

TOOL HOLDING SYSTEMS

Made in Germany.





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SK 40 DIN 69871

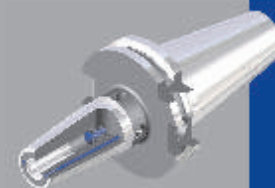
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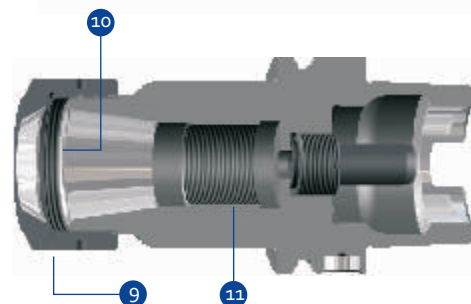
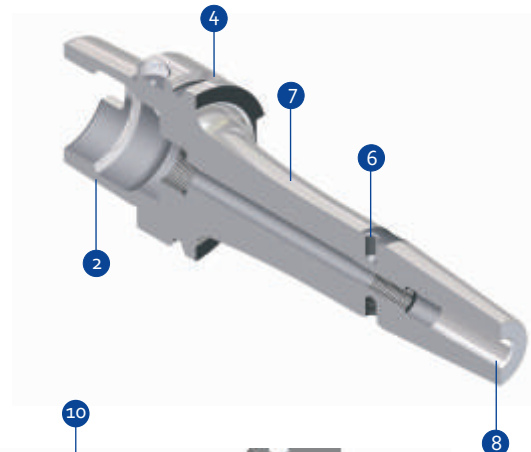
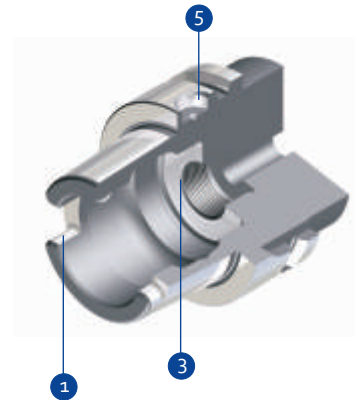
WHAT IS IMPORTANT TO US

- 1 **Our commitment to Germany**
Our products are 100 % Made in Germany.
- 2 **We train – from belief**
We believe in our success and we also want dedicated employees in the future.
- 3 **Innovation from tradition**
We are constantly investing to ensure our machinery remains at the forefront of technological development.
- 4 **The best quality standards**
Only high quality products can convince our customers.
- 5 **Environmental awareness**
We feel bound to the use of sustainable forms of energy and have installed a photovoltaic installation and CO₂-neutral wood heating system on our premises.



QUALITY FEATURES

- 1 Hard reworked drive slots on HSK-taper guarantees:**
 - 100% symmetry of the HSK-slots
 - perfect seat and torque transfer in machine spindle
- 2 Hard reworked HSK-shoulder guarantees:**
 - perfect runout of clamping shoulder (0,01 instead of 0,04 according to DIN)
 - highest runout accuracy
 - maximum clamping force in spindle
 - maximum radial rigidity
- 3 Hard reworked HSK-discharge surface guarantees:**
 - safe release of HSK at tool change
- 4 All toolholders fine balanced to G2,5 25.000 or max. unbalance ≤ 1 gmm, for:**
 - smooth and bearing protecting spindle run
 - longer spindle life cycle
 - maximum tool life
 - better milling surface
- 5 HSK-A, DIN 69871 and CORUM have included the bore for disk-chip as standard**
- 6 Standard shrink fit chucks with 4-threads for supplementary fine balancing**
- 7 Long version with transition radius for increased radial rigidity**
- 8 Long shrink fit for maximum clamping force with insertion radius only**
- 9 Fine balanced and hardened clamping nut**
- 10 Radius transfer to ER-taper maintains accuracy of the collet**
- 11 Big insertion depth for tools with long shank**



Runout tolerance of the different toolholdertypes:

Toolholdertype:	Runout A<160	Runout A>=160
Endmill holder Weldon, Collet chuck, Shrink fit holder, End mill holder Whistle Notch	$\leq 3 \mu$	$\leq 4 \mu$
Shell mill holder, Combi shell mill holder	$\leq 6 \mu$	$\leq 6 \mu$
Morse taper adapter	$\leq 8 \mu$	

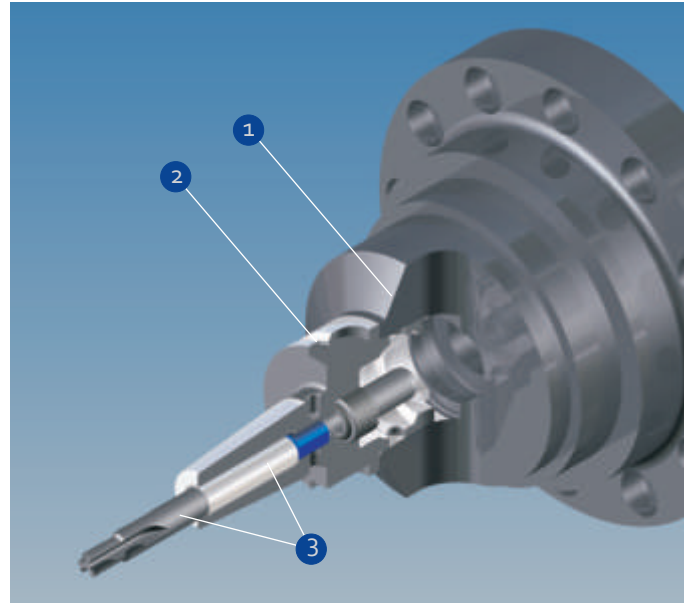
WHAT IS IMPORTANT TO YOU?

Permanent improvements in cutting materials and coatings combined with higher spindle speeds means tools can be used with ever higher cutting speeds. This is a major advantage, as the biggest potential for savings in manufacturing costs lies in cycle time and machine availability.

