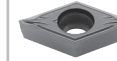




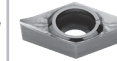
⊗ Stock Items | Itens de stock

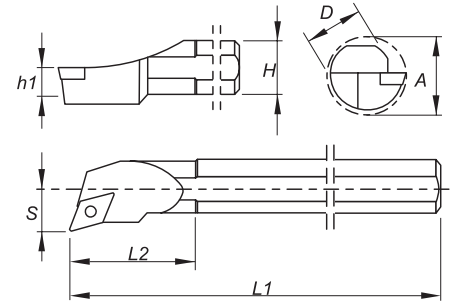
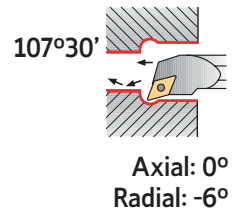
○ Available under request | Disponível sob consulta | Disponible bajo consulta

















SPARE PARTS || Complementos | Repuestos


Cutter Reference	Shim 	Shim Screw 	Screw 	Wrench 
S12M SCLC N 06	-	-	P0200601	XT07
S16R SCLC N 06	-	-	P0200601	XT07
S20S SCLC N 06	-	-	P0200601	XT07
S25T SCLC N 09	-	-	P0400802	XT15-S35
S32U SCLC N 12	CC120401	T06004000	P0401400	XT15-S40
S40V SCLC N 12	CC120401	T06004000	P0401400	XT15-S40
S50W SCLC N 12	CC120401	T06004000	P0401400	XT15-S40

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Medium to Finishing
Flat	FP	FM	FK	LM
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	FS	LN
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212147000	212146900	S10M SDQC R/L 07	10	9	4,5	150	25	7	13	DC.. 0702..	0,060		
212147200	212147100	S12M SDQC R/L 07	12	11	5,5	150	25	9	16	DC.. 0702..	0,150		
212147400	212147300	S16R SDQC R/L 07	16	15	7,5	200	30	11	20	DC.. 0702..	0,300		
212147600	212147500	S20S SDQC R/L 07	20	18	9,0	250	35	13	24	DC.. 0702..	0,550		
212147800	212147700	S20S SDQC R/L 11	20	18	9,0	250	35	13	24	DC.. 11T3..	0,550		
212148000	212147900	S25T SDQC R/L 11	25	23	11,5	300	40	17	31	DC.. 11T3..	0,700		
212148100	212148200	S32U SDQC R/L 11	32	30	15,0	350	50	22	39	DC.. 11T3..	2,050		
212148300	212148400	S40V SDQC R/L 11	40	37	18,5	400	60	27	48	DC.. 11T3..	3,750		

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

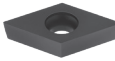



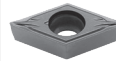
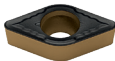


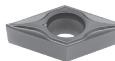
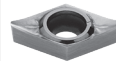
SPARE PARTS | Complementos | Repuestos

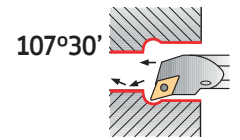
Cutter Reference	Shim	Shim Screw	Screw	Wrench
				
S10M SDQC R/L 07	-	-	P0200601	XT07
S12M SDQC R/L 07	-	-	P0250700	XT07
S16R SDQC R/L 07	-	-	P0250700	XT07
S20S SDQC R/L 07	-	-	P0250700	XT07
S20S SDQC R/L 11	-	-	P0401100	XT15-S35
S25T SDQC R/L 11	-	-	P0401100	XT15-S35
S32U SDQC R/L 11	CD110301	T05003500	P0351500	XT15-S35
S40V SDQC R/L 11	CD110301	T05003500	P0351500	XT15-S35

C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

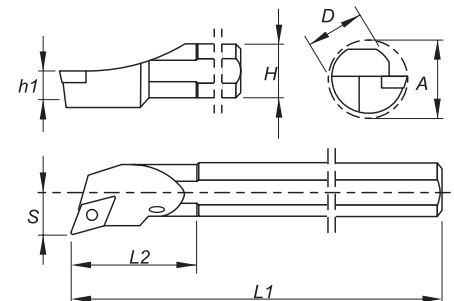














## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Medium to Finishing
Flat  (07-11)	FP  (07-11)	FM  (07-11)	FK  (07-11)	LM  (07-11)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing
MP  (07-11)	MM  (07-11)	MK  (07-11)	FS  (07-11)	LN  (07-11)



Axial: 0°  
Radial: -6°







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212318600	212318700	A12K SDQC R/L 07	12	11	5,5	125	25	9	16	DC.. 0702..	0,100		
212318800	212318900	A16M SDQC R/L 07	16	15	7,5	150	30	11	20	DC.. 0702..	0,200		
212319000	212319100	A20Q SDQC R/L 11	20	18	9,0	180	35	13	24	DC.. 11T3..	0,400		
212319200	212319300	A25R SDQC R/L 11	25	23	11,5	200	40	17	31	DC.. 11T3..	0,700		
212319400	212319500	A32S SDQC R/L 11	32	30	15,0	250	50	22	39	DC.. 11T3..	1,400		
212319600	212319700	A40T SDQC R/L 11	40	37	18,5	300	60	27	48	DC.. 11T3..	2,650		

 Stock Items | Itens de stock

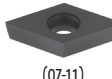



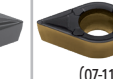
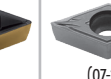




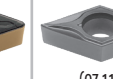
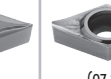
 Available under request | Disponível sob consulta | Disponible bajo consulta

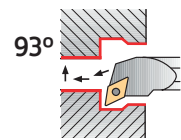
## SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
A12K SDQC R/L 07				
A16M SDQC R/L 07	-	-	P0250700	XT07
A20Q SDQC R/L 11	-	-	P0401100	XT15-S35
A25R SDQC R/L 11	-	-	P0401100	XT15-S35
A32S SDQC R/L 11	CD110301	T05003500	P0351500	XT15-S35
A40T SDQC R/L 11	CD110301	T05003500	P0351500	XT15-S35

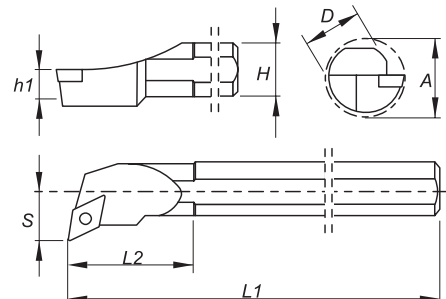




















## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat	FP	FM	FK	FW	LM
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	MW	FS	LN
 (07-11)	 (07-11)	 (07-11)	 (11)	 (07-11)	 (07-11)



Axial: 0°  
Radial: -6°







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212144700	212144600	S10M SDUC R/L 07	10	9	4,5	150	25	7	13	DC.. 0702..	0,060		
212028500	212028600	S12M SDUC R/L 07	12	11	5,5	150	25	9	16	DC.. 0702..	0,150		
212319800	212319900	S12Q SDUC R/L 07	12	11	5,5	180	25	9	16	DC.. 0702..	0,150		
212028700	212028800	S16R SDUC R/L 07	16	15	7,5	200	30	11	20	DC.. 0702..	0,300		
212144900	212144800	S20S SDUC R/L 07	20	18	9,0	250	35	13	24	DC.. 0702..	0,550		
212036800	212028900	S20S SDUC R/L 11	20	18	9,0	250	35	13	24	DC.. 11T3..	0,550		
212029000	212038400	S25T SDUC R/L 11	25	23	11,5	300	40	17	31	DC.. 11T3..	0,700		
212145200	212145100	S32U SDUC R/L 11	32	30	15,0	350	50	22	39	DC.. 11T3..	2,050		
212145400	212145300	S40V SDUC R/L 11	40	37	18,5	400	60	27	48	DC.. 11T3..	3,750		

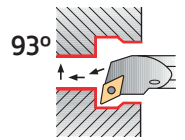
 Stock items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

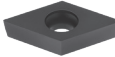



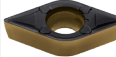
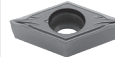
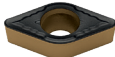



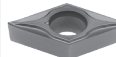
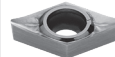
## SPARE PARTS | Complementos | Repuestos

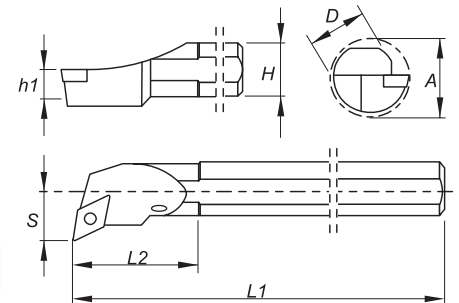
Cutter Reference	Shim	Shim Screw	Screw	Wrench
S10M SDUC R/L 07				
S12M SDUC R/L 07	-	-	P0200601	XT07
S12Q SDUC R/L 07	-	-	P0250700	XT07
S16R SDUC R/L 07	-	-	P0250700	XT07
S20S SDUC R/L 07	-	-	P0250700	XT07
S20S SDUC R/L 11	-	-	P0401100	XT15-S35
S25T SDUC R/L 11	-	-	P0401100	XT15-S35
S32U SDUC R/L 11	CD110301	T05003500	P0351500	XT15-S40
S40V SDUC R/L 11	CD110301	T05003500	P0351500	XT15-S40













## (S) CENTER SCREW TOOLHOLDERS



**Axial: 0°**  
**Radial: -6°**

Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
<b>Flat</b>	<b>FP</b>	<b>FM</b>	<b>FK</b>	<b>FW</b>	<b>LM</b>
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine Finishing	Finishing to Fine Finishing
<b>MP</b>	<b>MM</b>	<b>MK</b>	<b>MW</b>	<b>FS</b>	<b>LN</b>
 (07-11)	 (07-11)	 (07-11)	 (11)	 (07-11)	 (07-11)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212320000	212320100	A12K SDUC R/L 07	12	11	5,5	125	25	9	16	DC.. 0702..	0,100		
212320200	212320300	A16M SDUC R/L 07	16	15	7,5	150	30	11	20	DC.. 0702..	0,200		
212320400	212320500	A20Q SDUC R/L 11	20	18	9,0	180	35	13	24	DC.. 11T3..	0,400		
212320600	212320700	A25R SDUC R/L 11	25	23	11,5	200	40	17	31	DC.. 11T3..	0,700		
212320800	212320900	A32S SDUC R/L 11	32	30	15,0	250	50	22	39	DC.. 11T3..	1,400		
212321000	212321100	A40T SDUC R/L 11	40	37	18,5	300	60	27	48	DC.. 11T3..	2,650		

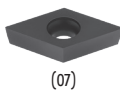
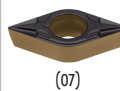
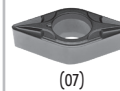

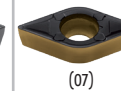

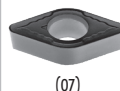

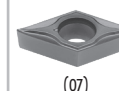
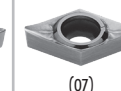
 Stock Items | Itens de stock

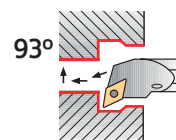
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS | Complementos | Repuestos

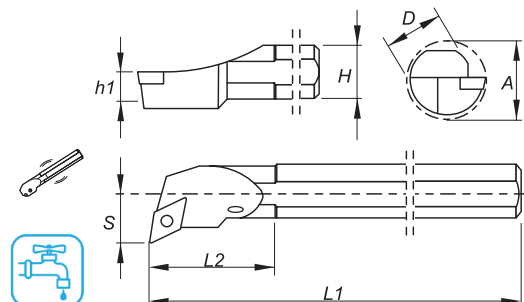
Cutter Reference	Shim	Shim Screw	Screw	Wrench
A12K SDUC R/L 07				
A16M SDUC R/L 07	-	-	P0250700	XT07
A20Q SDUC R/L 11	-	-	P0401100	XT15-S35
A25R SDUC R/L 11	-	-	P0401100	XT15-S35
A32S SDUC R/L 11	CD110301	T05003500	P0351500	XT15-S35
A40T SDUC R/L 11	CD110301	T05003500	P0351500	XT15-S35







## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing wiper
Flat	FP	FM	FK	FW
 (07)	 (07)	 (07)	 (07)	 (07)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	FS	LN
 (07)	 (07)	 (07)	 (07)	 (07)



Axial: 0°  
Radial: -6°




Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212321800	212321300	E10M SDUC R/L 07	10	9	4,5	150	25	7	13	DC.. 0702..	0,150		
212322000	212322100	E12Q SDUC R/L 07	12	11	5,5	180	25	9	16	DC.. 0702..	0,250		
212322200	212321700	E16R SDUC R/L 07	16	15	7,5	200	30	11	20	DC.. 0702..	0,600		

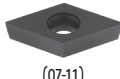
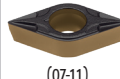


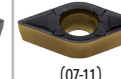
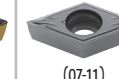

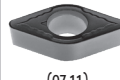

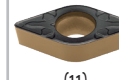
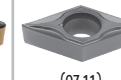

 Stock Items | Itens de stock

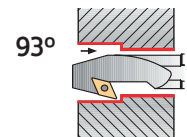
 Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

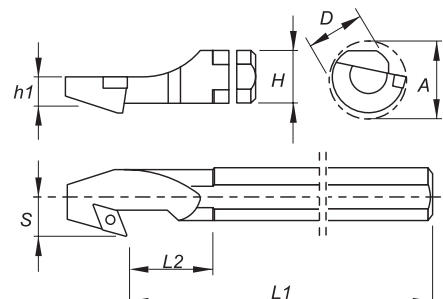
Cutter Reference	Screw	Wrench
		
E10M SDUC R/L 07	P0200601	XT07
E12M SDUC R/L 07	P0250700	XT07
E16R SDUC R/L 07	P0250700	XT07















## (S) CENTER SCREW TOOLHOLDERS


Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
<b>Flat</b>	<b>FP</b>	<b>FM</b>	<b>FK</b>	<b>FW</b>	<b>LM</b>
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine Finishing	Finishing to Fine Finishing
<b>MP</b>	<b>MM</b>	<b>MK</b>	<b>MW</b>	<b>FS</b>	<b>LN</b>
 (07-11)	 (07-11)	 (07-11)	 (11)	 (07-11)	 (07-11)



Axial: 0°  
Radial: -6°







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212145600	212145500	S12M SDUC R/L 07-BT	12	11	5,5	150	25	9	16	DC.. 0702..	0,150		
212145800	212145700	S16R SDUC R/L 07-BT	16	15	7,5	200	30	11	20	DC.. 0702..	0,300		
212146000	212145900	S20S SDUC R/L 07-BT	20	18	9,0	250	35	13	24	DC.. 0702..	0,550		
212146200	212146100	S20S SDUC R/L 11-BT	20	18	9,0	250	35	13	24	DC.. 11T3..	0,550		
212146400	212146300	S25T SDUC R/L 11-BT	25	23	11,5	300	40	17	31	DC.. 11T3..	0,700		
212146600	212146500	S32U SDUC R/L 11-BT	32	30	15,0	350	50	22	39	DC.. 11T3..	2,050		
212146800	212146700	S40V SDUC R/L 11-BT	40	37	18,5	400	60	27	48	DC.. 11T3..	3,750		

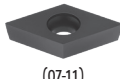
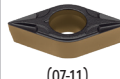


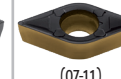
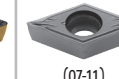

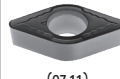

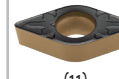
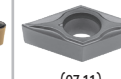

 Stock Items | Itens de stock

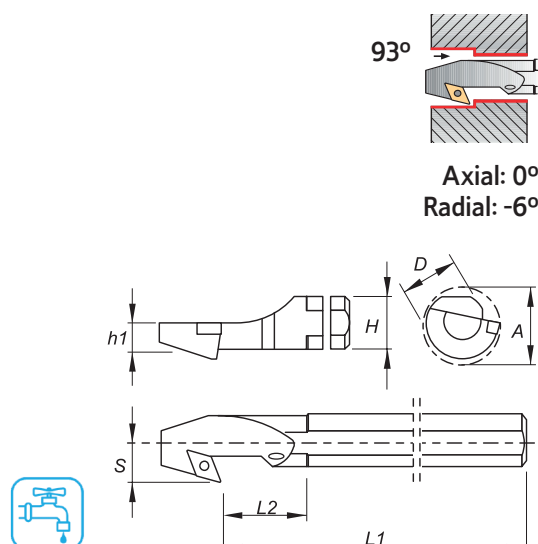
 Available under request | Disponível sob consulta | Disponible bajo consulta









## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
S12M SDUC R/L 07-BT				
S16R SDUC R/L 07-BT	-	-	P0250700	XT07
S20S SDUC R/L 07-BT	-	-	P0250700	XT07
S20S SDUC R/L 11-BT	-	-	P0400802	XT15-S35
S25T SDUC R/L 11-BT	-	-	P0401100	XT15-S35
S32U SDUC R/L 11-BT	CD110301	T05003500	P0351500	XT15-S35
S40V SDUC R/L 11-BT	CD110301	T05003500	P0351500	XT15-S35

## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat	FP	FM	FK	FW	LM
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	MW	FS	LN
 (07-11)	 (07-11)	 (07-11)	 (11)	 (07-11)	 (07-11)




Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212322400	212322500	A12K SDUC R/L 07-BT	12	11	5,5	125	25	9	16	DC.. 0702..	0,100		
212322600	212322700	A16M SDUC R/L 07-BT	16	15	7,5	150	30	11	20	DC.. 0702..	0,200		
212322800	212322900	A20Q SDUC R7L 11-BT	20	18	9,0	180	35	13	24	DC.. 11T3..	0,400		
212323000	212323100	A25R SDUC R/L 11-BT	25	23	11,5	200	40	17	31	DC.. 11T3..	0,700		

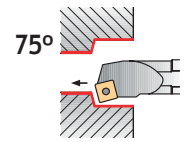
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

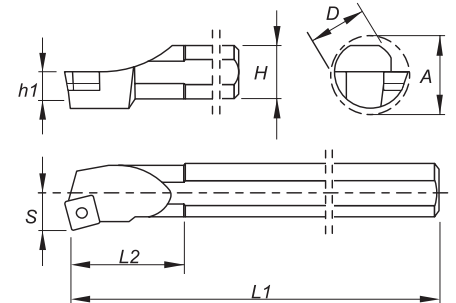
## SPARE PARTS || Complementos | Repuestos









Cutter Reference	Screw	Wrench
		
A12K SDUC R/L 07-BT	P0250700	XT07
A16M SDUC R/L 07-BT	P0250700	XT07
A20Q SDUC R7L 11-BT	P0400802	XT15-S35
A25R SDUC R/L 11-BT	P0401100	XT15-S35













(S) CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: -8°



Finishing	Finishing	Finishing	Finishing
Flat  (09-12)	FP  (09)	FM  (09)	FK  (09)
Medium	Medium	Medium	Medium to Finishing
MP  (09-12)	MM  (09-12)	MK  (09-12)	LN  (09-12)

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212150400	212150300	S16R SSKC R/L 09	16	15	7,5	200	30	11	20	SC.. 09T3..	0,300		
212150600	212150500	S20S SSKC R/L 09	20	18	9,0	250	35	13	24	SC.. 09T3..	0,550		
212045800	212150700	S25T SSKC R/L 09	25	23	11,5	300	40	17	31	SC.. 09T3..	0,700		
212045900	212150800	S32U SSKC R/L 12	32	30	15,0	350	50	22	39	SC.. 1204..	2,050		
212151000	212150900	S40V SSKC R/L 12	40	37	18,5	400	60	27	48	SC.. 1204..	3,750		
212151200	212151100	S50W SSKC R/L 12	50	47	23,5	450	65	35	61	SC.. 1204..	6,500		









 Stock Items | Itens de stock

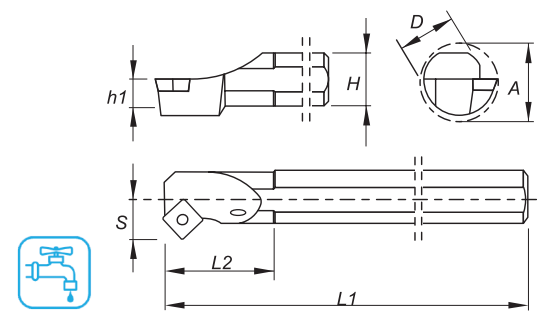
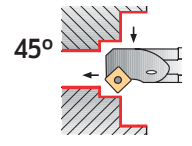
 Available under request | Disponível sob consulta | Disponible bajo consulta







SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim 	Shim Screw 	Screw 	Wrench 
S16R SSKC R/L 09	-	-	P0400802	XT15-S35
S20S SSKC R/L 09	-	-	P0400802	XT15-S35
S25T SSKC R/L 09	-	-	P0400802	XT15-S35
S32U SSKC R/L 12	CC120400	T06004000	P0401400	XT15-S40
S40V SSKC R/L 12	CC120400	T06004000	P0401400	XT15-S40
S50W SSKC R/L 12	CC120400	T06004000	P0401400	XT15-S40

## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09)	 (09)	 (09)	 (09)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09)	 (09)	 (09)	 (09)




Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212323200	212323300	A16M SSSC R/L 09	16	15	7,5	150	30	11	20	SC.. 09T3..	0,300		
212323400	212323500	A20Q SSSC R/L 09	20	18	9,0	180	35	13	24	SC.. 09T3..	0,550		
212323600	212323700	A25R SSSC R/L 09	25	23	11,5	200	40	17	31	SC.. 09T3..	0,700		

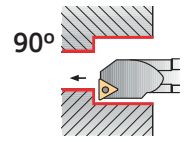
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

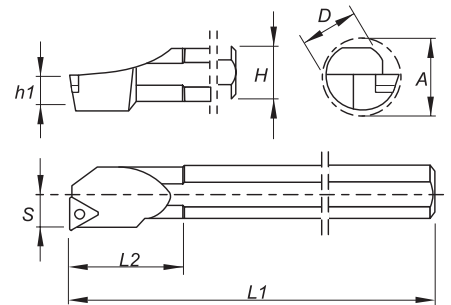
## SPARE PARTS || Complementos | Repuestos









Cutter Reference	Screw	Wrench
		
A16M SSSC R/L 09	P0400802	XT15-S35
A20Q SSSC R/L 09	P0400802	XT15-S35
A25R SSSC R/L 09	P0400802	XT15-S35





















## (S) CENTER SCREW TOOLHOLDERS




Axial: 0°  
Radial: -6°







Finishing	Finishing	Finishing	Finishing
Flat  (09-11-16)	FP  (09-11-16)	FM  (09-11-16)	FK  (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP  (09-11-16)	MM  (09-11-16)	MK  (09-11-16)	LN  (11-16)

