



# TOOL HOLDING SOLUTIONS

PRECISION AND PERFORMANCE IN EVERY CLAMPING



# PRECISION TOOL HOLDING SOLUTIONS

Soluções de precisão de fixação de ferramentas | Soluciones de precisión de fijación de herramientas

Palbit continues to expand its product range to meet the evolving demands of precision machining. Committed to high-quality tooling solutions, we now offer a comprehensive selection of tool holding solutions designed for superior performance and reliability. Engineered with high-precision standards, our holders ensure stability, accuracy, and durability in demanding applications. With optimized designs they minimize run-out, enhance tool life, and improve machining productivity.

This new range complements our existing portfolio, providing a complete solution for high-performance operations. Whether you require enhanced rigidity, superior clamping force, or high-speed capabilities, our toolholders consistently deliver optimal results across various applications.

## SK Steep Taper Holders

Designed for high-precision machining, SK holders provide excellent stability and strength, making them ideal for general applications. Their steep taper design ensures firm tool clamping and high torsional rigidity. Cost-effective and robust, SK holders are perfect for demanding environments, where rigidity and durability are crucial.



## BT MAS-BT Holders

Known for their symmetrical design, BT holders offer superior balance and reduced vibration, making them highly suitable for high-speed machining. The symmetrical design enhances performance and precision, leading to improved surface finishes and longer tool life. BT holders are ideal for industries requiring consistent performance at elevated speeds.



## HSK Hollow Shank Taper Holders

Engineered for exceptional rigidity and accuracy, HSK holders provide optimal performance in high-speed and high-precision applications. With dual contact between the spindle face and taper, HSK tapers maintain superior clamping force and minimal tool deflection at high spindle speeds due to face-and-taper contact. Their unique hollow design ensures consistent results, making them indispensable in precision industries. HSK holders are ideal for industries requiring minimal run-out and maximum spindle connection rigidity.



# TOOLHOLDER VARIANTS AND APPLICATIONS

Variantes de suportes e suas aplicações | Variantes de soporte y sus aplicaciones

To provide a complete and versatile tooling solution, Palbit offers a wide range of toolholders compatible with the most widely used international standards. Each category of toolholder ensures optimal clamping performance, rigidity, and precision for various machining operations.

The following toolholder types are available for ISO 7388-1, ISO 7388-2, and 12164-1 HSK systems:



## **COLLET CHUCKS** for collets ISO 15488 (DIN 6499) ER-system

A versatile and precise clamping system for cylindrical shanks.



## **END MILL HOLDERS DIN 6359** for end mills DIN 1835-B

Designed for heavy machining and secure tool holding, preventing tool pull-out.



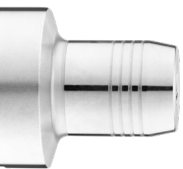
## **SHELL MILL HOLDERS DIN 6357**

Developed to ensure excellent tool stability while minimising runout and vibrations.



## **MILLING ARBORS** for screw-in cutters

Provides excellent stability and support for screw-in milling cutters, allowing for quick tool changes.



## **HYDRAULIC EXPANSION CHUCKS**

Offers exceptional machining performance and superior vibration damping.



## **SHRINK CHUCKS 4.5°**

Engineered for high clamping force and excellent runout accuracy. Suitable for high-speed machining.

# TOOL HOLDING SOLUTIONS OVERVIEW

Guia de soluções de fixação de ferramentas | Guía de soluciones de fijación de herramientas

## TOOLHOLDERS ISO 7388-1 SK

(DIN 69871)

|                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
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## TOOLHOLDERS ISO 7388-2 BT

(JIS B 6339 MAS-BT)

|                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                      |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
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## TOOLHOLDERS ISO 12164-1 HSK

(DIN 69893 HSK)

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
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## SPARE PARTS

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Collets                                                                             | Pull studs                                                                          | Clamping screws                                                                     | Screws DIN 912                                                                      | Retaining screws                                                                      | Wrenches                                                                              |
|  |  |  |  |  |  |
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# TECHNICAL SPECIFICATIONS & QUALITY STANDARDS

Especificações técnicas e normas de qualidade | Especificaciones técnicas y normas de calidad

Palbit tool holding solutions are designed and manufactured with superior craftsmanship, ensuring reliability and precision in every operation. Our commitment to excellence guarantees high-performance solutions that meet the most demanding machining requirements.

## SPECIFICATIONS

- All holders are made of forged steel
- Specific, low warpage hardened
- Surface hardened HRC  $60 \pm 2$
- Hardening depth  $0,8 \text{ mm} \pm 0,2 \text{ mm}$
- Black-finished and precisionground
- Taper angle tolerance  $< AT 3$  according to DIN 7187 and DIN 2080
- Max. runout less than  $0,003 \text{ mm}$
- Surface roughness Rz less than  $0,5 \mu$
- Tensile strength in the core of min.  $800 \text{ N/mm}^2$
- Dynamically balanced by default G 6,3 / 15.000 U/min

## QUALITY

- We deliver quality at the highest level
- 100 % quality control
- Unbeatable price-performance ratio
- Quality management according to DIN EN ISO 9001 and IATF 16949
- Environment management according to DIN EN ISO 14001



# CODE KEY FOR TOOL HOLDING SOLUTIONS

Codificação das soluções de fixação de ferramentas | Codificación de las soluciones de fijación de herramientas

|             |           |   |           |           |   |            |   |          |
|-------------|-----------|---|-----------|-----------|---|------------|---|----------|
| <b>HSKA</b> | <b>63</b> | - | <b>SH</b> | <b>18</b> | - | <b>095</b> | - | <b>B</b> |
| <b>1</b>    | <b>2</b>  |   | <b>3</b>  | <b>4</b>  |   | <b>5</b>   |   | <b>6</b> |

| 1 - Coupling type |  |  |    |  |  |       |  |  |  |  |  |
|-------------------|--|--|----|--|--|-------|--|--|--|--|--|
| SK                |  |  | BT |  |  | HSKA  |  |  |  |  |  |
| SK                |  |  | BT |  |  | HSK-A |  |  |  |  |  |

| 2 - Coupling type dimensions |    |    |    |    |    |      |    |    |    |    |     |
|------------------------------|----|----|----|----|----|------|----|----|----|----|-----|
| SK                           |    |    | BT |    |    | HSKA |    |    |    |    |     |
| 30                           | 40 | 50 | 30 | 40 | 50 | 32   | 40 | 50 | 63 | 80 | 100 |

| 3 - Shank type        |           |        |           |                  |                                        |
|-----------------------|-----------|--------|-----------|------------------|----------------------------------------|
| AB                    | ER        | HB     | HY        | SH               | TM                                     |
| Arbor<br>(Shell mill) | ER-System | Weldon | Hydraulic | Shrink fit chuck | Milling arbors for screw<br>in cutters |

| 4 - Shank type dimensions   |
|-----------------------------|
| <b>Example : 18</b> = 18 mm |

| 5 - Length of shank          |
|------------------------------|
| <b>Example : 095</b> = 95 mm |

| 6 - Coolant type (supressed when does not exist) |                  |              |              |
|--------------------------------------------------|------------------|--------------|--------------|
| B                                                |                  | D            |              |
| SK                                               | BT               | SK           | BT           |
| AD/AF - internal                                 | JD/JF - internal | AD - central | AD - central |



# TOOLHOLDERS ISO 7388-1

(DIN 69871)

Suportes ISO 7388-1 (DIN 69871)

Portaherramientas ISO 7388-1 (DIN 69871)

ISO 7388-1



## CODE KEY FOR TOOLHOLDERS ISO 7388-1 (DIN 69871)

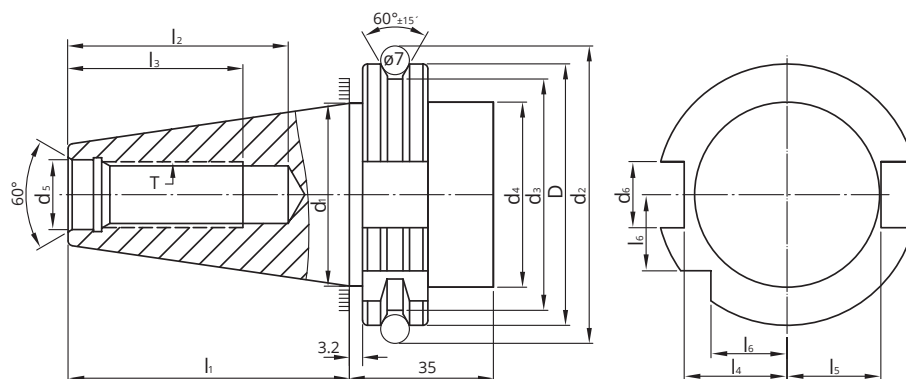
Codificação para suportes ISO 7388-1 (DIN 69871) | Codificación para portaherramientas ISO 7388-1 (DIN 69871)

Form AD | AD/AF

## PRE-BALANCED

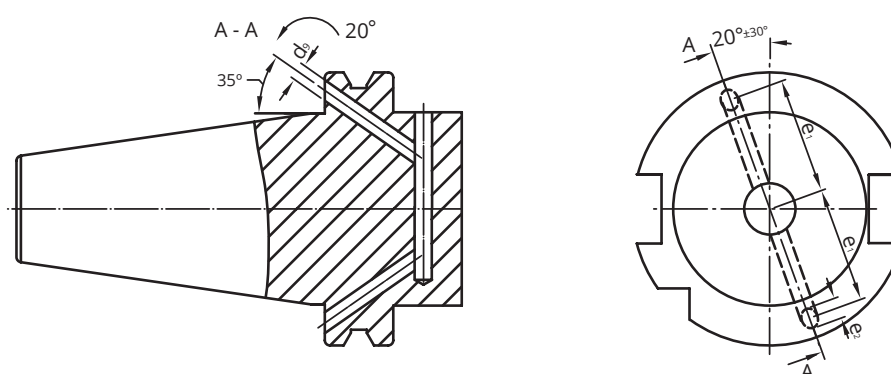
**Balance quality grade: G 6,3 | 15 000 min<sup>-1</sup>**

**Fine balancing at extra charge: G 2,5**



| Dimensions (mm) |                |       |             |                 |           |          |           |    |                 |           |           |                 |                 |                 |            |           |      |
|-----------------|----------------|-------|-------------|-----------------|-----------|----------|-----------|----|-----------------|-----------|-----------|-----------------|-----------------|-----------------|------------|-----------|------|
| SK              | D<br>0<br>-0,1 | d1    | d2<br>±0,05 | d3<br>0<br>±0,5 | d4<br>max | d5<br>H7 | d6<br>H12 | d9 | l1<br>0<br>-0,3 | l2<br>min | l3<br>min | l4<br>0<br>-0,4 | l5<br>0<br>-0,4 | l6<br>0<br>-0,3 | e1<br>±0,1 | e2<br>max | CRVS |
| 30              | 50             | 31,75 | 59,3        | 44,3            | 45        | 13       | 16,1      | 4  | 47,8            | 33,5      | 24        | 19              | 16,4            | 15              | 21         | 5         | M12  |
| 40              | 63,55          | 44,45 | 72,3        | 56,25           | 50        | 17       | 16,1      | 4  | 68,4            | 42,5      | 32        | 25              | 22,8            | 18,5            | 27         | 5         | M16  |
| 50              | 97,5           | 69,85 | 107,25      | 91,25           | 80        | 25       | 25,7      | 6  | 101,75          | 61,5      | 47        | 37,7            | 35,5            | 30              | 42         | 7         | M24  |

With internal coolant through the collar - form AD/AF



**Material :** Alloyed case-hardened steel, tensile core strength of min. 950 N/mm<sup>2</sup>.  
Case hardened HRC 60 ± 2 (HV 700 ± 50), hardening depth 0,8 mm ± 0,2 mm, black-finished and precisely grinded.

**Form AD/AF :** Delivery in form AD, type AF (B) closed with releasable headless screws.

**Accuracy :** Quality of taper < AT 3 according to DIN 7187 and DIN 2080.

# TOOLHOLDERS ISO 7388-1 (DIN 69871) - INDEX

Suportes ISO 7388-1 (DIN 69871) - Índice | Portaherramientas ISO 7388-1 (DIN 69871) - Índice



Collet chucks for collets ISO 15488 (DIN 6499) ER-system

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End mill holders DIN 6359 for end mills DIN 1835-B

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Shell mill holders DIN 6357 with enlarged contact face and coolant exit bores on the end face

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Milling arbors for screw-in cutters

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Hydraulic expansion chucks

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Shrink chucks 4,5° for mounting of solid carbide and HSS-tool shanks

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# COLLET CHUCKS for collets ISO 15488 (DIN 6499) ER-system

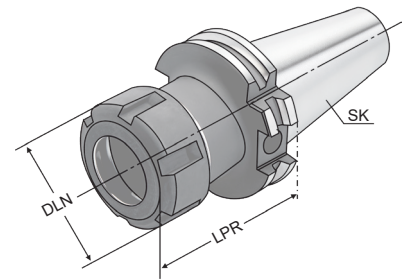
Mandris de aperto para pinças ISO 15488 (DIN 6499) Sistema ER | Mandriles de fijación para pinzas ISO 15488 (DIN 6499) Sistema ER

ISO 7388-1 (DIN 69871)  
AD | AD/AF



Run-out:  $\nless 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools in collets

| Order code | Reference       | Dimensions (mm) |        |          |     |     |          |
|------------|-----------------|-----------------|--------|----------|-----|-----|----------|
|            |                 | Type            | Collet | Capacity | LPR | DLN | THID     |
| 211322500  | SK30-ER16-070-D | SK30            | ER 16  | 1-10     | 70  | 32  | M10x1,5  |
| 211321700  | SK30-ER20-070-D | SK30            | ER 20  | 2-13     | 70  | 35  | M12x1,75 |
| 211321800  | SK30-ER25-070-D | SK30            | ER 25  | 2-16     | 70  | 42  | M16x2,0  |
| 211321900  | SK30-ER32-070-D | SK30            | ER 32  | 2-20     | 70  | 50  | M16x2,0  |
| 211322000  | SK30-ER40-070-D | SK30            | ER 40  | 3-26     | 70  | 63  | M16x2,0  |
| 211324700  | SK40-ER16-063-B | SK40            | ER 16  | 1-10     | 63  | 32  | M10x1,5  |
| 211324900  | SK40-ER20-070-B | SK40            | ER 20  | 2-13     | 70  | 35  | M12x1,75 |
| 211325100  | SK40-ER25-060-B | SK40            | ER 25  | 2-16     | 60  | 42  | M16x2,0  |
| 211325300  | SK40-ER32-070-B | SK40            | ER 32  | 2-20     | 70  | 50  | M16x2,0  |
| 211325500  | SK40-ER40-080-B | SK40            | ER 40  | 3-26     | 80  | 63  | M16x2,0  |
| 211325800  | SK50-ER16-070-B | SK50            | ER 16  | 1-10     | 70  | 32  | M10x1,5  |
| 211325900  | SK50-ER20-070-B | SK50            | ER 20  | 2-13     | 70  | 35  | M12x1,75 |
| 211326000  | SK50-ER25-060-B | SK50            | ER 25  | 2-16     | 60  | 42  | M16x2,0  |
| 211326100  | SK50-ER32-070-B | SK50            | ER 32  | 2-20     | 70  | 50  | M16x2,0  |
| 211326200  | SK50-ER40-080-B | SK50            | ER 40  | 3-26     | 80  | 63  | M16x2,0  |

Delivered with balanced clamping nut.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Collet                                                                                | Key                                                                                   | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  * |  * |  * |
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\*Order separately

# END MILL HOLDERS DIN 6359 for end mills DIN 1835-B

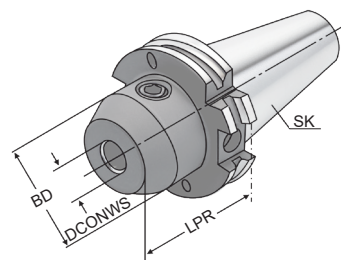
Suportes DIN 6359 para fresas integrais DIN 1835-B | Portaherramientas DIN 6359 para fresas integrales DIN 1835-B