But what if these benefits cannot be used to their full advantage because the only connection between the machine spindle and the tool – i.e. the tool holder – is not working correctly?

The following criteria are especially important for optimal machining and are fulfilled completely by our tool holders:

- 1 PERFECT POSITIONING OF THE CONE IN THE SPINDLE:**
This is the first important requirement for achieving optimal processing results. Apart from bad machining results (dimensional accuracy and surface quality), inaccurate taper shanks can also damage machine spindles over time. Given there can be well over 1,000 tool changes a day, inaccurate cones can damage a new spindle in just a few weeks and lead to a significant reduction in machine performance.
- 2 HIGH ROTATIONS, HIGH BALANCE DEMANDS:**
High cutting speeds require high rotations. The better the tool holder is balanced, the more effectively you can use the performance which expensive HSC tools offer, as the highest balancing quality means there are practically no oscillations and vibrations. Finely balanced tool holders also protect the high-precision spindle bearings and thus make a significant contribution towards ensuring a long service life of your spindles and high availability of the machine.
- 3 RUNOUT OF THE TOOLS:**
Only when cutting tools have optimal runout can tool performance be fully utilised and this in turn leads to reduced processing time. Good runout also significantly increases service life. If you consider that, depending on the interface (HSK or SK) and clamping system (e.g. ER chuck or shrink fit chuck), a tool holder can cost between €60 and €120 and has a service life of five years, the price is completely irrelevant in relation to how often the cutting tool is changed on this holder.



JUST COMPARE WHETHER THE CHEAPER OPTION PAYS OFF IN THE END...

»NONAME« HSK-A63 ER COLLET CHUCK WITH STANDARD COLLETS, CLAMP Ø 16MM

Price: 85,- € · Usage time: 5 years
Tool costs: solid carbide, coated, Ø 16 mm: 130,- €
Consumption: 1 milling cutter per week,
48 milling cutters per year = 6,240,- € / year
In 5 years = 31,200,- € in total

Alternatively:

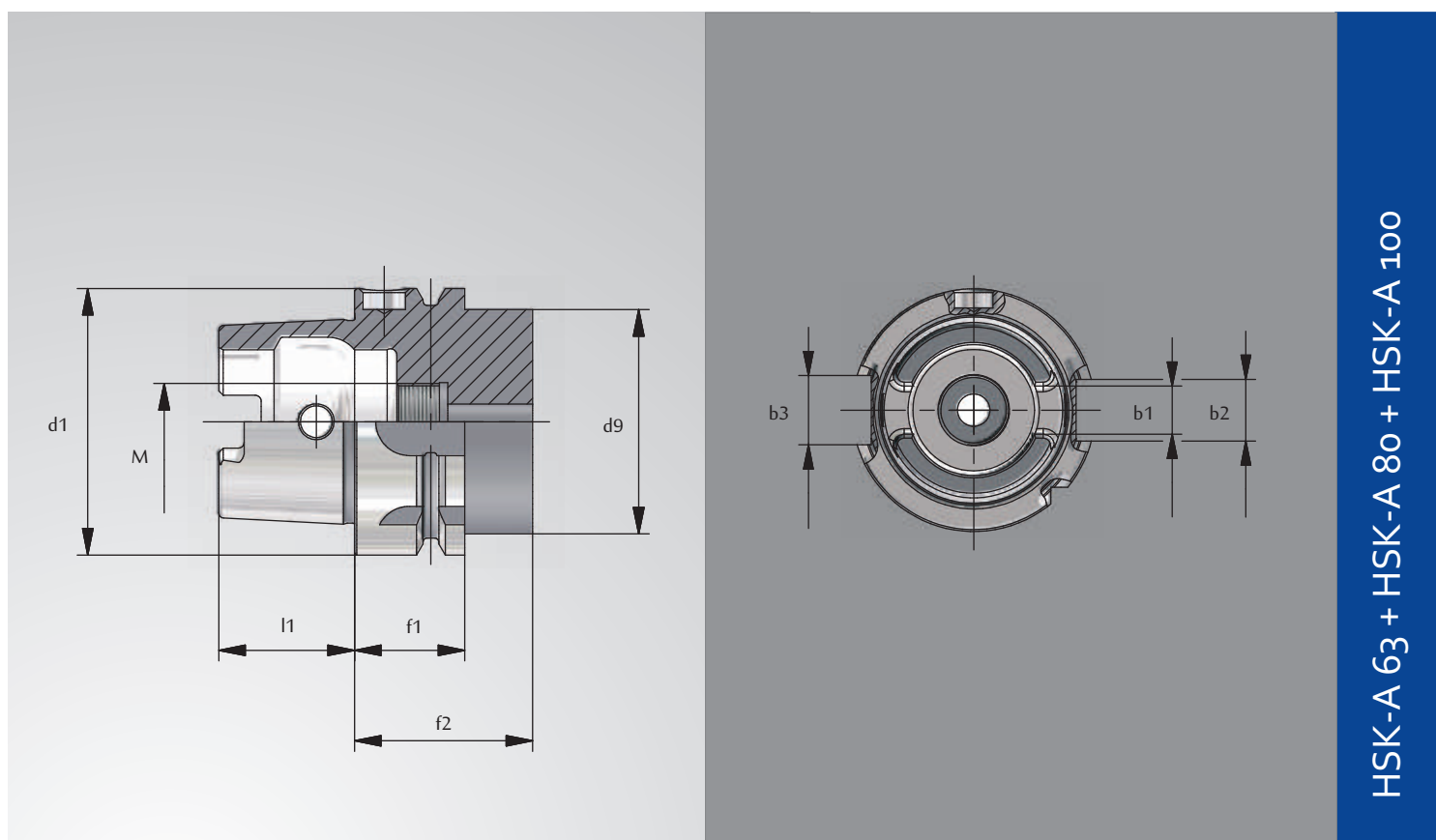
SCHÜSSLER HIGH-PRECISION COLLET CHUCK WITH HIGH-PERFORMANCE NUTS AND COLLET, CLAMPING Ø 16MM

Price: 130,- €,
Usage: 5 years
Tool costs: solid carbide, coated, Ø 16 mm: 130,- €
Savings in tool costs with a 10% improvement in service life:
Consumption: 0,9 milling cutters per week,
43 milling cutters per year = 5,590,- € / year
In 5 years = 27,950,- € in total

Savings: 3,250 € when you invest 45,- € in a better tool holder!