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212159500	212159400	S10M STFC R/L 09	10	9	4,5	150	25	7	13	TC.. 0902..	0,060		
212159700	212159600	S12M STFC R/L 09	12	11	5,5	150	25	9	16	TC.. 0902..	0,150		
212039500	212159800	S12M STFC R/L 11	12	11	5,5	150	25	9	16	TC.. 1102..	0,150		
212323800	212323900	S12Q STFC R/L 11	12	11	5,5	180	25	9	16	TC.. 1102..	0,050		
212160000	212159900	S16R STFC R/L 11	16	15	7,5	200	30	11	20	TC.. 1102..	0,300		
212021000	212160100	S20S STFC R/L 11	20	18	9,0	250	35	13	24	TC.. 1102..	0,550		
212250700	212324000	S20S STFC R/L 16	20	18	9,0	250	35	13	24	TC.. 16T3..	0,550		
212160300	212160200	S25T STFC R/L 16	25	23	11,5	300	40	17	31	TC.. 16T3..	0,700		
212160500	212160400	S32U STFC R/L 16	32	30	15,0	350	50	22	39	TC.. 16T3..	2,050		
212160700	212160600	S40V STFC R/L 16	40	37	18,5	400	60	27	48	TC.. 16T3..	3,750		

 Stock Items | Itens de stock









 Available under request | Disponível sob consulta | Disponible bajo consulta

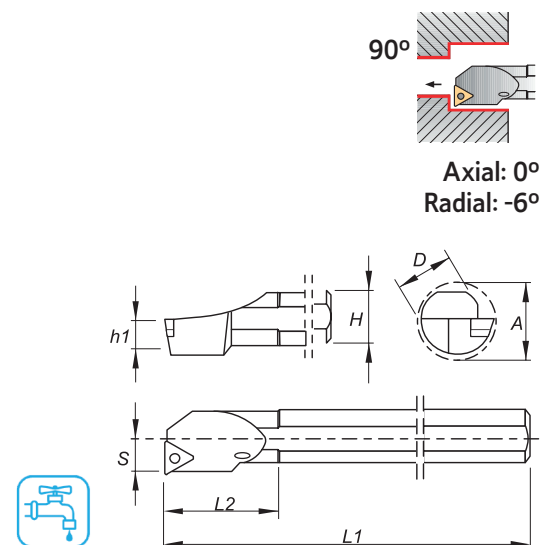
## SPARE PARTS || Complementos | Repuestos















Cutter Reference	Shim	Shim Screw	Screw	Wrench
S10M STFC R/L 09				
S12M STFC R/L 09	-	-	P0220600	XT06
S12M STFC R/L 11	-	-	P0250700	XT07
S12Q STFC R/L 11	-	-	P0250700	XT07
S16R STFC R/L 11	-	-	P0250700	XT07
S20S STFC R/L 11	-	-	P0250700	XT07
S20S STFC R/L 16	-	-	P0401100	XT15-S35
S25T STFC R/L 16	-	-	P0401100	XT15-S35
S32U STFC R/L 16	CT160302	T05003500	P0351500	XT15-S35
S40V STFC R/L 16	CT160302	T05003500	P0351500	XT15-S35



(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (09-11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (09-11-16)	 (09-11-16)	 (09-11-16)	 (11-16)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212324100	212324200	A10H STFC R/L 09	10	9	4,5	100	25	7	13	TC.. 0902..	0,040		
212324300	212324400	A12K STFC R/L 11	12	11	5,5	125	25	9	16	TC.. 1102..	0,100		
212324500	212324600	A16M STFC R/L 11	16	15	7,5	150	30	11	20	TC.. 1102..	0,200		
212324700	212324800	A20Q STFC R/L 11	20	18	9,0	180	35	13	24	TC.. 1102..	0,400		
212324900	212325000	A25R STFC R/L 16	25	23	11,5	200	40	17	31	TC.. 16T3..	0,700		
212325100	212325200	A32S STFC R/L 16	32	30	15,0	250	50	22	39	TC.. 16T3..	1,400		
212325300	212325400	A40T STFC R/L 16	40	37	18,5	300	60	27	48	TC.. 16T3..	2,650		

 Stock Items | Itens de stock

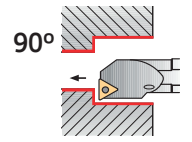
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

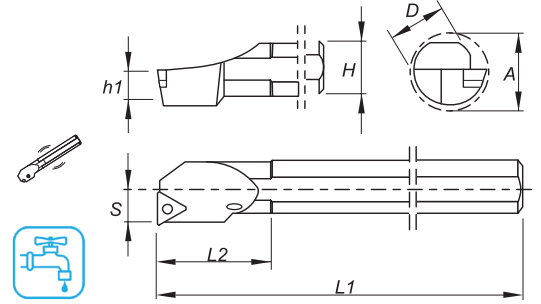
Cutter Reference	Shim	Shim Screw	Screw	Wrench
A10H STFC R/L 09				
A12K STFC R/L 11	-	-	P0220600	XT06
A16M STFC R/L 11	-	-	P0250700	XT07
A20Q STFC R/L 11	-	-	P0250700	XT07
A25R STFC R/L 16	-	-	P0401100	XT15-S35
A32S STFC R/L 16	CT160302	T05003500	P0351500	XT15-S35
A40T STFC R/L 16	CT160302	T05003500	P0351500	XT15-S35









C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data





(S) CENTER SCREW TOOLHOLDERS




Axial: 0°  
Radial: -6°





Finishing	Finishing	Finishing	Finishing
Flat  (09-11)	FP  (09-11)	FM  (09-11)	FK  (09-11)
Medium	Medium	Medium	Medium to Finishing
MP  (09-11)	MM  (09-11)	MK  (09-11)	LN  (11)

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212326200	212326300	E12Q STFC R/L 11	12	11	5,5	180	25	9	16	TC.. 1102..	0,250		
212326400	212326500	E16R STFC R/L 11	16	15	7,5	200	30	11	20	TC.. 1102..	0,600		



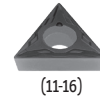







 Stock Items | Itens de stock

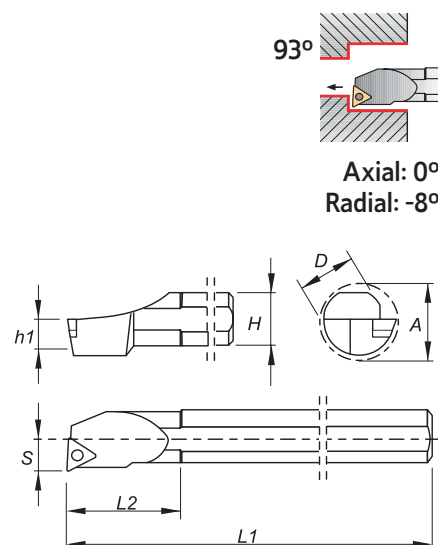
 Available under request | Disponível sob consulta | Disponible bajo consulta











SPARE PARTS || Complementos | Repuestos

Cutter Reference	Screw 	Wrench 
E12M STFC R/L 11	P0250700	XT07
E16R STFC R/L 11	P0400802	XT15-S35

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing	Finishing wiper
Flat  (11-16)	FP  (11-16)	FM  (11-16)	FK  (11-16)	FW  (11-16)
Medium	Medium	Medium	Medium to Finishing wiper	Medium to Finishing
MP  (11-16)	MM  (11-16)	MK  (11-16)	MW  (11-16)	LN  (11-16)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212029100	212029200	S12M STUC R/L 11	12	11	5,5	150	25	9	16	TC.. 1102..	0,150		
212029300	212029400	S16R STUC R/L 16	16	15	7,5	200	30	11	20	TC.. 16T3..	0,300		
212036900	212029500	S20S STUC R/L 16	20	18	9,0	250	35	13	24	TC.. 16T3..	0,550		
212029600	212029700	S25T STUC R/L 16	25	23	11,5	300	40	17	31	TC.. 16T3..	0,700		
212160800	212044600	S32U STUC R/L 16	32	30	15,0	350	50	22	39	TC.. 16T3..	2,050		

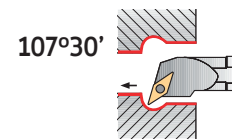
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS | Complementos | Repuestos

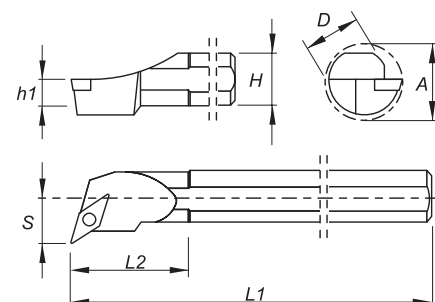
Cutter Reference	Shim	Shim Screw	Screw	Wrench
S12M STUC R/L 11				
S16R STUC R/L 16	-	-	P0401100	XT15-S35
S20S STUC R/L 16	-	-	P0401100	XT15-S35
S25T STUC R/L 16	-	-	P0401100	XT15-S35
S32U STUC R/L 16	CT160302	T05003500	P0351500	XT15-S35











## (S) CENTER SCREW TOOLHOLDERS



**Axial: 0°**  
**Radial: -6°**

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
			
(11-16)	(11-16)	(11-16)	(11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
			
(11-16)	(11-16)	(11-16)	(11-16)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212165000	212165100	S16R SVQC R/L 11	16	15	7,5	200	30	11	20	VC.. 1103..	0,300		
212165200	212165300	S20S SVQC R/L 11	20	18	9,0	250	35	13	24	VC.. 1103..	0,550		
212165500	212165400	S16R SVQC R/L 13	16	15	7,5	200	30	13	22	VC.. 1103..	0,300		
212165700	212165600	S20S SVQC R/L 13	20	18	9,0	250	35	13	24	VC.. 1103..	0,550		
212165900	212165800	S25T SVQC R/L 16	25	23	11,5	300	40	17	31	VC.. 1604..	0,700		


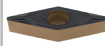
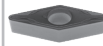

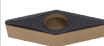

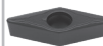

 Stock Items | Itens de stock

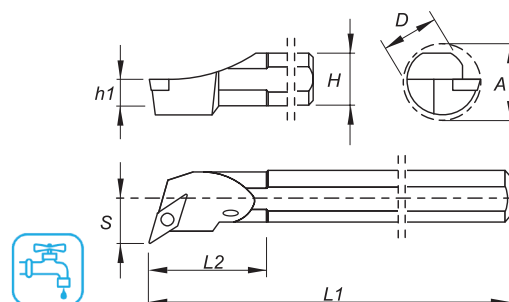
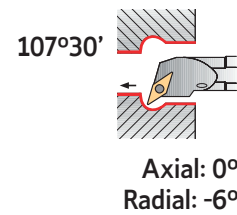
 Available under request | Disponível sob consulta | Disponible bajo consulta











## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
S16R SVQC R/L 11				
S20S SVQC R/L 11	-	-	P0250700	XT07
S16R SVQC R/L 13	-	-	P0300900	XT08
S20S SVQC R/L 13	-	-	P0300900	XT08
S25T SVQC R/L 16	CV160300	T05003500	P0351500	XT15-S35

## (S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
			
(11-16)	(11-16)	(11-16)	(11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
			
(11-16)	(11-16)	(11-16)	(11-16)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212326600	212326700	A16M SVQC R/L 11	16	15	7,5	150	30	11	20	VC.. 1103..	0,200		
212326800	212326900	A20Q SVQC R/L 11	20	18	9,0	180	35	13	24	VC.. 1103..	0,400		
212327000	212327100	A25R SVQC R/L 16	25	23	11,5	200	40	17	31	VC.. 1604..	0,700		
212327200	212327300	A32S SVQC R/L 16	32	30	15,0	250	50	22	39	VC.. 1604..	1,400		
212327400	212327500	A40T SVQC R/L 16	40	37	18,5	300	60	27	48	VC.. 1604..	2,650		

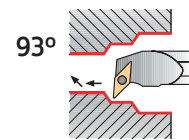
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta








## SPARE PARTS || Complementos | Repuestos

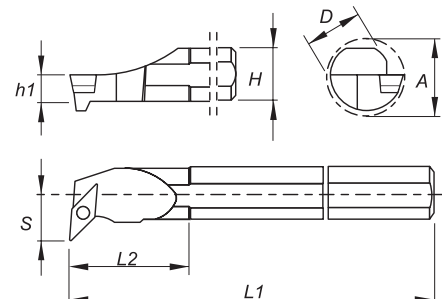
Cutter Reference	Shim	Shim Screw	Screw	Wrench
				
A16M SVQC R/L 11	-	-	P0250700	XT07
A20Q SVQC R/L 11	-	-	P0250700	XT07
A25R SVQC R/L 16	CV160300	T05003500	P0351500	XT15-S35
A32S SVQC R/L 16	CV160300	T05003500	P0351500	XT15-S35
A40T SVQC R/L 16	CV160300	T05003500	P0351500	XT15-S35







(S) CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: -5°

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
			
(16)	(16)	(16)	(16)
Medium	Medium	Medium	
MP	MM	MK	
			
(16)	(16)	(16)	







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212056200	212327600	S25T SVUB R/L 16	25	23	11,5	300	40	17	31	VB.. 1604..	0,700		
212327700	212327800	S32U SVUB R/L 16	32	30	15,0	350	50	22	39	VB.. 1604..	2,050		
212327900	212328000	S40V SVUB R/L 16	40	37	18,5	400	60	27	48	VB.. 1604..	3,750		


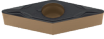






 Stock Items | Itens de stock

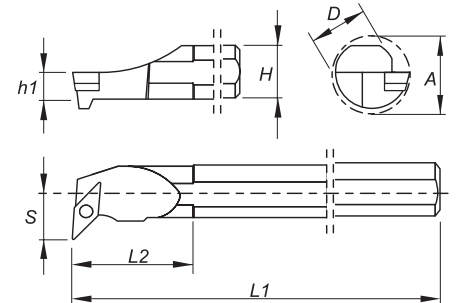
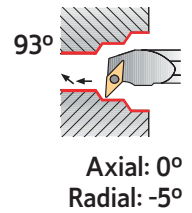
 Available under request | Disponível sob consulta | Disponible bajo consulta











SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
S25T SVUB R/L 16				
S25T SVUB R/L 16	CV160300	T05003500	P0351500	XT15-S35
S32U SVUB R/L 16	CV160300	T05003500	P0351500	XT15-S35
S40V SVUB R/L 16	CV160300	T05003500	P0351500	XT15-S35

(S) CENTER SCREW TOOLHOLDERS

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
			
(11-16)	(11-16)	(11-16)	(11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
			
(11-16)	(11-16)	(11-16)	(11-16)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212166000	212166100	S16R SVUC R/L 11	16	15	7,5	200	30	11	20	VC.. 1103..	0,300		
212166200	212166300	S20S SVUC R/L 11	20	18	9,0	250	35	13	24	VC.. 1103..	0,550		
212328100	212166400	S25T SVUC R/L 16	25	23	11,5	300	40	17	31	VC.. 1604..	0,700		
212328200	212166500	S32U SVUC R/L 16	32	30	15,0	350	50	22	39	VC.. 1604..	2,050		
212166700	212166600	S40V SVUC R/L 16	40	37	18,5	400	60	27	48	VC.. 1604..	3,750		

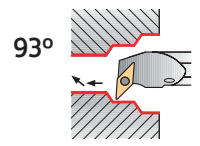
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta









SPARE PARTS || Complementos | Repuestos

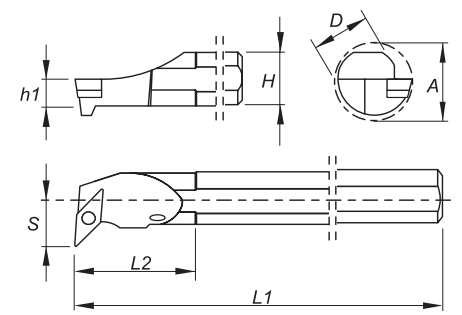
Cutter Reference	Shim	Shim Screw	Screw	Wrench
S16R SVUC R/L 11				
S20S SVUC R/L 11	-	-	P0250700	XT07
S25T SVUC R/L 16	CV160300	T05003500	P0351500	XT15-S35
S32U SVUC R/L 16	CV160300	T05003500	P0351500	XT15-S35
S40V SVUC R/L 16	CV160300	T05003500	P0351500	XT15-S35











## (S) CENTER SCREW TOOLHOLDERS




**Axial: 0°**  
**Radial: -5°**

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (11-16)	 (11-16)	 (11-16)	 (11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (11-16)	 (11-16)	 (11-16)	 (11-16)







Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	A			R	L
212328300	212328400	A16M SVUC R/L 11	16	15	7,5	150	30	11	20	VC.. 1103..	0,200		
212328500	212328600	A20Q SVUC R/L 11	20	18	9,0	180	35	13	24	VC.. 1103..	0,400		
212328700	212328800	A25R SVUC R/L 16	25	23	11,5	200	40	17	31	VC.. 1604..	0,700		
212328900	212329000	A32S SVUC R/L 16	32	30	15,0	250	50	22	39	VC.. 1604..	1,400		
212329100	212329200	A40T SVUC R/L 16	40	37	18,5	300	60	27	48	VC.. 1604..	2,650		

 Stock items | Itens de stock


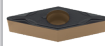
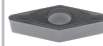

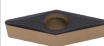

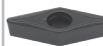

Available under request | Disponível sob consulta | Disponible bajo consulta

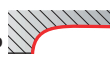
## SPARE PARTS | Complementos | Repuestos

Cutter Reference	Shim	Shim Screw	Screw	Wrench
A16M SVUC R/L 11				
A20Q SVUC R/L 11	-	-	P0250700	XT07
A25R SVUC R/L 16	CV160300	T05003500	P0351500	XT15-S35
A32S SVUC R/L 16	CV160300	T05003500	P0351500	XT15-S35
A40T SVUC R/L 16	CV160300	T05003500	P0351500	XT15-S35



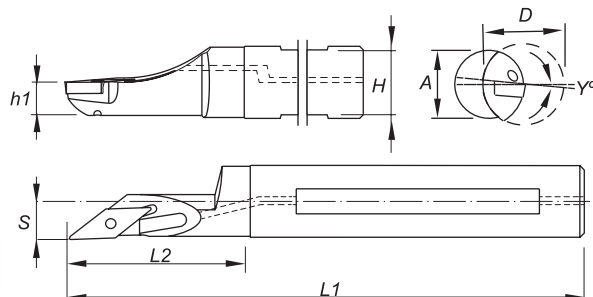
## (S) CENTER SCREW TOOLHOLDERS







Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
			
(11-16)	(11-16)	(11-16)	(11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
			
(11-16)	(11-16)	(11-16)	(11-16)

35° 



Axial: 0°  
Radial: -6°




Order Code		Reference	Dimensions (mm)								Insert	Kg	Stock	
R	L		D	H	h1	L1	L2	S	Y°	A			R	L
212362400	212362500	A16M SVJC R/L 11	16	15	7,5	150	30	8,5	22	22	VC.. 1103..	0,200		
212362600	212362700	A20Q SVJC R/L 11	20	18	9,0	180	35	10,5	25	25	VC.. 1103..	0,300		
212362800	212362900	A25R SVJC R/L 16	25	23	11,5	200	40	13,0	28	28	VC.. 1604..	0,650		

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

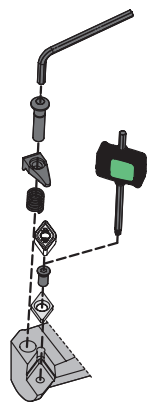
## SPARE PARTS || Complementos | Repuestos

Cutter Reference	Screw	Wrench
		
A16M SVJC R/L 11	P0250700	XT07
A20Q SVJC R/L 11	P0250700	XT07
A25R SVJC R/L 16	P0401100	XT15-S35

- TURNING
- Insert selection
- Overview
- Negative inserts
- Positive inserts
- PCBN & PCD inserts
- Heavy turning
- External Toolholders
- Internal Toolholders
- Automatic Lathes
- Spare Parts
- Technical Data

<p><b>AVB 7xØ</b></p> <p>PAGE C - 669</p>	<p><b>AVB 10xØ</b></p> <p>PAGE C - 670</p>
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**(D) DIMPLE LOCK ANTI VIBRATION FOR INTERNAL TURNING**



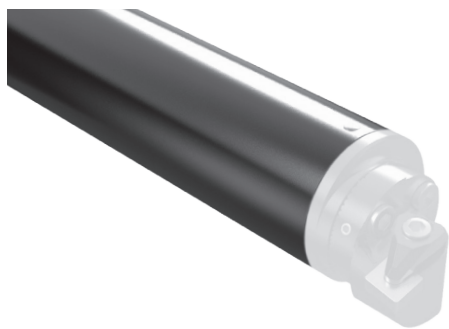
**DCLN 85°**

PAGE C - 671 CN.. 1204..

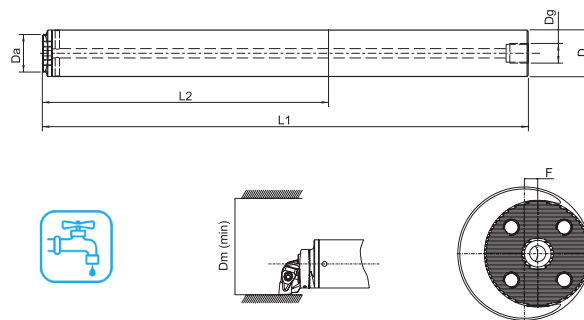
**(S) CENTER SCREW ANTI VIBRATION FOR INTERNAL TURNING**



<p><b>SCLC 85°</b></p> <p>PAGE C - 672 CC.. 0602.. CC.. 09T3.. CC.. 1204..</p>	<p><b>SDNC 62°30'</b></p> <p>PAGE C - 673 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDUC 87°</b></p> <p>PAGE C - 674 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDXC 93°</b></p> <p>PAGE C - 675 DC.. 0702.. DC.. 11T3..</p>
<p><b>STFC 89°</b></p> <p>PAGE C - 676 TC.. 1102.. TC.. 16T3..</p>	<p><b>SVUB 87°</b></p> <p>PAGE C - 677 VB.. 1102.. VB.. 1604..</p>		



\* Maximum depth of cut: 7x Diameter



Order Code	Reference	Dimensions (mm)							Stock
		ØD	ØDa	Dm(min)	F	L1	L2	ØDg	
212454800	AVB16-16-7D	16	16	20	-	156	92	G1/8"	⊗
212454900	AVB20-20-7D	20	20	25	-	200	120	G1/4"	⊗
212455000	AVB25-25-7D	25	25	32	-	255	155	G1/4"	⊗
212455100	AVB32-32-7D	32	32	40	-	320	192	G3/8"	⊗
212455200	AVB40-40-7D	40	40	50	-	408	248	G1/2"	○
212455300	AVB50-40-7D	50	40	60	5	518	318	G1/2"	○
212455400	AVB60-40-7D	60	40	72	10	628	388	G3/4"	○

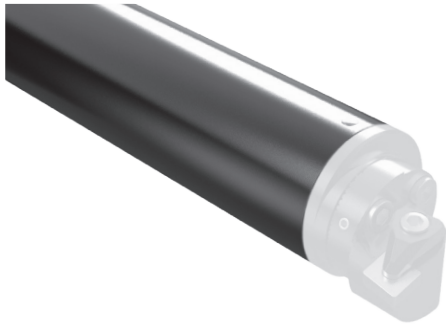
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

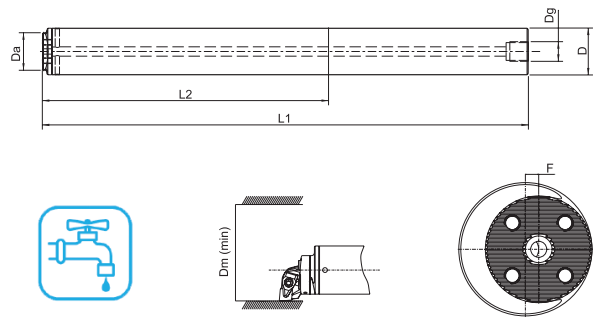
Note: The toolholder is supplied without the cutting head.