ISO 7388-1 (DIN 69871)  
AD/AF



Run-out:  $\nless 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools with lateral flat according to DIN 1835 form B (Weldon)

| Order code | Reference       | Dimensions (mm) |        |         |     |    |
|------------|-----------------|-----------------|--------|---------|-----|----|
|            |                 | Type            | DCONWS | TDCONWS | LPR | BD |
| 211332400  | SK40-HB06-050-B | SK40            | 6      | H4      | 50  | 25 |
| 211332600  | SK40-HB08-050-B | SK40            | 8      | H4      | 50  | 28 |
| 211332800  | SK40-HB10-050-B | SK40            | 10     | H4      | 50  | 35 |
| 211333100  | SK40-HB12-050-B | SK40            | 12     | H4      | 50  | 42 |
| 211333300  | SK40-HB14-050-B | SK40            | 14     | H4      | 50  | 44 |
| 211333500  | SK40-HB16-063-B | SK40            | 16     | H4      | 63  | 48 |
| 211333700  | SK40-HB18-063-B | SK40            | 18     | H4      | 63  | 50 |
| 211333900  | SK40-HB20-063-B | SK40            | 20     | H4      | 63  | 52 |
| 211334000  | SK40-HB25-100-B | SK40            | 25     | H4      | 100 | 65 |
| 211334100  | SK40-HB32-100-B | SK40            | 32     | H4      | 100 | 72 |
| 211334200  | SK40-HB40-120-B | SK40            | 40     | H4      | 120 | 80 |
| 211418900  | SK50-HB06-063-B | SK50            | 6      | H4      | 63  | 25 |
| 211419000  | SK50-HB08-063-B | SK50            | 8      | H4      | 63  | 28 |
| 211419100  | SK50-HB10-063-B | SK50            | 10     | H4      | 63  | 35 |
| 211419200  | SK50-HB12-063-B | SK50            | 12     | H4      | 63  | 42 |
| 211419300  | SK50-HB14-063-B | SK50            | 14     | H4      | 63  | 44 |
| 211335400  | SK50-HB16-063-B | SK50            | 16     | H4      | 63  | 48 |
| 211335600  | SK50-HB18-063-B | SK50            | 18     | H4      | 63  | 50 |
| 211335800  | SK50-HB20-063-B | SK50            | 20     | H4      | 63  | 52 |
| 211335900  | SK50-HB25-080-B | SK50            | 25     | H4      | 80  | 65 |
| 211336000  | SK50-HB32-100-B | SK50            | 32     | H4      | 100 | 72 |
| 211336100  | SK50-HB40-100-B | SK50            | 40     | H4      | 100 | 80 |
| 211419400  | SK50-HB50-120-B | SK50            | 50     | H4      | 120 | 99 |

**NOTE:** For DCONWS  $\geq$  25 mm, two clamping screws are required.

Delivered with clamping screw.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Clamping screw                                                                      | Pull stud *                                                                         |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|             |  |  |
| Page        | 52                                                                                  | 45                                                                                  |

\*Order separately

# SHELL MILL HOLDERS DIN 6357 with enlarged contact face and coolant exit bores on the end face

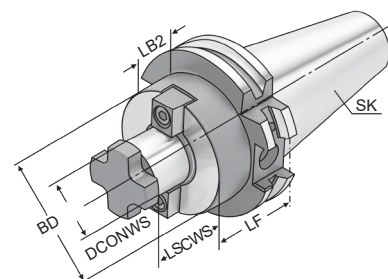
Suportes DIN 6357 com face de contacto alargada e orifícios de saída do líquido de refrigeração na face final | Portaherramientas DIN 6357 con faceta de contacto ampliada y orificios de salida de refrigerante en la faceta frontal

ISO 7388-1 (DIN 69871)  
AD/AF



Run-out:  $\nabla \leq 0,005 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting milling cutters with transversal groove

| Order code | Reference       | Dimensions (mm) |        |         |    |       |      |     |
|------------|-----------------|-----------------|--------|---------|----|-------|------|-----|
|            |                 | Type            | DCONWS | TDCONWS | LF | LSCWS | LB2  | BD  |
| 211342200  | SK40-AB16-035-B | SK40            | 16     | h6      | 35 | 17    | 15,9 | 38  |
| 211342300  | SK40-AB22-035-B | SK40            | 22     | h6      | 35 | 19    | 15,9 | 48  |
| 211342400  | SK40-AB27-040-B | SK40            | 27     | h6      | 40 | 21    | 20,9 | 58  |
| 211342500  | SK40-AB32-050-B | SK40            | 32     | h6      | 50 | 24    | 30,9 | 78  |
| 211342600  | SK40-AB40-050-B | SK40            | 40     | h6      | 50 | 27    | 30,9 | 88  |
| 211343700  | SK50-AB16-045-B | SK50            | 16     | h6      | 45 | 17    | 25,9 | 38  |
| 211343800  | SK50-AB22-035-B | SK50            | 22     | h6      | 35 | 19    | 15,9 | 48  |
| 211343900  | SK50-AB27-040-B | SK50            | 27     | h6      | 40 | 21    | 20,9 | 58  |
| 211419500  | SK50-AB32-050-B | SK50            | 32     | h6      | 50 | 24    | 30,9 | 78  |
| 211344100  | SK50-AB40-050-B | SK50            | 40     | h6      | 50 | 27    | 30,9 | 88  |
| 211344200  | SK50-AB60-070-B | SK50            | 60     | h6      | 70 | 40    | 50,9 | 129 |

**NOTE :** For DCONWS = 40 mm or DCONWS = 60 mm the tool has four additional threaded holes according to DIN 2079.  
For DCONWS = 60 mm only with four fixation screws according to DIN 912.

Delivered with cross-head retaining screw.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Key                                                                                   | Retaining screw                                                                     | Screw                                                                                 | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  * |  |  * |  * |
| Page        | 54                                                                                    | 53                                                                                  | 52                                                                                    | 45                                                                                    |

\*Order separately

# MILLING ARBORS for screw-in cutters

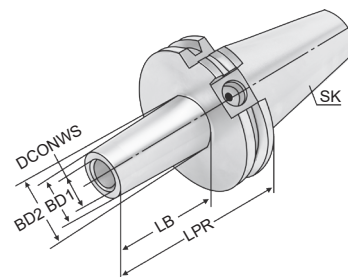
Suportes para fresas de aperto com parafuso | Portaherramientas para fresas de fijación de tornillos

ISO 7388-1 (DIN 69871)  
AD/AF



Run-out:  $\leq 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting screw-in cutters with thread

| Order code | Reference       | Dimensions (mm) |        |        |     |     |     |    |
|------------|-----------------|-----------------|--------|--------|-----|-----|-----|----|
|            |                 | Type            | THSZWS | DCONWS | BD1 | BD2 | LPR | LB |
| 211351900  | SK40-TM06-069-B | SK40            | M6     | 6,5    | 10  | 13  | 69  | 50 |
| 211352200  | SK40-TM08-069-B | SK40            | M8     | 8,5    | 13  | 23  | 69  | 50 |
| 211352700  | SK40-TM10-069-B | SK40            | M10    | 10,5   | 18  | 23  | 69  | 50 |
| 211353300  | SK40-TM12-069-B | SK40            | M12    | 12,5   | 21  | 24  | 69  | 50 |
| 211353900  | SK40-TM16-069-B | SK40            | M16    | 17     | 29  | 34  | 69  | 50 |
| 211354300  | SK50-TM08-069-B | SK50            | M8     | 8,5    | 13  | 23  | 69  | 50 |
| 211354600  | SK50-TM10-069-B | SK50            | M10    | 10,5   | 18  | 23  | 69  | 50 |
| 211354900  | SK50-TM12-069-B | SK50            | M12    | 12,5   | 21  | 24  | 69  | 50 |
| 211355200  | SK50-TM16-069-B | SK50            | M16    | 17     | 29  | 34  | 69  | 50 |

## SPARE PARTS | Acessórios | Repuestos

|             |                                                                                       |
|-------------|---------------------------------------------------------------------------------------|
| Accessories | Pull stud                                                                             |
|             |  * |
| Page        | 45                                                                                    |

\*Order separately

# HYDRAULIC EXPANSION CHUCKS

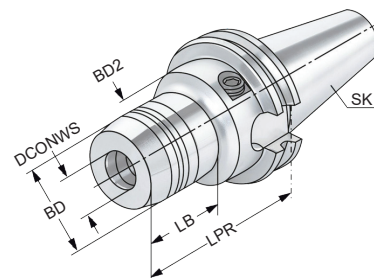
Mandris de expansão hidráulica | Mandriles hidráulicos de expansión

ISO 7388-1 (DIN 69871)  
AD



Run-out:  $\leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools according to DIN 1835 and DIN 6535

| Order code | Reference       | Dimensions (mm) |        |     |    |     |        |       |    |       |       |
|------------|-----------------|-----------------|--------|-----|----|-----|--------|-------|----|-------|-------|
|            |                 | Type            | DCONWS | LPR | BD | BD2 | LSCXMS | ADJRG | LB | DRVSC | THID  |
| 211346100  | SK30-HY06-060-D | SK30            | 6      | 60  | 26 | 45  | 37     | 10    | 25 | 5     | M6x1  |
| 211346200  | SK30-HY08-064-D | SK30            | 8      | 64  | 28 | 45  | 37     | 10    | 29 | 5     | M6x1  |
| 211346300  | SK30-HY10-064-D | SK30            | 10     | 64  | 30 | 45  | 42     | 10    | 35 | 5     | M6x1  |
| 211346400  | SK30-HY12-072-D | SK30            | 12     | 72  | 32 | 45  | 47     | 10    | 43 | 5     | M8x1  |
| 211346500  | SK30-HY14-072-D | SK30            | 14     | 72  | 34 | 45  | 47     | 10    | 42 | 5     | M10x1 |
| 211346600  | SK30-HY16-072-D | SK30            | 16     | 72  | 38 | 45  | 52     | 10    | 43 | 5     | M12x1 |
| 211346700  | SK30-HY18-072-D | SK30            | 18     | 72  | 40 | 45  | 52     | 10    | 42 | 5     | M12x1 |
| 211346800  | SK30-HY20-090-D | SK30            | 20     | 90  | 42 | 42  | 52     | 10    | 71 | 5     | M12x1 |

**NOTE :** LSCXMS = max. clamping depth.  
ADJRG = max. length adjustment range.

Delivered without wrench.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|
|             |  * |
| Page        | 45                                                                                    |

\*Order separately

# HYDRAULIC EXPANSION CHUCKS

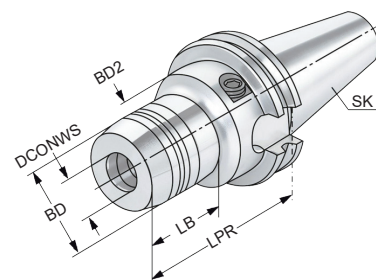
Mandris de expansão hidráulica | Mandriles hidráulicos de expansión



Run-out:  $\leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm

ISO 7388-1 (DIN 69871)  
AD/AF



**Application:** For mounting straight-shank tools according to DIN 1835 and DIN 6535

| Order code | Reference       | Dimensions (mm) |        |     |    |     |        |        |    |       |       |
|------------|-----------------|-----------------|--------|-----|----|-----|--------|--------|----|-------|-------|
|            |                 | Type            | DCONWS | LPR | BD | BD2 | LSCXMS | ADJRGA | LB | DRVSC | THID  |
| 211346900  | SK40-HY06-068-B | SK40            | 6      | 68  | 26 | 50  | 37     | 10     | 33 | 5     | M6x1  |
| 211347000  | SK40-HY08-068-B | SK40            | 8      | 68  | 28 | 50  | 37     | 10     | 33 | 5     | M6x1  |
| 211347100  | SK40-HY10-072-B | SK40            | 10     | 72  | 30 | 50  | 42     | 10     | 37 | 5     | M8x1  |
| 211347200  | SK40-HY12-077-B | SK40            | 12     | 77  | 32 | 50  | 47     | 10     | 42 | 5     | M8x1  |
| 211347300  | SK40-HY14-077-B | SK40            | 14     | 77  | 34 | 50  | 47     | 10     | 42 | 5     | M10x1 |
| 211347400  | SK40-HY16-080-B | SK40            | 16     | 80  | 38 | 50  | 52     | 10     | 43 | 5     | M10x1 |
| 211347500  | SK40-HY18-080-B | SK40            | 18     | 80  | 40 | 50  | 52     | 10     | 43 | 5     | M10x1 |
| 211347600  | SK40-HY20-082-B | SK40            | 20     | 82  | 42 | 50  | 52     | 10     | 47 | 5     | M10x1 |
| 211347700  | SK40-HY25-117-B | SK40            | 25     | 117 | 50 | 63  | 58     | 10     | 51 | 6     | M12x1 |
| 211347800  | SK40-HY32-117-B | SK40            | 32     | 117 | 60 | 63  | 64     | 10     | 51 | 6     | M12x1 |
| 211348700  | SK50-HY06-068-B | SK50            | 6      | 68  | 26 | 50  | 37     | 10     | 33 | 5     | M6x1  |
| 211348800  | SK50-HY08-068-B | SK50            | 8      | 68  | 28 | 50  | 37     | 10     | 33 | 5     | M6x1  |
| 211348900  | SK50-HY10-072-B | SK50            | 10     | 72  | 30 | 50  | 42     | 10     | 37 | 5     | M8x1  |
| 211349000  | SK50-HY12-077-B | SK50            | 12     | 77  | 32 | 50  | 47     | 10     | 42 | 5     | M8x1  |
| 211349100  | SK50-HY14-077-B | SK50            | 14     | 77  | 34 | 50  | 47     | 10     | 42 | 5     | M10x1 |
| 211349200  | SK50-HY16-080-B | SK50            | 16     | 80  | 38 | 50  | 52     | 10     | 45 | 5     | M12x1 |
| 211349300  | SK50-HY18-080-B | SK50            | 18     | 80  | 40 | 50  | 52     | 10     | 45 | 5     | M12x1 |
| 211349400  | SK50-HY20-082-B | SK50            | 20     | 82  | 42 | 50  | 52     | 10     | 47 | 5     | M12x1 |
| 211349500  | SK50-HY25-087-B | SK50            | 25     | 87  | 50 | 63  | 58     | 10     | 52 | 6     | M12x1 |
| 211349600  | SK50-HY32-091-B | SK50            | 32     | 91  | 60 | 63  | 64     | 10     | 56 | 6     | M12x1 |

**NOTE:** LSCXMS = max. clamping depth.  
ADJRGA = max. length adjustment range.

Delivered without wrench.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|
|             |  * |
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\*Order separately

# SHRINK CHUCKS 4,5° for mounting of solid carbide and HSS-tool shanks

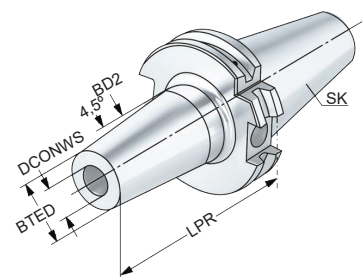
Mandris retrácteis 4,5° para montagem de fresas integrais e HSS | Portabrocas retráctil de 4,5° para montar fresas integrales y HSS

ISO 7388-1 (DIN 69871)  
AD



Run-out:  $\sqrt{\leq 0,003 \text{ mm}}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools

| Order code | Reference       | Dimensions (mm) |        |         |     |      |     |        |        |        |        |
|------------|-----------------|-----------------|--------|---------|-----|------|-----|--------|--------|--------|--------|
|            |                 | Type            | DCONWS | TDCONWS | LPR | BTED | BD2 | LSCNMS | LSCXMS | ADJRGA | THID   |
| 211355500  | SK30-SH03-080-D | SK30            | 3      | h4      | 80  | 15   | 20  | 6      | -      | -      | -      |
| 211355600  | SK30-SH04-080-D | SK30            | 4      | h4      | 80  | 15   | 20  | 8      | -      | -      | -      |
| 211355700  | SK30-SH05-080-D | SK30            | 5      | h4      | 80  | 15   | 20  | 10     | -      | -      | -      |
| 211355800  | SK30-SH06-080-D | SK30            | 6      | h6      | 80  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211355900  | SK30-SH08-080-D | SK30            | 8      | h6      | 80  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211356000  | SK30-SH10-080-D | SK30            | 10     | h6      | 80  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211356100  | SK30-SH12-100-D | SK30            | 12     | h6      | 100 | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211356200  | SK30-SH14-100-D | SK30            | 14     | h6      | 100 | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211356300  | SK30-SH16-100-D | SK30            | 16     | h6      | 100 | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211356400  | SK30-SH18-100-D | SK30            | 18     | h6      | 100 | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211356500  | SK30-SH20-100-D | SK30            | 20     | h6      | 100 | 33   | 42  | 41     | 51     | 10     | M16x1  |

**NOTE:** For DCONWS 3, 4 and 5 mm only solid carbide tool shanks must be used!

Toolholders suitable for induction-, contact- and hot air shrink units. DCONWS 3, 4, 5 with h4-tolerance and DCONWS 6 – 20 with h6-tolerance.