TOOL HOLDERS

WITH SHANK HSK-A 63, HSK-A 80 AND HSK-A 100



HSK-A 63 + HSK-A 80 + HSK-A 100

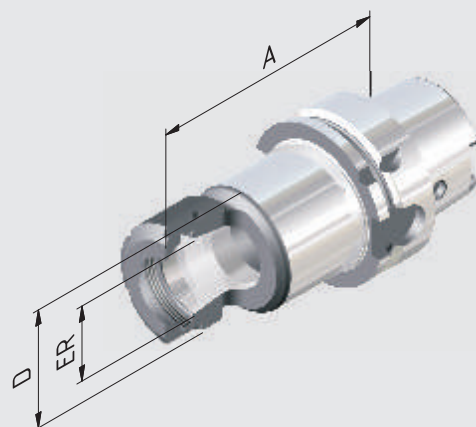
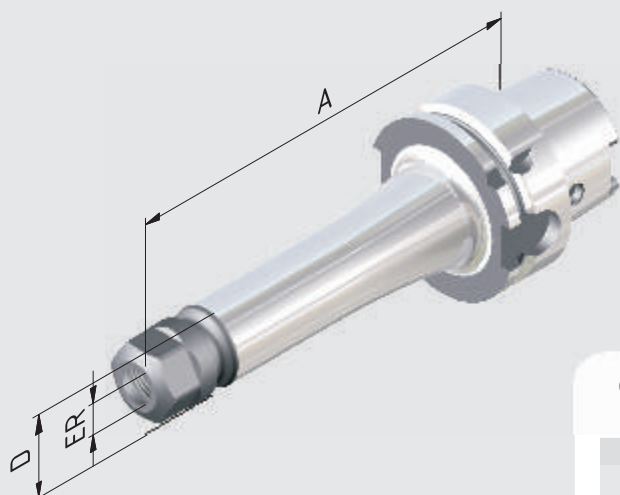
HSK	d_1	d_9 max.	l_1	f_1	f_2 min.	b_1	b_2	b_3	M
63	63	53	32	26	42	12,54	16	18	M18x1
80	80	68	40	26	42	16,04	18	20	M20x1,5
100	100	85	50	29	45	20,02	20	22	M24x1,5

Collet chuck ER

- Application:** For clamping tools with cylindrical shank in collets ER
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the Collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut
- Accessories:** See page 128.



Fine balanced
 $G 2,5$ at 25.000^{min-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.

Order No.	HSK	ER	Clamping range	A	D
SHORT					
606302-006	63	11	1-7	75	20
606302-001	63	16	1-10	75	28
606302-002	63	25	1-16	75	42
606302-003	63	32	2-20	75	50
606302-004	63	40	4-26	85	63
= 100					
606302-01	63	16	1-10	100	28
606302-02	63	25	1-16	100	42
606302-03	63	32	2-20	100	50
606302-04	63	40	4-26	120	63
= 160					
606302-011	63	16	1-10	160	28
606302-021	63	25	1-16	160	42
606302-031	63	32	2-20	160	50
606302-041	63	40	4-26	160	63
= 200					
606302-012	63	16	1-10	200	28
606302-022	63	25	1-16	200	42
606302-032	63	32	2-20	200	50

Collet chuck ER »Mini«

Application: For clamping tools with cylindrical shank in collets ER.

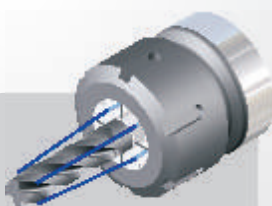
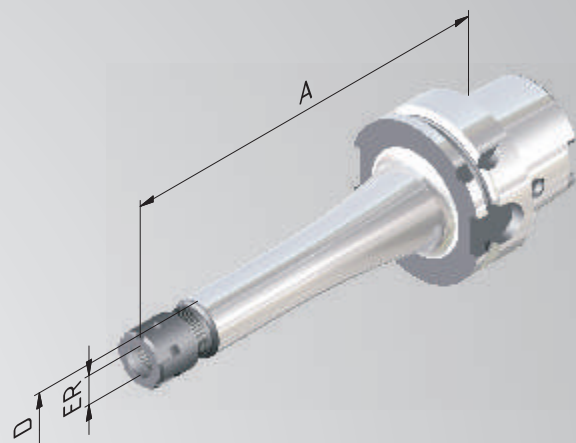
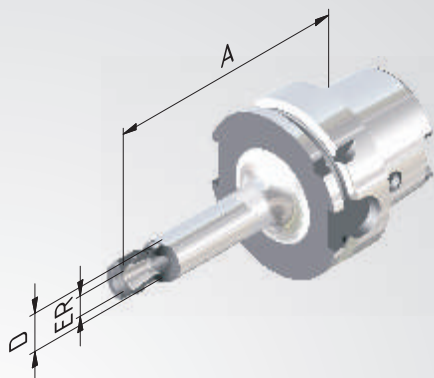
Technical Design: Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the Collet taper. max. runout of $\leq 8\mu$ at $2,5 \times D$.

Includes: Clamping nut.

Accessories: See page 128.



Fine balanced
 $G 2,5$ at 25.000 min^{-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.