## SPARE PARTS | Complementos | Repuestos

Reference	Screw	Wrench
AVB16-16-7D	D0301101	SS25
AVB20-20-7D	D0301101	SS25
AVB25-25-7D	D0401200	SS25
AVB32-32-7D	D0501200	SS30
AVB40-40-7D	D0601600	SS40
AVB50-40-7D	D0602200	SS50
AVB60-40-7D	D0602200	SS50



\* Maximum depth of cut: 10x Diameter



Order Code	Reference	Dimensions (mm)							Stock
		ØD	ØDa	ØDm(min)	F	L1	L2	ØDg	
212455500	AVB25-25-10D	25	25	32	-	330	230	G1/4"	⊗
212455600	AVB32-32-10D	32	32	40	-	416	288	G3/8"	⊗
212455700	AVB40-40-10D	40	40	50	-	528	368	G1/2"	○
212455800	AVB50-40-10D	50	40	60	5	668	468	G1/2"	○
212455900	AVB60-40-10D	60	40	72	10	808	568	G3/4"	○

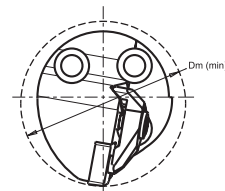
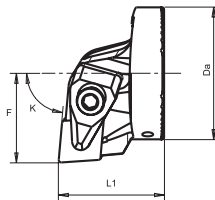
⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

Note: The toolholder is supplied without the cutting head.

## SPARE PARTS | Complementos | Repuestos

Reference	Screw	Wrench
AVB25-25-10D	D0401200	SS25
AVB32-32-10D	D0501200	SS30
AVB40-40-10D	D0601600	SS40
AVB50-40-10D	D0602200	SS50
AVB60-40-10D	D0602200	SS50









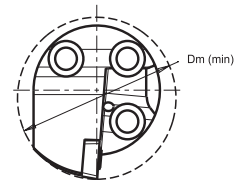
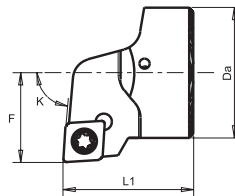
L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212459100	212456000	AVH32 DCLN R/L-12	32	40	22	38	-	CN.. 1204	○	⊗
212459200	212456100	AVH40 DCLN R/L-12	40	50	27	38	-	CN.. 1204	○	○

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Spring	Clamp	Clamp Screw	Wrench
AVH32 DCLN R/L-12						
AVH40 DCLN R/L-12	CC120300	T06010000	M09513	GA07002	D0602900	SS40



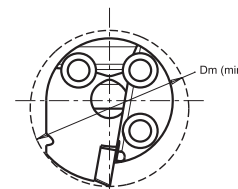
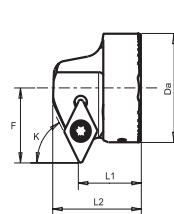
L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212459300	212456200	AVH16 SCLC R/L-06	16	20	11	20	-	CC.. 0602		
212459400	212456300	AVH20 SCLC R/L-09	20	25	13	20	-	CC.. 09T3		
212459500	212456400	AVH25 SCLC R/L-09	25	32	17	20	-	CC.. 09T3		
212459600	212456500	AVH32 SCLC R/L-09	32	40	22	32	-	CC.. 09T3		
212459700	212456600	AVH40 SCLC R/L-12	40	50	27	38	-	CC.. 1204		

Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Screw	Wrench
AVH16 SCLC R/L-06				
AVH16 SCLC R/L-06	-	-	P0250700	XT07
AVH20 SCLC R/L-09	-	-	P0401100	XT15-S35
AVH25 SCLC R/L-09	-	-	P0401100	XT15-S35
AVH32 SCLC R/L-09	-	-	P0401100	XT15-S35
AVH40 SCLC R/L-12	CC120401	T06004000	P0401400	XT15-S40



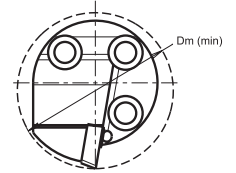
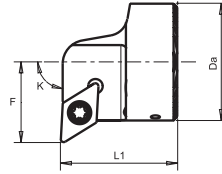
L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212460800	212457700	AVH16 SDNC R/L-07	16	22	13	15	19,5	DC.. 0702		
212460900	212457800	AVH20 SDNC R/L-07	20	27	15	15	19,5	DC.. 0702		
212461000	212457900	AVH25 SDNC R/L-07	25	33	18	15	19,5	DC.. 0702		
212461100	212458000	AVH32 SDNC R/L-11	32	40	22	20	28	DC.. 11T3		
212461200	212458100	AVH40 SDNC R/L-11	40	50	27	20	28	DC.. 11T3		

Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Screw	Wrench
AVH16 SDNC R/L-07				
AVH16 SDNC R/L-07	-	-	P0250700	XT07
AVH20 SDNC R/L-07	-	-	P0250700	XT07
AVH25 SDNC R/L-07	-	-	P0250700	XT07
AVH32 SDNC R/L-11	CD110301	T05003500	P0351500	XT15-S35
AVH40 SDNC R/L-11	CD110301	T05003500	P0351500	XT15-S35



L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212459800	212456700	AVH16 SDUC R/L-07	16	20	11	20	-	DC.. 0702		
212459900	212456800	AVH20 SDUC R/L-07	20	25	13	20	-	DC.. 0702		
212460000	212456900	AVH25 SDUC R/L-11	25	32	17	20	-	DC.. 11T3		
212460100	212457000	AVH32 SDUC R/L-11	32	40	22	32	-	DC.. 11T3		
212460200	212457100	AVH40 SDUC R/L-11	40	50	27	32	-	DC.. 11T3		

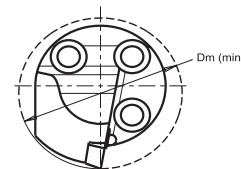
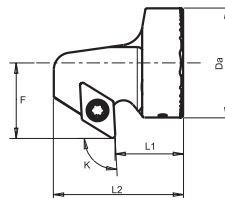
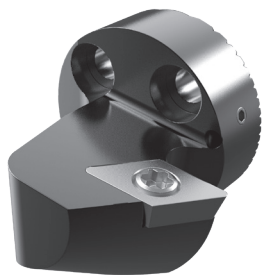
Stock Items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Screw	Wrench
AVH16 SDUC R/L-07				
AVH16 SDUC R/L-07	-	-	P0250700	XT07
AVH20 SDUC R/L-07	-	-	P0250700	XT07
AVH25 SDUC R/L-11	-	-	P0401100	XT15-S35
AVH32 SDUC R/L-11	CD110301	T05003500	P0351500	XT15-S35
AVH40 SDUC R/L-11	CD110301	T05003500	P0351500	XT15-S35





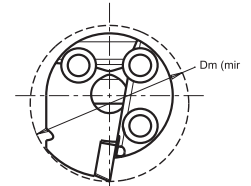
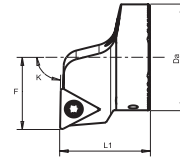
L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212460300	212457200	AVH16 SDXC R/L-07	16	22	13	15	26,5	DC.. 0702		
212460400	212457300	AVH20 SDXC R/L-07	20	27	15	15	26,5	DC.. 0702		
212460500	212457400	AVH25 SDXC R/L-07	25	33	18	15	26,5	DC.. 0702		
212460600	212457500	AVH32 SDXC R/L-11	32	40	22	20	38	DC.. 11T3		
212460700	212457600	AVH40 SDXC R/L-11	40	50	27	20	38	DC.. 11T3		

Stock items | Itens de stock

Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Screw	Wrench
AVH16 SDXC R/L-07				
AVH16 SDXC R/L-07	-	-	P0250700	XT07
AVH20 SDXC R/L-07	-	-	P0250700	XT07
AVH25 SDXC R/L-07	-	-	P0250700	XT07
AVH32 SDXC R/L-11	CD110301	T05003500	P0351500	XT15-S35
AVH40 SDXC R/L-11	CD110301	T05003500	P0351500	XT15-S35







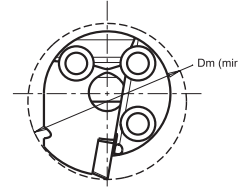
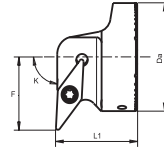
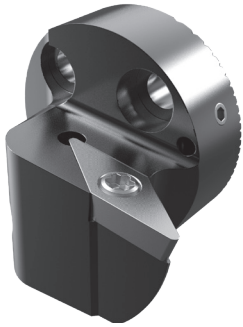
L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212461700	212458600	AVH16 STFC R/L-11	16	20	11	20	-	TC.. 1102	○	⊗
212461800	212458700	AVH20 STFC R/L-11	20	25	13	20	-	TC.. 1102	○	⊗
212461900	212458800	AVH25 STFC R/L-11	25	32	17	20	-	TC.. 1102	○	⊗
212462000	212458900	AVH32 STFC R/L-16	32	40	22	32	-	TC.. 16T3	○	○
212462100	212459000	AVH40 STFC R/L-16	40	50	27	32	-	TC.. 16T3	○	○

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

## SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Screw	Wrench
AVH16 STFC R/L-11				
AVH16 STFC R/L-11	-	-	P0250700	XT07
AVH20 STFC R/L-11	-	-	P0250700	XT07
AVH25 STFC R/L-16	-	-	P0250700	XT07
AVH32 STFC R/L-16	CT160302	T05003500	P0351500	XT15-S35
AVH40 STFC R/L-16	CT160302	T05003500	P0351500	XT15-S35







L	R	Reference	Dimensions (mm)						Stock	
			ØDa	ØDm	F	L1	L2	Insert	L	R
212461300	212458200	AVH20 SVUB R/L-11	20	27	16	20	-	VB.. 1102	○	⊗
212461400	212458300	AVH25 SVUB R/L-11	25	31	17	25	-	VB.. 1102	○	⊗
212461500	212458400	AVH32 SVUB R/L-16	32	40	22	32	-	VB.. 1604	○	⊗
212461600	212458500	AVH40 SVUB R/L-16	40	50	27	32	-	VB.. 1604	○	○

⊗ Stock Items | Itens de stock

○ Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Reference	Shim	Shim Screw	Screw	Wrench
AVH20 SVUB R/L-11				
AVH20 SVUB R/L-11	-	-	P0250700	XT07
AVH25 SVUB R/L-11	-	-	P0250700	XT07
AVH32 SVUB R/L-16	CV160300	T05003500	P0351500	XT15-S35
AVH40 SVUB R/L-16	CV160300	T05003500	P0351500	XT15-S35

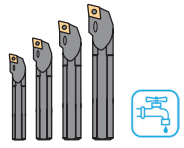
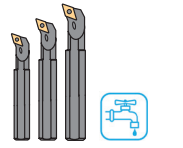
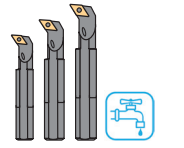
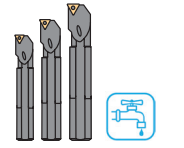


# Tooling solutions for Wind Energy Industry

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






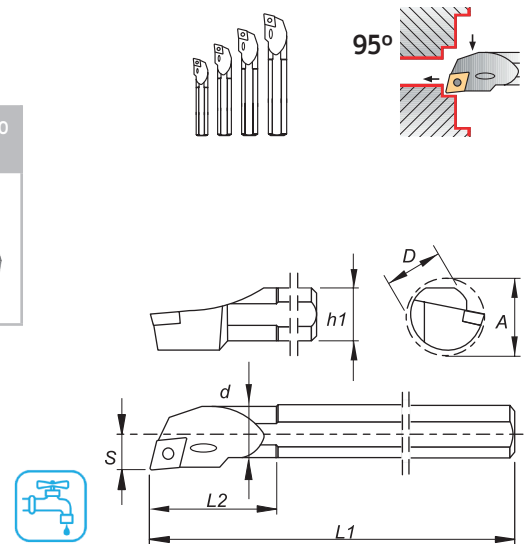
<p><b>PK SCLC 95°</b></p>  <p>PAGE C - 680 CC.. 0602..</p>	<p><b>PK SDQC 107°30'</b></p>  <p>PAGE C - 681 DC.. 0702..</p>	<p><b>PK SDUC 93°</b></p>  <p>PAGE C - 682 DC.. 0702..</p>	<p><b>PK STFC 90°</b></p>  <p>PAGE C - 683 TC.. 1102..</p>
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











INTERNAL TOOLHOLDERS SET

Conjuntos de ferramentas de torneamento interno | Grupos de herramientas de torneado interno

Finishing	Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat  (06)	FP  (06)	BO  (06)	FM  (06)	FK  (06)	FW  (06)	LM  (06)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing	
MP  (06)	MM  (06)	MK  (06)	MW  (06)	FS  (06)	LN  (06)	





Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R Pack	R		D	d	L1	L2	S	A	h1			Pack	R
212359300	212250500	A0608H SCLC R 06	8	6	100	25	4	10	7	CC.. 0602..	0,400		
	212359400	A0810J SCLC R 06	10	8	110	32	6	12	9	CC.. 0602..			
	212250600	A1012K SCLC R 06	12	10	125	38	7	14	11	CC.. 0602..			
	212167900	A1216M SCLC R 06	16	12	150	50	9	18	15	CC.. 0602..			

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
L Pack	L		D	d	L1	L2	S	A	L1			Pack	L
212359500	212359600	A0608H SCLC L 06	8	6	100	25	4	10	7	CC.. 0602..	0,400		
	212359700	A0810J SCLC L 06	10	8	110	32	6	12	9	CC.. 0602..			
	212359800	A1012K SCLC L 06	12	10	125	38	7	14	11	CC.. 0602..			
	212359900	A1216M SCLC L 06	16	12	150	50	9	18	15	CC.. 0602..			

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

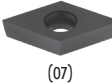
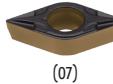


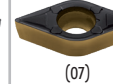
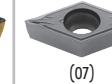

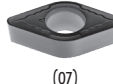

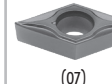

SPARE PARTS || Complementos | Repuestos

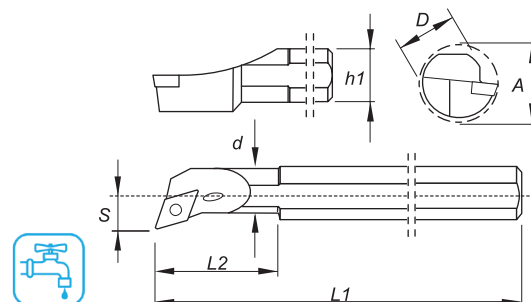
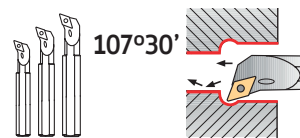
Cutter Reference	Screw 	Wrench 
A0608H SCLC R/L 06	P0200601	XT07
A0810J SCLC R/L 06	P0200601	XT07
A1012K SCLC R/L 06	P0250700	XT07
A1216M SCLC R/L 06	P0250700	XT07





# PK SDQC 107°30' || TOOLHOLDERS | Ferros de torno | Herramientas de torneado





## INTERNAL TOOLHOLDERS SET

Conjuntos de ferramentas de torneamento interno | Grupos de herramientas de torneado interno

Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat	FP	FM	FK	FW	LM
 (07)	 (07)	 (07)	 (07)	 (07)	 (07)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing	
MP	MM	MK	FS	LN	
 (07)	 (07)	 (07)	 (07)	 (07)	




Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R Pack	R		D	d	L1	L2	S	A	h1			Pack	R
212360000	212360100	A0810J SDQC R 07	10	8	110	32	7	12,5	9	DC.. 0702..	0,350		
	212360200	A1012K SDQC R 07	12	10	125	38	9	15,5	11	DC.. 0702..			
	212360300	A1216M SDQC R 07	16	12	150	50	11	19,5	15	DC.. 0702..			

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
L Pack	L		D	d	L1	L2	S	A	L1			Pack	L
212360400	212360500	A0810J SDQC L 07	10	8	110	32	7	12,5	9	DC.. 0702..	0,350		
	212360600	A1012K SDQC L 07	12	10	125	38	9	15,5	11	DC.. 0702..			
	212360700	A1216M SDQC L 07	16	12	150	50	11	19,5	15	DC.. 0702..			

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

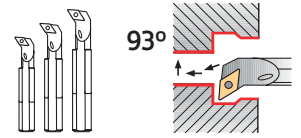
## SPARE PARTS || Complementos | Repuestos

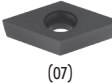
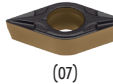


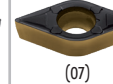
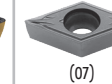

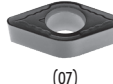

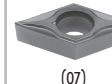

Cutter Reference	Screw	Wrench
		
A0810J SDQC R/L 07	P0200601	XT07
A1012K SDQC R/L 07	P0250700	XT07
A1216M SDQC R/L 07	P0250700	XT07

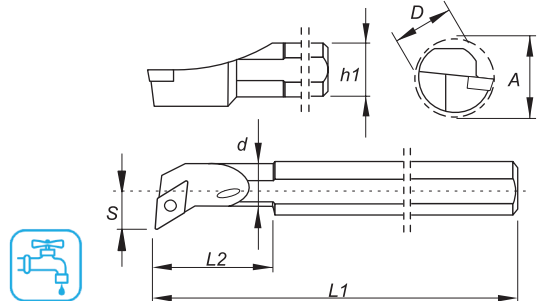
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data





INTERNAL TOOLHOLDERS SET





Conjuntos de ferramentas de torneamento interno | Grupos de herramientas de torneado interno



Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat	FP	FM	FK	FW	LM
 (07)	 (07)	 (07)	 (07)	 (07)	 (07)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing	
MP	MM	MK	FS	LN	
 (07)	 (07)	 (07)	 (07)	 (07)	




Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R Pack	R		D	d	L1	L2	S	A	h1			Pack	R
212360800	212360900	A0810J SDUC R 07	10	8	110	32	7	12,5	9	DC.. 0702..	0,350		
	212361000	A1012K SDUC R 07	12	10	125	38	9	15,5	11	DC.. 0702..			
	212361100	A1216M SDUC R 07	16	12	150	50	11	19,5	15	DC.. 0702..			

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
L Pack	L		D	d	L1	L2	S	A	L1			Pack	L
212361200	212361300	A0810J SDUC L 07	10	8	110	32	7	12,5	9	DC.. 0702..	0,350		
	212361400	A1012K SDUC L 07	12	10	125	38	9	15,5	11	DC.. 0702..			
	212361500	A1216M SDUC L 07	16	12	150	50	11	19,5	15	DC.. 0702..			

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta


SPARE PARTS || Complementos | Repuestos

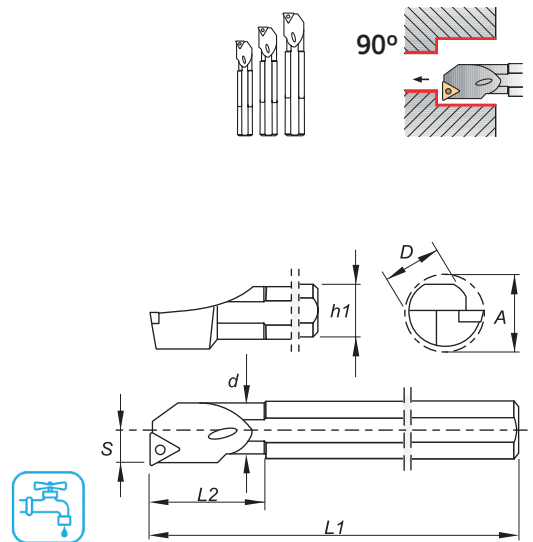
Cutter Reference	Screw	Wrench
		
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A1012K SDUC R/L 07	P0250700	XT07
A1216M SDUC R/L 07	P0250700	XT07











INTERNAL TOOLHOLDERS SET

Conjuntos de ferramentas de torneamento interno | Grupos de herramientas de torneado interno

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (11)	 (11)	 (11)	 (11)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (11)	 (11)	 (11)	 (11)





Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
R Pack	R		D	d	L1	L2	S	A	h1			Pack	R
212361600	212361700	A0810J STFC R 11	10	8	110	32	7	12,5	9	TC.. 1102..	0,350		
	212361800	A1012K STFC R 11	12	10	125	38	9	15,5	11	TC.. 1102..			
	212361900	A1216M STFC R 11	16	12	150	50	11	19,5	15	TC.. 1102..			

Order Code		Reference	Dimensions (mm)							Insert	Kg	Stock	
L Pack	L		D	d	L1	L2	S	A	L1			Pack	L
212362000	212362100	A0810J STFC L 11	10	8	110	32	7	12,5	9	TC.. 1102..	0,350		
	212362200	A1012K STFC L 11	12	10	125	38	9	15,5	11	TC.. 1102..			
	212362300	A1216M STFC L 11	16	12	150	50	11	19,5	15	TC.. 1102..			