LSCXMS = max. clamping depth.

ADJRGA = max. length adjustment range.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|
|             |  * |
| Page        | 45                                                                                    |

\*Order separately

# SHRINK CHUCKS 4,5° for mounting of solid carbide and HSS-tool shanks

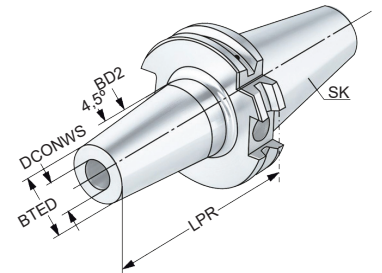
Mandris retrácteis 4,5° para montagem de fresas integrais e HSS | Portabrocas retráctil de 4,5° para montar fresas integrales y HSS

ISO 7388-1 (DIN 69871)  
AD/AF



Run-out:  $\leq 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools

| Order code | Reference       | Dimensions (mm) |        |         |     |      |     |        |        |        |        |
|------------|-----------------|-----------------|--------|---------|-----|------|-----|--------|--------|--------|--------|
|            |                 | Type            | DCONWS | TDCONWS | LPR | BTED | BD2 | LSCNMS | LSCXMS | ADJRGA | THID   |
| 211357700  | SK40-SH03-080-B | SK40            | 3      | h4      | 80  | 15   | 20  | 6      | -      | -      | -      |
| 211357800  | SK40-SH04-080-B | SK40            | 4      | h4      | 80  | 15   | 20  | 8      | -      | -      | -      |
| 211357900  | SK40-SH05-080-B | SK40            | 5      | h4      | 80  | 15   | 20  | 10     | -      | -      | -      |
| 211358000  | SK40-SH06-080-B | SK40            | 6      | h6      | 80  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211358100  | SK40-SH08-080-B | SK40            | 8      | h6      | 80  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211358200  | SK40-SH10-080-B | SK40            | 10     | h6      | 80  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211358300  | SK40-SH12-080-B | SK40            | 12     | h6      | 80  | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211358400  | SK40-SH14-080-B | SK40            | 14     | h6      | 80  | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211358500  | SK40-SH16-080-B | SK40            | 16     | h6      | 80  | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211358600  | SK40-SH18-080-B | SK40            | 18     | h6      | 80  | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211358700  | SK40-SH20-080-B | SK40            | 20     | h6      | 80  | 33   | 42  | 41     | 51     | 10     | M16x1  |
| 211358800  | SK40-SH25-100-B | SK40            | 25     | h6      | 100 | 44   | 53  | 47     | 57     | 10     | M16x1  |
| 211358900  | SK40-SH32-100-B | SK40            | 32     | h6      | 100 | 44   | 53  | 51     | 61     | 10     | M16x1  |
| 211361600  | SK50-SH03-080-B | SK50            | 3      | h4      | 80  | 15   | 20  | 6      | -      | -      | -      |
| 211361700  | SK50-SH04-080-B | SK50            | 4      | h4      | 80  | 15   | 20  | 8      | -      | -      | -      |
| 211361800  | SK50-SH05-080-B | SK50            | 5      | h4      | 80  | 15   | 20  | 10     | -      | -      | -      |
| 211361900  | SK50-SH06-080-B | SK50            | 6      | h6      | 80  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211362000  | SK50-SH08-080-B | SK50            | 8      | h6      | 80  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211362100  | SK50-SH10-080-B | SK50            | 10     | h6      | 80  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211362200  | SK50-SH12-080-B | SK50            | 12     | h6      | 80  | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211362300  | SK50-SH14-080-B | SK50            | 14     | h6      | 80  | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211362400  | SK50-SH16-080-B | SK50            | 16     | h6      | 80  | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211362500  | SK50-SH18-080-B | SK50            | 18     | h6      | 80  | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211362600  | SK50-SH20-080-B | SK50            | 20     | h6      | 80  | 33   | 42  | 41     | 51     | 10     | M16x1  |
| 211362700  | SK50-SH25-100-B | SK50            | 25     | h6      | 100 | 44   | 53  | 47     | 57     | 10     | M16x1  |
| 211362800  | SK50-SH32-100-B | SK50            | 32     | h6      | 100 | 44   | 53  | 51     | 61     | 10     | M16x1  |

**NOTE :** For DCONWS 3, 4 and 5 mm only solid carbide tool shanks must be used!

Toolholders suitable for induction-, contact- and hot air shrink units. DCONWS 3, 4, 5 with h4-tolerance and DCONWS 6 – 32 with h6-tolerance.

LSCXMS = max. clamping depth.

ADJRGA = max. length adjustment range.

Delivered without wrench.

## SPARE PARTS | Acessórios | Repuestos

|             |                                                                                                  |
|-------------|--------------------------------------------------------------------------------------------------|
| Accessories | Pull stud<br> |
| Page        | 45                                                                                               |

\*Order separately



# TOOLHOLDERS ISO 7388-2

(JIS B 6339 MAS-BT)

Suportes ISO 7388-2 (JIS B 6339 MAS-BT)

Portaherramientas ISO 7388-2 (JIS B 6339 MAS-BT)

ISO 7388-2



# CODE KEY FOR TOOLHOLDERS ISO 7388-2 JD/JF (JIS B 6339)

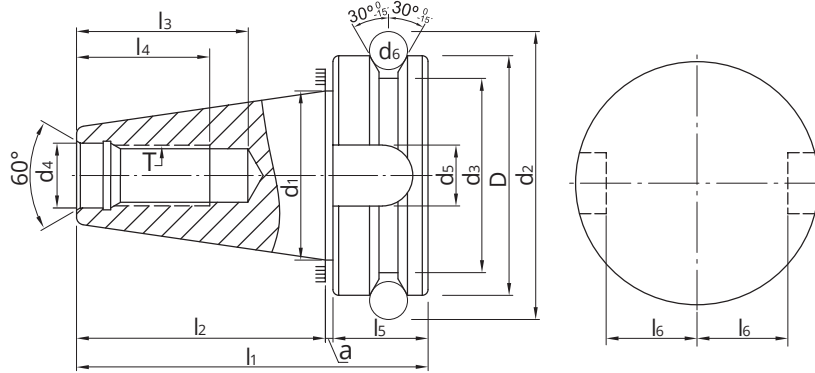
Codificação de suportes ISO 7388-2 (JIS B 6339 MAS-BT) | Codificación de portaherramientas ISO 7388-2 (JIS B 6339 MAS-BT)

Form AD | JD/JF

## PRE-BALANCED

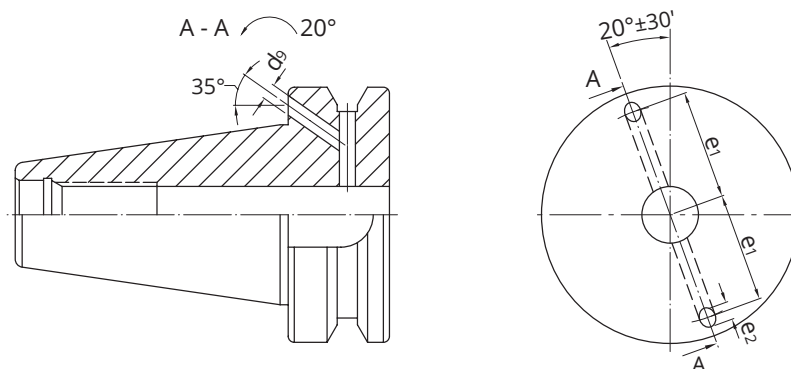
**Balance quality grade:** G 6,3 | 15 000 min<sup>-1</sup>

**Fine balancing at extra charge:** G 2,5



| Dimensions (mm) |         |                |                |                |                      |                       |                |                       |           |                |                        |                       |                       |                |                             |                        |                       |      |
|-----------------|---------|----------------|----------------|----------------|----------------------|-----------------------|----------------|-----------------------|-----------|----------------|------------------------|-----------------------|-----------------------|----------------|-----------------------------|------------------------|-----------------------|------|
| SK              | D<br>H8 | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | d <sub>4</sub><br>H8 | d <sub>5</sub><br>H12 | d <sub>6</sub> | d <sub>9</sub><br>H12 | a<br>±0,4 | l <sub>1</sub> | l <sub>2</sub><br>±0,2 | l <sub>3</sub><br>min | l <sub>4</sub><br>min | l <sub>5</sub> | l <sub>6</sub><br>0<br>-0,2 | e <sub>1</sub><br>±0,1 | e <sub>2</sub><br>max | CRKS |
| 30              | 46      | 31,75          | 56,14          | 38             | 12,5                 | 16,1                  | 8              | -                     | 2         | 70,4           | 48,4                   | 34                    | 24                    | 20             | 16,3                        | -                      |                       | M12  |
| 40              | 63      | 44,45          | 75,679         | 53             | 17                   | 16,1                  | 10             | 4                     | 2         | 92,4           | 65,4                   | 43                    | 30                    | 25             | 22,6                        | 27                     | 5                     | M16  |
| 50              | 100     | 69,85          | 119,02         | 85             | 25                   | 25,7                  | 15             | 6                     | 3         | 139,8          | 101,8                  | 62                    | 45                    | 35             | 35,4                        | 42                     | 7                     | M24  |

With internal coolant through the collar - form JD/JF



Delivery with headless screws in closed position

**Material :** Alloyed case-hardened steel, tensile core strength of min. 950 N/mm<sup>2</sup>.

Case hardened HRC 60 ± 2 (HV 700 ± 50), hardening depth 0,8 mm ± 0,2 mm, black-finished and precisely grinded.

**Form JD/JF :** Delivery in form JD (AB), type JF (B) closed with releasable headless screws.

**Accuracy :** Quality of taper < AT 3 according to DIN 7187 and DIN 2080.

# TOOLHOLDERS ISO 7388-2 JD/JF (JIS B 6339) - INDEX

Suportes ISO 7388-2 (JIS B 6339 MAS-BT) - Índice | Portaherramientas ISO 7388-2 (JIS B 6339 MAS-BT) - Índice



Collet chucks for collets ISO 15488 (DIN 6499) ER-system

Page 24



End mill holders DIN 6359 for end mills DIN 1835-B

Page 25



Shell mill holders DIN 6357 with enlarged contact face and coolant exit bores on the end face

Page 26



Milling arbors for screw-in cutters

Page 27



Hydraulic expansion chucks

Page 28



Shrink chucks 4,5° for mounting of solid carbide and HSS-tool shanks

Page 29

# COLLET CHUCKS for collets ISO 15488 (DIN 6499) ER-system

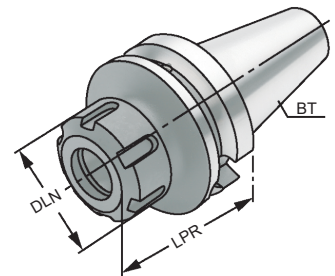
Mandris de aperto para pinças ISO 15488 (DIN 6499) Sistema ER | Mandriles de fijación para pinzas ISO 15488 (DIN 6499) Sistema ER

ISO 7388-2 (JIS B 6339)  
AD | JD/JF



Run-out:  $\nearrow \leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools in collets

| Order code | Reference       | Dimensions (mm) |        |          |     |     |          |
|------------|-----------------|-----------------|--------|----------|-----|-----|----------|
|            |                 | Type            | Collet | Capacity | LPR | DLN | THID     |
| 211283400  | BT30-ER16-070-D | BT30            | ER 16  | 1-10     | 70  | 32  | M10x1,5  |
| 211283500  | BT30-ER20-070-D | BT30            | ER 20  | 2-13     | 70  | 35  | M12x1,75 |
| 211283600  | BT30-ER25-070-D | BT30            | ER 25  | 2-16     | 70  | 42  | M16x2,0  |
| 211418700  | BT30-ER32-070-D | BT30            | ER 32  | 2-20     | 70  | 50  | M16x2,0  |
| 211283800  | BT30-ER40-070-D | BT30            | ER 40  | 3-26     | 70  | 63  | M16x2,0  |
| 211285300  | BT40-ER16-063-B | BT40            | ER 16  | 1-10     | 63  | 32  | M10x1,5  |
| 211285400  | BT40-ER20-070-B | BT40            | ER 20  | 2-13     | 70  | 35  | M12x1,75 |
| 211285500  | BT40-ER25-060-B | BT40            | ER 25  | 2-16     | 60  | 42  | M16x2,0  |
| 211285600  | BT40-ER32-070-B | BT40            | ER 32  | 2-20     | 70  | 50  | M16x2,0  |
| 211285700  | BT40-ER40-080-B | BT40            | ER 40  | 3-26     | 80  | 63  | M16x2,0  |
| 211287300  | BT50-ER20-070-B | BT50            | ER 20  | 2-13     | 70  | 35  | M12x1,75 |
| 211287400  | BT50-ER25-070-B | BT50            | ER 25  | 2-16     | 70  | 42  | M16x2,0  |
| 211287500  | BT50-ER32-070-B | BT50            | ER 32  | 2-20     | 70  | 50  | M16x2,0  |
| 211287600  | BT50-ER40-080-B | BT50            | ER 40  | 3-26     | 80  | 63  | M16x2,0  |

Delivered with balanced clamping nut.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Collet                                                                                | Key                                                                                   | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  * |  * |  * |
| Page        | 42                                                                                    | 54                                                                                    | 45                                                                                    |

\*Order separately

# END MILL HOLDERS DIN 6359 for end mills DIN 1835-B

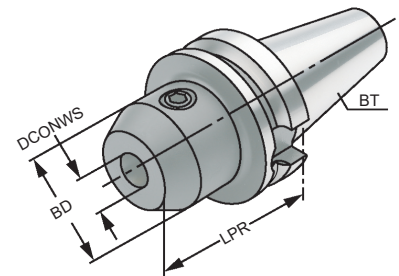
Suportes DIN 6359 para fresas integrais DIN 1835-B | Portaherramientas DIN 6359 para fresas integrales DIN 1835-B

ISO 7388-2 (JIS B 6339)  
JD/JF



Run-out:  $\nless 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools with lateral flat according to DIN 1835 form B (Weldon)

| Order code | Reference       | Dimensions (mm) |        |         |     |    |
|------------|-----------------|-----------------|--------|---------|-----|----|
|            |                 | Type            | DCONWS | TDCONWS | LPR | BD |
| 211292800  | BT40-HB06-050-B | BT40            | 6      | H4      | 50  | 25 |
| 211292900  | BT40-HB08-050-B | BT40            | 8      | H4      | 50  | 28 |
| 211293000  | BT40-HB10-063-B | BT40            | 10     | H4      | 63  | 35 |
| 211293100  | BT40-HB12-063-B | BT40            | 12     | H4      | 63  | 42 |
| 211293200  | BT40-HB14-063-B | BT40            | 14     | H4      | 63  | 44 |
| 211293300  | BT40-HB16-063-B | BT40            | 16     | H4      | 63  | 48 |
| 211293400  | BT40-HB18-063-B | BT40            | 18     | H4      | 63  | 50 |
| 211293500  | BT40-HB20-063-B | BT40            | 20     | H4      | 63  | 52 |
| 211293600  | BT40-HB25-090-B | BT40            | 25     | H4      | 90  | 65 |
| 211293700  | BT40-HB32-100-B | BT40            | 32     | H4      | 100 | 72 |
| 211293800  | BT40-HB40-120-B | BT40            | 40     | H4      | 120 | 80 |
| 211295800  | BT50-HB06-063-B | BT50            | 6      | H4      | 63  | 25 |
| 211295900  | BT50-HB08-063-B | BT50            | 8      | H4      | 63  | 28 |
| 211296000  | BT50-HB10-063-B | BT50            | 10     | H4      | 63  | 35 |
| 211296100  | BT50-HB12-080-B | BT50            | 12     | H4      | 80  | 42 |
| 211296200  | BT50-HB14-080-B | BT50            | 14     | H4      | 80  | 44 |
| 211296300  | BT50-HB16-080-B | BT50            | 16     | H4      | 80  | 48 |
| 211296400  | BT50-HB18-080-B | BT50            | 18     | H4      | 80  | 50 |
| 211296500  | BT50-HB20-080-B | BT50            | 20     | H4      | 80  | 52 |
| 211296600  | BT50-HB25-100-B | BT50            | 25     | H4      | 100 | 65 |
| 211296700  | BT50-HB32-105-B | BT50            | 32     | H4      | 105 | 72 |
| 211296800  | BT50-HB40-110-B | BT50            | 40     | H4      | 110 | 80 |