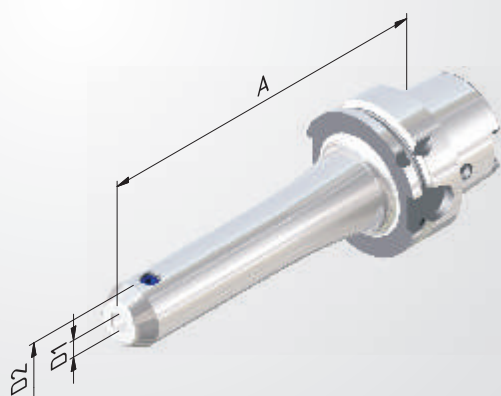
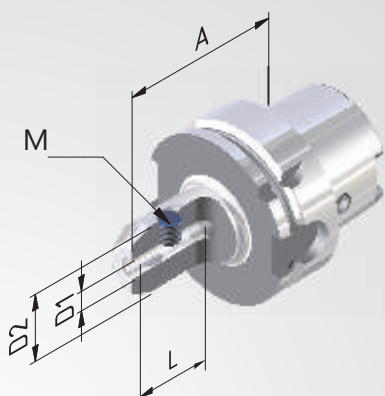
Order No.	HSK	ER	Clamping range	A	D
= 100					
606302-21	63	11	1–7	100	16
606302-23	63	16	1–10	100	22
606302-25	63	20	1–13	100	28
606302-27	63	25	1–16	100	35
= 130					
606302-51	63	11	1–7	130	16
606302-52	63	11	1–10	130	22
606302-53	63	11	1–13	130	28
606302-54	63	11	1–16	130	35
= 160					
606302-22	63	11	1–7	160	16
606302-24	63	16	1–10	160	22
606302-26	63	28	1–13	160	28
606302-28	63	25	1–16	160	35

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132



Fine balanced
G 2,5 at 25.000^{min}1
or max. residual imbalance
≤ 1 gmm



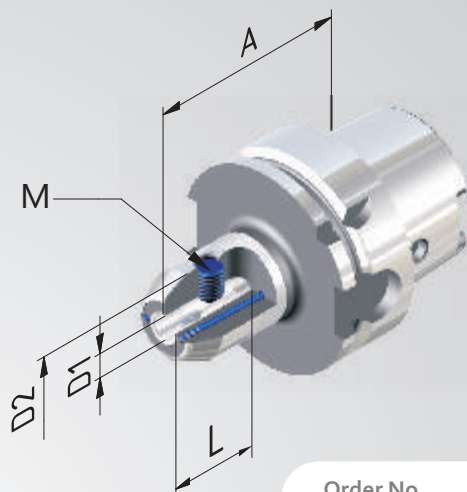
Order No.	HSK	D1	A	D2	L	M
SHORT						
606304-01	63	6	65	25	35	M6
606304-02	63	8	65	28	35	M8
606304-03	63	10	65	35	41	M10
606304-04	63	12	80	42	48	M12
606304-05	63	14	80	42	48	M12
606304-06	63	16	80	48	51	M14
606304-07	63	18	80	50	51	M14
606304-08	63	20	80	52	53	M16
606304-10	63	25	110	65	60	M18x2
606304-11	63	32	110	72	64	M20x2
606304-12	63	40	125	74	80	M20x2
= 120						
606304-31	63	6	120	25	35	M6
606304-32	63	8	120	28	35	M8
606304-33	63	10	120	35	41	M10
606304-34	63	12	120	42	48	M12
606304-35	63	14	120	42	48	M12
606304-36	63	16	120	48	51	M14
606304-37	63	18	120	50	51	M14
606304-38	63	20	120	52	53	M16
= 160						
606304-61	63	6	160	25	35	M6
606304-62	63	8	160	28	35	M8
606304-63	63	10	160	35	41	M10
606304-64	63	12	160	42	48	M12
606304-65	63	14	160	42	48	M12
606304-66	63	16	160	48	51	M14
606304-67	63	18	160	50	51	M14
606304-68	63	20	160	52	53	M16
606304-69	63	25	160	65	60	M18x2
606304-70	63	32	160	72	64	M20x2

Endmill holder Weldon »Cool Tool«

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Clamping screw and 2 x M3-screws to plug the coolant holes if needed.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
≤ 1 gmm



Order No.	HSK	D1	A	D2	L	M
SHORT						
6063041-01	63	6	65	25	35	M6
6063041-02	63	8	65	28	35	M8
6063041-03	63	10	65	35	41	M10
6063041-04	63	12	80	42	48	M12
6063041-05	63	14	80	42	48	M12
6063041-06	63	16	80	48	51	M14
6063041-07	63	18	80	48	51	M14
6063041-08	63	20	80	52	53	M16
6063041-10	63	25	110	65	60	M18x2
6063041-11	63	32	110	72	64	M20x2
= 120						
6063041-31	63	6	120	25	35	M6
6063041-32	63	8	120	28	35	M8
6063041-33	63	10	120	35	41	M10
6063041-34	63	12	120	42	48	M12
6063041-35	63	14	120	42	48	M12
6063041-36	63	16	120	48	51	M14
6063041-37	63	18	120	48	51	M14
6063041-38	63	20	120	52	53	M16

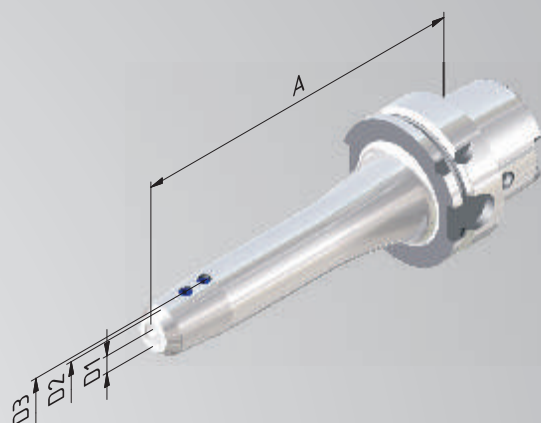
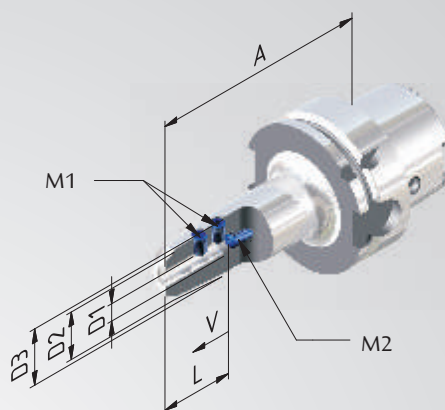
Slim endmill holder Weldon

Application: For clamping tools with cylindrical shank according to DIN 1835 B and E.