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Cutter Reference	Screw	Wrench
		
A0810J STFC R/L 11	P0200601	XT07
A1012K STFC R/L 11	P0250700	XT07
A1216M STFC R/L 11	P0250700	XT07

# CODE KEY FOR AUTOMATIC LATHES (ISO)

Sistema De Codificação Para Tornos Automáticos (Iso) | Codificación De Herramientas De Tornos Automáticos (Iso)

<b>S</b>	<b>C</b>	<b>A</b>	<b>C</b>	<b>R</b>	<b>12</b>	<b>12</b>	<b>M</b>	<b>09</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

### 1 - Inserts Clamping System

### 2 - Insert Shape

80° <b>C</b>	55° <b>D</b>	75° <b>E</b>	55° <b>K</b>
<b>R</b>	90° <b>S</b>	60° <b>T</b>	35° <b>V</b>
80° <b>W</b>			

### 4 - Inserts Clearance Angle

5° <b>B</b>	7° <b>C</b>	0° <b>N</b>	11° <b>P</b>
----------------	----------------	----------------	-----------------

### 5 - Tool Hand

### 8 - Length of Holder (mm)

	<b>D</b>	60	<b>P</b>	170
	<b>E</b>	70	<b>R</b>	200
	<b>F</b>	80	<b>S</b>	250
	<b>H</b>	100	<b>T</b>	300
	<b>K</b>	125	<b>U</b>	350
	<b>L</b>	140	<b>V</b>	400
	<b>M</b>	150	<b>X</b>	Special

### 3 - Toolholder Leading Angle

90° <b>A</b>	75° <b>B</b>	90° <b>C</b>
45° <b>D</b>	60° <b>E</b>	90° <b>F</b>
90° <b>G</b>	107° 30' <b>H</b>	93° <b>J</b>
75° <b>K</b>	95° <b>L</b>	50° <b>M</b>
63° <b>N</b>	117° 30' <b>Q</b>	75° <b>R</b>
45° <b>S</b>	60° <b>T</b>	72° 30' <b>V</b>
113° <b>X</b>	100° <b>Z</b>	

### 6 - Height of Shank (mm)

### 7 - Width of Shank (mm)

### 9 - Length of Inserts Cutting Edge (mm)



C - 608 | Code Key

C - 610 | Overview

C - 611 | Center Screw Toolholders (S)

# AUTOMATIC LATHES



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

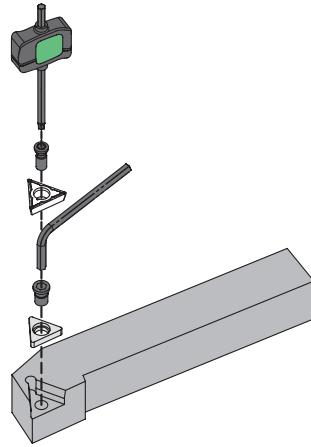
Internal Toolholders

Automatic Lathes

Spare Parts

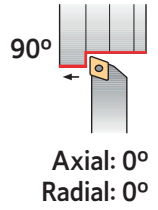
Technical Data

## CENTER SCREW TOOLHOLDERS

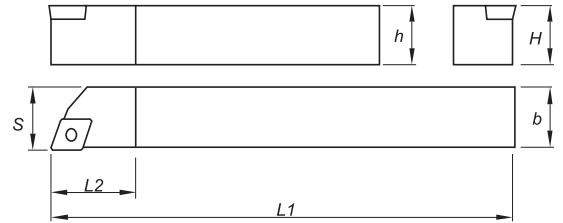


<p><b>SCAC 90°</b></p> <p>PAGE C - 687 CC.. 0602.. CC.. 09T3..</p>	<p><b>SCLC 95°</b></p> <p>PAGE C - 688 CC.. 0602.. CC.. 09T3..</p>	<p><b>SDAC 90°</b></p> <p>PAGE C - 689 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDJC 93°</b></p> <p>PAGE C - 690 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDNC 62°30'</b></p> <p>PAGE C - 691 DC.. 0702.. DC.. 11T3..</p>	<p><b>STJC 93°</b></p> <p>PAGE C - 692 TC.. 1102..</p>
<p><b>SVAC 90°</b></p> <p>PAGE C - 693 VC.. 1103.. VC.. 1604..</p>	<p><b>SVJC 93°</b></p> <p>PAGE C - 694 VC.. 1103.. VC.. 1604..</p>	<p><b>SVVC 72°30'</b></p> <p>PAGE C - 695 VC.. 1103..</p>			

CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing	Finishing	Medium to Finishing
Flat	FP	BO	FM	FK	LM
(06-09)	(06-09)	(06-09)	(06-09)	(06-09)	(06-09)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing
MP	MM	MK	MW	FS	LN
(06-09)	(06-09)	(06-09)	(06-09)	(06-09)	(06-09)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212251300	212251400	SCAC R/L 0808 M06	8	8	150	8	8	CC.. 0602..	0,070		
212251500	212251600	SCAC R/L 1010 M06	10	10	150	10	10	CC.. 0602..	0,110		
212251700	212251800	SCAC R/L 1212 M06	12	12	150	12	12	CC.. 0602..	0,150		
212251900	212252000	SCAC R/L 1616 M06	16	16	150	16	16	CC.. 0602..	0,280		
212252100	212252200	SCAC R/L 1212 M09	12	12	150	12	12	CC.. 09T3..	0,150		
212252300	212252400	SCAC R/L 1616 M09	16	16	150	16	16	CC.. 09T3..	0,280		

Stock Items | Itens de stock

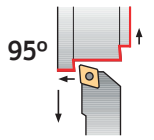
Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS || Complementos | Repuestos

Cutter Reference	Screw	Wrench
SCAC R/L 0808 M06	P0250700	XT07
SCAC R/L 1010 M06	P0250700	XT07
SCAC R/L 1212 M06	P0250700	XT07
SCAC R/L 1616 M06	P0250700	XT07
SCAC R/L 1212 M09	P0401100	XT15-S35
SCAC R/L 1616 M09	P0401100	XT15-S35

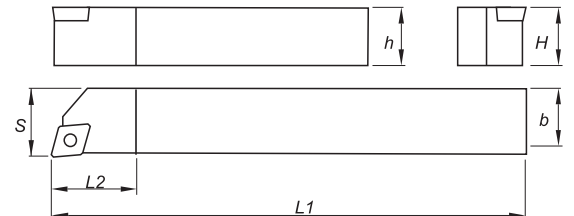
C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: 0°

Finishing	Finishing	Finishing	Finishing	Finishing	Medium to Finishing
Flat	FP	BO	FM	FK	LM
(06-09)	(06-09)	(06-09)	(06-09)	(06-09)	(06-09)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine finishing	Medium to Finishing
MP	MM	MK	MW	FS	LN
(06-09)	(06-09)	(06-09)	(06-09)	(06-09)	(06-09)



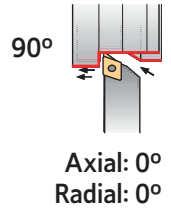
Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212252500	212252600	SCLC R/L 0808 M06	8	8	150	8	8	CC.. 0602..	0,070		
212252700	212252800	SCLC R/L 1010 M06	10	10	150	10	10	CC.. 0602..	0,110		
212252900	212253000	SCLC R/L 1212 M06	12	12	150	12	12	CC.. 0602..	0,150		
212253100	212253200	SCLC R/L 1616 M06	16	16	150	16	16	CC.. 0602..	0,280		
212253300	212253400	SCLC R/L 1212 M09	12	12	150	12	12	CC.. 09T3..	0,150		
212253500	212250400	SCLC R/L 1616 M09	16	16	150	16	16	CC.. 09T3..	0,280		

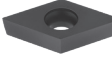







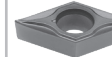
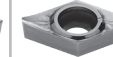
Stock Items | Itens de stock      Available under request | Disponível sob consulta | Disponible bajo consulta

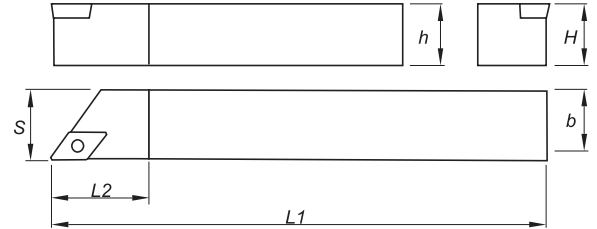
SPARE PARTS | Complementos | Repuestos













Cutter Reference	Screw	Wrench
SCLC R/L 0808 M06	P0250700	XT07
SCLC R/L 1010 M06	P0250700	XT07
SCLC R/L 1212 M06	P0250700	XT07
SCLC R/L 1616 M06	P0250700	XT07
SCLC R/L 1212 M09	P0401100	XT15-S35
SCLC R/L 1616 M09	P0401100	XT15-S35

CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing	Medium to Finishing
Flat	FP	FM	FK	LM
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	FS	LN
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)





Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212253600	212253700	SDAC R/L 0808 M07	8	8	150	12,7	8	DC.. 0702..	0,070		
212253800	212253900	SDAC R/L 1010 M07	10	10	150	15,0	10	DC.. 0702..	0,110		
212254000	212254100	SDAC R/L 1212 M07	12	12	150	15,0	12	DC.. 0702..	0,150		
212254200	212254300	SDAC R/L 1616 M07	16	16	150	16,0	16	DC.. 0702..	0,280		
212254400	212254500	SDAC R/L 1212 M11	12	12	150	18,0	12	DC.. 11T3..	0,150		
212254600	212254700	SDAC R/L 1616 M11	16	16	150	20,0	16	DC.. 11T3..	0,280		

 Stock Items | Itens de stock

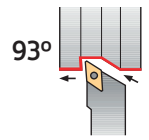
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos





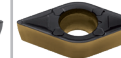
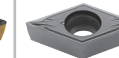




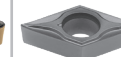
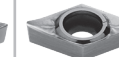
Cutter Reference	Screw	Wrench
		
SDAC R/L 0808 M07	P0250700	XT07
SDAC R/L 1010 M07	P0250700	XT07
SDAC R/L 1212 M07	P0250700	XT07
SDAC R/L 1616 M07	P0250700	XT07
SDAC R/L 1212 M11	P0401100	XT15-S35
SDAC R/L 1616 M11	P0401100	XT15-S35

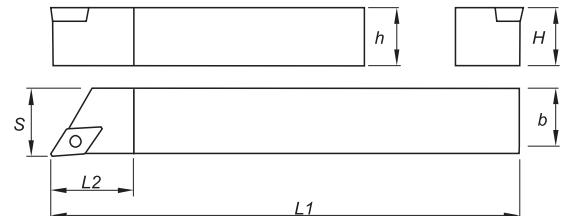
C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data













CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: 0°

Finishing	Finishing	Finishing	Finishing	Finishing wiper	Medium to Finishing
Flat	FP	FM	FK	FW	LM
 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)	 (07-11)
Medium	Medium	Medium	Medium to Finishing wiper	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	MW	FS	LN
 (07-11)	 (07-11)	 (07-11)	 (11)	 (07-11)	 (07-11)




Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212254800	212254900	SDJC R/L 0808 M07	8	8	150	8	8	DC.. 0702..	0,070		
212255000	212255100	SDJC R/L 1010 M07	10	10	150	10	10	DC.. 0702..	0,110		
212255200	212255300	SDJC R/L 1212 M07	12	12	150	12	12	DC.. 0702..	0,150		
212255400	212255500	SDJC R/L 1616 M07	16	16	150	16	16	DC.. 0702..	0,280		
212255600	212255700	SDJC R/L 1212 M11	12	12	150	12	12	DC.. 11T3..	0,150		
212255800	212255900	SDJC R/L 1616 M11	16	16	150	16	16	DC.. 11T3..	0,280		

 Stock Items | Itens de stock

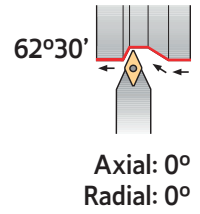
 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

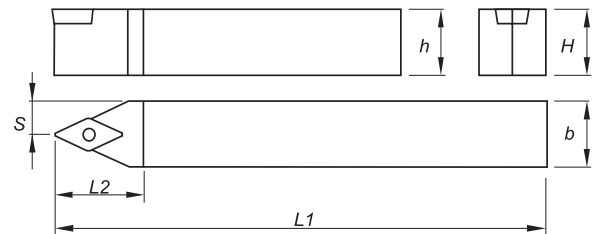
Cutter Reference	Screw	Wrench
		
SDJC R/L 0808 M07	P0250700	XT07
SDJC R/L 1010 M07	P0250700	XT07
SDJC R/L 1212 M07	P0250700	XT07
SDJC R/L 1616 M07	P0250700	XT07
SDJC R/L 1212 M11	P0401100	XT15-S35
SDJC R/L 1616 M11	P0401100	XT15-S35



CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing	Medium to Finishing
Flat	FP	FM	FK	LM
(07-11)	(07-11)	(07-11)	(07-11)	(07-11)
Medium	Medium	Medium	Finishing to Fine Finishing	Finishing to Fine Finishing
MP	MM	MK	FS	LN
(07-11)	(07-11)	(07-11)	(07-11)	(07-11)



Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212256000	SDNC N 1010 M07	10	10	150	15	5,2	DC.. 0702..	0,100	☉
212256100	SDNC N 1212 M11	12	12	150	21	6,2	DC.. 11T3..	0,140	☉
212256200	SDNC N 1616 M11	16	16	150	21	8,6	DC.. 11T3..	0,270	☉

☉ Stock Items | Itens de stock

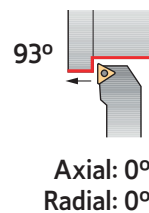
○ Available under request | Disponível sob consulta | Disponible bajo consulta










SPARE PARTS | Complementos | Repuestos

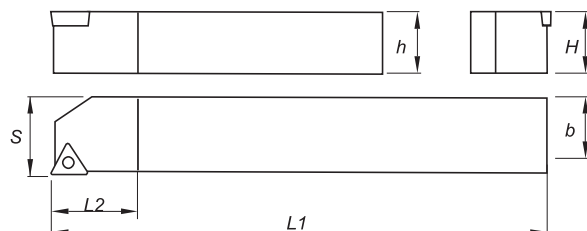
Cutter Reference	Screw	Wrench
SDNC N 1010 M07	P0250700	XT07
SDNC N 1212 M11	P0401100	XT15-S35
SDNC N 1616 M11	P0401100	XT15-S35







C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing	Finishing wiper
Flat  (09-11-16)	FP  (09-11-16)	FM  (09-11-16)	FK  (09-11-16)	FW  (09-11-16)
Medium	Medium	Medium	Medium to Finishing	
MP  (09-11-16)	MM  (09-11-16)	MK  (09-11-16)	LN  (11-16)	




Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212256300	212256400	STJC R/L 1010 M11	10	10	150	16	10	TC.. 1102..	0,110		
212256500	212256600	STJC R/L 1212 M11	12	12	150	16	12	TC.. 1102..	0,150		
212256700	212256800	STJC R/L 1616 M11	16	16	150	16	16	TC.. 1102..	0,280		

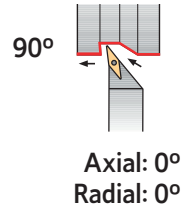
 Stock Items | Itens de stock


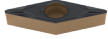






 Available under request | Disponível sob consulta | Disponible bajo consulta

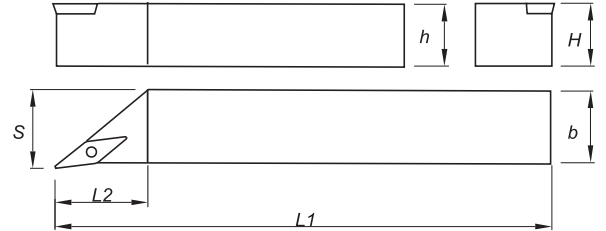
SPARE PARTS | Complementos | Repuestos













Cutter Reference	Screw	Wrench
		
STJC R/L 1010 M11	P0250700	XT07
STJC R/L 1212 M11	P0250700	XT07
STJC R/L 1616 M11	P0250700	XT07


CENTER SCREW TOOLHOLDERS




Finishing	Finishing	Finishing	Finishing
Flat  (11-16)	FP  (11-16)	FM  (11-16)	FK  (11-16)
Medium	Medium	Medium	Medium to Finishing
MP  (11-16)	MM  (11-16)	MK  (11-16)	LN  (11-16)




Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212256900	212257000	SVAC R/L 0808 M11	8	8	150	26	8	VC.. 1103..	0,070		
212257100	212257200	SVAC R/L 1010 M11	10	10	150	26	10	VC.. 1103..	0,100		
212257300	212257400	SVAC R/L 1212 M11	12	12	150	26	12	VC.. 1103..	0,140		
212257500	212257600	SVAC R/L 1616 M11	16	16	150	26	16	VC.. 1103..	0,270		
212257700	212257800	SVAC R/L 1212 M16	12	12	150	40	12	VC.. 1604..	0,140		
212257900	212258000	SVAC R/L 1616 M16	16	16	150	40	16	VC.. 1604..	0,270		

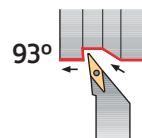
 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

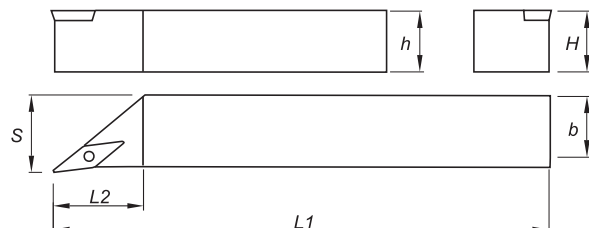
Cutter Reference	Screw	Wrench
		
SVAC R/L 0808 M11	P0250700	XT07
SVAC R/L 1010 M11	P0250700	XT07
SVAC R/L 1212 M11	P0250700	XT07
SVAC R/L 1616 M11	P0250700	XT07
SVAC R/L 1212 M16	P0401100	XT15-S35
SVAC R/L 1616 M16	P0401100	XT15-S35

CENTER SCREW TOOLHOLDERS



Axial: 0°  
Radial: 0°

Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
(11-16)	(11-16)	(11-16)	(11-16)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
(11-16)	(11-16)	(11-16)	(11-16)



Order Code		Reference	Dimensions (mm)					Insert	Kg	Stock	
R	L		H=h	b	L1	L2	S			R	L
212258100	212258200	SVJC R/L 0808 M11	8	8	150	26	8	VC.. 1103..	0,070		
212258300	212258400	SVJC R/L 1010 M11	10	10	150	26	10	VC.. 1103..	0,100		
212258500	212258600	SVJC R/L 1212 M11	12	12	150	26	12	VC.. 1103..	0,140		
212258700	212258800	SVJC R/L 1616 M11	16	16	150	26	16	VC.. 1103..	0,270		
212258900	212259000	SVJC R/L 1212 M16	12	12	150	40	12	VC.. 1604..	0,140		
212259100	212259200	SVJC R/L 1616 M16	16	16	150	40	16	VC.. 1604..	0,270		

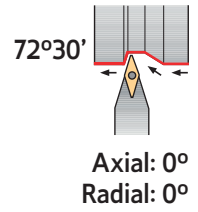
Stock Items | Itens de stock

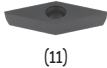
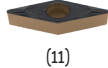
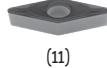
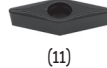
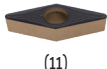
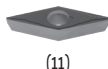
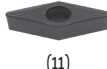
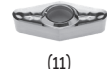
Available under request | Disponível sob consulta | Disponible bajo consulta

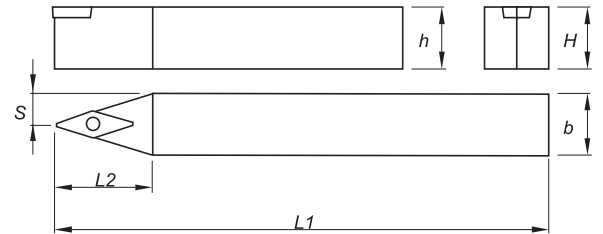
SPARE PARTS | Complementos | Repuestos





Cutter Reference	Screw	Wrench
SVJC R/L 0808 M11	P0250700	XT07
SVJC R/L 1010 M11	P0250700	XT07
SVJC R/L 1212 M11	P0250700	XT07
SVJC R/L 1616 M11	P0250700	XT07
SVJC R/L 1212 M16	P0401100	XT15-S35
SVJC R/L 1616 M16	P0401100	XT15-S35

CENTER SCREW TOOLHOLDERS



Finishing	Finishing	Finishing	Finishing
Flat	FP	FM	FK
 (11)	 (11)	 (11)	 (11)
Medium	Medium	Medium	Medium to Finishing
MP	MM	MK	LN
 (11)	 (11)	 (11)	 (11)




Order Code	Reference	Dimensions (mm)					Insert	Kg	Stock
		H=h	b	L1	L2	S			
212259300	SVVC N 0808 M11	8	8	150	21	4,3	VC.. 1103..	0,070	
212259400	SVVC N 1010 M11	10	10	150	21	5,3	VC.. 1103..	0,100	
212259500	SVVC N 1212 M11	12	12	150	21	6,3	VC.. 1103..	0,140	
212259600	SVVC N 1616 M11	16	16	150	21	8,3	VC.. 1103..	0,260	

 Stock Items | Itens de stock

 Available under request | Disponível sob consulta | Disponible bajo consulta

SPARE PARTS | Complementos | Repuestos

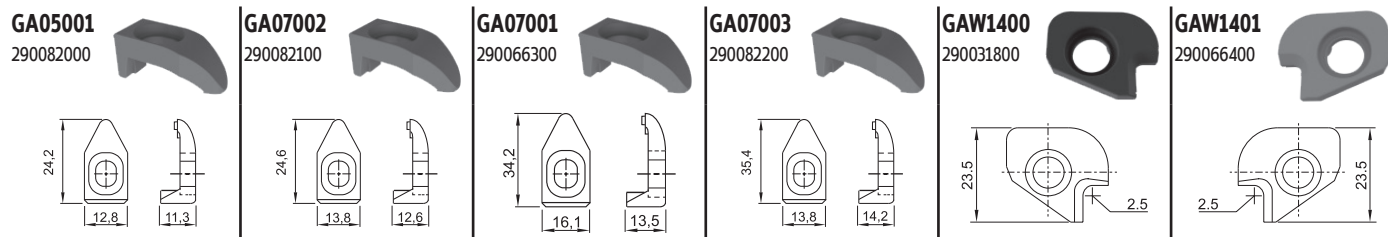
Cutter Reference	Screw	Wrench
		
SVVC N 0808 M11	P0250700	XT07
SVVC N 1010 M11	P0250700	XT07
SVVC N 1212 M11	P0250700	XT07
SVVC N 1616 M11	P0250700	XT07

C  
TURNING  
Insert selection  
Overview  
Negative inserts  
Positive inserts  
PCBN & PCD inserts  
Heavy turning  
External Toolholders  
Internal Toolholders  
Automatic Lathes  
Spare Parts  
Technical Data