**NOTE :** For DCONWS  $\geq$  25 mm, two clamping screws are required.

Delivered with clamping screw.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Clamping screw                                                                      | Pull stud                                                                           |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|             |  |  |
| Page        | 52                                                                                  | 45                                                                                  |

\*Order separately

# SHELL MILL HOLDERS DIN 6357 with enlarged contact face and coolant exit bores on the end face

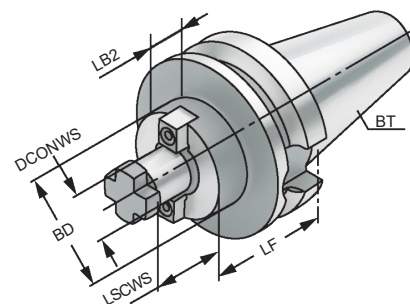
Suportes DIN 6357 com face de contacto alargada e orifícios de saída do líquido de refrigeração na face final | Portaherramientas DIN 6357 con faceta de contacto ampliada y orificios de salida de refrigerante en la faceta frontal

ISO 7388-2 (JIS B 6339)  
JD/JF



Run-out:  $\nless 0,005 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting milling cutters with transverse groove

| Order code | Reference       | Dimensions (mm) |        |         |    |       |     |     |
|------------|-----------------|-----------------|--------|---------|----|-------|-----|-----|
|            |                 | Type            | DCONWS | TDCONWS | LF | LSCWS | LB2 | BD  |
| 211302900  | BT40-AB16-040-B | BT40            | 16     | h6      | 40 | 17    | 13  | 38  |
| 211303000  | BT40-AB22-040-B | BT40            | 22     | h6      | 40 | 19    | 13  | 48  |
| 211303100  | BT40-AB27-040-B | BT40            | 27     | h6      | 40 | 21    | 13  | 58  |
| 211303200  | BT40-AB32-050-B | BT40            | 32     | h6      | 50 | 24    | 23  | 78  |
| 211303300  | BT40-AB40-050-B | BT40            | 40     | h6      | 50 | 27    | 23  | 88  |
| 211419600  | BT50-AB22-040-B | BT50            | 22     | h6      | 40 | 19    | 2   | 48  |
| 211419700  | BT50-AB27-040-B | BT50            | 27     | h6      | 40 | 21    | 2   | 58  |
| 211304600  | BT50-AB32-050-B | BT50            | 32     | h6      | 50 | 24    | 12  | 78  |
| 211304700  | BT50-AB40-050-B | BT50            | 40     | h6      | 50 | 27    | 12  | 88  |
| 211304800  | BT50-AB60-080-B | BT50            | 60     | h6      | 80 | 40    | 42  | 129 |

**NOTE :** For DCONWS = 40 mm or DCONWS = 60 mm the tool has four additional threaded holes according to DIN 2079.  
For DCONWS = 60 mm only with four fixation screws according to DIN 912.

Delivered with cross-head retaining screw.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Key                                                                                   | Retaining screw                                                                     | Screw                                                                                 | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  * |  |  * |  * |
| Page        | 54                                                                                    | 53                                                                                  | 52                                                                                    | 45                                                                                    |

\*Order separately

# MILLING ARBORS for screw-in cutters

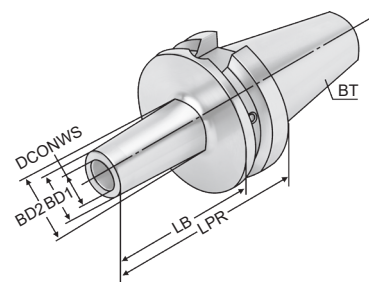
Suportes para fresas de aperto com parafuso | Portaherramientas para fresas de fijación de tornillos

ISO 7388-2 (JIS B 6339)  
JD/JF



Run-out:  $\nless 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting screw-in cutters with thread

| Order code | Reference       | Dimensions (mm) |        |        |     |     |     |    |
|------------|-----------------|-----------------|--------|--------|-----|-----|-----|----|
|            |                 | Type            | THSZWS | DCONWS | BD1 | BD2 | LPR | LB |
| 211310600  | BT40-TM06-077-B | BT40            | M6     | 6,5    | 10  | 20  | 77  | 50 |
| 211310900  | BT40-TM08-077-B | BT40            | M8     | 8,5    | 13  | 23  | 77  | 50 |
| 211311300  | BT40-TM10-077-B | BT40            | M10    | 10,5   | 18  | 23  | 77  | 50 |
| 211311700  | BT40-TM12-077-B | BT40            | M12    | 12,5   | 21  | 24  | 77  | 50 |
| 211312200  | BT40-TM16-077-B | BT40            | M16    | 17     | 29  | 34  | 77  | 50 |
| 211312700  | BT50-TM08-088-B | BT50            | M8     | 8,5    | 13  | 23  | 88  | 50 |
| 211313000  | BT50-TM10-088-B | BT50            | M10    | 10,5   | 18  | 23  | 88  | 50 |
| 211313300  | BT50-TM12-088-B | BT50            | M12    | 12,5   | 21  | 24  | 88  | 50 |
| 211313600  | BT50-TM16-088-B | BT50            | M16    | 17     | 29  | 34  | 88  | 50 |

## SPARE PARTS | Acessórios | Repuestos

|             |                                                                                                  |
|-------------|--------------------------------------------------------------------------------------------------|
| Accessories | Pull stud<br> |
| Page        | 45                                                                                               |

\*Order separately

# HYDRAULIC EXPANSION CHUCKS

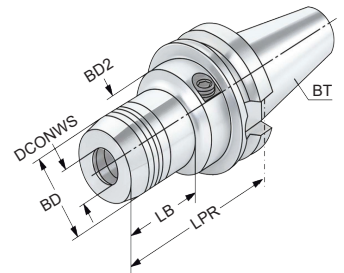
Mandris de expansão hidráulica | Mandriles hidráulicos de expansión

ISO 7388-2 (JIS B 6339)  
AD | JD/JF



Run-out:  $\leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 15 000 rpm



**Application:** For mounting straight-shank tools according to DIN 1835 and DIN 6535

| Order code | Reference       | Dimensions (mm) |        |     |    |     |        |        |      |       |       |
|------------|-----------------|-----------------|--------|-----|----|-----|--------|--------|------|-------|-------|
|            |                 | Type            | DCONWS | LPR | BD | BD2 | LSCXMS | ADJRGA | LB   | DRVSC | THID  |
| 211305700  | BT30-HY06-060-D | BT30            | 6      | 60  | 26 | 45  | 37     | 10     | 33   | 5     | M6x1  |
| 211305800  | BT30-HY08-064-D | BT30            | 8      | 64  | 28 | 45  | 37     | 10     | 29   | 5     | M6x1  |
| 211305900  | BT30-HY10-064-D | BT30            | 10     | 64  | 30 | 45  | 42     | 10     | 37   | 5     | M6x1  |
| 211306000  | BT30-HY12-072-D | BT30            | 12     | 72  | 32 | 45  | 47     | 10     | 43   | 5     | M8x1  |
| 211306100  | BT30-HY14-070-D | BT30            | 14     | 70  | 34 | 45  | 47     | 10     | 41   | 5     | M10x1 |
| 211306200  | BT30-HY16-090-D | BT30            | 16     | 90  | 38 | 45  | 52     | 10     | 52   | 5     | M12x1 |
| 211306300  | BT30-HY18-090-D | BT30            | 18     | 90  | 40 | 45  | 52     | 10     | 52   | 5     | M12x1 |
| 211306400  | BT30-HY20-090-D | BT30            | 20     | 90  | 42 | 45  | 52     | 10     | 52   | 5     | M12x1 |
| 211306500  | BT40-HY06-090-B | BT40            | 6      | 90  | 26 | 50  | 37     | 10     | 43   | 5     | M6x1  |
| 211306600  | BT40-HY08-090-B | BT40            | 8      | 90  | 28 | 50  | 37     | 10     | 43,5 | 5     | M6x1  |
| 211306700  | BT40-HY10-090-B | BT40            | 10     | 90  | 30 | 50  | 42     | 10     | 44   | 5     | M8x1  |
| 211306800  | BT40-HY12-090-B | BT40            | 12     | 90  | 32 | 50  | 47     | 10     | 44,5 | 5     | M8x1  |
| 211306900  | BT40-HY14-090-B | BT40            | 14     | 90  | 34 | 50  | 47     | 10     | 47,5 | 5     | M10x1 |
| 211307000  | BT40-HY16-090-B | BT40            | 16     | 90  | 38 | 50  | 52     | 10     | 47,5 | 5     | M12x1 |
| 211307100  | BT40-HY18-090-B | BT40            | 18     | 90  | 40 | 50  | 52     | 10     | 47,5 | 5     | M12x1 |
| 211307200  | BT40-HY20-090-B | BT40            | 20     | 90  | 42 | 50  | 52     | 10     | 47,5 | 5     | M12x1 |
| 211307300  | BT40-HY25-090-B | BT40            | 25     | 90  | 50 | 50  | 58     | 10     | 63   | 6     | M12x1 |
| 211307400  | BT40-HY32-110-B | BT40            | 32     | 110 | 60 | 50  | 62     | 10     | 83   | 6     | M12x1 |
| 211309500  | BT50-HY06-110-B | BT50            | 6      | 110 | 26 | 80  | 37     | 10     | 43   | 5     | M6x1  |
| 211309600  | BT50-HY08-110-B | BT50            | 8      | 110 | 28 | 80  | 37     | 10     | 43,5 | 5     | M6x1  |
| 211309700  | BT50-HY10-110-B | BT50            | 10     | 110 | 30 | 80  | 42     | 10     | 44   | 5     | M8x1  |
| 211309800  | BT50-HY12-110-B | BT50            | 12     | 110 | 32 | 80  | 47     | 10     | 42   | 5     | M8x1  |
| 211309900  | BT50-HY14-110-B | BT50            | 14     | 110 | 34 | 80  | 47     | 10     | 42   | 5     | M10x1 |
| 211310000  | BT50-HY16-110-B | BT50            | 16     | 110 | 38 | 80  | 52     | 10     | 45   | 5     | M12x1 |
| 211310100  | BT50-HY18-110-B | BT50            | 18     | 110 | 40 | 80  | 52     | 10     | 47,5 | 5     | M12x1 |
| 211310200  | BT50-HY20-110-B | BT50            | 20     | 110 | 42 | 80  | 52     | 10     | 47,5 | 5     | M12x1 |
| 211310300  | BT50-HY25-110-B | BT50            | 25     | 110 | 50 | 80  | 58     | 10     | 47,5 | 6     | M16x1 |
| 211310400  | BT50-HY32-110-B | BT50            | 32     | 110 | 60 | 80  | 62     | 10     | 47,5 | 6     | M16x1 |

**NOTE :** LSCXMS = max. clamping depth.  
ADJRGA = max. length adjustment range.

Delivered without wrench.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Pull stud                                                                             |
|-------------|---------------------------------------------------------------------------------------|
|             |  * |
| Page        | 45                                                                                    |

\*Order separately

# SHRINK CHUCKS 4,5° for mounting of solid carbide and HSS-tool shanks

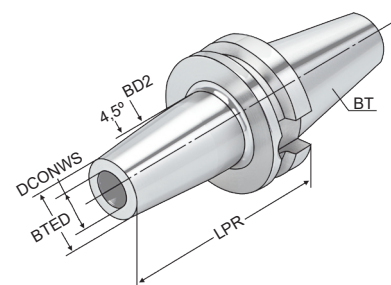
Mandris retrácteis 4,5° para montagem de fresas integrais e HSS | Portabrocas retráctil de 4,5° para montar fresas integrales y HSS

ISO 7388-2 (JIS B 6339)  
AD | JD/JF



Run-out:  $\leq 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools

| Order code | Reference       | Dimensions (mm) |        |         |     |      |     |        |        |        |        |
|------------|-----------------|-----------------|--------|---------|-----|------|-----|--------|--------|--------|--------|
|            |                 | Type            | DCONWS | TDCONWS | LPR | BTED | BD2 | LSCNMS | LSCXMS | ADJRGA | THID   |
| 211419800  | BT30-SH03-080-D | BT30            | 3      | h4      | 80  | 15   | 20  | 6      | -      | -      | -      |
| 211419900  | BT30-SH04-080-D | BT30            | 4      | h4      | 80  | 15   | 20  | 8      | -      | -      | -      |
| 211420000  | BT30-SH05-080-D | BT30            | 5      | h4      | 80  | 15   | 20  | 10     | -      | -      | -      |
| 211420100  | BT30-SH06-080-D | BT30            | 6      | h6      | 80  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211420200  | BT30-SH08-080-D | BT30            | 8      | h6      | 80  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211420300  | BT30-SH10-090-D | BT30            | 10     | h6      | 90  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211420400  | BT30-SH12-090-D | BT30            | 12     | h6      | 90  | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211420500  | BT30-SH14-090-D | BT30            | 14     | h6      | 90  | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211420600  | BT30-SH16-090-D | BT30            | 16     | h6      | 90  | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211420700  | BT30-SH18-090-D | BT30            | 18     | h6      | 90  | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211420800  | BT30-SH20-090-D | BT30            | 20     | h6      | 90  | 33   | 42  | 41     | 51     | 10     | M16x1  |
| 211420900  | BT30-SH25-100-D | BT30            | 25     | h6      | 100 | 44   | 53  | 47     | 57     | 10     | M16x1  |
| 211371700  | BT40-SH03-080-B | BT40            | 3      | h4      | 80  | 11   | 15  | 6      | -      | -      | -      |
| 211371800  | BT40-SH04-080-B | BT40            | 4      | h4      | 80  | 14   | 22  | 8      | -      | -      | -      |
| 211371900  | BT40-SH05-080-B | BT40            | 5      | h4      | 80  | 16   | 22  | 10     | -      | -      | -      |
| 211372000  | BT40-SH06-090-B | BT40            | 6      | h6      | 90  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211372100  | BT40-SH08-090-B | BT40            | 8      | h6      | 90  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211372200  | BT40-SH10-090-B | BT40            | 10     | h6      | 90  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211372300  | BT40-SH12-090-B | BT40            | 12     | h6      | 90  | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211372400  | BT40-SH14-090-B | BT40            | 14     | h6      | 90  | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211372500  | BT40-SH16-090-B | BT40            | 16     | h6      | 90  | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211372600  | BT40-SH18-090-B | BT40            | 18     | h6      | 90  | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211372700  | BT40-SH20-090-B | BT40            | 20     | h6      | 90  | 33   | 42  | 41     | 51     | 10     | M16x1  |
| 211372800  | BT40-SH25-100-B | BT40            | 25     | h6      | 100 | 44   | 53  | 47     | 57     | 10     | M16x1  |
| 211372900  | BT40-SH32-100-B | BT40            | 32     | h6      | 100 | 44   | 53  | 51     | 61     | 10     | M16x1  |

**NOTE :** For DCONWS 3, 4 and 5 mm only solid carbide tool shanks must be used!

Toolholders suitable for induction-, contact- and hot air shrink units. DCONWS 3, 4, 5 with h4-tolerance and DCONWS 6 – 32 with h6-tolerance.

LSCXMS = max. clamping depth.

ADJRGA = max. length adjustment range.