Technical Design: Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).

Includes: Special clamping screw (with ball head) and set screw.

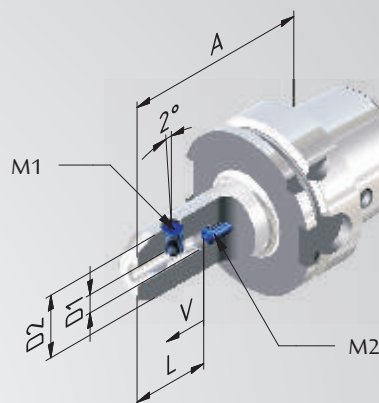
Accessories: See page 132.



Order No.	HSK	D1	A	D2	D3	L	M1	M2
LONG								
606327-01	63	6	100	13	24	36,5	M6	M6
606327-03	63	8	100	15	26	36,5	M6	M6
606327-05	63	10	100	16	28	40,5	M6	M8x1
606327-07	63	12	120	17	29	45,5	M6	M10x1
606327-09	63	14	120	19	32	45,5	M8	M10x1
606327-11	63	16	120	21	34	48,5	M8	M12x1
606327-13	63	18	120	23	36	48,5	M8	M12x1
606327-15	63	20	120	25	38	50,5	M8	M16x1
= 160								
606327-02	63	6	160	13	24	36,5	M6	M5
606327-04	63	8	160	15	26	36,5	M6	M6
606327-06	63	10	160	16	28	40,5	M6	M8x1
606327-08	63	12	160	17	29	45,5	M6	M10x1
606327-10	63	14	160	19	32	45,5	M8	M10x1
606327-12	63	16	160	21	34	48,5	M8	M12x1
606327-14	63	18	160	23	36	48,5	M8	M12x1
606327-16	63	20	160	25	38	50,5	M8	M16x1

Endmill holder Whistle Notch

- Application:** For clamping tools with cylindrical shank according to DIN 1835 E.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw and set screw.
- Accessories:** See page 133.



Order No.	HSK	D1	A	D2	L	M1	M2	V
SHORT								
606309-01	63	6	80	25	36,5	M6	M5	10
606309-02	63	8	80	28	36,5	M8	M6	10
606309-03	63	10	80	35	40,5	M10	M8	10
606309-04	63	12	90	42	45,5	M12	M10	10
606309-05	63	14	90	42	45,5	M12	M10	10
606309-06	63	16	100	48	48,5	M14	M12	10
606309-07	63	18	100	50	48,5	M14	M12	10
606309-08	63	20	100	52	50,5	M16	M16	10
606309-10	63	25	110	65	56,5	M18x2	M20	10
606309-11	63	32	110	72	60,5	M20x2	M20	10

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

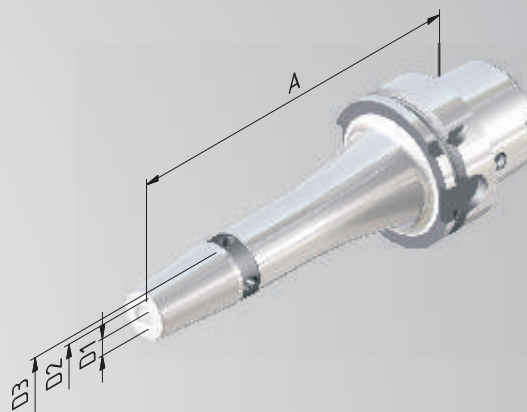
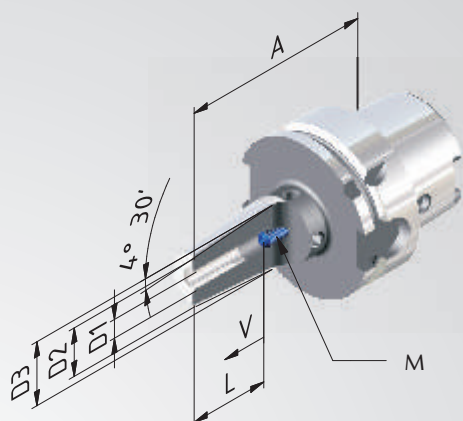
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Extra short shrink fit holders
can be found on page 18,
shrink fit holders »Cool Tool«.

Order No.	HSK	D1	A	D2	D3	V	L	M
SHORT								
606321-13	63	3	80	12	17	-	-	-
606321-14	63	4	80	12	17	-	-	-
606321-15	63	5	80	12	17	-	-	-
606321-01	63	6	80	21	27	10	37	M5
606321-02	63	8	80	21	27	10	37	M6
606321-03	63	10	85	24	32	10	42	M8x1
606321-04	63	12	90	24	32	10	48	M10x1
606321-05	63	14	90	27	34	10	48	M10x1
606321-06	63	16	95	27	34	10	51	M12x1
606321-07	63	18	95	33	42	10	51	M12x1
606321-08	63	20	100	33	42	10	53	M16x1
606321-09	63	25	115	44	53	10	59	M16x1
606321-10	63	32	120	44	53	10	63	M16x1