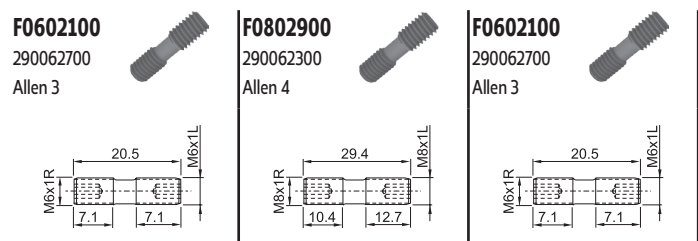
# SPARE PARTS

## CHIP BREAKERS | Quebra Aparas | Rompevirutas

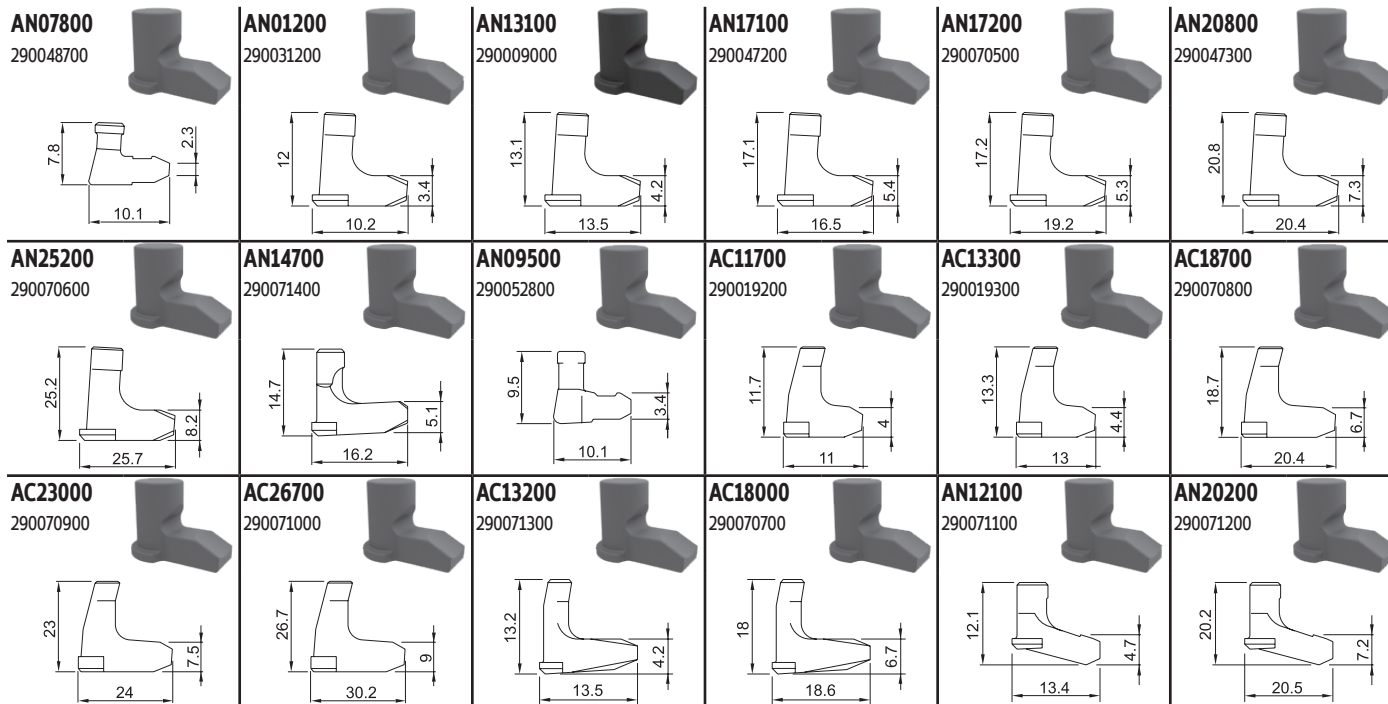
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<b>QCS0902</b> 290072900 	<b>QCS1202</b> 290072700 	<b>QCT1100</b> 290071600 	<b>QCT1101</b> 290072100 	<b>QCT1600</b> 290071800 	<b>QCT1601</b> 290072300 
<b>QCT2200</b> 290072000 	<b>QCT2201</b> 290072500 				
<b>GS03000</b> 290065100 	<b>GS04000</b> 290009700 	<b>GS05002</b> 290065900 	<b>GS05000</b> 290055800 	<b>GS05004</b> 290066500 	<b>GS05001</b> 290065800 
<b>GS05003</b> 290066000 	<b>GS06001</b> 290047700 	<b>GS06002</b> 290046300 	<b>GS06003</b> 290066200 	<b>GS06000</b> 290010500 	<b>GS05005</b> 290005900 
<b>GS08001</b> 290066600 	<b>GS08000</b> 290030100 				



DIFFERENTIALS SCREWS | Parafusos Diferenciales | Tornillos Diferenciales



LEVERS | Alavanca | Palanca



# SPARE PARTS

## LEVER SCREWS | Parafusos Para Alavanca | Tornillos De Palanca

<b>PA0501000</b> 290048800 Allen 2 	<b>PA0501200</b> 290063000 Allen 2 	<b>PA0501400</b> 290019000 Allen 2 	<b>PA0601300</b> 290063200 Allen 2,5 	<b>PA0601700</b> 290018900 Allen 2,5 	<b>PA0602100</b> 290064400 Allen 2,5 
<b>PA0801700</b> 290063800 Allen 3 	<b>PA0802100</b> 290011900 Allen 3 	<b>PA0802101</b> 290063300 Allen 3 	<b>PA0802300</b> 290047100 Allen 3 	<b>PA0802400</b> 290064500 Allen 3 	<b>PA1002700</b> 290048600 Allen 4 
<b>PA1003000</b> 290064600 Allen 4 	<b>PA1203600</b> 290063100 Allen 5 				

## LOCK PINS | Cavilhas De Bloqueio | Pines De Bloqueo

<b>BC04502</b> 290063500 	<b>BC04501</b> 290063600 	<b>BC04500</b> 290063400 	<b>BC06001</b> 290063700 	<b>BC06000</b> 290053500 	<b>BC08000</b> 290064200 
<b>BS05000</b> 290054400 Allen 2 	<b>BS1-402</b> 290064300 Allen 2,5 	<b>BS1-400</b> 290063900 Allen 2,5 	<b>BS1-401</b> 290064000 Allen 2,5 	<b>BS3-800</b> 290064100 Allen 4 	



SCREWS (ALLEN) | Parafusos (Allen) | Tornillos (Allen)

<p><b>D0300700</b> 290012000 Allen 5</p>	<p><b>D0300691</b> 290064800 Allen 2</p>	<p><b>D0301101</b> 290094500 Allen 2.5</p>	<p><b>D0400691</b> 290064900 Allen 2.5</p>	<p><b>D0400900</b> 290053700 Allen 5</p>	<p><b>D0500801</b> 290082700 Allen 5</p>
<p><b>D0601400</b> 290062800 Allen 5</p>	<p><b>D0601600</b> 290083000 Allen 4</p>	<p><b>D0602200</b> 290062900 Allen 5</p>	<p><b>D0602900</b> 290082900 Allen 4</p>	<p><b>D0702800</b> 290048100 Allen 4</p>	<p><b>DW142600</b> 290018200 Allen 4</p>
<p><b>T05003500</b> 290020100 Allen 3.5</p>	<p><b>T05008000</b> 290082300 Allen 2</p>	<p><b>T06010000</b> 290082400 Allen 2.5</p>	<p><b>T06004000</b> 290008700 Allen 4</p>	<p><b>T06015000</b> 290082500 Allen 3</p>	<p><b>T1000875</b> 290086000 Allen 5</p>
<p><b>H0600475</b> 290085800 Allen 3</p>	<p><b>H1000875</b> 290085900 Allen 5</p>				

SCREWS (TORX) | Parafusos (torx) | Tornillos (torx)

<p><b>P0220600</b> 290026000 TorxT-6</p>	<p><b>P0250700</b> 290013400 TorxT-7</p>	<p><b>P0200601</b> 290010700 TorxT-7</p>	<p><b>P0300900</b> 290007500 TorxT-8</p>	<p><b>P0351500</b> 290020000 TorxT-15</p>	<p><b>P0401400</b> 290031100 TorxT-15</p>
<p><b>P0400802</b> 290006500 TorxT-15</p>	<p><b>P0401100</b> 290007000 TorxT-15</p>	<p><b>P0501200</b> 290026200 TorxT-20</p>	<p><b>P0801411</b> 290062600 TorxT-25</p>		

# SPARE PARTS

## SHIM PINS | Pino calço | Pino cuña

<b>BE02100</b> 290020500 	<b>BE03000</b> 290038900 	<b>BE04400</b> 290007300 	<b>BE05500</b> 290069200 	<b>BE03800</b> 290019100 	<b>BE05401</b> 290069900 
<b>BE08300</b> 290069700 	<b>BE07000</b> 290069300 	<b>BE05400</b> 290069400 	<b>BE08301</b> 290069800 	<b>BE08500</b> 290069500 	<b>BE10500</b> 290069600 
<b>BF04806</b> 290070000 	<b>BF04808</b> 290070100 	<b>BF04813</b> 290018100 	<b>BF04815</b> 290070200 		

## SHIM PIN PUNCHES | Calço | Cuña

<b>BF40009</b> 290033200 	<b>BF47509</b> 290020600 	<b>BF65012</b> 290061900 	<b>BF80012</b> 290062000 	<b>BF12520</b> 290062100 
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## SHIMS (C SHAPES) | Colchões (Pastilhas C) | Placas Base (Plaquetas C)

<b>CC090300</b> 290067800 	<b>CC120301</b> 212127000 	<b>CC160500</b> 290046400 	<b>CC190500</b> 212169300 	<b>CC250700</b> 290067900 	<b>CC120401</b> 212166800 
<b>CC120600</b> 290083200 	<b>CC120500</b> 290055200 	<b>CC120300</b> 290083300 	<b>CC190502</b> 290073200 		

SHIMS (D SHAPES) | Colchões (Pastilhas D) | Placas Base (Plaquetas D)

<p><b>CD110300</b> 290068000</p>	<p><b>CD110301</b> 212166900</p>	<p><b>CD110302</b> 290083400</p>	<p><b>CD150300</b> 290068100</p>	<p><b>CD150500</b> 290068200</p>	<p><b>CD150501</b> 290073300</p>
<p><b>CD150502</b> 116021623</p>	<p><b>CD150503</b> 116021723</p>				

SHIMS (R SHAPES) | Colchões (Pastilhas R) | Placas Base (Plaquetas R)

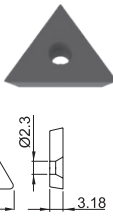
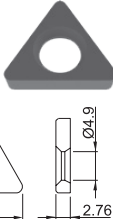
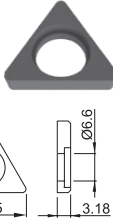
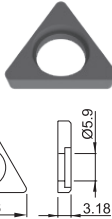
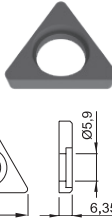
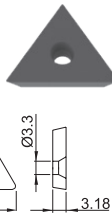
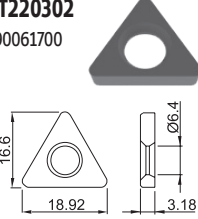
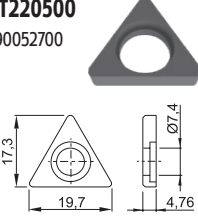
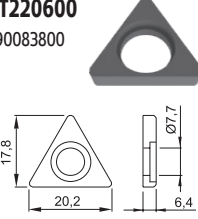
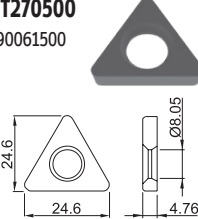
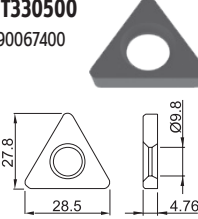
<p><b>CR090300</b> 290068700</p>	<p><b>CR100300</b> 212054600</p>	<p><b>CR100301</b> 212167100</p>	<p><b>CR120300</b> 212054700</p>	<p><b>CR120301</b> 212167200</p>	<p><b>CR120302</b> 290068800</p>
<p><b>CR150500</b> 290068900</p>	<p><b>CR160500</b> 290068300</p>	<p><b>CR190500</b> 290069000</p>	<p><b>CR200500</b> 290068400</p>	<p><b>CR250600</b> 290068500</p>	<p><b>CR250601</b> 290069100</p>
<p><b>CR320600</b> 290068600</p>					

SHIMS (S SHAPES) | Colchões (Pastilhas S) | Placas Base (Plaquetas S)

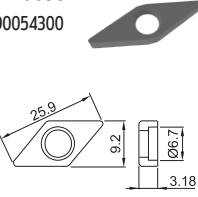
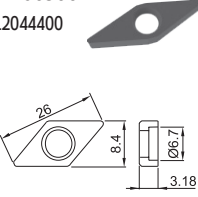
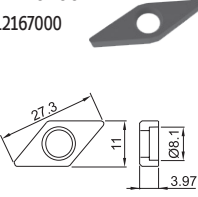
<p><b>CS090300</b> 290067100</p>	<p><b>CS090301</b> 290067500</p>	<p><b>CS120300</b> 212056100</p>	<p><b>CS120400</b> 212044300</p>	<p><b>CS120302</b> 290067600</p>	<p><b>CS120500</b> 290053800</p>
<p><b>CS120600</b> 290083500</p>	<p><b>CS150400</b> 290083900</p>	<p><b>CS190501</b> 290083600</p>	<p><b>CS190300</b> 290067200</p>	<p><b>CS190400</b> 290084000</p>	<p><b>CS250600</b> 290053000</p>

# SPARE PARTS

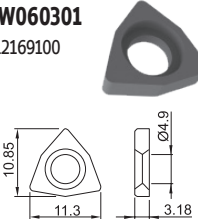
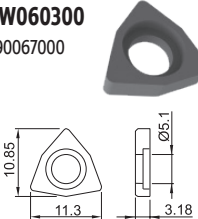
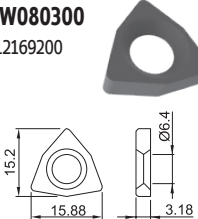
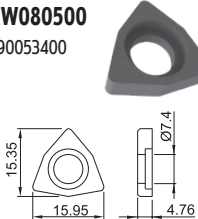
## SHIMS (T SHAPES) | Colchões (Pastilhas T) | Placas Base (Plaquetas T)

<b>CT160301</b> 212026000 	<b>CT160303</b> 212039600 	<b>CT160302</b> 212039900 	<b>CT160304</b> 290073400 	<b>CT160600</b> 290083700 	<b>CT220301</b> 212127500 
<b>CT220302</b> 290061700 	<b>CT220500</b> 290052700 	<b>CT220600</b> 290083800 	<b>CT270500</b> 290061500 	<b>CT330500</b> 290067400 	

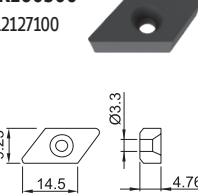
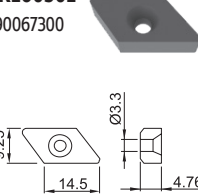
## SHIMS (V SHAPES) | Colchões (Pastilhas V) | Placas Base (Plaquetas V)

<b>CV160301</b> 290054300 	<b>CV160300</b> 212044400 	<b>CV220400</b> 212167000 
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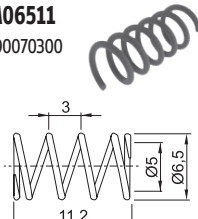
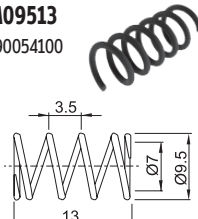
## SHIMS (W SHAPES) | Colchões (Pastilhas W) | Placas Base (Plaquetas W)

<b>CW060301</b> 212169100 	<b>CW060300</b> 290067000 	<b>CW080300</b> 212169200 	<b>CW080500</b> 290053400 
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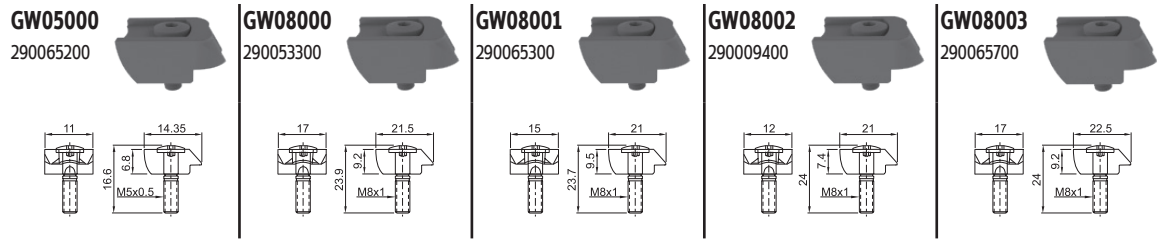
## SHIMS (KNUX SHAPES) | Colchões (Pastilhas Knux) | Placas Base (Plaquetas Knux)

<b>CK160500</b> 212127100 	<b>CK160501</b> 290067300 
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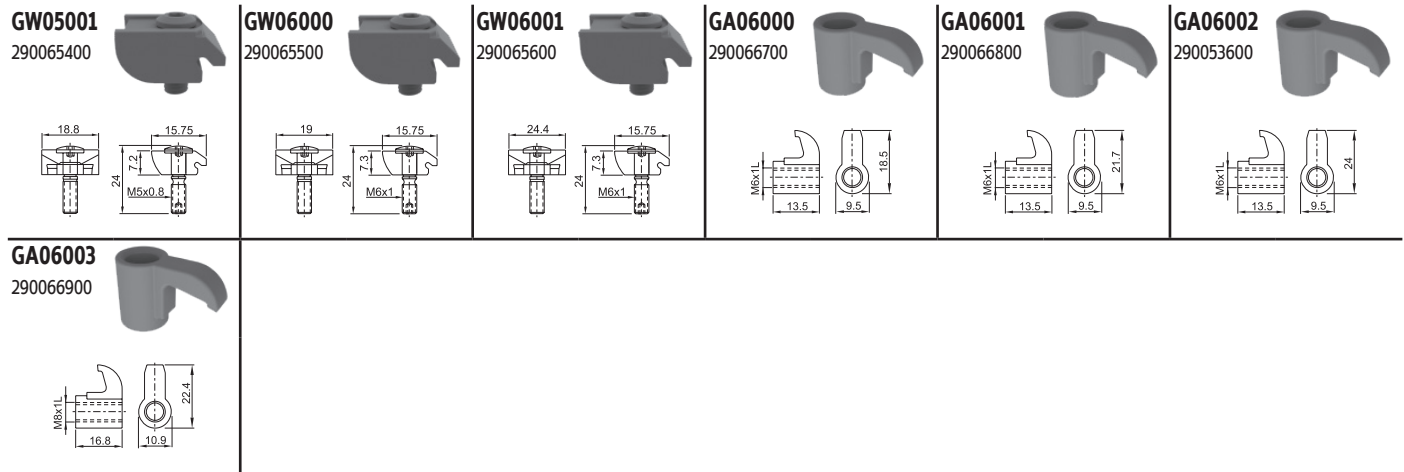
## SPRINGS | Mola | Muelle

<b>M06511</b> 290070300 	<b>M09513</b> 290054100 
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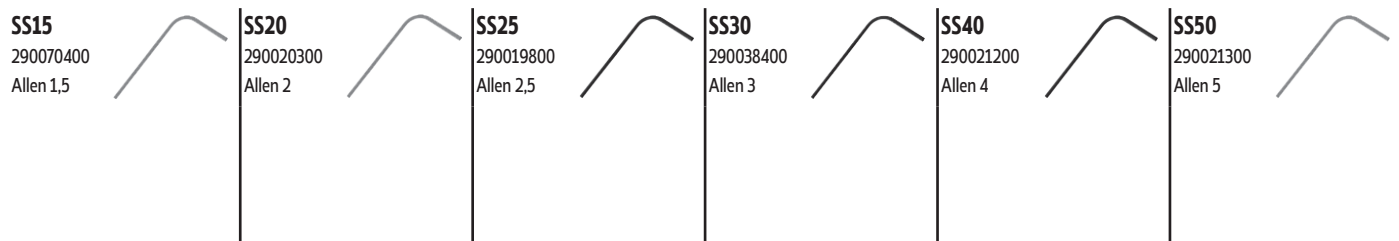
WEDGE CLAMPS (M HOLDERS) | Grampos Cunhas (Suportes M) | Tornillos Para Cuñas (Soportes M)



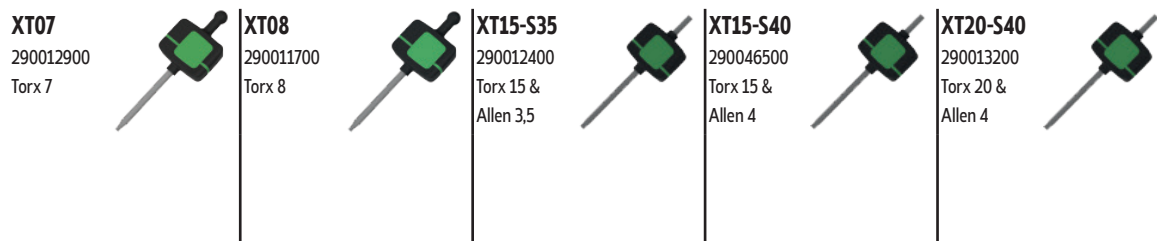
WEDGE CLAMPS (M-K HOLDERS) | Grampos Cunhas (Suportes M-K) | Tornillos Para Cuñas (Soportes M-K)



WRENCHES (ALLEN) | Chaves (Allen) | Llaves (Allen)



WRENCHES (TORX) | Chaves (Torx) | Llaves (Torx)



# TURNING GRADES | Graus de torneamento | Calidades para torneado

	1	5	10	15	20	25	30	35	40	45	50			
TURNING	P STEEL		PH7910									PVD		
				PH7920										
			PHG105											CVD
				PHG115										
				PH5115										
						PHG125								
						PH5125								
							PHG140							
							PH5740							
Positive inserts	M STAINLESS SEEL		PHH910 <small>NEW</small>									PVD		
			PH7910											
				PHH920 <small>NEW</small>										
		PCBN & PCD inserts			PH7920									CVD
					PHS215									
						PHS225								
							PHS240							
External Toolholders	K CAST IRON		PH5705									CVD		
				PH5320										
						PH5740								
			PBH920									PCBN		
				PBY930 <small>NEW</small>										
				PBY940 <small>NEW</small>										

# TURNING GRADES | Graus de torneamento | Calidades para torneado

	1	5	10	15	20	25	30	35	40	45	50		
<b>N</b> ALUMINIUM & NON FERROUS		PH0910											UNCOTED
		PDP410											PCD
		PDP403											
<b>S</b> HEAT RESISTANT / TITANIUM ALLOYS		PHH910 <small>NEW</small>											PVD
		PH7910											
				PHH920 <small>NEW</small>									PCBN
				PH7920									
					PBH920 <small>NEW</small>								
		PBY603 <small>NEW</small>											
<b>H</b> HARDENED MATERIALS	PBY603 <small>NEW</small>												PCBN
			PBY620 <small>NEW</small>										
				PBH920 <small>NEW</small>									
				PBY930 <small>NEW</small>									
				PBY940 <small>NEW</small>									



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

Automatic Lathes

Spare Parts

Technical Data

# TURNING GRADES DESCRIPTION

## PVD GRADES

### PHH...

A thin PVD coating. 1st choice for finishing operations stainless steels and HRSA.



**PHH910** NEW  
M05-M10  
S05-S15

An hard micro grain substrate combined with a thin optimized nanostructure PVD coating with excellent heat dissipation

The solution for Stainless steel and HRSA from medium turning to finishing.  
For continuous to semi-interrupted turning.  
First choice for HRSA.

**PHH920** NEW  
M10-M25  
S15-S30

A micro grain substrate combined with a thin optimized nanostructure PVD coating with excellent heat dissipation

Solution for general turning of stainless steels and HRSA.



### PH7...

A thin PVD coating recommended for finishing operations on steels and suitable for stainless steels and HRSA. Work well on "gummy" materials.



**PH7910**  
P05-P10  
M05-M10  
S05-S15

**PH7920**  
P10-P35  
M10-M25  
S15-S30

## CVD GRADES

### PHS...

A medium temperature CVD coating with great adhesion and great heat dissipation properties. 1st choice for machining stainless steels.



**PHS215**  
M10-M25

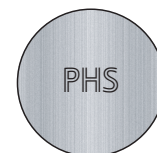
Suitable for high to medium cutting speeds in stainless steel. Ideal for turning on good condition of cut (continuous cut).

**PHS225**  
M15-M30

First choice for general application on turning of stainless steel.

**PHS240**  
M25-M45

First choice for roughing to heavy roughing operations with interrupted cut at medium to low cutting speeds on stainless steel.



### PH0910

Uncoated carbide micro-grain grade combining a good abrasive wear resistance and toughness. Suitable for rough to finish operations of aluminum alloys.