Delivered without wrench.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Pull stud                                                                           |
|-------------|-------------------------------------------------------------------------------------|
|             |  |
| Page        | 45                                                                                  |

\*Order separately



# TOOLHOLDERS ISO 12164-1 HSK

(DIN 69893 HSK)

Suportes ISO 12164-1 HSK (DIN 69893 HSK)

Portaherramientas ISO 12164-1 HSK (DIN 69893 HSK)

ISO 12164-1 HSK



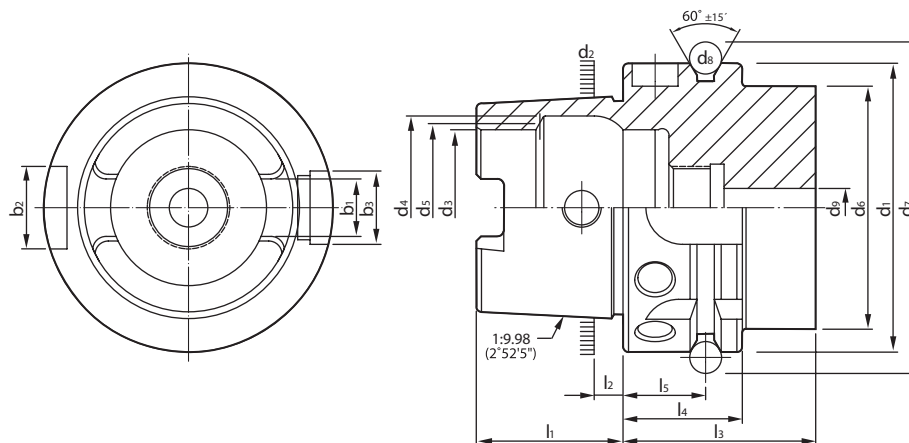
# CODE KEY FOR TOOLHOLDERS ISO 12164-1 (HSK-A) (DIN 69893)

Codificação de suportes ISO 12164-1 (HSK-A) (DIN 69893) | Codificación de portaherramientas ISO 12164-1 (HSK-A) (DIN 69893)

## PRE-BALANCED

Balance quality grade: G 6,3 | 15 000 min<sup>-1</sup>

Fine balancing at extra charge: G 2,5



| Dimensions (mm) |           |        |           |           |    |           |                 |    |           |                 |      |           |                 |            |             |           |           |
|-----------------|-----------|--------|-----------|-----------|----|-----------|-----------------|----|-----------|-----------------|------|-----------|-----------------|------------|-------------|-----------|-----------|
| HSK             | d1<br>h10 | d2     | d3<br>H10 | d4<br>H11 | d5 | d6<br>max | d7<br>0<br>-0,1 | d8 | d9<br>max | l1<br>0<br>-0,2 | l2   | l3<br>min | l4<br>0<br>-0,1 | l5<br>±0,1 | b1<br>±0,04 | b2<br>H10 | b3<br>H10 |
| 25              | 25        | 19,006 | 14        | 16,4      | 15 | 20        | 28,5            | 3  | 3         | 13              | 2,5  | 20        | 10              | 4,5        | 6,05        | 6         | 7         |
| 32              | 32        | 24,007 | 17        | 20,5      | 19 | 26        | 37              | 4  | 4,2       | 16              | 3,2  | 35        | 20              | 16         | 7,05        | 7         | 9         |
| 40              | 40        | 30,007 | 21        | 25,5      | 23 | 34        | 45              | 4  | 5         | 20              | 4    | 35        | 20              | 16         | 8,05        | 9         | 11        |
| 50              | 50        | 38,009 | 26        | 32        | 29 | 42        | 59,3            | 7  | 6,8       | 25              | 5    | 42        | 26              | 18         | 10,54       | 12        | 14        |
| 63              | 63        | 48,01  | 34        | 40        | 37 | 53        | 72,3            | 7  | 8,4       | 32              | 6,3  | 42        | 26              | 18         | 12,54       | 16        | 18        |
| 80              | 80        | 60,012 | 42        | 50        | 46 | 68        | 88,8            | 7  | 10,2      | 40              | 8    | 42        | 26              | 18         | 16,04       | 18        | 20        |
| 100             | 100       | 75,013 | 53        | 63        | 58 | 88        | 109,75          | 7  | 12        | 50              | 10   | 45        | 29              | 20         | 20,02       | 20        | 22        |
| 125             | 125       | 95,016 | 67        | 80        | 73 | 111       | 134,75          | 7  | 14        | 63              | 12,5 | 45        | 29              | 20         | 25,02       | 25        | 28        |

**Material :** Alloyed case-hardened steel, tensile core strength of min. 950 N/mm<sup>2</sup>.

Case hardened HRC 60 ± 2 (HV 700 ± 50), hardening depth 0,8 mm ± 0,2 mm, black-finished and precisely grinded.

# TOOLHOLDERS ISO 12164-1 (HSK-A) (DIN 69893) - INDEX

Suportes ISO 12164-1 (HSK-A) (DIN 69893) - Índice | Portaherramientas ISO 12164-1 (HSK-A) (DIN 69893) - Índice



Collet chucks for collets ISO 15488 (DIN 6499) ER-system

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End mill holders DIN 6359 for end mills DIN 1835-B

Page 35



Shell mill holders DIN 6357 with enlarged contact face and coolant exit bores on the end face

Page 36



Milling arbors for screw-in cutters

Page 37



Hydraulic expansion chucks

Page 38



Shrink chucks 4,5° for mounting of solid carbide and HSS-tool shanks

Page 39

# COLLET CHUCKS for collets ISO 15488 (DIN 6499) ER-system

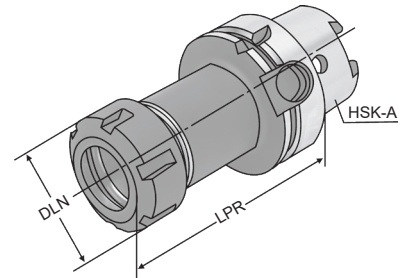
Mandris de aperto para pinças ISO 15488 (DIN 6499) Sistema ER | Mandriles de fijación para pinzas ISO 15488 (DIN 6499) Sistema ER

ISO 12164-1 (HSK-A)  
DIN 69893-1 (HSK-A)



Run-out:  $\nearrow \leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools in collets

| Order code | Reference        | Dimensions (mm) |        |          |     |     |          |
|------------|------------------|-----------------|--------|----------|-----|-----|----------|
|            |                  | Type            | Collet | Capacity | LPR | DLN | THID     |
| 211260700  | HSKA63-ER16-100  | HSKA63          | ER 16  | 1-10     | 100 | 32  | M10x1,5  |
| 211261400  | HSKA63-ER20-100  | HSKA63          | ER 20  | 2-13     | 100 | 35  | M12x1,75 |
| 211261500  | HSKA63-ER25-100  | HSKA63          | ER 25  | 2-16     | 100 | 42  | M16x2,0  |
| 211261600  | HSKA63-ER32-100  | HSKA63          | ER 32  | 2-20     | 100 | 50  | M16x2,0  |
| 211261700  | HSKA63-ER40-120  | HSKA63          | ER 40  | 3-26     | 120 | 63  | M16x2,0  |
| 211261800  | HSKA100-ER16-100 | HSKA100         | ER 16  | 1-10     | 100 | 32  | M10x1,5  |
| 211262800  | HSKA100-ER25-100 | HSKA100         | ER 25  | 2-16     | 100 | 42  | M16x2,0  |
| 211262900  | HSKA100-ER32-100 | HSKA100         | ER 32  | 2-20     | 100 | 50  | M16x2,0  |
| 211263000  | HSKA100-ER40-120 | HSKA100         | ER 40  | 3-26     | 120 | 63  | M16x2,0  |

Delivered with balanced clamping nut.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Collet                                                                                | Key                                                                                   |
|-------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  * |  * |
| Page        | 42                                                                                    | 54                                                                                    |

\*Order separately

# END MILL HOLDERS DIN 6359 for end mills DIN 1835-B

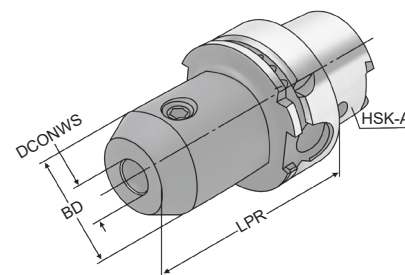
Suportes DIN 6359 para fresas integrais DIN 1835-B | Portaherramientas DIN 6359 para fresas integrales DIN 1835-B

ISO 12164-1 (HSK-A)  
DIN 69893-1 (HSK-A)



Run-out:  $\leq 0,003$  mm

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools with lateral flat according to DIN 1835 form B (Weldon)

| Order code | Reference        | Dimensions (mm) |        |         |     |    |
|------------|------------------|-----------------|--------|---------|-----|----|
|            |                  | Type            | DCONWS | TDCONWS | LPR | BD |
| 211264100  | HSKA63-HB06-065  | HSKA63          | 6      | H4      | 65  | 25 |
| 211264200  | HSKA63-HB08-065  | HSKA63          | 8      | H4      | 65  | 28 |
| 211264300  | HSKA63-HB10-065  | HSKA63          | 10     | H4      | 65  | 35 |
| 211264400  | HSKA63-HB12-080  | HSKA63          | 12     | H4      | 80  | 42 |
| 211264500  | HSKA63-HB14-080  | HSKA63          | 14     | H4      | 80  | 44 |
| 211264600  | HSKA63-HB16-080  | HSKA63          | 16     | H4      | 80  | 48 |
| 211264700  | HSKA63-HB18-080  | HSKA63          | 18     | H4      | 80  | 50 |
| 211264800  | HSKA63-HB20-080  | HSKA63          | 20     | H4      | 80  | 52 |
| 211264900  | HSKA63-HB25-110  | HSKA63          | 25     | H4      | 110 | 65 |
| 211265000  | HSKA63-HB32-110  | HSKA63          | 32     | H4      | 110 | 72 |
| 211265100  | HSKA63-HB40-125  | HSKA63          | 40     | H4      | 125 | 80 |
| 211266800  | HSKA100-HB06-080 | HSKA100         | 6      | H4      | 80  | 25 |
| 211266900  | HSKA100-HB08-080 | HSKA100         | 8      | H4      | 80  | 28 |
| 211267000  | HSKA100-HB10-080 | HSKA100         | 10     | H4      | 80  | 35 |
| 211267100  | HSKA100-HB12-080 | HSKA100         | 12     | H4      | 80  | 42 |
| 211267200  | HSKA100-HB14-080 | HSKA100         | 14     | H4      | 80  | 44 |
| 211267300  | HSKA100-HB16-100 | HSKA100         | 16     | H4      | 100 | 48 |
| 211267400  | HSKA100-HB18-100 | HSKA100         | 18     | H4      | 100 | 50 |
| 211267500  | HSKA100-HB20-100 | HSKA100         | 20     | H4      | 100 | 52 |
| 211267600  | HSKA100-HB25-100 | HSKA100         | 25     | H4      | 100 | 65 |
| 211267700  | HSKA100-HB32-100 | HSKA100         | 32     | H4      | 100 | 72 |
| 211267800  | HSKA100-HB40-105 | HSKA100         | 40     | H4      | 105 | 80 |

**NOTE :** For DCONWS  $\geq 25$  mm, two clamping screws are required.

Delivered with clamping screw.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Clamping screw                                                                      |
|-------------|-------------------------------------------------------------------------------------|
|             |  |
| Page        | 52                                                                                  |

\*Order separately

# SHELL MILL HOLDERS DIN 6357 with enlarged contact face and coolant exit bores on the end face

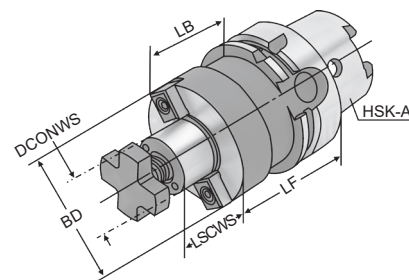
Suportes DIN 6357 com face de contacto alargada e orifícios de saída do líquido de refrigeração na face final | Portaherramientas DIN 6357 con faceta de contacto ampliada y orificios de salida de refrigerante en la faceta frontal

ISO 12164-1 (HSK-A)  
DIN 69893-1 (HSK-A)



Run-out:  $\leq 0,005$  mm

Balance quality grade: G 6,3 | 25 000 rpm



**Aplicativo:** For mounting milling cutters with transversal groove

| Order code | Reference        | Dimensions (mm) |        |         |    |       |    |     |
|------------|------------------|-----------------|--------|---------|----|-------|----|-----|
|            |                  | Type            | DCONWS | TDCONWS | LF | LSCWS | LB | BD  |
| 211274800  | HSKA63-AB16-050  | HSKA63          | 16     | h6      | 50 | 17    | 24 | 38  |
| 211274900  | HSKA63-AB22-050  | HSKA63          | 22     | h6      | 50 | 19    | 24 | 48  |
| 211275000  | HSKA63-AB27-060  | HSKA63          | 27     | h6      | 60 | 21    | 34 | 58  |
| 211275100  | HSKA63-AB32-060  | HSKA63          | 32     | h6      | 60 | 24    | 34 | 78  |
| 211275200  | HSKA63-AB40-060  | HSKA63          | 40     | h6      | 60 | 27    | 34 | 88  |
| 211276300  | HSKA100-AB16-050 | HSKA100         | 16     | h6      | 50 | 17    | 21 | 38  |
| 211276400  | HSKA100-AB22-050 | HSKA100         | 22     | h6      | 50 | 19    | 21 | 48  |
| 211276500  | HSKA100-AB27-050 | HSKA100         | 27     | h6      | 50 | 21    | 21 | 58  |
| 211276600  | HSKA100-AB32-050 | HSKA100         | 32     | h6      | 50 | 24    | 21 | 78  |
| 211276700  | HSKA100-AB40-070 | HSKA100         | 40     | h6      | 70 | 27    | 41 | 88  |
| 211276800  | HSKA100-AB60-070 | HSKA100         | 60     | h6      | 70 | 40    | 41 | 130 |

**NOTE :** For DCONWS = 40 mm or DCONWS = 60 mm the tool has four additional threaded holes according to DIN 2079.  
For DCONWS = 60 mm only with four fixation screws according to DIN 912.

Delivered with cross-head retaining screw.

## SPARE PARTS | Acessórios | Repuestos

| Accessories | Key                                                                                   | Retaining screw                                                                     | Screw                                                                                 |
|-------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             |  * |  |  * |
| Page        | 54                                                                                    | 53                                                                                  | 52                                                                                    |

\*Order separately

# MILLING ARBORS for screw-in cutters

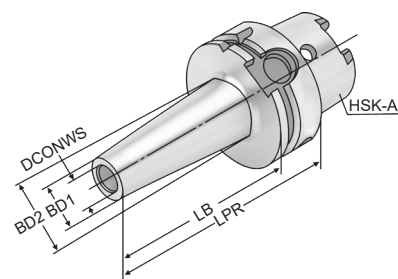
Suportes para fresas de aperto com parafuso | Portaherramientas para fresas de fijación de tornillos



**Run-out:**  $\nless 0,003 \text{ mm}$

**Balance quality grade:** G 2,5 | 25 000 rpm

ISO 12164-1 (HSK-A)  
DIN 69893-1 (HSK-A)



**Application:** For mounting screw-in cutters with thread

| Order code | Reference        | Dimensions (mm) |        |        |     |     |     |    |
|------------|------------------|-----------------|--------|--------|-----|-----|-----|----|
|            |                  | Type            | THSZWS | DCONWS | BD1 | BD2 | LPR | LB |
| 211272200  | HSKA63-TM08-076  | HSKA63          | M8     | 8,5    | 13  | 23  | 76  | 50 |
| 211272500  | HSKA63-TM10-076  | HSKA63          | M10    | 10,5   | 18  | 23  | 76  | 50 |
| 211272900  | HSKA63-TM12-076  | HSKA63          | M12    | 12,5   | 21  | 24  | 76  | 50 |
| 211273400  | HSKA63-TM16-076  | HSKA63          | M16    | 17     | 29  | 34  | 76  | 50 |
| 211273800  | HSKA100-TM08-079 | HSKA100         | M8     | 8,5    | 13  | 23  | 79  | 50 |
| 211273900  | HSKA100-TM10-079 | HSKA100         | M10    | 10,5   | 18  | 23  | 79  | 50 |
| 211274200  | HSKA100-TM12-079 | HSKA100         | M12    | 12,5   | 21  | 24  | 79  | 50 |
| 211274500  | HSKA100-TM16-079 | HSKA100         | M16    | 17     | 29  | 34  | 79  | 50 |

ISO 7388-1 (DIN 69871)

ISO 7388-2 (JIS B 6339 MAS-BT)

ISO 12164-1 HSK (DIN 69893-1 HSK)

SPARE PARTS

MILLING TOOLHOLDERS

# HYDRAULIC EXPANSION CHUCKS

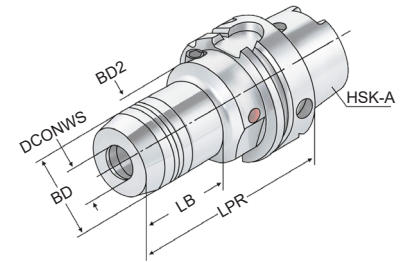
Mandris de expansão hidráulica | Mandriles hidráulicos de expansión



Run-out:  $\leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm

ISO 12164-1 (HSK-A)  
DIN 69893-1 (HSK-A)