Long versions see next page >>

Shrink fit holder 4,5°



Fine balanced
G 2,5 at 25.000^{min}
or max. residual imbalance
≤ 1 gmm

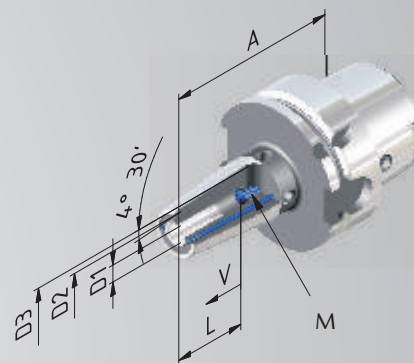
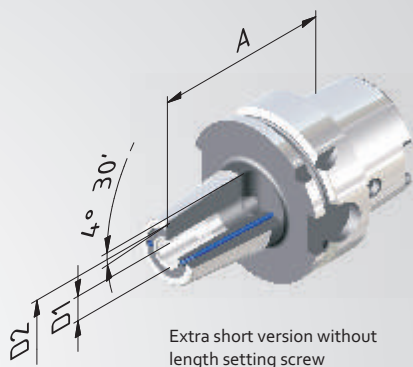
Order No.	HSK	D1	A = 120	D2	D3	V	L	M
606321-313	63	3	120	12	17	-	-	-
606321-314	63	4	120	12	17	-	-	-
606321-315	63	5	120	12	17	-	-	-
606321-31	63	6	120	21	27	10	37	M5
606321-32	63	8	120	21	27	10	37	M6
606321-33	63	10	120	24	32	10	42	M8x1
606321-34	63	12	120	24	32	10	48	M10x1
606321-35	63	14	120	27	34	10	48	M10x1
606321-36	63	16	120	27	34	10	51	M12x1
606321-37	63	18	120	33	42	10	51	M12x1
606321-38	63	20	120	33	42	10	53	M16x1
= 130								
606321-513	63	3	130	12	-	-	-	-
606321-514	63	4	130	12	-	-	-	-
606321-515	63	5	130	12	-	-	-	-
606321-51	63	6	130	21	27	10	37	M5
606321-52	63	8	130	21	27	10	37	M6
606321-53	63	10	130	24	32	10	42	M8x1
606321-54	63	12	130	24	32	10	48	M10x1
606321-55	63	14	130	27	34	10	48	M10x1
606321-56	63	16	130	27	34	10	51	M12x1
606321-57	63	18	130	33	42	10	51	M12x1
606321-58	63	20	130	33	42	10	53	M16x1
606321-59	63	25	130	44	53	10	59	M16x1
= 160								
606321-613	63	3	160	12	17	-	-	-
606321-614	63	4	160	12	17	-	-	-
606321-615	63	5	160	12	17	-	-	-
606321-61	63	6	160	21	27	10	37	M5
606321-62	63	8	160	21	27	10	37	M6
606321-63	63	10	160	24	32	10	42	M8x1
606321-64	63	12	160	24	32	10	48	M10x1
606321-65	63	14	160	27	34	10	48	M10x1
606321-66	63	16	160	27	34	10	51	M12x1
606321-67	63	18	160	33	42	10	51	M12x1
606321-68	63	20	160	33	42	10	53	M16x1
606321-69	63	25	160	44	53	10	59	M16x1
606321-70	63	32	160	44	53	10	63	M16x1
= 200								
606321-81	63	6	200	21	27	10	37	M5
606321-82	63	8	200	21	27	10	37	M6
606321-83	63	10	200	24	32	10	42	M8x1
606321-84	63	12	200	24	32	10	48	M10x1
606321-85	63	14	200	27	34	10	48	M10x1
606321-86	63	16	200	27	34	10	51	M12x1
606321-87	63	18	200	33	42	10	51	M12x1
606321-88	63	20	200	33	42	10	53	M16x1
606321-89	63	25	200	44	53	10	59	M16x1

Shrink fit holder »Cool Tool« 4,5 °

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Set screw and 2 x M3 screws to plug the coolant holes if needed.
- Accessories:** See page 134.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
≤ 1 gmm



Order No.	HSK	D1	A	D2	D3	V	L	M
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EXTRA SHORT

6063219-03	63	10	70	26	33	-	42	-
6063219-04	63	12	70	26	33	-	48	-
6063219-06	63	16	75	29	37	-	51	-
6063219-08	63	20	75	35	43	-	53	-
6063219-09	63	25	85	45	50	-	59	-

Long versions see next page >>

Shrink fit holder »Cool Tool« 4,5 °



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
≤ 1 gmm

Order No.	HSK	D1	A	D2	D3	V	L	M
SHORT								
606321-139*	63	3	80	21	27	-	-	-
606321-149*	63	4	80	21	27	-	-	-
606321-159*	63	5	80	24	32	-	-	-
606321-019	63	6	80	21	27	10	37	M5
606321-029	63	8	80	21	27	10	37	M6
606321-039	63	10	85	24	32	10	42	M8x1
606321-049	63	12	90	24	32	10	48	M10x1
606321-059	63	14	90	27	34	10	48	M10x1
606321-069	63	16	95	27	34	10	51	M12x1
606321-079	63	18	95	33	42	10	51	M12x1
606321-089	63	20	100	33	42	10	53	M16x1
606321-099	63	25	115	44	53	10	59	M16x1
= 120								
606321-319	63	6	120	21	27	10	37	M5
606321-329	63	8	120	21	27	10	37	M6
606321-339	63	10	120	24	32	10	42	M8x1
606321-349	63	12	120	24	32	10	48	M10x1
606321-359	63	14	120	27	34	10	48	M10x1
606321-369	63	16	120	27	34	10	51	M12x1
606321-379	63	18	120	33	42	10	51	M12x1
606321-389	63	20	120	33	42	10	53	M16x1
= 130								
606321-5139*	63	3	130	12	-	-	-	-
606321-5149*	63	4	130	12	-	-	-	-
606321-5159*	63	5	130	12	-	-	-	-
606321-519	63	6	130	21	27	10	37	M5
606321-529	63	8	130	21	27	10	37	M6
606321-539	63	10	130	24	32	10	42	M8x1
606321-549	63	12	130	24	32	10	48	M10x1
606321-559	63	14	130	27	34	10	48	M10x1
606321-569	63	16	130	27	34	10	51	M12x1
606321-579	63	18	130	33	42	10	51	M12x1
606321-589	63	20	130	33	42	10	53	M16x1
606321-599	63	25	130	44	53	10	59	M16x1
606321-609	63	32	130	44	53	10	63	M16x1

* Cool tool holes can not be plugged.