**PH0910**  
N01-N20



PHG...

A medium temperature CVD coating with great adhesion and great wear protection. 1st choice for machining steels.

WEAR RESISTANCE ←-----→ TOUGHNESS

<p><b>PHG105</b> P05-P10</p> <p>First option for continuous cut with hardness higher than 38HRC.</p>	<p><b>PHG115</b> P10-P25</p> <p>Suitable for high to medium cutting speeds on steels.</p>	<p><b>PHG125</b> P20-P35</p> <p>Ideal for general application in all kind of steels.</p>	<p><b>PHG140</b> P25-P45</p> <p>First choice for roughing to heavy roughing operations with interrupted cut at medium to low cutting speeds.</p>
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PH5...

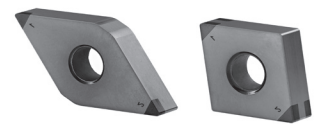
A thick CVD coating with smooth surface. 1st choice for machining cast irons.

WEAR RESISTANCE ←-----→ TOUGHNESS

<p><b>PH5705</b> K05-K15</p>	<p><b>PH5320</b> P01-P15 K10-K30</p>	<p><b>PH5115</b> P10-P25</p>	<p><b>PH5125</b> P20-P35</p>	<p><b>PH5740</b> P25-P45 K20-K40</p>
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PCBN

PCBN insert excel in the finishing and semi-finishing process of hardened steels as well as hard cast iron and HRSA.



<p><b>PBY603</b> S01-S10 H01-H10</p> <p>Machining of hardened materials in high continuous cut up to 180m/min cutting speed.</p>	<p><b>PBY620</b> H10-H20</p> <p>Machining of hardened materials in light to heavy interrupted cuts.</p>	<p><b>PBY930</b> H20-H30</p> <p>High wear resistance and impact toughness. Excels in white iron and steel rolls machining.</p>	<p><b>PBY940</b> H20-H30</p> <p>For machining high chrome alloy steels and Ni-hard cast iron.</p>	<p><b>PBH920</b> K01-K30 S20-S30</p> <p>For machining all types of cast iron. First choice for machining ferrous powder metals.</p>
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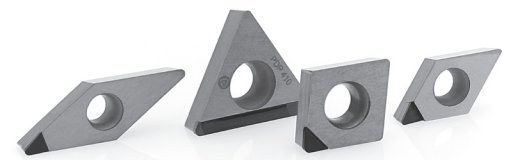
PCD

PCD insert are an achievement of extreme significance for the machining of Non-Ferrous Materials, such as high-silicon aluminium, metal matrix composites (MMC) and carbon fiber reinforced plastics (CFRP).

<p><b>PDP410</b> N01-N20</p>	<p><b>PDP403</b> N01-N10</p>
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General purpose Fine surface finishing. <14% silicon aluminium alloy

Highest abrasion resistance Bimodal grain structure for increased diamond percentage content. >14% silicon aluminium alloy



# GRADES COMPARATIVE CHART

PVD COATED GRADES | GRAUS REVESTIDOS A PVD | CALIDADES CON RECUBRIMIENTO PVD

ISO	Palbit	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit
Material													
<b>P</b>	P01	PH7910								PR915 PR1005	PV3030	PC8110	
	P10	PH7910	GC1525 GC1025	KC5010 KC5510 KU10T	IC250 IC350 IC507 IC570 IC807 IC907 IC908	CP200 TS2001	VP10MF	AH710		PR915 PR1005 PR930 PR1025 PR1115 PR1225 PR1425	PV3010 PV3030 TT7080 TT1040	PC230	
	P20	PH7920	GC1525 GC1025 GC1125	KC5025 KC5525 KC7215 KC7315 KU25T	IC228 IC250 IC308 IC328 IC350 IC354 IC507 IC528 IC570 IC807 IC808 IC907 IC908 IC928 IC1008 IC1028 IC3028	CP250 TS2500	VP10RT VP20RT VP15TF VP20MF	AC520U	AH710 AH725 AH120 SH730 GH730 GH130	PR930 PR1025 PR1115 PR1225	TT7220 TT9020 TT7080 TT9080 TT7070	PC5300 PC8115	SR226 GM127
	P30	PH7920	GC1025 GC1125	KC7015 KC7020 KU25T KC7235	IC228 IC250 IC328 IC330 IC354 IC528 IC1008 IC1028 IC3028	CP500	VP10RT VP20RT VP20MF	AC530U	AH725 AH120 SH730 GH730 GH130 AH740 J740		TT9030 TT7030 TT7080 TT9030 TT9080	PC8115	GM40 CTP1235 CTP2235 SR226 GM127
<b>STEEL</b>	M01	PH7910	GC1005		IC520	TS2000 CP200	VP10MF		WSM10	PR915	TT5080		
	M10	PH7910	GC1005 GC1025 GC1125 GC1105	KC5010 KC5510 KC6005 KC6015	IC330 IC354 IC507 IC520 IC570 IC807 IC907 IC3028	CP200 TS2000	VP10MF	AH710	WSM20	PR915 PR1025 PR1225 PR1425	TT5030 PV3010 PV3030 TT9030	PC8110 PC9030	
	M20	PH7920	GC1005 GC1025 GC1125 GC1105	KC5025 KC5525 KC7020 KC7025	IC250 IC330 IC354 IC808 IC908 IC1008 IC1028 IC3028	CP250 TS2500 CP500	VP10RT VP20RT VP15TF VP20MF	AC520U	WSM30	PR1025 PR1125 PR1225 PR915 PR930	TT5030 PV3030 TT9020 TT9030	PC9030 PC8110 PC8115	CTP2120 CTP1235 SR226 GM127
	M30	PH7920	GC1125 GC2035	KC7030 KC7225	IC228 IC250 IC328 IC330 IC1008 IC1028 IC3028	CP500	VP10RT VP20RT VP15TF VP20MF MP7035	AC520U AC530U		PR1125	TT9030 TT9080 TT8030	PC9030	CTP2240 CTP1235 CTP2235 SR226 GM127
<b>STAINLESS STEEL</b>													

PH7910 = Best available choice

ISO		Palbit	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit
Material														
<b>S</b> <b>HEAT RESISTENT / TITANIUM ALLOYS</b>	S01	<b>PH7910</b> <b>PHH910</b>			IC507 IC907		MP9005 VP05RT		AH905 AH905 SH730	WDSM10	PR915		PC8110	
	S10	<b>PH7910</b> <b>PHH910</b>	GC1105 GC1005 GC1025	KC5010 KC5410 KC5510	IC507 IC903 IC300 IC808	CP200 CP250 TS2000 TS2500 CP250	MP9015 VP10RT MP9015	AC510U	AH110 AH120	WSM20	PR915	TT5030 TT5030	PC8110 PC8115 PC8105	CM40 SR226 CM45
	S20	<b>PH7920</b> <b>PHH920</b>	GC1025 GC1125	KC5025 KC5525	IC908 IC928 IC3028 IC806	TS2500 CP500	MT9015 VP20RT	AC510U AC520U	AH120 AH720	WSM30	PR1125	TT8020 TT8030	PC8815 PC5300	CTP2440 GM127
	S30	<b>PH7920</b> <b>PHH920</b>	GC1125				VP15TF	AC520U	AH725		PR1125	TT8020	PC5400	CTP2135

PHH910 = Best available choice



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

Automatic Lathes

Spare Parts

Technical Data

# GRADES COMPARATIVE CHART

CVD COATED GRADES | GRAUS REVESTIDOS A CVD | CALIDADES CON RECUBRIMIENTO CVD

ISO	Palbit	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit	
Material														
<b>P</b>	P05	PHG105	GC4205 GC4005	KCP05 KC9105	IC9150 IC8150 IC428	TP0500 TP1500	UE6105	AC810P AC700G	T9105 T9005	WPP01	CA510 CA5505	TT1300	NC3010	
	P10	PHG105 PH5115 PHG115	GC4315 GC4215 GC4015 GC4325	KCP10B KCP10 KCP25 KCP110	IC9150 IC9015 IC8150 IC8250	TP1500 TP2500	UE6105 MC6015 UE6110 MY5015	AC810P AC700G AC820P AC2000	T9105 T9005 T9115	WPP01 WPP05	CAS510 CA5505 CA515 CA5515	TT1300 TT7310 TT7400	NC3215	CTC1110 CTC1115 CTC3110 TCC410
	P20	PH5115 PHG115 PH5125 PHG125	GC4315 GC4215 GC4015 GC4325 GC4225 GC4025	KCP25B KCP25 KCP125	IC9015 IC8250 IC9050 IC9250 IC8350	TP2500	MC6015 UE6110 MC6025 UE6020 MY5015	AC820P AC2000 AC830P	T9115 T9125	WPP10S WPP20S	CA515 CA5515 CA525 CA5525 CR9025	TT3500 TT5100 TT7400 KT7300 TT7800	NC3220 NC3120	CTC1110 CTC1115 CTC1125 CTC1130 CTC1425
	P30	PH5125 PHG125	GC4325 GC4225 GC4025 GC4235 GC4035	KCP30 KCP40 KCP8050	IC8350 IC9250 IC9350	TP3500 TP3000	MC025 UE6020 UE6035 UH6400	AC830P AC630M	T9125 T9135 T9035	WPP30S	CA525 CA5525 CA530 CA5335 CR9025	TT3500 TT5100 TT7400 KT7300	NC3215 NC3225 NC3120	CTC1125 CTC1130 CTC1135 CTC1425
	P40	PHG140 PH5740	GC4235 GC4035	KCP30 KCP40 KC9040 KC9240 KC9245	IC9350	TP3500 TP3000	UE6035 UH6400	AC630M	T9135 T9035		CA530 CA5535	TT5100 TT7100 KT7300 TT7800	NC500H NC5330	CTC1135 CTC1435 CTC2135
	<b>M</b>	M10	PHS215	GC2015	KCM15	IC9250 IC6015 IC8250	TM2000	MC7015 US7020	AC610M	T9115	WAM20	CA6515		NC9020
M20		PHS215 PHS225	GC2015	KCM15 KC9225	IC9250 IC6015 IC9025 IC656	TM2000	MC7015 US7020 MC7025	AC610M AC6030M AC630M	T6020 T9125		CA6515 CA6525	TT5100	NC9020	CTC1115 CTC1125 CTC1130 CTC1135
M30		PHS225 PHS240	GC2025	KCM25 KC9230	IC9350 IC6025 IC635	TM4000	MC7025 US735	AC6030M AC630M	T6030		CA6525	TT5100 TT7100	NC9025	CTC1125 CTC1135 CTC1425 CTC1435 CTC2135
M40		PHS240	GC2025	KCM35 KC9240 KC9245	IC6025 IC9350	TM4000	US735	AC6030M AC630M				TT7100	NC9025	CTC2135
M50		PHS228	GC2035	KC9245	IC9350								NC9035	
<b>K</b>	K05	PH5705	GC3205 GC3210	KCK05	IC5005 IC9007	TH1500 TK1001 TK1000	MC5005 UC5105	AC405K AC410K	T5105	WAK10	CA4505 CA4010			
	K10	PH5705 PH5320	GC3205 GC3210 GC3215	KCK15B KCK15B KC920 KC9315	IC5005 IC5010 IC9150 IC428 IC4028	TK1001 TK1000 TK2000 TK2001	MC5015 UC5115 MY5015	AC405K AC410K AC415K AC420K AC700G	T5115	WAK20	CA4515 CA4110 CA4115	TT3100 TT7310 TT8115	NC6205 NC6210 NC6215	CTC1110 CTC1115 CTC3110 TCC410 CTC3215
	K20	PH5320	GC3215	KCK20 KC9110 KC9325	IC5010 IC8150 IC9150 IC9015 IC418	TK2001 TK2000	MC5015 UC5115 UE6110 MY5015	AC415K AC420K AC700G AC820P	T5115 T5125	WAK30	CA4515 CA4115 CA4120	TT7310 TT8115	NC6215	CTC1115 CTC1125 CTC1130 CTC1425 CTC3215
	K30	PH5740		KC9125 KC9325	IC9015 IC418		UE6110	AC820P	T5125					TSC30

UNCOATED GRADES | GRAUS NÃO REVESTIDOS | CALIDADES SIN RECUBRIMIENTO

ISO		Palbit	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratzit
Material														
ALUMINIUM	N01	PH0910	H10		IC20				KS05F	WK1	KW10	K10		
	N10		H10 H13A	KU10 K313 K68	IC20 IC08 IC28	890 HX KX	HTi10		TH10	WK1	KW10 KWK15	K10	H01	
	N20		H10 H13A	KU10 K313 K68	IC08 IC28	HX KX 883		H1	KS15F	WK1	KW10 KWK15		H01	



TURNING

Insert selection

Overview

Negative inserts

Positive inserts

PCBN & PCD inserts

Heavy turning

External Toolholders

Internal Toolholders

Automatic Lathes

Spare Parts

Technical Data

CHIP BREAKER COMPARATIVE CHART | Tabela de equivalências de quebra-apanas | Tabla de comparación de rompevirutas  
 NEGATIVES | NEGATIVAS | NEGATIVAS

Application		Palbit	Sandvik	Kennametal	Iscar	Seco	Tungaloy	Mitsubishi	Sumitomo	Walter	Kyocera	Taegutec	Korloy	Ceratizit
Mat.	Operations													
STEEL	Finishing	MF	QF	FS, LF	SF, PP TF		O1 TF	PK FH	FA		DP	FA	VF, HU	
	Medium to Finishing	MF, LC	PF, QF, LC MF, R/L-K	FF, FN	F3P, NF, SF	FF2, FF1	TS, TSF, ZF 11, NS, AS, TQ, NM, CB, C	SA, FY, C, SH, MP	SU, FL, SE, SX	NF3, NS6	PQ, VFCJ PQ, GP, PP, HQ, GS, CQ	FG, VF, EA FC, MC, ML, MP	VL	CF, TF
	Medium Wiper	MW*	WL, WF, WMX WM, WR	FW, MW, RW	WF, WG	W-MF2, W-MF3	AFW, FW, ASW, SW	SW	LW, SEW, GUW	NF, NM	WP, WQ	WS, WT		TFQ, TMQ
	Medium to Roughing	PM, MR, GR, MA	PM, QM, XM, XRM	P, MN	M3P, M3M, PP, TF, GN	MR7, MR6, M5, M6	TM, AM, DM, ZM All-round	MA, MH, MP	GU GE, UX	NMT, NM4	HS, PT, GT, CS, PS	PC, MT MC, MG-	VM	TMF, TMM M50
	Roughing	HR, RP", GR, MA	HM, PR MR	RN, RP MR	NR MR	MR6, R5	TH, THS	RP, GH HZ, HL	MU, ME HG	NM5, NM6 NM9	PH All-round	RT	GR, HR	TM, TRM
	Heavy Roughing	RP", HY", HZ"	PR, MR, HR, QR	RM RH	R3P, NM	R4, RR6	TU, TRS, TUS	HM, HX HV	HG, HP HU, HW HF	NR6, NRF NRR	PX	HT, HD RX, RH HY, HZ	GH, VT	TRR, TR, R28, R58 R88
STAINLESS STEEL	Finishing	SF, GS	MF, SM, XF, LC, R/L-K	FP	TF, VL	FF2, FF1, MF1	SF, SA, SS	GM, MS, SH, LM	EX, EG, SU, EF	NF4 NMS	GU, MQ	EA, SF, SU, FG	VP2	CF, F30 M34 F32, TF
	Medium	MS, SF, GS	MM, QM, SM XM, XRM	MP, P	M3M, PP	MF2, FF2, MF5	SM S	MM, MA ES	GU HM	NM4	TK MU	EM, ET	VP3, HS	TMF, M42 M30, M52
	Roughing	SS, RP, HZ"	MR HM, PR	UP, RP	MR, MH	M5, M6, R8, RS, R6	TH, SH, TU	GH, RM, HZ	EM, MU	NR4, NRT, NRS	MS	"GR, VM, VH, GH"	TM, M60, TRM, TMR, TRR R80	
CAST IRON	Medium to Finishing	ST	KF, XF	FN	GN	M4, M5	CF	LK, MA	UZ		C	FG	B25	CF
	Medium	ST, HR, FLAT	KM, QM, XM, XRM	RP, UN		FLAT	CM All-round	MK GK	GZ	NM5	ZS All-round	MT MG	FLAT	M50
	Roughing to Heavy Roughing	HR, FLAT, HZ"	KR Without chipbreaker	Without chipbreaker		MR7, M5	CH Without chip-breaker	RK Without chip-breaker	Without chip-breaker	Without chip-breaker	GC Without chip-breaker	RT	GR	TMR, TR R28, R58, R88
ALUMINIUM	Medium	MS	MF, QM	MS, MP MG	PP	-	P		AX		AH, A3	ML	HA	F32
S	Finishing	GS, SF, MS	SF, SM O1	FS, LS MS		MF1, M1	HRF	FJ, LS	EF EX	NFT NF4	MQ	SF	VP1	
	HRSA	Medium	SF, SS, DOMX	MM, QM SMR	UP, P, NGP RP	PP	MR3, MR4	HRM, HMM, SA	MS RS GJ	EG MU	NMS NM4, NRS, NR4	TK MS MU	SU	VP2, VP3

MS = Best available choice

\*=Wiper

"= Single face insert

CHIP BREAKER COMPARATIVE CHART | Tabela de equivalências de quebra-apanas | Tabla de comparación de rompevirutas  
 POSITIVES | POSITIVAS | POSITIVAS - CLEARANCE ANGLE 5°, 7° AND 11° \*

Application		Palbit	Sandvik	Kennametal	Iscar	Seco	Tungaloy	Mitsubishi	Sumitomo	Walter	Kyocera	Taegutec	Korloy	Ceratizit
Mat.	Operations													
STEEL	Fine Finishing	FS	UM	UF	SF	F1, MF2	01	FV, SMG	FC, FW	PF2	CF, CK	FA	HFP	F32
	Finishing	FS, FP	R/L-K, PF, XF, UF	11, GM, LF	PF, SM, 14, 17, 19, XL	FF1, F2, M3, MF2	PSF, PF, SS, PS, PSS, TS	FP, FV, SV, LP	FP, FZ, LU, FK, SS, SC, SU, SK, SF	PF5, PF4, PS5	CQ, GK, GP, HQ, XP, XQ	FG, GF	VF, VL, F	SF, SMF, SMQ
	Finishing Wiper	FW*	WF	FW	WF	W-F1	TSW, W08	SW	LUW, SDW	PF				
	Finishing to Medium	MP	PM	MF, MP, GM, MR	DT, HQ	MF2	PM, 23, 24, RS	MP, MV	SU, UM, UJ	PM5	VF, MF	MT, PC	HMP, C25, M, CMX	SM
	Finishing to Medium Wiper	MW*	WM	MW	WG			MW		PM		WT		
STAINLESS STEEL	Fine Finishing	FS	UM	LF, GM	SM	F1, MF2, FF1	PSF	FJ	FC	PF2	GQ, GF	FG	HFP	
	Finishing	FS, FM, LM	MF, UF, R/L-K	MF	PF, 14	F2, M3	SS, PSS	FM, FV, SV	SU	PF4	MQ	FA	VF, F	SF, SMF, SMQ
	Finishing Wiper	FW*	WF	FW	WF	W-F1		SW		PF				
	Finishing to Medium	MM, LM	MM, XM	MF, MP	SM	MF2, M5	PM	MM, MV	UM	PM5	XQ, VF	MT, PC	HMP, C25, M	F23, F43, SM
	Finishing to Medium Wiper	MW*	WM	MW	WG			MW		PM		WT		
CAST IRON	Finishing	FK	KF	11	PF	M3		FV	SK		GK	FA	HMP	SF
	Finishing Wiper	FW*	WF	FW	PF	W-F1		SW	LUW	PF		MT, PC		
	Finishing to Medium	MK, FLAT	KM, KR	MF, MP, FLAT	PM5, 19, FLAT	M5	CM, FLAT	MV, MK, FLAT	UM, FLAT	PM5, PS5	FLAT	FALT	C25, HMP, FLAT	25P, 27, 29
	Finishing to Medium Wiper	MW*	WM	MW		W-F2		MW		PM		WT		
ALUMINIUM	Medium	LN	AL	HP, GT	AF, AS	AL	AL, PP	AZ, R/L-F	AG, AX, AY	PF2, PM2	AH, A3	FL	AK, AR	23P, 25P, 27
HRSA	Fine Finishing	FS	UM	LF	SM	F1, MF2	PSF, PF, SS, PS, PSS, TS	FJ	FC	PF2	GQ		HFP	SF
	Finishing	FM, LM	MF, UF, R/L-K	GM	PF, 14	F1	PSS, PS	FV	FX, FY	PF4	MQ	FA	HFP	F23, F43, SM
	Finishing Wiper	FW*	WF	FW	WF					PF				
	Finishing to Medium	MM, LM	MM, XM	MF	SM		PM	MV	SI	PM5	MQ	FG	HMP	SM, 25P, 29
	Finishing to Medium Wiper	MW*	WM	MW	WG					PM				
Medium to Roughing	GS													

TURNING  
 Insert selection  
 Overview  
 Negative inserts  
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 Heavy turning  
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# CHIP BREAKER SPECIFICATIONS

NEGATIVES | NEGATIVAS | NEGATIVAS

Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes								
					at the nose radius	at the flank	Feed Fn (mm/rev)	Depth of cut DOC (mm)	KN __	CN __	DN __	RN __	SN __	TN __	VN __	WN __	
									55°	80°	55°		90°	60°	35°	80°	
Knux's	Finishing	U	P M K	01			0,20 to 0,35	1,00 to 6,00									
	Medium	U	P M K	02			0,40 to 0,70	1,50 to 6,00									
NEGATIVES - double side	Medium Finishing	M	P M	01			0,12 to 0,50	1,00 to 6,50									
	Roughing to Medium	M	P M	02			0,14 to 0,50	0,70 to 5,00									
	Medium Finishing	M	P M	03			0,15 to 0,50	0,80 to 6,00									
		M	P M	MF			0,05 to 0,60	0,10 to 2,50									
	Medium Finishing	M	M N S	MS			0,10 to 0,80	0,20 to 4,50									
	Medium Finishing		M S	NEW GS			0,10 to 0,60	0,40 to 2,00									
	Medium Finishing	M	M S	SF			0,10 to 0,55	0,60 to 3,00									
	Medium Finishing	M	P	LC			0,07 to 0,50	0,60 to 3,00									
	Medium Finishing	M	K	ST			0,10 to 0,50	0,15 to 10,50									
	Medium Finishing	M	P	MR			0,10 to 0,70	0,30 to 9,00									

\* T-Land varies according to the IC (IC reference used: 12,7mm)  
 \*\* Cutting Conditions varies according to the Insert shape, IC and Nose Radius



NEGATIVES | NEGATIVAS | NEGATIVAS










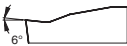







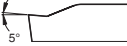
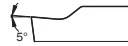

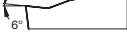







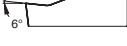







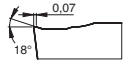
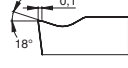



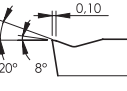
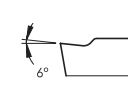