**Application:** For mounting straight-shank tools according to DIN 1835 and DIN 6535

| Order code | Reference        | Dimensions (mm) |        |     |    |     |        |        |      |       |       |
|------------|------------------|-----------------|--------|-----|----|-----|--------|--------|------|-------|-------|
|            |                  | Type            | DCONWS | LPR | BD | BD2 | LSCXMS | ADJRGA | LB   | DRVSC | THID  |
| 211277400  | HSKA63-HY06-080  | HSKA63          | 6      | 80  | 26 | 50  | 37     | 10     | 33   | 5     | M6x1  |
| 211277500  | HSKA63-HY08-080  | HSKA63          | 8      | 80  | 28 | 50  | 37     | 10     | 33,5 | 5     | M6x1  |
| 211277600  | HSKA63-HY10-085  | HSKA63          | 10     | 85  | 30 | 50  | 42     | 10     | 39   | 5     | M8x1  |
| 211277700  | HSKA63-HY12-090  | HSKA63          | 12     | 90  | 32 | 50  | 47     | 10     | 44,5 | 5     | M8x2  |
| 211277800  | HSKA63-HY14-090  | HSKA63          | 14     | 90  | 34 | 50  | 47     | 10     | 46   | 5     | M10x1 |
| 211277900  | HSKA63-HY16-095  | HSKA63          | 16     | 95  | 38 | 50  | 52     | 10     | 51,5 | 5     | M12x1 |
| 211278000  | HSKA63-HY18-095  | HSKA63          | 18     | 95  | 40 | 50  | 52     | 10     | 52   | 5     | M12x1 |
| 211278100  | HSKA63-HY20-100  | HSKA63          | 20     | 100 | 42 | 50  | 52     | 10     | 58   | 5     | M10x1 |
| 211278200  | HSKA63-HY25-120  | HSKA63          | 25     | 120 | 50 | 50  | 58     | 10     | 94   | 6     | M16x1 |
| 211278300  | HSKA63-HY32-125  | HSKA63          | 32     | 125 | 60 | 53  | 62     | 10     | 83   | 6     | M16x1 |
| 211280200  | HSKA100-HY06-085 | HSKA100         | 6      | 85  | 26 | 63  | 37     | 10     | 33   | 5     | M6x1  |
| 211280300  | HSKA100-HY08-085 | HSKA100         | 8      | 85  | 28 | 63  | 37     | 10     | 33,5 | 5     | M6x1  |
| 211280400  | HSKA100-HY10-090 | HSKA100         | 10     | 90  | 30 | 63  | 42     | 10     | 39   | 5     | M8x1  |
| 211280500  | HSKA100-HY12-095 | HSKA100         | 12     | 95  | 32 | 63  | 47     | 10     | 44,5 | 5     | M8x2  |
| 211280600  | HSKA100-HY14-095 | HSKA100         | 14     | 95  | 34 | 63  | 47     | 10     | 46   | 5     | M8x2  |
| 211280700  | HSKA100-HY16-100 | HSKA100         | 16     | 100 | 38 | 63  | 52     | 10     | 53   | 5     | M12x1 |
| 211280800  | HSKA100-HY18-100 | HSKA100         | 18     | 100 | 40 | 63  | 52     | 10     | 52   | 5     | M12x1 |
| 211280900  | HSKA100-HY20-105 | HSKA100         | 20     | 105 | 42 | 63  | 52     | 10     | 51   | 5     | M12x1 |
| 211281000  | HSKA100-HY25-115 | HSKA100         | 25     | 115 | 50 | 63  | 58     | 10     | 64   | 6     | M12x1 |
| 211281100  | HSKA100-HY32-120 | HSKA100         | 32     | 120 | 60 | 63  | 62     | 10     | 61   | 6     | M12x1 |

**NOTE :** LSCXMS = max. clamping depth.  
ADJRGA = max. length adjustment range.

Delivered without wrench.

# SHRINK CHUCKS 4,5° for mounting of solid carbide and HSS-tool shanks

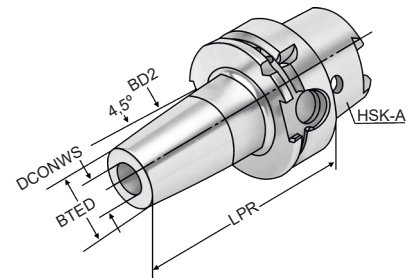
Mandris retrácteis 4,5° para montagem de fresas integrais e HSS | Portabrocas retráctil de 4,5° para montar fresas integrales y HSS

ISO 12164-1 (HSK-A)  
DIN 69893-1 (HSK-A)



Run-out:  $\leq 0,003 \text{ mm}$

Balance quality grade: G 2,5 | 25 000 rpm



**Application:** For mounting straight-shank tools

| Order code | Reference        | Dimensions (mm) |        |         |     |      |     |        |        |        |        |
|------------|------------------|-----------------|--------|---------|-----|------|-----|--------|--------|--------|--------|
|            |                  | Type            | DCONWS | TDCONWS | LPR | BTED | BD2 | LSCNMS | LSCXMS | ADJRGA | THID   |
| 211383500  | HSKA63-SH03-080  | HSKA63          | 3      | h4      | 80  | 11   | 15  | 9      | -      | -      | -      |
| 211383600  | HSKA63-SH04-080  | HSKA63          | 4      | h4      | 80  | 14   | 22  | 9      | -      | -      | -      |
| 211383700  | HSKA63-SH05-080  | HSKA63          | 5      | h4      | 80  | 16   | 22  | 10     | -      | -      | -      |
| 211383800  | HSKA63-SH06-080  | HSKA63          | 6      | h6      | 80  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211383900  | HSKA63-SH08-080  | HSKA63          | 8      | h6      | 80  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211384000  | HSKA63-SH10-085  | HSKA63          | 10     | h6      | 85  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211384100  | HSKA63-SH12-090  | HSKA63          | 12     | h6      | 90  | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211384200  | HSKA63-SH14-090  | HSKA63          | 14     | h6      | 90  | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211384300  | HSKA63-SH16-095  | HSKA63          | 16     | h6      | 95  | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211384400  | HSKA63-SH18-095  | HSKA63          | 18     | h6      | 95  | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211384500  | HSKA63-SH20-100  | HSKA63          | 20     | h6      | 100 | 33   | 42  | 41     | 51     | 10     | M16x1  |
| 211384600  | HSKA63-SH25-115  | HSKA63          | 25     | h7      | 115 | 44   | 53  | 47     | 57     | 10     | M16x2  |
| 211384700  | HSKA63-SH32-120  | HSKA63          | 32     | h8      | 120 | 44   | 53  | 51     | 61     | 10     | M16x3  |
| 211388100  | HSKA100-SH04-085 | HSKA100         | 4      | h4      | 85  | 14   | 22  | 8      | -      | -      | -      |
| 211388200  | HSKA100-SH05-085 | HSKA100         | 5      | h4      | 85  | 16   | 22  | 10     | -      | -      | -      |
| 211388300  | HSKA100-SH06-085 | HSKA100         | 6      | h6      | 85  | 21   | 27  | 22     | 36     | 10     | M5x0,8 |
| 211388400  | HSKA100-SH08-085 | HSKA100         | 8      | h6      | 85  | 21   | 27  | 26     | 36     | 10     | M6x1   |
| 211388500  | HSKA100-SH10-090 | HSKA100         | 10     | h6      | 90  | 24   | 32  | 31     | 41     | 10     | M8x1   |
| 211388600  | HSKA100-SH12-095 | HSKA100         | 12     | h6      | 95  | 24   | 32  | 36     | 46     | 10     | M10x1  |
| 211388700  | HSKA100-SH14-095 | HSKA100         | 14     | h6      | 95  | 27   | 34  | 36     | 46     | 10     | M10x1  |
| 211388800  | HSKA100-SH16-100 | HSKA100         | 16     | h6      | 100 | 27   | 34  | 39     | 49     | 10     | M12x1  |
| 211388900  | HSKA100-SH18-100 | HSKA100         | 18     | h6      | 100 | 33   | 42  | 39     | 49     | 10     | M12x1  |
| 211389000  | HSKA100-SH20-105 | HSKA100         | 20     | h6      | 105 | 33   | 42  | 41     | 51     | 10     | M16x1  |
| 211389100  | HSKA100-SH25-120 | HSKA100         | 25     | h6      | 120 | 44   | 53  | 47     | 57     | 10     | M16x1  |
| 211389200  | HSKA100-SH32-120 | HSKA100         | 32     | h6      | 120 | 44   | 53  | 51     | 61     | 10     | M16x1  |

**NOTE :** For DCONWS 3, 4 and 5 mm only solid carbide tool shanks must be used!

Toolholders suitable for induction-, contact- and hot air shrink units. DCONWS 3, 4, 5 with h4-tolerance and DCONWS 6 – 32 with h6-tolerance.

LSCXMS = max. clamping depth.

ADJRGA = max. length adjustment range.

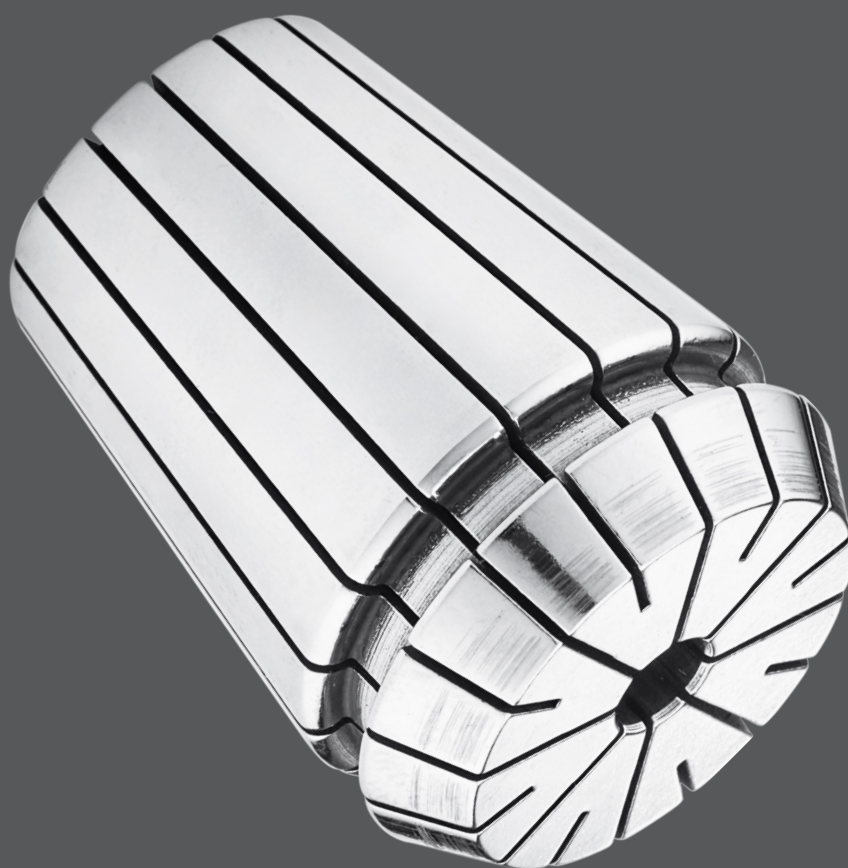
Delivered without wrench.



# SPARE PARTS

Acessórios | Repuestos

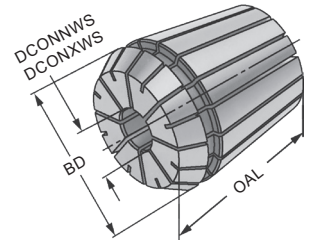
SPARE PARTS



## SPARE PARTS

Acessórios | Repuestos

## COLLETS ER-SYSTEM



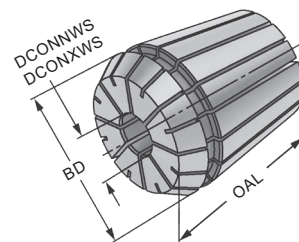
| Order code | Reference      | Size | Dimensions (mm) |        |    |      |
|------------|----------------|------|-----------------|--------|----|------|
|            |                |      | DCONXWS         | DCONWS | BD | OAL  |
| 211421000  | ER16 Ø1-0 UP   | ER16 | 1               | 0      | 17 | 27   |
| 211421100  | ER16 Ø2-1 UP   | ER16 | 2               | 1      | 17 | 27   |
| 211421200  | ER16 Ø3-2 UP   | ER16 | 3               | 2      | 17 | 27   |
| 211421300  | ER16 Ø4-3 UP   | ER16 | 4               | 3      | 17 | 27   |
| 211421400  | ER16 Ø5-4 UP   | ER16 | 5               | 4      | 17 | 27   |
| 211421500  | ER16 Ø6-5 UP   | ER16 | 6               | 5      | 17 | 27   |
| 211421600  | ER16 Ø7-6 UP   | ER16 | 7               | 6      | 17 | 27   |
| 211421700  | ER16 Ø8-7 UP   | ER16 | 8               | 7      | 17 | 27   |
| 211421800  | ER16 Ø9-8 UP   | ER16 | 9               | 8      | 17 | 27   |
| 211421900  | ER16 Ø10-9 UP  | ER16 | 10              | 9      | 17 | 27   |
| 211422000  | ER20 Ø2-1 UP   | ER20 | 2               | 1      | 21 | 31,5 |
| 211422100  | ER20 Ø3-2 UP   | ER20 | 3               | 2      | 21 | 31,5 |
| 211422200  | ER20 Ø4-3 UP   | ER20 | 4               | 3      | 21 | 31,5 |
| 211422300  | ER20 Ø5-4 UP   | ER20 | 5               | 4      | 21 | 31,5 |
| 211422400  | ER20 Ø6-5 UP   | ER20 | 6               | 5      | 21 | 31,5 |
| 211422500  | ER20 Ø7-6 UP   | ER20 | 7               | 6      | 21 | 31,5 |
| 211422600  | ER20 Ø8-7 UP   | ER20 | 8               | 7      | 21 | 31,5 |
| 211422700  | ER20 Ø9-8 UP   | ER20 | 9               | 8      | 21 | 31,5 |
| 211422800  | ER20 Ø10-9 UP  | ER20 | 10              | 9      | 21 | 31,5 |
| 211422900  | ER20 Ø11-10 UP | ER20 | 11              | 10     | 21 | 31,5 |
| 211423000  | ER20 Ø12-11 UP | ER20 | 12              | 11     | 21 | 31,5 |
| 211423100  | ER20 Ø13-12 UP | ER20 | 13              | 12     | 21 | 31,5 |
| 211415800  | ER25 Ø2-1 UP   | ER25 | 2               | 1      | 26 | 34   |
| 211415900  | ER25 Ø3-2 UP   | ER25 | 3               | 2      | 26 | 34   |
| 211416000  | ER25 Ø4-3 UP   | ER25 | 4               | 3      | 26 | 34   |
| 211416100  | ER25 Ø5-4 UP   | ER25 | 5               | 4      | 26 | 34   |
| 211416200  | ER25 Ø6-5 UP   | ER25 | 6               | 5      | 26 | 34   |
| 211423200  | ER25 Ø7-6 UP   | ER25 | 7               | 6      | 26 | 34   |
| 211416300  | ER25 Ø8-7 UP   | ER25 | 8               | 7      | 26 | 34   |
| 211423300  | ER25 Ø9-8 UP   | ER25 | 9               | 8      | 26 | 34   |
| 211416400  | ER25 Ø10-9 UP  | ER25 | 10              | 9      | 26 | 34   |
| 211423400  | ER25 Ø11-10 UP | ER25 | 11              | 10     | 26 | 34   |
| 211423500  | ER25 Ø12-11 UP | ER25 | 12              | 11     | 26 | 34   |
| 211423600  | ER25 Ø13-12 UP | ER25 | 13              | 12     | 26 | 34   |