Extended slim shrink fit holder

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

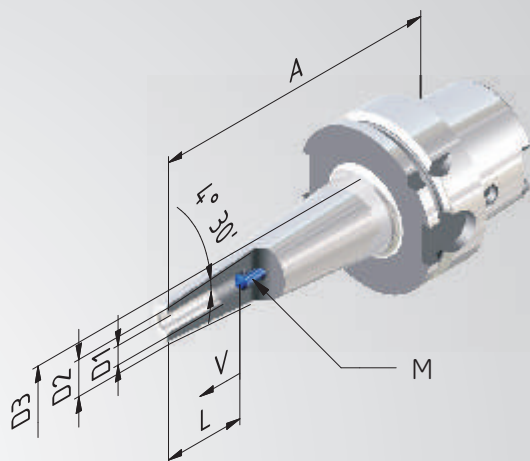
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{min}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A = 120	D2	D3	V	L	M
606321-41	63	6	120	15	30	10	37	M5
606321-42	63	8	120	15	30	10	37	M6
606321-43	63	10	120	18	33	10	42	M8x1
606321-44	63	12	120	18	33	10	48	M10x1

Version »Cool Tool«

6063219-41	63	6	120	15	30	10	37	M5
6063219-42	63	8	120	16	31	10	37	M6
6063219-43	63	10	120	18	33	10	42	M8x1
6063219-44	63	12	120	20	35	10	48	M10x1

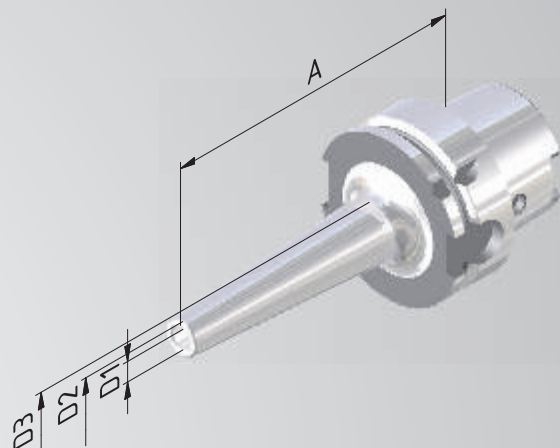
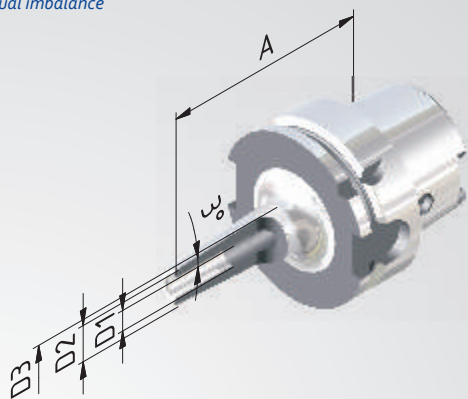
Shrink fit holder 3°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. Runout of outer taper to $D_1 \leq 0,003$ mm.



Fine balanced
 $G_{2,5}$ at 25.000^{min-1}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	D3
SHORT					
606351-13	63	3	80	9	36
606351-14	63	4	80	10	37
606351-15	63	5	80	11	37
606351-01	63	6	80	12	18
606351-02	63	8	80	14	20
606351-03	63	10	80	16	22
606351-04	63	12	80	18	24
= 120					
606351-313	63	3	120	9	39
606351-314	63	4	120	10	39
606351-315	63	5	120	11	40
606351-31	63	6	120	12	22
606351-32	63	8	120	14	24
606351-33	63	10	120	16	26
606351-34	63	12	120	18	28

Thread shank adapter

Application: For clamping threaded shank end mill bodies.

Technical Design: Runout of outer taper to $D_1 \leq 0,005$ mm.



Fine balanced
 $G 2,5$ at 25.000 min^{-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$

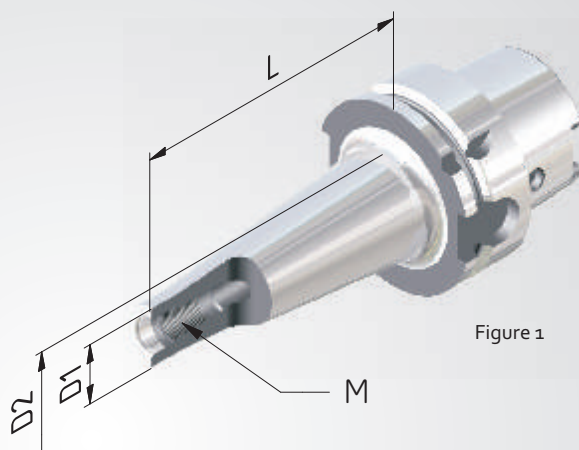


Figure 1

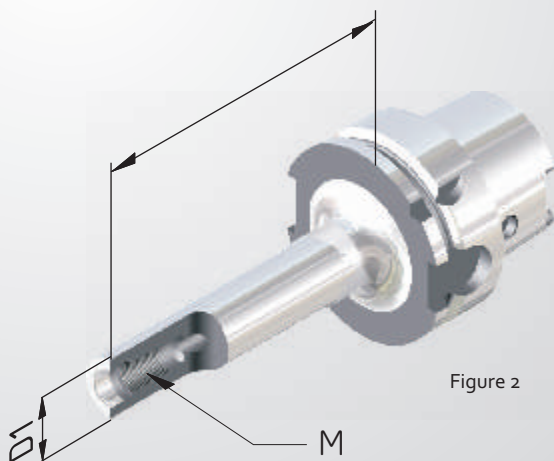


Figure 2

Order No.	HSK	M	L	D1	D2
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Conical (Figure 1)