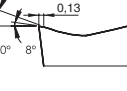
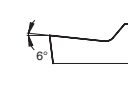





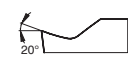















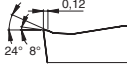
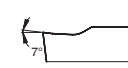






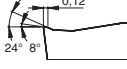
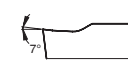






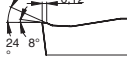







Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes							
					at the nose radius	at the flank	Feed F <sub>n</sub> (mm/rev)	Depth of cut DOC (mm)	KN __	CN __	DN __	RN __	SN __	TN __	VN __	WN __
NEGATIVES - double side	Medium Finishing	M	P	PM			0,10 to 0,60	0,30 to 9,00								
	Medium Finishing	M	K	Flat			0,08 to 2,50	0,10 to 15,00								
	Medium Wiper	M	P M K	MW			0,15 to 0,90	0,30 to 6,00								
	Roughing to Medium roughing	M	M S	SS			0,10 to 1,00	0,30 to 8,50								
	Roughing to Medium roughing	M	P NEW	MA			0,30 to 0,70	1,20 to 8,00								
	Roughing	M	P M K	HR			0,20 to 1,20	0,80 to 15,00								
NEGATIVES - Single side	Roughing to Medium roughing	M	P NEW	GR			0,20 to 1,50	0,80 to 8,00								
	Roughing	M	P M	RP			0,30 to 1,50	2,00 to 12,00								
	Heavy Roughing to Roughing	M	P M	HY			0,35 to 1,60	2,00 to 15,00								
	Heavy Roughing	M	P K	HZ			0,35 to 1,60	2,40 to 17,00								

\* T-Land varies according to the IC (IC reference used: 12,7mm)

\*\* Cutting Conditions varies according to the Insert shape, IC and Nose Radius

# CHIP BREAKER SPECIFICATIONS

POSITIVES | POSITIVAS | POSITIVAS

Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes						
					at the nose radius	at the flank	Feed F <sub>n</sub> (mm/rev)	Depth of cut DOC (mm)	CC __	DC __	RC __	SC __	TC __	VC __	VB __
									80° 	55° 		90° 	60° 	35° 	35° 
POSITIVES - Clearance angle 5° and 7°	Fine Finishing	M	P	FP			0,03 to 0,45	0,06 to 2,40							
		M	P M S	BO			0,05 to 0,30	0,30 to 1,50							
		M	M S	FM			0,03 to 0,45	0,06 to 2,40							
		M	K	FK			0,03 to 0,30	0,06 to 2,40							
	Fine Finishing wiper	M	P M K S	FW			0,05 to 0,50	0,30 to 3,50							
		M	M S	LM			0,08 to 0,35	0,20 to 3,00							
	Finishing to fine finishing	G	P M S	FS			0,01 to 0,25	0,10 to 3,00							
		G	N	LN			0,05 to 1,60	0,05 to 7,00							
	Medium	M	K	Flat			0,04 to 0,80	0,05 to 6,30							
		M	P	MP			0,06 to 0,60	0,19 to 3,60							
		M	M S	MM			0,06 to 0,60	0,19 to 3,60							
		M	K	MK			0,06 to 0,60	0,19 to 3,60							

\* T-Land varies according to the IC (IC reference used: 12,7mm)

\*\* Cutting Conditions varies according to the Insert shape, IC and Nose Radius

POSITIVES | POSITIVAS | POSITIVAS

Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes							
					at the nose radius	at the flank	Feed F <sub>n</sub> (mm/rev)	Depth of cut DOC (mm)	CC __	DC __	RC __	SC __	TC __	VC __	VB __	
									80°	55°		90°	60°	35°	35°	
POSITIVES - Clearance angle 5° and 7°	Finishing Wiper	M	P M K S	MW			0,10 to 0,50	0,50 to 4,00								
	Medium	M	P M S	CP			0,04 to 0,17	0,50 to 2,40								
	Medium to finishing		P M	RF			0,25 to 2,50	2,50 to 10,00								
	Roughing to Medium		M	P M K	ST			0,05 to 3,20	0,80 to 12,80							
				P M K	RM			0,80 to 2,50	3,20 to 13,00							
				P M	RR			0,80 to 2,50	3,20 to 13,00							
Medium to Roughing	M	M S	GS			0,05 to 4,00	0,40 to 5,00									

\* T-Land varies according to the IC (IC reference used: 12,7mm)  
 \*\* Cutting Conditions varies according to the Insert shape, IC and Nose Radius

Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes	
					at the nose radius	at the flank	Feed F <sub>n</sub> (mm/rev)	Depth of cut DOC (mm)	CC __	DC __
									80°	55°
POSITIVES - Clearance angle 11°	Medium to Finishing	U	P M K S	Flat			0,05 to 2,20	1,00 to 10,00		
	Finishing to Fine Finishing	M	P M K	12			0,03 to 0,55	0,10 to 3,00		
	Medium	M	P M	13			0,03 to 0,55	0,20 to 7,00		

\* T-Land varies according to the IC (IC reference used: 12,7mm)  
 \*\* Cutting Conditions varies according to the Insert shape, IC and Nose Radius

ISO	Material	Grade fn (mm/r) HB (brinell)	CVD Coating														
			← Wear Resistance												Toughness →		
			PHG105			PH5115			PHG115			PH5125			PHG125		
			0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8
P	Unalloyed steel	125-170	280-380	210-300	200-250	240-340	170-260	160-210	250-350	180-270	170-220	190-285	160-230	140-205	200-295	170-240	150-215
	Low-alloy steel	180-350	220-280	200-260	170-210	180-240	160-220	130-170	190-250	170-230	140-180	160-220	130-200	110-180	170-230	140-210	120-190
	High-alloy steel	200-325	165-250	150-235	140-230	125-210	110-195	100-190	135-220	120-205	110-200	115-205	100-175	90-160	125-215	110-185	100-170
P	Material	Grade fn (mm/r) HB (brinell)	CVD Coating						PVD Coating								
			← Wear Resistance						Toughness →			← Wear Resistance			Toughness →		
			PHG140			PH5740			PH7910			PH7920					
			0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8			
P	Unalloyed steel	125-170	135-230	120-210	115-200	125-220	110-200	105-190	140-245	130-225	115-220	130-230	120-220	110-210			
	Low-alloy steel	180-350	125-205	105-185	95-185	115-195	95-175	85-175	130-230	125-225	125-215	125-220	115-210	100-200			
	High-alloy steel	200-325	105-205	75-175	50-135	95-195	65-165	40-125	-	-	-	-	-	-			

ISO	Material	Grade fn (mm/r) HB (brinell)	CVD Coating												
			← Wear Resistance							Toughness →					
			PHS215			PHS225			PHS240						
			0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6				
M	SS - Ferritic/martensitic	200-330	125-260	100-220	80-200	115-230	90-180	70-160	110-230	85-175	70-140				
	SS - Austenitic	180-330	120-255	95-215	75-195	110-225	85-175	65-155	105-225	80-170	65-135				
	SS - Austenitic-ferritic (Duplex)	230-260	110-245	85-205	65-185	100-215	75-165	55-145	95-215	70-160	55-125				
M	Material	Grade fn (mm/r) HB (brinell)	PVD Coating												
			← Wear Resistance											Toughness →	
			PH7910			PHH910			PH7920			PHH920			
			0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6	
M	SS - Ferritic/martensitic	200-330	120-220	110-210	105-205	130-230	120-220	115-215	110-210	100-200	95-195	120-220	110-210	105-205	
	SS - Austenitic	180-330	115-215	105-205	95-195	125-225	115-215	105-205	105-205	95-195	85-185	115-215	105-205	95-195	
	SS - Austenitic-ferritic (Duplex)	230-260	105-202	100-195	90-185	115-212	110-205	100-195	95-192	90-185	80-175	105-202	100-195	90-185	

ISO	Material	Grade fn (mm/r) HB (brinell)	CVD Coating								
			← Wear Resistance						Toughness →		
			PH5705			PH5320			PH5740		
			0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6
K	Marble cast iron	130-230	160-360	140-280	120-235	150-330	130-240	110-220	110-230	100-215	100-190
	Grey cast iron	180-220	220-380	190-330	150-290	200-330	170-280	150-230	150-230	140-220	110-210
	Nodular cast iron	160-380	150-280	135-265	120-220	140-250	125-230	110-220	125-220	115-205	105-185

ISO	Material	Grade fn (mm/r) HB (brinell)	Uncoated	
			PH0910	
			0.15	0.8
N	Aluminium alloys	60-130	375-2400	40-240
	Cooper and cooper alloys	90-110	375-630	35-65

ISO	Material	Grade fn (mm/r) HB (brinell)	PVD Coating											
			← Wear Resistance									Toughness →		
			PH7910			PHH910			PH7920			PHH920		
			0.1	0.3	0.5	0.2	0.4	0.6	0.1	0.3	0.5	0.2	0.4	0.6
S	Heat resistant super alloys (Iron base)	200-280	65-140	60-130	50-110	75-150	70-140	60-120	60-135	55-125	45-105	70-145	65-135	55-115
	Heat resistant super alloys (Nickel base)	250-320	45-120	40-110	30-100	55-130	50-120	40-110	40-115	35-105	25-95	50-125	45-115	35-105
	Heat resistant super alloys (Cobalt base)	200-320	45-115	40-105	30-90	55-125	50-115	40-100	40-110	35-100	25-85	50-120	45-110	35-95
	Titanium alloys (400<-or<-1050[MPa])	-	50-130	45-120	40-100	60-140	55-130	50-110	45-125	40-115	35-95	55-135	50-125	45-105

# SELECTION GUIDE (GRADES AND CHIP-BREAKERS) FOR NEGATIVE INSERTS

Guia De Seleção (Graus E Quebra-Aparas) para pastilhas negativas | Guía De Selección (Calidades Y Rompevirutas) para plaquitas negativas

## SELECTION GUIDE FOR NEGATIVE INSERTS - SINGLE SIDE ...NMM'S

ISO	Material workplace	Stability	Medium		Roughing		Medium roughing		Insert			Holders
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type			Type
P	Unalloy steel HB 110 DIN C15 C45		RP	PH5125 PHG125	RP	PH5125 PHG125	HZ	PH5125 PHG125	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PH5125 PHG125	HY	PH5125 PHG125	HZ	PH5125 PHG125				
			RP	PH5125 PHG125	HY	PH5740 PHG140	HZ	PH5740 PHG140				
	Low Alloyed Steel HB180 DIN 21NiCrM02 36CrNiM04		RP	PH5125 PHG125	RP	PH5125 PHG125	HZ	PH5125 PHG125	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PH5125 PHG125	HY	PH5125 PHG125	HZ	PH5125 PHG125				
			RP	PH5125 PHG125	HY	PH5125 PHG125	HZ	PH5125 PHG125				
	High alloyed steel HB 200 DIN 34CrNiMo6 42CrMo4		RP	PH5125 PHG125	RP	PH5125 PHG125	HZ	PH5125 PHG125	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PH5125 PHG125	HY	PH5125 PHG125	HZ	PH5125 PHG125				
			RP	PH5125 PHG125	HZ	PH5740 PHG140	HZ	PH5740 PHG140				
	High alloyed steel HB 400 DIN X40CrMoV5 X45GrSi93		RP	PH5125 PHG125	RP	PH5125 PHG125	HZ	PH5125 PHG125	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PH5125 PHG125	HY	PH5125 PHG125	HZ	PH5125 PHG125				
			RP	PH5125 PHG125	HZ	PH5125 PHG125	HZ	PH5125 PHG125				
M	Ferritic/ martensitic stainless steel DIN X12CrMoS17 X6CrMo17		RP	PHS225	RP	PHS225	HY	PHS225	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PHS225	HY	PHS225	HY	PHS225				
			RP	PHS225	HY	PHS240	HY	PHS240				
	Austenitic stainless steel DIN X5CrNi189 X5CrNiMo18		RP	PHS225	RP	PHS225	HS	PHS225	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PHS225	RP	PHS225	HY	PHS225				
			RP	PHS225	HY	PHS240	HY	PHS240				
	Duplex stainless steel DIN X2CrNiMoSi19 X8CrNiMo27		RP	PHS225	RP	PHS225	HY	PHS225	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			RP	PHS225	RP	PHS225	HY	PHS240				
			RP	PHS225	HY	PHS240	HY	PHS240				
K	Grey cast iron HB 220 DIN GG15 GG25 GG35		HZ	PH5320	HZ	PH5320	HY	PH5125	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			HZ	PH5320	HZ	PH5320	HY	PH5125				
			HZ	PH5740	HZ	PH5740	HY	PH5740				
	Nodular cast iron HB 180 DIN GGG40 GGG50 GGG70		HZ	PH5320	HZ	PH5320	HY	PH5125	Negative single side  0°	Conventional Nose Radius 	#NMM	D##N M##N M##N-K
			HZ	PH5740	HZ	PH5740	HY	PH5125				
			HZ	PH5740	HZ	PH5740	HY	PH5740				

Stable cutting

General cutting

Unstable cutting

TURNING  
Insert selection  
Overview  
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# SELECTION GUIDE (GRADES AND CHIP-BREAKERS) FOR NEGATIVE INSERTS

## SELECTION GUIDE FOR NEGATIVE INSERTS - DOUBLE SIDE ...NMG'S

ISO	Material workplace	Stability	Medium		Roughing		Medium roughing		Insert			Holders
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type		Type	
P	Unalloyed steel  HB 110  DIN C15 C45 C60		MF	PH5115 PHG115	LC	PH5115 PHG115	MR PM	PH5115 PHG115	Negative double side 	Conventional Nose Radius 	#NMG	D##N M##N M##N-K P##N
			MF	PH5115 PHG115	LC	PH5125 PHG125	MR PM	PH5125 PHG125				
			MF	PH5125 PHG125	LC	PH5125 PHG125	MR	PH5125 PHG125	0° 			
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115				
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115	0° 	Wiper Nose Radius 	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PH5125 PHG125	MW	PH5125 PHG125	MW	PH5125 PHG125				
	Low alloyed Steel  HB 180  DIN 21NiCrMo2 36CrNiMo4 34CrMo4		MF	PH7910	MR PM	PH5115 PHG115	HR	PH5115 PHG115	Negative double side 	Conventional Nose Radius 	#NMG	D##N M##N M##N-K P##N
			MF	PH5115 PHG115	MR PM	PH5125 PHG125	HR	PH5125 PHG125				
			MF	PH5125 PHG125	MR / PM	PH5125 PHG125	HR	PH5125 PHG125	0° 			
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115				
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115	0° 	Wiper Nose Radius 	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PH5125 PHG125	MW	PH5125 PHG125	MW	PH5125 PHG125				
	High alloyed steel  HB 200  DIN 34CrNiMo6 42CrMo4		MF	PH7910	MR / PM	PH5115 PHG115	HR	PH5115 PHG115	Negative double side 	Conventional Nose Radius 	#NMG	D##N M##N M##N-K P##N
			MF	PH5115 PHG115	MR / PM	PH5125 PHG125	HR	PH5125 PHG125				
			MF	PH5125 PHG125	MR / PM	PH5125 PHG125	HR	PH5125 PHG125	0° 			
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115				
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115	0° 	Wiper Nose Radius 	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PH5125 PHG125	MW	PH5125 PHG125	MW	PH5125 PHG125				
	High alloyed steel  HB 400  DIN X40CrMoV5 X45GrS193		MF ST	PH7910 PH5705	MR PM	PH5115 PHG115	HR	PH5115 PHG115	Negative double side 	Conventional Nose Radius 	#NMG	D##N M##N M##N-K P##N
			MF ST	PH5115 PHG115 PH5320 PHG105	MR PM	PH5115 PHG115	HR	PH5115 PHG115				
			MF	PH5115 PHG115	MR PM	PH5125 PHG125	HR	PH5125 PHG125	0° 			
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115				
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5115 PHG115	0° 	Wiper Nose Radius 	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PH5115 PHG115	MW	PH5115 PHG115	MW	PH5125 PHG125				
M	Ferritic/ martensitic stainless steel  DIN X12CrMoS17 X6CrMo17		SF, GS	PH7920 PHH920	SS	PH7920	HR	PHS225	Negative double side 	Conventional Nose Radius 	#NMG	D##N M##N M##N-K
			SF, GS	PH7920 PHH920	SS	PH7920	HR	PHS225				
			SF, GS	PH7920 PHH920	SS	PH7920	HR	PHS240	0° 			
			MW	PHS215	MW	PHS215	-	-				
			MW	PHS215	MW	PHS215	-	-	0° 	Wiper Nose Radius 	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PHS225	MW	PHS240	-	-				

Stable cutting

General cutting

Unstable cutting

DOUBLE SIDE ...NMG'S

ISO	Material workplace	Stability	Medium		Roughing		Medium roughing		Insert			HOLDERS
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type			Type
M	Austenitic stainless steel		GS, SF	PH7920 PHH910	SS	PH7920	HR	PHS225	Negative double side	Conventional Nose Radius	#NMG	D##N M##N M##N-K P##N
			GS, GS	PH7910 PHH7920	SS	PH7920	HR	PHS225				
			GS, SF	PH7920 PHH920	SS	PH7920	HR	PHS240				
			MW	PHS215	MW	PHS215	-	-	Negative double side	Wiper Nose Radius	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PHS215	MW	PHS225	-	-				
			MW	PHS225	MW	PHS240	-	-			0°	
	Duplex stainless steel		GS, SF	PH7920 PHH920	SS	PH7910	HR	PHS225	Negative double side	Conventional Nose Radius	#NMG	D##N M##N M##N-K P##N
			GS, SF	PH7920 PHH920	SS	PH7920	HR	PHS225				
			GS, SF	PH7920 PHH920	SS HR	PHS240	HR	PHS240				
			MW	PHS215	-	-	-	-	Negative double side	Wiper Nose Radius	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			-	-	-	-	-	-				
			-	-	-	-	-	-			0°	
K	Grey cast iron		Flat	PH5705	Flat	PH5320	HR	PH5705	Negative double side	Conventional Nose Radius	#NMG	D##N M##N M##N-K P##N
			ST	PH5320	ST	PH5705	HR	PH5705				
			ST	PH5320	ST	PH5320	HR	PH5320				
			MW	PH5320	MW	PH5320	-	-	Negative double side	Wiper Nose Radius	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PH5320	MW	PH5320	-	-				
			MW	PH5320	MW	PH5320	-	-			0°	
	Nodular cast iron		Flat	PH5705	ST	PH5705	HR	PH5705	Negative double side	Conventional Nose Radius	#NMG	D##N M##N M##N-K P##N
			ST	PH5320	ST	PH5320	HR	PH5320				
			ST	PH5320	ST	PH5320	HR	PH5320				
			MW	PH5320	MW	PH5320	-	-	Negative double side	Wiper Nose Radius	CNMG WNMG	D##N 95° M##N 95° M##N-K 95° P##N 95°
			MW	PH5320	MW	PH5320	-	-				
			MW	PH5320	MW	PH5320	-	-			0°	
S	Titanium Alloys		GS, SF	PH7910 PHH910	MS	PH7910 PHH910	SS	PH7920	Negative double side	Conventional Nose Radius	#NMG	D##N M##N M##N-K P##N
			GS, SF	PH7910 PHH910	MS	PH7910 PHH910	SS	PH7920				
			GS, SF	PH7910 PHH910	MS	PH7910 PHH910	SS	PH7920				

Stable cutting

General cutting

Unstable cutting



# SELECTION GUIDE (GRADES AND CHIP-BREAKERS) FOR NEGATIVE INSERTS

Guia De Seleção (Graus E Quebra-Aparas) para pastilhas negativas | Guía De Selección (Calidades Y Rompevirutas) para plaquitas negativas

## DOUBLE SIDE ...NMG'S

ISO	Material Workplace	Stability	Medium		Roughing		Medium roughing		Insert			HOLDERS
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type			Type
S	Super Alloys  DIN NiCr19Co11MoTi NiFe35Cr14MoTi CoCr20W15Ni		GS, SF	PH7910 PHH910	MS	PH7910 PHH910	SS	PH7920	 0°		#NMG	D##N M##N M##N-K P##N
			GS, SF	PH7910 PHH910	MS SS	PH7910 PHH910	SS	PH7920				
			GS, SF	PH7910 PHH910	MS SS	PH7910 PHH910	SS	PH7920				
N	Aluminium Alloys  DIN AW7075 AlSi12 CuZn37		MS	PH0910	MS	PH0910	-	-	 0°		#NMG	D##N M##N M##N-K P##N
			MS	PH0910	MS	PH0910	-	-				
			MS	PH0910	MS	PH0910	-	-				

Stable cutting      General cutting      Unstable cutting

## SINGLE SIDE...CMT'S, BMT'S, CGT'S, RCMX'S, RCMT'S

ISO	Material Workplace	Stability	Medium		Roughing		Medium roughing		Insert			HOLDERS
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type			Type
P	Unalloyed steel  HB 110  DIN C15 C45 C60		FP	PH5115 PHG115	MP	PH5115 PHG115	MP	PH5115 PHG115		Conventional nose radius	#CMT #BMT	S##C S##B
			FP	PH5115 PHG115	MP	PH5125 PHG125	MP	PH5125 PHG125				
			FP	PH5125 PHG125	MP	PH5125 PHG125	MP	PH5125 PHG125		Wiper nose radius	CCMT	S##C 95°
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
	Low alloyed Steel  HB 180  DIN 21NiCrMo2 36CrNiMo4 34CrMo4		FP	PH5115 PHG115	MP	PH5115 PHG115	MP	PH5115 PHG115		Conventional nose radius	#CMT #BMT	S##C S##B
			FP	PH5115 PHG115	MP	PH5125 PHG125	MP	PH5125 PHG125				
			FP	PH5125 PHG125	MP	PH5125 PHG125	MP	PH5125 PHG125		Wiper nose radius	CCMT	S##C 95°
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
	High alloyed Steel  HB 200  DIN 34CrNiMo6 42CrMo4		FP	PH5115 PHG115	MP	PH5115 PHG115	MP	PH5115 PHG115		Conventional nose radius	#CMT #BMT	S##C S##B
			FP	PH5115 PHG115	MP	PH5125 PHG125	MP	PH5125 PHG125				
		FP	PH5125 PHG125	MP	PH5125 PHG125	MP	PH5125 PHG125		Wiper nose radius	CCMT	S##C 95°	
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
		FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
	FW	PH5115 PHG115	MW	PH5115 PHG115	-	-						
	FW	PH5115 PHG115	MW	PH5115 PHG115	-	-						

Stable cutting      General cutting      Unstable cutting



# SELECTION GUIDE (GRADES AND CHIP-BREAKERS) FOR POSITIVE INSERTS

Guia De Seleção (Graus E Quebra-Aparas) para pastilhas positivas | Guía De Selección (Calidades Y Rompevirutas) para plaquitas positivas