Continue next page

# SPARE PARTS

Acessórios | Repuestos

## COLLETS ER-SYSTEM



| Order code | Reference      | Size | Dimensions (mm) |        |    |     |
|------------|----------------|------|-----------------|--------|----|-----|
|            |                |      | DCONXWS         | DCONWS | BD | OAL |
| 211423700  | ER25 Ø14-13 UP | ER25 | 14              | 13     | 26 | 34  |
| 211423800  | ER25 Ø15-14 UP | ER25 | 15              | 14     | 26 | 34  |
| 211423900  | ER25 Ø16-15 UP | ER25 | 16              | 15     | 26 | 34  |
| 211416500  | ER32 Ø2-1 UP   | ER32 | 2               | 1      | 33 | 40  |
| 211432300  | ER32 Ø3-2 UP   | ER32 | 3               | 2      | 33 | 40  |
| 211413200  | ER32 Ø4-3 UP   | ER32 | 4               | 3      | 33 | 40  |
| 211416600  | ER32 Ø5-4 UP   | ER32 | 5               | 4      | 33 | 40  |
| 211432400  | ER32 Ø6-5 UP   | ER32 | 6               | 5      | 33 | 40  |
| 211424000  | ER32 Ø7-6 UP   | ER32 | 7               | 6      | 33 | 40  |
| 211432500  | ER32 Ø8-7 UP   | ER32 | 8               | 7      | 33 | 40  |
| 211424100  | ER32 Ø9-8 UP   | ER32 | 9               | 8      | 33 | 40  |
| 211432600  | ER32 Ø10-9 UP  | ER32 | 10              | 9      | 33 | 40  |
| 211424200  | ER32 Ø11-10 UP | ER32 | 11              | 10     | 33 | 40  |
| 211432700  | ER32 Ø12-11 UP | ER32 | 12              | 11     | 33 | 40  |
| 211424300  | ER32 Ø13-12 UP | ER32 | 13              | 12     | 33 | 40  |
| 211424400  | ER32 Ø14-13 UP | ER32 | 14              | 13     | 33 | 40  |
| 211424500  | ER32 Ø15-14 UP | ER32 | 15              | 14     | 33 | 40  |
| 211424600  | ER32 Ø16-15 UP | ER32 | 16              | 15     | 33 | 40  |
| 211424700  | ER32 Ø17-16 UP | ER32 | 17              | 16     | 33 | 40  |
| 211424800  | ER32 Ø18-17 UP | ER32 | 18              | 17     | 33 | 40  |
| 211424900  | ER32 Ø19-18 UP | ER32 | 19              | 18     | 33 | 40  |
| 211425000  | ER32 Ø20-19 UP | ER32 | 20              | 19     | 33 | 40  |
| 211425100  | ER40 Ø3-2 UP   | ER40 | 3               | 2      | 41 | 46  |
| 211425200  | ER40 Ø4-3 UP   | ER40 | 4               | 3      | 41 | 46  |
| 211425300  | ER40 Ø5-4 UP   | ER40 | 5               | 4      | 41 | 46  |
| 211425400  | ER40 Ø6-5 UP   | ER40 | 6               | 5      | 41 | 46  |
| 211425500  | ER40 Ø7-6 UP   | ER40 | 7               | 6      | 41 | 46  |
| 211425600  | ER40 Ø8-7 UP   | ER40 | 8               | 7      | 41 | 46  |
| 211425700  | ER40 Ø9-8 UP   | ER40 | 9               | 8      | 41 | 46  |
| 211425800  | ER40 Ø10-9 UP  | ER40 | 10              | 9      | 41 | 46  |
| 211425900  | ER40 Ø11-10 UP | ER40 | 11              | 10     | 41 | 46  |
| 211426000  | ER40 Ø12-11 UP | ER40 | 12              | 11     | 41 | 46  |
| 211426100  | ER40 Ø13-12 UP | ER40 | 13              | 12     | 41 | 46  |
| 211426200  | ER40 Ø14-13 UP | ER40 | 14              | 13     | 41 | 46  |

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ISO 7388-1 (DIN 69871)

ISO 7388-2 (JIS B6339 MAS-BT)

ISO 12164-1 HSK (DIN 69893-1 HSK)

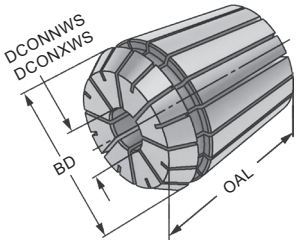
SPARE PARTS

MILLING TOOLHOLDERS

SPARE PARTS

Acessórios | Repuestos

COLLETS ER-SYSTEM

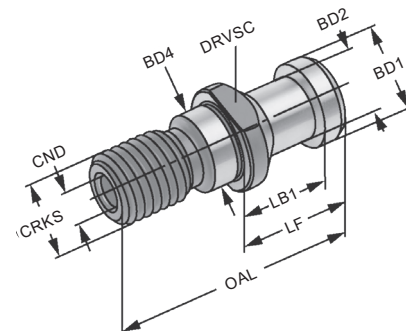


| Order code | Reference      | Size | Dimensions (mm) |         |    |     |
|------------|----------------|------|-----------------|---------|----|-----|
|            |                |      | DCONXWS         | DCONNWS | BD | OAL |
| 211426300  | ER40 Ø15-14 UP | ER40 | 15              | 14      | 41 | 46  |
| 211426400  | ER40 Ø16-15 UP | ER40 | 16              | 15      | 41 | 46  |
| 211426500  | ER40 Ø17-16 UP | ER40 | 17              | 16      | 41 | 46  |
| 211426600  | ER40 Ø18-17 UP | ER40 | 18              | 17      | 41 | 46  |
| 211426700  | ER40 Ø19-18 UP | ER40 | 19              | 18      | 41 | 46  |
| 211426800  | ER40 Ø20-19 UP | ER40 | 20              | 19      | 41 | 46  |
| 211426900  | ER40 Ø21-20 UP | ER40 | 21              | 20      | 41 | 46  |
| 211427000  | ER40 Ø22-21 UP | ER40 | 22              | 21      | 41 | 46  |
| 211427100  | ER40 Ø23-22 UP | ER40 | 23              | 22      | 41 | 46  |
| 211427200  | ER40 Ø24-23 UP | ER40 | 24              | 23      | 41 | 46  |
| 211427300  | ER40 Ø25-24 UP | ER40 | 25              | 24      | 41 | 46  |
| 211427400  | ER40 Ø26-25 UP | ER40 | 26              | 25      | 41 | 46  |

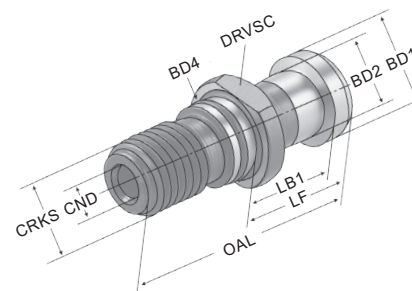
# SPARE PARTS

Acessórios | Repuestos

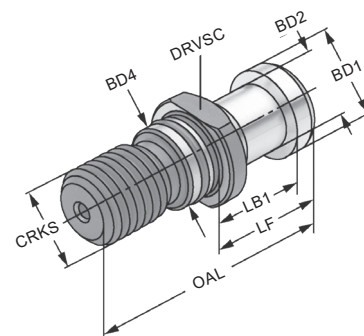
## PULL STUDS



| Order code | Reference        | Dimensions |     |    |     |     |     |     |      |      |       |      |
|------------|------------------|------------|-----|----|-----|-----|-----|-----|------|------|-------|------|
|            |                  | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND  | BHTA | DRVSC | FORM |
| 211427500  | M12-240-15 AD    | M12        | 44  | 24 | 19  | 13  | 9   | 13  | 3    | 15°  | 14    | AD   |
| 211427600  | M16-260-15 AD-WO | M16        | 54  | 26 | 20  | 19  | 14  | 17  | 7    | 15°  | 19    | AD   |
| 211427700  | M24-340-15 AD-WO | M24        | 74  | 34 | 25  | 28  | 14  | 25  | 11,5 | 15°  | 30    | AD   |



| Order code | Reference     | Dimensions |     |    |     |     |     |     |      |      |       |      |
|------------|---------------|------------|-----|----|-----|-----|-----|-----|------|------|-------|------|
|            |               | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND  | BHTA | DRVSC | FORM |
| 211427800  | M16-260-15 AD | M16        | 54  | 26 | 20  | 19  | 14  | 17  | 7    | 15°  | 19    | AD   |
| 211427900  | M24-340-15 AD | M24        | 74  | 34 | 25  | 28  | 21  | 25  | 11,5 | 15°  | 30    | AD   |



| Order code | Reference     | Dimensions |     |    |     |     |     |     |     |      |       |      |
|------------|---------------|------------|-----|----|-----|-----|-----|-----|-----|------|-------|------|
|            |               | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND | BHTA | DRVSC | FORM |
| 211428000  | M16-260-15 AF | M16        | 54  | 26 | 20  | 19  | 14  | 17  | -   | 15°  | 19    | AF   |
| 211428100  | M24-340-15 AF | M24        | 74  | 34 | 25  | 28  | 21  | 25  | -   | 15°  | 30    | AF   |

MILLING TOOLHOLDERS

ISO 7388-1 (DIN 69871)

ISO 7388-2 (JIS B 6339 MAS-BT)

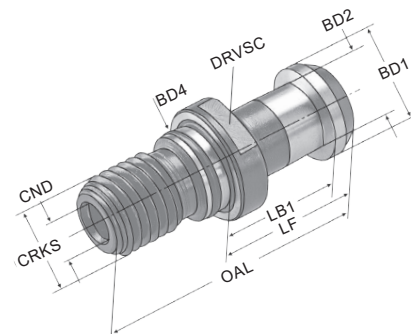
ISO 12164-1 HSK (DIN 69893-1 HSK)

SPARE PARTS

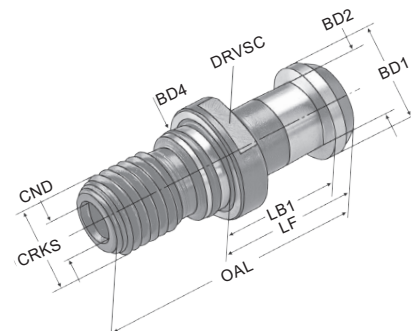
# SPARE PARTS

Acessórios | Repuestos

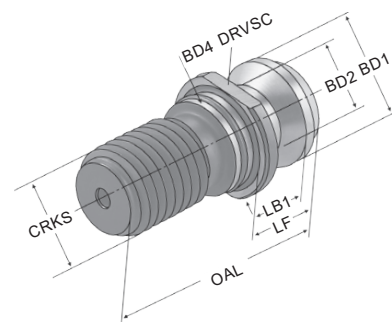
## PULL STUDS



| Order code | Reference         | Dimensions |     |    |     |     |     |     |     |      |       |      |
|------------|-------------------|------------|-----|----|-----|-----|-----|-----|-----|------|-------|------|
|            |                   | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND | BHTA | DRVSC | FORM |
| 211428200  | M16-290-15 AD     | M16        | 54  | 29 | 23  | 19  | 14  | 17  | 7   | 15°  | 19    | AD   |
| 211428300  | M16-290-15 AD-OKU | M16        | 54  | 29 | 23  | 19  | 14  | 17  | 4   | 15°  | 19    | AD   |



| Order code | Reference        | Dimensions |     |    |     |     |     |     |     |      |       |      |
|------------|------------------|------------|-----|----|-----|-----|-----|-----|-----|------|-------|------|
|            |                  | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND | BHTA | DRVSC | FORM |
| 211428400  | M16-290-15 AD-MS | M16        | 54  | 29 | 23  | 19  | 14  | 17  | 7   | 15°  | 19    | AD   |
| 211428500  | M16-260-15 AD-MS | M16        | 54  | 26 | 20  | 19  | 14  | 17  | 7   | 15°  | 19    | AD   |

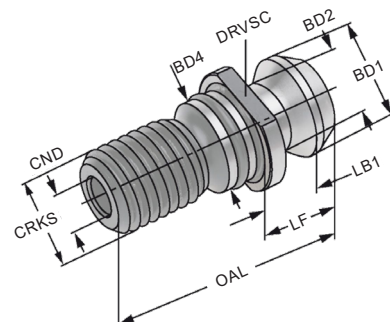


| Order code | Reference     | Dimensions |      |       |       |       |       |     |     |      |       |      |
|------------|---------------|------------|------|-------|-------|-------|-------|-----|-----|------|-------|------|
|            |               | CRKS       | OAL  | LF    | LB1   | BD1   | BD2   | BD4 | CND | BHTA | DRVSC | FORM |
| 211428600  | M16-164-45 UF | M16        | 44,5 | 16,4  | 11,15 | 18,95 | 12,95 | 17  | -   | 45°  | 19    | UF   |
| 211428700  | M24-256-45 UF | M24        | 65,5 | 25,55 | 17,95 | 29,1  | 19,6  | 25  | -   | 45°  | 30    | UF   |

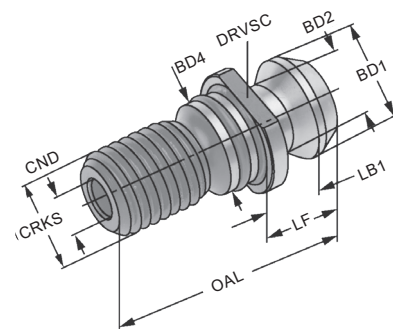
# SPARE PARTS

Acessórios | Repuestos

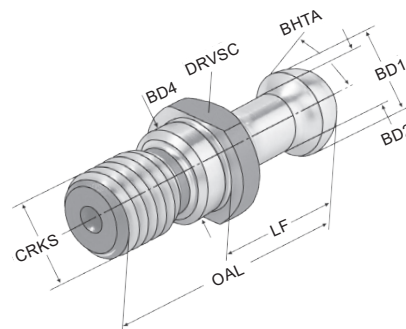
## PULL STUDS



| Order code | Reference     | Dimensions |      |       |       |       |       |     |      |      |       |      |
|------------|---------------|------------|------|-------|-------|-------|-------|-----|------|------|-------|------|
|            |               | CRKS       | OAL  | LF    | LB1   | BD1   | BD2   | BD4 | CND  | BHTA | DRVSC | FORM |
| 211428800  | M16-164-45 UD | M16        | 44,5 | 16,4  | 11,15 | 18,95 | 12,95 | 17  | 7    | 45°  | 19    | UD   |
| 211428900  | M24-256-45 UD | M24        | 65,5 | 25,55 | 17,95 | 29,1  | 19,6  | 25  | 11,5 | 45°  | 30    | UD   |



| Order code | Reference     | Dimensions |      |       |       |       |       |     |     |      |       |      |
|------------|---------------|------------|------|-------|-------|-------|-------|-----|-----|------|-------|------|
|            |               | CRKS       | OAL  | LF    | LB1   | BD1   | BD2   | BD4 | CND | BHTA | DRVSC | FORM |
| 211429000  | M16-163-45 UD | M16        | 47,5 | 16,25 | 14,15 | 18,95 | 12,95 | 17  | 7,3 | 45°  | 19    | UD   |



| Order code | Reference    | Dimensions |     |    |     |     |     |     |     |      |       |      |
|------------|--------------|------------|-----|----|-----|-----|-----|-----|-----|------|-------|------|
|            |              | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND | BHTA | DRVSC | FORM |
| 211429100  | M12-240-R3,2 | M12        | 44  | 24 | -   | 12  | 8   | 13  | -   | R3,2 | 14    | -    |

MILLING TOOLHOLDERS

ISO 7388-1 (DIN 69871)

ISO 7388-2 (JIS B 6339 MAS-BT)

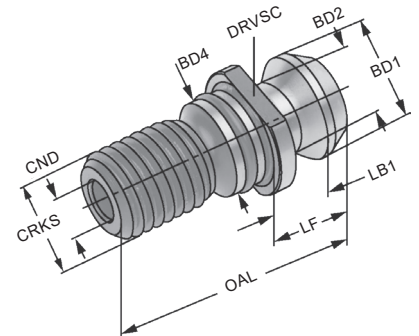
ISO 12164-1 HSK (DIN 69893-1 HSK)

SPARE PARTS

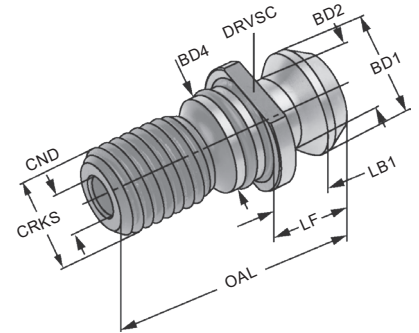
# SPARE PARTS

Acessórios | Repuestos

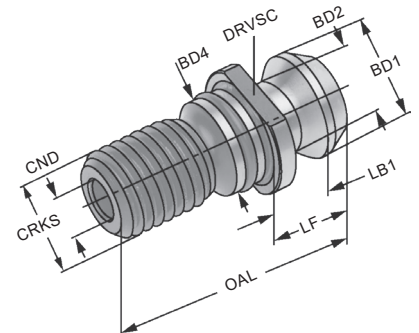
## PULL STUDS



| Order code | Reference         | Dimensions |       |       |       |      |       |     |     |      |       |      |
|------------|-------------------|------------|-------|-------|-------|------|-------|-----|-----|------|-------|------|
|            |                   | CRKS       | OAL   | LF    | LB1   | BD1  | BD2   | BD4 | CND | BHTA | DRVSC | FORM |
| 211429200  | M16-163-45 UD-CAT | M16        | 41,26 | 16,26 | 11,18 | 18,8 | 12,45 | 17  | 7   | 45°  | 19    | UD   |



| Order code | Reference         | Dimensions |      |      |      |       |      |     |      |      |       |      |
|------------|-------------------|------------|------|------|------|-------|------|-----|------|------|-------|------|
|            |                   | CRKS       | OAL  | LF   | LB1  | BD1   | BD2  | BD4 | CND  | BHTA | DRVSC | FORM |
| 211429300  | M24-254-45 UD-CAT | M24        | 65,4 | 25,4 | 17,8 | 28,95 | 20,8 | 25  | 11,5 | 45°  | 30    | UD   |

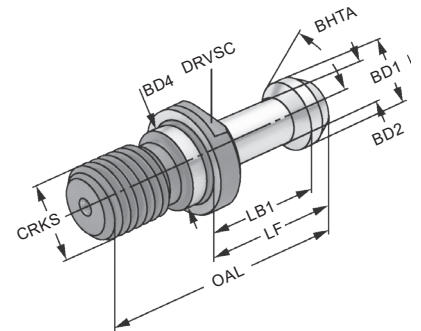


| Order code | Reference            | Dimensions |       |       |       |       |       |     |      |      |       |      |
|------------|----------------------|------------|-------|-------|-------|-------|-------|-----|------|------|-------|------|
|            |                      | CRKS       | OAL   | LF    | LB1   | BD1   | BD2   | BD4 | CND  | BHTA | DRVSC | FORM |
| 211429400  | M16-163-45 UD-CAT-HP | M16        | 41,26 | 16,26 | 11,18 | 18,8  | 12,45 | 17  | 7    | 45°  | 19    | UD   |
| 211429500  | M24-254-45 UD-CAT-HP | M24        | 65,4  | 25,4  | 17,8  | 28,95 | 20,8  | 25  | 11,5 | 45°  | 30    | UD   |

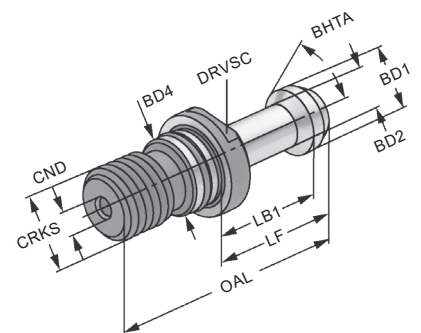
# SPARE PARTS

Acessórios | Repuestos

## PULL STUDS



| Order code | Reference     | Dimensions |     |    |     |     |     |      |     |      |       |      |
|------------|---------------|------------|-----|----|-----|-----|-----|------|-----|------|-------|------|
|            |               | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4  | CND | BHTA | DRVSC | FORM |
| 211429600  | M12-230-45 JF | M12        | 43  | 23 | 18  | 11  | 7   | 12,5 | -   | 45°  | 13    | JF   |
| 211429700  | M12-230-60 JF | M12        | 43  | 23 | 18  | 11  | 7   | 12,5 | -   | 60°  | 13    | JF   |
| 211429800  | M16-350-45 JF | M16        | 60  | 35 | 28  | 15  | 10  | 17   | -   | 45°  | 19    | JF   |
| 211429900  | M16-350-60 JF | M16        | 60  | 35 | 28  | 15  | 10  | 17   | -   | 60°  | 19    | JF   |
| 211430000  | M16-350-90 JF | M16        | 60  | 35 | 28  | 15  | 10  | 17   | -   | 90°  | 19    | JF   |
| 211430100  | M24-450-45 JF | M24        | 85  | 45 | 35  | 23  | 17  | 25   | -   | 45°  | 30    | JF   |
| 211430200  | M24-450-60 JF | M24        | 85  | 45 | 35  | 23  | 17  | 25   | -   | 60°  | 30    | JF   |
| 211430300  | M24-450-90 JF | M24        | 85  | 45 | 35  | 23  | 17  | 25   | -   | 90°  | 30    | JF   |



| Order code | Reference     | Dimensions |     |    |     |     |     |      |     |      |       |      |
|------------|---------------|------------|-----|----|-----|-----|-----|------|-----|------|-------|------|
|            |               | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4  | CND | BHTA | DRVSC | FORM |
| 211430400  | M12-230-45 JD | M12        | 43  | 23 | 18  | 11  | 7   | 12,5 | 2,5 | 45°  | 13    | JD   |
| 211430500  | M12-230-60 JD | M12        | 43  | 23 | 18  | 11  | 7   | 12,5 | 2,5 | 60°  | 13    | JD   |
| 211430600  | M16-350-45 JD | M16        | 60  | 35 | 28  | 15  | 10  | 17   | 4   | 45°  | 19    | JD   |
| 211430700  | M16-350-60 JD | M16        | 60  | 35 | 28  | 15  | 10  | 17   | 4   | 60°  | 19    | JD   |
| 211430800  | M16-350-90 JD | M16        | 60  | 35 | 28  | 15  | 10  | 17   | 4   | 90°  | 19    | JD   |
| 211430900  | M24-450-45 JD | M24        | 85  | 45 | 35  | 23  | 17  | 25   | 6   | 45°  | 30    | JD   |
| 211431000  | M24-450-60 JD | M24        | 85  | 45 | 35  | 23  | 17  | 25   | 6   | 60°  | 30    | JD   |
| 211431100  | M24-450-90 JD | M24        | 85  | 45 | 35  | 23  | 17  | 25   | 6   | 90°  | 30    | JD   |

MILLING TOOLHOLDERS

ISO 7388-1 (DIN 69871)

ISO 7388-2 (JIS B 6339 MAS-BT)

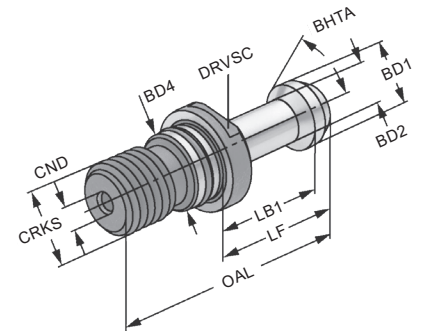
ISO 12164-1 HSK (DIN 69893-1 HSK)

SPARE PARTS

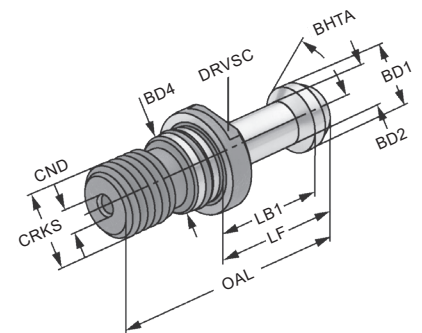
# SPARE PARTS

Acessórios | Repuestos

## PULL STUDS



| Order code | Reference         | Dimensions |     |    |     |     |     |     |     |      |       |      |
|------------|-------------------|------------|-----|----|-----|-----|-----|-----|-----|------|-------|------|
|            |                   | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND | BHTA | DRVSC | FORM |
| 211431200  | M16-320-45 JD-HHM | M16        | 57  | 32 | 25  | 15  | 10  | 17  | 4   | 45°  | 19    | JD   |
| 211431300  | M16-320-60 JD-HHM | M16        | 57  | 32 | 25  | 15  | 10  | 17  | 4   | 60°  | 19    | JD   |
| 211431400  | M16-320-90 JD-HHM | M16        | 57  | 32 | 25  | 15  | 10  | 17  | 4   | 90°  | 19    | JD   |

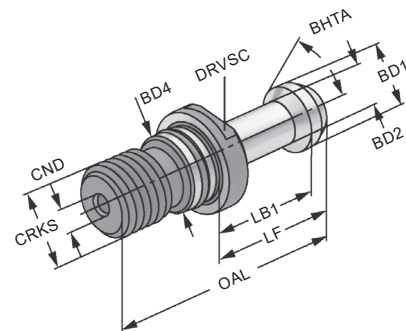
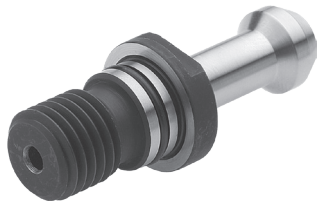


| Order code | Reference         | Dimensions |     |    |     |     |     |     |     |      |       |      |
|------------|-------------------|------------|-----|----|-----|-----|-----|-----|-----|------|-------|------|
|            |                   | CRKS       | OAL | LF | LB1 | BD1 | BD2 | BD4 | CND | BHTA | DRVSC | FORM |
| 211431500  | M16-320-45 JF-HHM | M16        | 57  | 32 | 25  | 15  | 10  | 17  | -   | 45°  | 19    | JF   |
| 211431600  | M16-320-60 JF-HHM | M16        | 57  | 32 | 25  | 15  | 10  | 17  | -   | 60°  | 19    | JF   |
| 211431700  | M16-320-90 JF-HHM | M16        | 57  | 32 | 25  | 15  | 10  | 17  | -   | 90°  | 19    | JF   |

# SPARE PARTS

Acessórios | Repuestos

## PULL STUDS

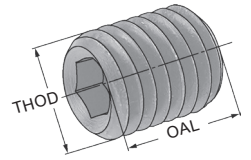


| Order code | Reference         | Dimensions |      |      |      |     |     |      |     |      |       |      |
|------------|-------------------|------------|------|------|------|-----|-----|------|-----|------|-------|------|
|            |                   | CRKS       | OAL  | LF   | LB1  | BD1 | BD2 | BD4  | CND | BHTA | DRVSC | FORM |
| 211431800  | M12-236-45 JD-HHM | M12        | 43,6 | 23,6 | 18,6 | 11  | 8   | 13   | 4   | 45°  | 13    | JD   |
| 211431900  | M12-230-60 JD-BRO | M12        | 43   | 23   | 18   | 11  | 7,5 | 12,5 | 2,5 | 60°  | 13    | JD   |
| 211432000  | M12-230-90 JD-DC  | M12        | 43   | 23   | 18   | 11  | 8   | 12,5 | 4   | 90°  | 13    | JD   |

# SPARE PARTS

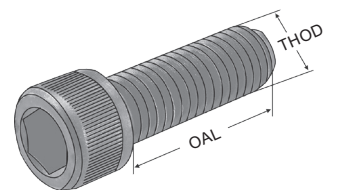
Acessórios | Repuestos

## CLAMPING SCREW



| Order code | Reference | Dimensions |     |       |
|------------|-----------|------------|-----|-------|
|            |           | THOD       | OAL | DRVSC |
| 290099400  | H0601000  | M6x1       | 10  | 3     |
| 290099500  | H0801000  | M8x1,25    | 10  | 4     |
| 290099600  | H1001200  | M10x1,5    | 12  | 5     |
| 290099700  | H1201600  | M12x1,75   | 16  | 6     |
| 290099800  | H1401600  | M14x2      | 16  | 6     |
| 290099900  | H1601600  | M16x2      | 16  | 8     |
| 290100000  | H1802000  | M18x2      | 20  | 10    |
| 290100100  | H2002000  | M20x2      | 20  | 10    |
| 290100200  | H2002500  | M20x2      | 25  | 10    |

## SCREW DIN 912

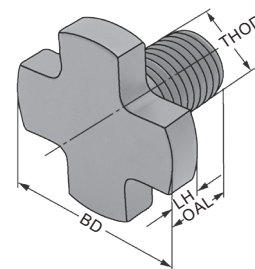


| Order code | Reference | Dimensions |      |    |       |
|------------|-----------|------------|------|----|-------|
|            |           | SIZE       | THOD | LB | DRVSC |
| 290087200  | D0802500  | 16         | M8   | 25 | 6     |
| 290101000  | D1002500  | 22         | M10  | 25 | 8     |
| 290095100  | D1203500  | 27         | M12  | 35 | 10    |
| 290087700  | D1603500  | 32         | M16  | 35 | 14    |
| 290087800  | D2004000  | 40         | M20  | 40 | 17    |

# SPARE PARTS

Acessórios | Repuestos

## RETAINING SCREW



| Order code | Reference | Dimensions |      |    |    |     |
|------------|-----------|------------|------|----|----|-----|
|            |           | SIZE       | THOD | BD | LH | OAL |
| 290100300  | J0801400  | 16         | M8   | 20 | 6  | 22  |
| 290100400  | J1001800  | 22         | M10  | 28 | 7  | 25  |
| 290100500  | J1202200  | 27         | M12  | 35 | 8  | 30  |
| 290100600  | J1602600  | 32         | M16  | 42 | 9  | 35  |
| 290100700  | J2003000  | 40         | M20  | 52 | 10 | 40  |
| 290100800  | J2403600  | 50         | M24  | 63 | 12 | 48  |
| 290100900  | J3005600  | 60         | M30  | 75 | 14 | 60  |

ISO 7388-1 (DIN 69871)

ISO 7388-2 (JIS B 6339 MAS-BT)

ISO 12164-1 HSK (DIN 69893-1 HSK)

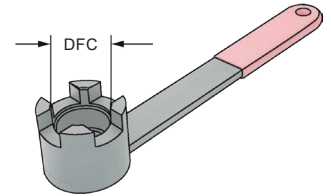
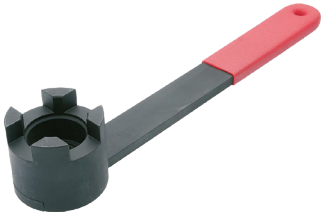
SPARE PARTS

MILLING TOOLHOLDERS

# SPARE PARTS

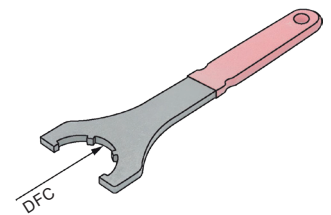
Acessórios | Repuestos

## WRENCH DIN 6368 FOR SHELL ARBORS



| Order code | Reference | Dimensions |  |
|------------|-----------|------------|--|
|            |           | DFC        |  |
| 290101100  | SD6368-08 | 16   M08   |  |
| 290047900  | SD6368-10 | 22   M10   |  |
| 290058000  | SD6368-12 | 27   M12   |  |
| 290058100  | SD6368-16 | 32   M16   |  |
| 290058200  | SD6368-20 | 40   M20   |  |
| 290101200  | SD6368-24 | 50   M24   |  |
| 290101300  | SD6368-30 | 10   M30   |  |

## WRENCH FOR COLLETS ER-SYSTEM



| Order code | Reference | Dimensions |     |
|------------|-----------|------------|-----|
|            |           | TYPE       | DFC |
| 290101400  | ER16-UM   | ER16       | 32  |
| 290101500  | ER20-UM   | ER20       | 35  |
| 290101600  | ER25-UM   | ER25       | 42  |
| 290101700  | ER32-UM   | ER32       | 50  |
| 290101800  | ER40-UM   | ER40       | 63  |

# NOMENCLATURES

Nomenclaturas | Nomenclatura

| Code           | Description                                        |
|----------------|----------------------------------------------------|
| <b>ADJRG</b>   | Adjustment range axial                             |
| <b>BD</b>      | Body diameter                                      |
| <b>BD1</b>     | Body diameter 1                                    |
| <b>BD2</b>     | Body diameter 2                                    |
| <b>BHTA</b>    | Body half taper angle                              |
| <b>BTED</b>    | Body taper end diameter                            |
| <b>CND</b>     | Coolant entry diameter                             |
| <b>CRKS</b>    | Connection retention knob thread size              |
| <b>DFC</b>     | Functional diameter                                |
| <b>DCONWS</b>  | Connection diameter workpiece side                 |
| <b>DCONNWS</b> | Connection diameter minimum workpiece side         |
| <b>DCONXWS</b> | Connection diameter maximum workpiece side         |
| <b>DLN</b>     | Diameter lock nut                                  |
| <b>DRVSC</b>   | Drive size                                         |
| <b>LB</b>      | Body length                                        |
| <b>LB2</b>     | Secondary body length                              |
| <b>LF</b>      | Functional length                                  |
| <b>LH</b>      | Head length                                        |
| <b>LPR</b>     | Protruding length                                  |
| <b>LSCMS</b>   | Clamping length workpiece side                     |
| <b>LSCNMS</b>  | Clamping length minimum machine side               |
| <b>LSCXMS</b>  | Clamping length maximum machine side               |
| <b>OAL</b>     | Overall length                                     |
| <b>TDCONWS</b> | Tolerance class connection diameter workpiece side |
| <b>THID</b>    | Thread designation inside                          |
| <b>THOD</b>    | Thread designation outside                         |
| <b>THSZWS</b>  | Connection thread nominal size workpiece side      |

# TOOL HOLDING SOLUTIONS

PRECISION AND PERFORMANCE IN EVERY CLAMPING



Check the QrCode  
for more information



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