SINGLE SIDE...CMT'S, BMT'S, CGT'S, RCMX'S, RCMT'S

ISO	Material Workplace	Stability	Medium		Roughing		Medium roughing		Insert			Holders	
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type			Type	
P	High alloyed Steel HB 400 DIN X40CrMoV5 X45GrSi93		FP FK	PH5115 PHG115 PH5705	MP MK	PH5115 PHG115 PH5320 PHG105	MP	PH5115 PHG115		Positive single side	Conventional nose radius	#CMT #BMT	S##C S##B
			FP FK	PH5115 PHG115 PH5320 PHG105	MP MK	PH5115 PHG115 PH5320 PHG105	MP	PH5115 PHG115					
			FP	PH5115 PHG115	MP	PH5125 PHG125	MP	PH5125 PHG125					
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-		Positive single side	Wiper nose radius	CCMT	S##C 95°
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-				DCMT TCMT	S##C 93°
			FW	PH5115 PHG115	MW	PH5115 PHG115	-	-					
M	Duplex stainless steel  DIN X2CrNiMoSi19 X8CrNiMo27 X2CrNiMoN22		FM	PH7910	LM MM	PH7910	MM	PHS215		Positive single side	Conventional nose radius	#CMT #BMT	S##C S##B
			FM LM	PH7910	MM	PH7910	MM	PHS215					
			FM LM	PH7920	MM	PH7920	MM	PHS215					
			FW	PH7920	MW	PHS215	-	-		Positive single side	Wiper nose radius	CCMT	S##C 95°
			FW	PH7920	MW	PHS225	-	-				DCMT TCMT	S##C 93°
			-	-	-	-	-	-					
	Austenitic stainless steel  DIN X2CrNiMoSi19 X8CrNiMo27 X2CrNiMoN22		FM LM	PH7910 PHH910	LM MM	PH7910 PHH910	MM	PHS215		Positive single side	Conventional nose radius	#CMT #BMT	S##C S##B
			FM LM	PH7920 PHH920	MM	PH7920 PHH920	MM	PHS215					
			FM LM	PHS225	MM	PHS215	MM	PHS215					
			MW	PH7920	MW	PH7920	-	-		Positive single side	Wiper nose radius	CCMT	S##C 95°
			MW	PHS215	MW	PHS215	-	-				DCMT TCMT	S##C 93°
			MW	PHS215	MW	PHS215	-	-					
	Duplex stainless steel  DIN X2CrNiMoSi19 X8CrNiMo27 X2CrNiMoN22		FM LM	PH7910 PHH910	LM MM	PH7910 PHH910	MM	PHS215		Positive single side	Conventional nose radius	#CMT #BMT	S##C S##B
			FM LM	PH7910	MM	PH7910	MM	PHS215					
			FM LM	PHS225	MM	PHS215	MM	PHS215					
			-	-	-	-	-	-		Positive single side	Wiper nose radius	CCMT	S##C 95°
			-	-	-	-	-	-				DCMT TCMT	S##C 93°
			-	-	-	-	-	-					

Stable cutting

General cutting

Unstable cutting

# SELECTION GUIDE (GRADES AND CHIP-BREAKERS) FOR POSITIVE INSERTS

Guia De Seleção (Graus E Quebra-Aparas) para pastilhas positivas | Guía De Selección (Calidades Y Rompevirutas) para plaquitas positivas

## SINGLE SIDE ...CMT'S, BMT'S, CGT'S, RCMX'S, RCMT'S

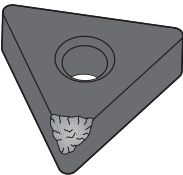
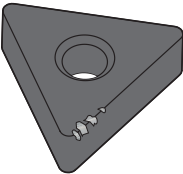
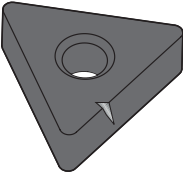
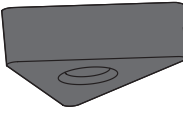
ISO	Material Workplace	Stability	Medium		Roughing		Medium roughing		Insert			Holders
			Chip-breaker	Grade	Chip-breaker	Grade	Chip-breaker	Grade	Type		Type	
K	Grey cast iron HB 220 DIN GG15 GG25 GG35	●	FK	PH5705	MK	PH5705	MK	PH5705	Positive single side 	Conventional nose radius 	#CMT #BMT	S##C S##B
			FK	PH5705	MK	PH5705	MK	PH5320				
		⚙	MK	PH5320	MK	PH5320	MK	PH5320	Positive single side 	Wiper nose radius 	CCMT	S##C 95°
			FW	PH5705	MW	PH5320	-	-				
		●	FW	PH5705	MW	PH5320	-	-	Positive single side 	Wiper nose radius 	DCMT TCMT	S##C 93°
			MW	PH5320	MW	PH5320	-	-				
	Nodular Cast Iron HB 220 DIN GG15 GG25 GG35	●	FK	PH5705	MK	PH5320	MK	PH5320	Positive single side 	Conventional nose radius 	#CMT #BMT	S##C S##B
			FK	PH5705	MK	PH5320	MK	PH5320				
		⚙	MK	PH5320	MK	PH5320	MK	PH5320	Positive single side 	Wiper nose radius 	CCMT	S##C 95°
			FW	PH5705	MW	PH5320	-	-				
		●	FW	PH5705	MW	PH5320	-	-	Positive single side 	Wiper nose radius 	DCMT TCMT	S##C 93°
			MW	PH5320	MW	PH5320	-	-				
S	Titanium Alloys DIN TiAl5Sn2.5 TiAl6V4 TiAl6V4ELI	●	FS	PHH910	FM	PHH910	MM	PH7920	Positive single side 	Conventional nose radius 	#CMT #BMT	S##C S##B
			FM	PH7920	MM	PH7920	MM	PH7920				
		⚙	MM	PH7920	MM	PH7920	MM	PH7920	Positive single side 	Wiper nose radius 	CCMT	S##C 95°
			FW	PH7920	FW	PH7920	-	-				
		●	FW	PH7920	MW	PH7920	-	-	Positive single side 	Wiper nose radius 	DCMT TCMT	S##C 93°
			MW	PH7920	MW	PH7920	-	-				
	Super alloys DIN NiCr19Co11MoTi NiFe35Cr14MoTi CoCr20W15Ni	●	FS	PHH910	FM	PHH910	MM	PHH920	Positive single side 	Conventional nose radius 	#CMT #BMT	S##C S##B
			FM	PHH920	FM	PHH920	FM	PHH920				
		⚙	MM	PHH920	MM	PHH920	MM	PHH920	Positive single side 	Wiper nose radius 	CCMT	S##C 95°
			FW	PH7920	FW	PH7920	-	-				
		●	FW	PH7920	MW	PH7920	-	-	Positive single side 	Wiper nose radius 	DCMT TCMT	S##C 93°
			MW	PH7920	MW	PH7920	-	-				
N	Aluminium Alloys DIN AW7075 AISI12 CuZn37	●	LN	PH0910	LN	PH0910	-	-	Positive single side 	Conventional nose radius 	#CMT #BMT	S##C S##B
		●	LN	PH0910	LN	PH0910	-	-				
		⚙	LN	PH0910	LN	PH0910	-	-				

● Stable cutting

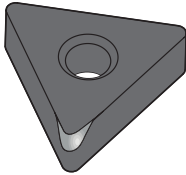
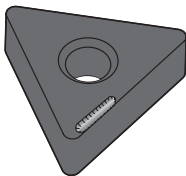
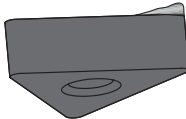
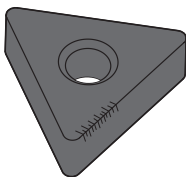
⚙ General cutting

⚙ Unstable cutting

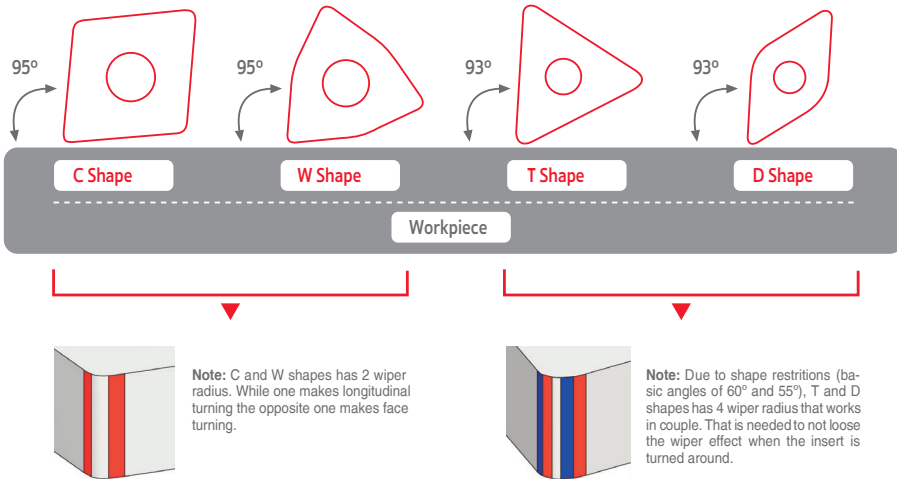
TOOL LIFE PROBLEMS | Problemas na vida útil da ferramenta | Problemas con la vida útil de la herramienta

Problem   Problema	Possible Solution   Solução   Solución		
<ul style="list-style-type: none"> <li>• Breakage or too short tool life</li> <li>• Rótura ou vida útil muito curta</li> <li>• Rótura o vida de la herramienta demasiado corto</li> </ul>	<ul style="list-style-type: none"> <li>• Step 1. Reduce the cutting conditions (first feed rate, then cutting depth).</li> <li>• Step 2. Look at the wear pattern on the insert and use the table below as a guideline for improvement.</li> <li>• Passo 1. Reduza as condições de corte (primeiro o avanço / rotação depois a profundidade de corte).</li> <li>• Passo 2. Verique o desgaste da pastilha e use as recomendações abaixo para otimizar a operação.</li> <li>• Paso 1. Reducir las condiciones de corte (primero el avance, después la profundidad de corte).</li> <li>• Paso 2. Comprobar el patrón de desgaste en la plaquita y usar la siguiente tabla como guía para la mejora.</li> </ul>		
<ul style="list-style-type: none"> <li>• Insert fracture</li> <li>• Fratura da Pastilha</li> <li>• Fractura de la Plaquita</li> </ul> 	<ul style="list-style-type: none"> <li>• Reduce the feed rate (Fn).</li> <li>• Reduce the depth of cut (Ap).</li> <li>• Select a tougher grade (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Use a more rigid toolholder.</li> <li>• Increase nose radius (Re).</li> <li>• Select a stronger chipbreaker.</li> <li>• Reduce the toolholder length.</li> <li>• Select larger shank size.</li> <li>• Reduza o avanço/rotação (Fn).</li> <li>• Reduza a profundidade de corte (Ap).</li> <li>• Selecione uma classe mais tenaz (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Use um suporte mais rígido.</li> <li>• Aumente o raio de canto (Re).</li> <li>• Selecione um quebra- aparas mais resistente.</li> <li>• Reduza o comprimento do suporte.</li> <li>• Escolha uma largura de haste superior.</li> <li>• Reducir el avance (Fn).</li> <li>• Reducir la profundidad de corte (Ap).</li> <li>• Seleccionar una calidad más tenaz (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Utilice un portaherramientas más rígido.</li> <li>• Aumente el radio de punta (Re).</li> <li>• Seleccionar un rompevirutas más robusto.</li> <li>• Reducir la longitud del portaherramientas.</li> <li>• Elija un ancho de vara superior.</li> </ul>		
<ul style="list-style-type: none"> <li>• Edge chipping</li> <li>• Fragmentação da aresta</li> <li>• Fragmentación de la arista</li> </ul> 	<ul style="list-style-type: none"> <li>• Increase the cutting speed (Vc).</li> <li>• Reduce the feed rate (Fn).</li> <li>• Select a stronger chipbreaker.</li> <li>• Select a tougher grade (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Reduce the rake angle.</li> <li>• Increase honing edges.</li> <li>• Reduce the toolholder length.</li> <li>• Select larger shank size.</li> <li>• Aumente a velocidade de corte (Vc).</li> <li>• Reduza o avanço/rotação (Fn).</li> <li>• Selecione um quebra- aparas mais resistente.</li> <li>• Selecione uma classe mais tenaz (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Diminua o ângulo de ataque.</li> <li>• Aumente arestas boleadas.</li> <li>• Reduza o comprimento do suporte.</li> <li>• Escolha uma largura de haste superior.</li> <li>• Reducir el ángulo de ataque.</li> <li>• Aumentar aristas redondeadas.</li> <li>• Reducir la longitud del portaherramientas.</li> <li>• Elija un ancho de vara superior.</li> <li>• Aumentar la velocidad de corte (Vc).</li> <li>• Reducir el avance (Fn).</li> <li>• Seleccionar un rompevirutas más robusto.</li> <li>• Seleccionar una calidad más tenaz (ex: P10 -&gt; ... -&gt; P40).</li> </ul>		
<ul style="list-style-type: none"> <li>• Notch wear</li> <li>• Desgaste de entalhe</li> <li>• Mellado</li> </ul> 	<ul style="list-style-type: none"> <li>• Reduce the cutting speed (Vc).</li> <li>• Reduce the feed rate (Fn).</li> <li>• Select a tool with a smaller setting angle (Kr°).</li> <li>• Select a more wear-resistant grade (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Reduza a velocidade de corte (Vc).</li> <li>• Reduza o avanço/rotação (Fn).</li> <li>• Selecione uma ferramenta com um ângulo de posição menor (Kr°).</li> <li>• Selecione uma classe mais resistente ao desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Reducir la velocidad de corte (Vc).</li> <li>• Reducir el avance (Fn).</li> <li>• Seleccionar una herramienta con un ángulo de posición menor (Kr°).</li> <li>• Seleccionar una calidad más resistente al desgaste (ex: P40 -&gt; ... -&gt; P10).</li> </ul>		
<ul style="list-style-type: none"> <li>• Plastic deformation</li> <li>• Deformação plástica</li> <li>• Deformación plástica</li> </ul> 	<ul style="list-style-type: none"> <li>• Reduce the cutting speed (Vc).</li> <li>• Reduce the feed rate (Fn).</li> <li>• Select a more wear-resistant grade (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Use more coolant and correct it volume/accuracy.</li> <li>• Choose grade with better heat conductivity.</li> <li>• Increase the rake angle.</li> <li>• Increase nose radius (Re).</li> <li>• Increase relief angle.</li> <li>• Reduza a velocidade de corte (Vc).</li> <li>• Reduza o avanço/rotação (Fn).</li> <li>• Selecione uma classe mais resistente ao desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Utilize refrigeração em abundância e corrija o seu volume/precisão.</li> <li>• Escolha um grau com melhor condutividade térmica.</li> <li>• Aumente o ângulo de ataque.</li> <li>• Aumente o raio de canto (Re).</li> <li>• Aumente o ângulo de alívio superior.</li> <li>• Reducir la velocidad de corte (Vc).</li> <li>• Reducir el avance (Fn).</li> <li>• Seleccionar una calidad más resistente al desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Usar abundante caudal de refrigerante y corregir el volumen / precisión.</li> <li>• Elija un grado con una mejor conductividad térmica.</li> <li>• Aumente el ángulo de ataque.</li> <li>• Aumente el radio de punta (Re).</li> <li>• Aumente el ángulo de alívio superior.</li> </ul>		

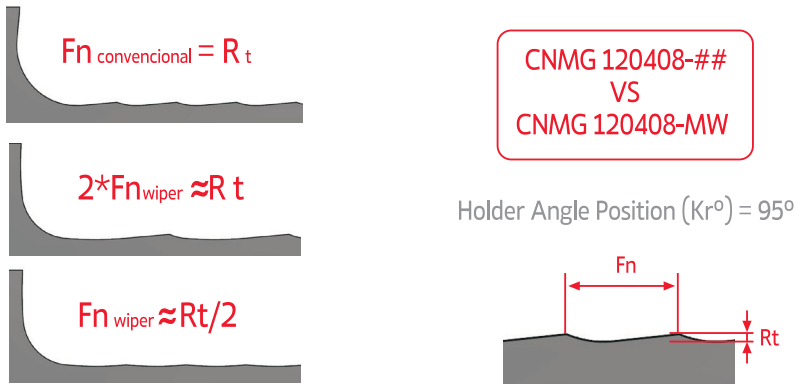
TOOL LIFE PROBLEMS | Problemas na vida útil da ferramenta | Problemas con la vida útil de la herramienta

Problem   Problema	Possible Solution   Solução   Solución		
<ul style="list-style-type: none"> <li>• Flank wear</li> <li>• Desgaste do flanco</li> <li>• Desgaste de la superficie</li> </ul> 	<ul style="list-style-type: none"> <li>• Reduce the cutting speed (Vc).</li> <li>• Select a more wear-resistant grade (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Select a toolholder or chipbreaker which allow a bigger relief angle.</li> <li>• Increase the rake angle.</li> <li>• Increase nose radius (Re).</li> <li>• Reduce honing edges.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduza a velocidade de corte (Vc).</li> <li>• Selecione uma classe mais resistente ao desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Selecione um suporte ou quebra-apanas que permita um ângulo de alívio superior.</li> <li>• Aumente o ângulo de ataque.</li> <li>• Aumente o raio de canto (Re).</li> <li>• Reduza arestas boleadas.</li> </ul>	<ul style="list-style-type: none"> <li>• Reducir la velocidad de corte (Vc).</li> <li>• Seleccionar una calidad más resistente al desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Seleccionar un portaherramientas o rompevirutas que permiten un ángulo de alivio superior.</li> <li>• Aumente el ángulo de ataque.</li> <li>• Aumente el radio de punta (Re).</li> <li>• Reducir aristas redondeadas.</li> </ul>
<ul style="list-style-type: none"> <li>• Crater wear</li> <li>• Craterização</li> <li>• Craterización</li> </ul> 	<ul style="list-style-type: none"> <li>• Reduce the cutting speed (Vc).</li> <li>• Reduce the feed rate (Fn).</li> <li>• Select a more wear-resistant grade (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Use coolant.</li> <li>• Increase the rake angle.</li> <li>• Increase nose radius (Re).</li> </ul>	<ul style="list-style-type: none"> <li>• Reduza a velocidade de corte (Vc).</li> <li>• Reduza o avanço/rotação (Fn).</li> <li>• Selecione uma classe mais resistente ao desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Utilize refrigeração.</li> <li>• Aumente o ângulo de ataque.</li> <li>• Aumente o raio de canto (Re).</li> </ul>	<ul style="list-style-type: none"> <li>• Reducir la velocidad de corte (Vc).</li> <li>• Reducir el avance (Fn).</li> <li>• Seleccionar una calidad más resistente al desgaste (ex: P40 -&gt; ... -&gt; P10).</li> <li>• Usar refrigerante.</li> <li>• Aumente el ángulo de ataque.</li> <li>• Aumente el radio de punta (Re).</li> </ul>
<ul style="list-style-type: none"> <li>• Built-up edge</li> <li>• Aresta postiça</li> <li>• Recrecimiento del filo</li> </ul> 	<ul style="list-style-type: none"> <li>• Increase the cutting speed (Vc).</li> <li>• Reduce the feed rate (Fn).</li> <li>• Use water-insoluble coolant fluid.</li> <li>• Select a more easy-cutting chipbreaker.</li> <li>• Increase the rake angle.</li> <li>• Reduce honing edges.</li> <li>• Select grade with low tendency to adhesion.</li> </ul>	<ul style="list-style-type: none"> <li>• Aumente a velocidade de corte (Vc).</li> <li>• Reduza o avanço/rotação (Fn).</li> <li>• Utilize fluido refrigerante insolúvel em água.</li> <li>• Selecione um quebra-apanas mais positivo.</li> <li>• Aumente o ângulo de ataque.</li> <li>• Reduza arestas boleadas.</li> <li>• Selecione um grau com baixa tendência a aderência.</li> </ul>	<ul style="list-style-type: none"> <li>• Aumentar la velocidad de corte (Vc).</li> <li>• Reducir el avance (Fn).</li> <li>• Utilice fluido refrigerante insoluble en agua.</li> <li>• Seleccionar un rompevirutas de corte más suave.</li> <li>• Aumente el ángulo de ataque.</li> <li>• Reducir aristas redondeadas.</li> <li>• Seleccionar un grado con baja tendencia a la adhesión.</li> </ul>
<ul style="list-style-type: none"> <li>• Thermal cracks</li> <li>• Trincas térmicas</li> <li>• Grietas en el filo</li> </ul> 	<ul style="list-style-type: none"> <li>• Reduce the cutting speed (Vc).</li> <li>• Increase the feed rate (Fn).</li> <li>• Use more coolant and correct it volume/accuracy.</li> <li>• Reduce honing edges.</li> <li>• Select a tougher grade (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Increase the rake angle.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduza a velocidade de corte (Vc).</li> <li>• Aumente o avanço/rotação (Fn).</li> <li>• Utilize refrigeração em abundância e corrija o seu volume/precisão.</li> <li>• Reduza arestas boleadas.</li> <li>• Selecione uma classe mais tenaz (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Aumente o ângulo de ataque.</li> </ul>	<ul style="list-style-type: none"> <li>• Reducir la velocidad de corte (Vc).</li> <li>• Aumentar el avance (Fn).</li> <li>• Usar abundante caudal de refrigerante y corregir el volumen / precisión.</li> <li>• Reducir aristas redondeadas.</li> <li>• Seleccionar una calidad más tenaz (ex: P10 -&gt; ... -&gt; P40).</li> <li>• Aumente el ángulo de ataque.</li> </ul>

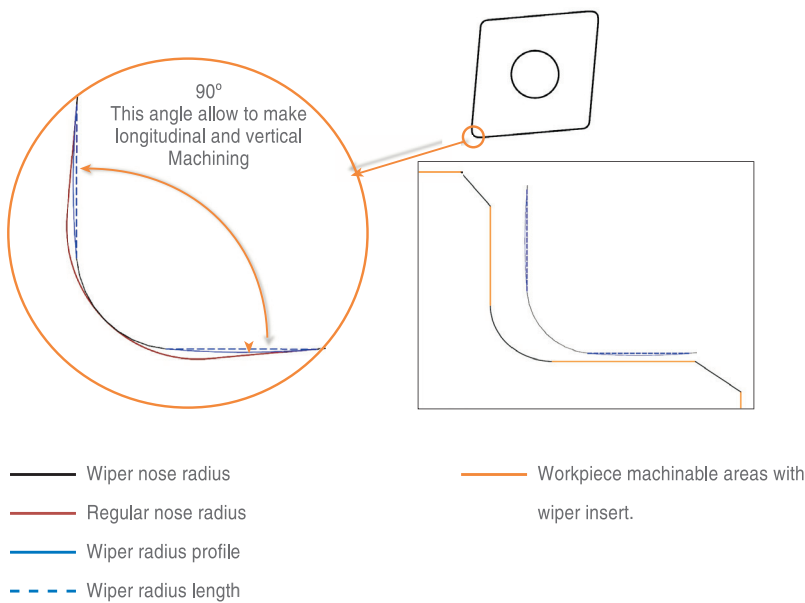
THE ANGLE POSITION (KR°)



THE WIPER PURPOSE IS BASED ON PRODUCTIVITY:



EXAMPLE CNMG 120404-MW WITH ANGLE POSITION OF 95°



**Note:** wiper radius length must be parallel to machinable workpiece areas.