606308-01	63	M8	25	13	15
606308-02	63	M8	50	13	23
606308-03	63	M8	75	13	25
606308-04	63	M8	100	13	30
606310-01	63	M10	25	18	23
606310-02	63	M10	50	18	25
606310-03	63	M10	75	18	30
606310-04	63	M10	100	18	35
606310-06	63	M10	150	18	45
606312-01	63	M12	25	21	24
606312-02	63	M12	50	21	30
606312-03	63	M12	75	21	35
606312-04	63	M12	100	21	38
606312-06	63	M12	150	21	45
606316-01	63	M16	25	29	29
606316-02	63	M16	50	29	34
606316-03	63	M16	75	29	35
606316-04	63	M16	100	29	40
606316-06	63	M16	150	29	48

Cylindrical (Figure 2)

6063057-01	63	M5	25	10	
6063067-01	63	M6	25	10	
6063087-01	63	M8	25	13	
6063087-02	63	M8	50	13	
6063087-03	63	M8	75	13	
6063087-04	63	M8	100	13	
6063107-01	63	M10	25	18	
6063107-02	63	M10	50	18	
6063107-04	63	M10	100	18	
6063107-06	63	M10	150	18	
6063127-01	63	M12	25	21	
6063127-02	63	M12	50	21	
6063127-03	63	M12	75	21	
6063127-04	63	M12	100	21	
6063127-06	63	M12	150	21	
6063167-01	63	M16	25	29	
6063167-02	63	M16	50	29	
6063167-03	63	M16	75	29	
6063167-04	63	M16	100	29	
6063167-06	63	M16	150	29	

ABS holder

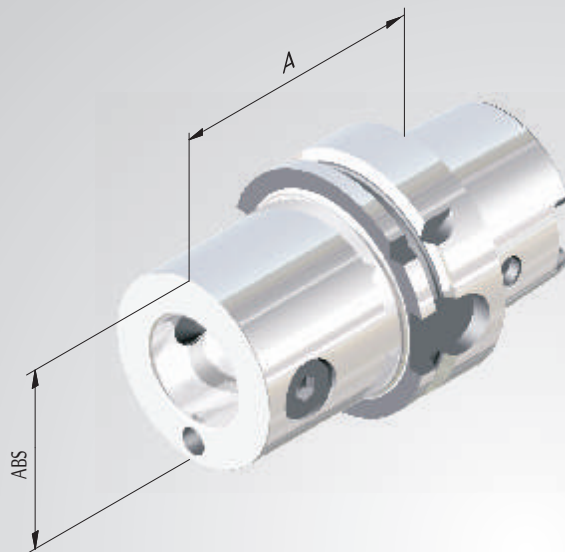
Application: For holding modular tool shanks with ABS-interface.

Technical Design: With ABS mounting parts.

Includes: See page 136.



Balanced
G 6,3 at 8.000^{min-1}



Order No.	HSK	ABS	A
606326-01	63	25	50
606326-02	63	32	50
606326-03	63	40	60
606326-04	63	50	70
606326-05	63	63	80

Shell mill holder

Application: For adapting shell mills with transverse slot.

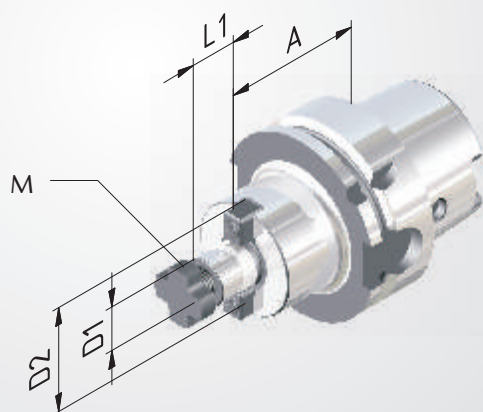
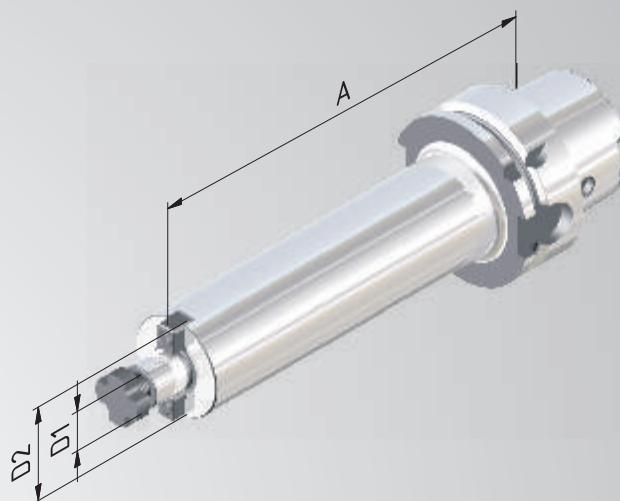
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006 \text{ mm}$.

Includes: Clamping screw and drive keys.

Accessories: See page 134.



Fine balanced
 $G 2,5 \text{ at } 25.000^{rev/min}$
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Order No.	HSK	D1	A	D2	l1	M
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SHORT

606305-01	63	16	50	38	17	M8
606305-02	63	22	50	48	19	M10
606305-03	63	27	60	60	21	M12
606305-04	63	32	60	78	24	M16
606305-05	63	40	60	89	27	M20

= 100

606305-011	63	16	100	38	17	M8
606305-021	63	22	100	48	19	M10
606305-031	63	27	100	60	21	M12
606305-041	63	32	100	78	24	M16
606305-051	63	40	100	89	27	M20

= 160

606305-611	63	16	160	38	17	M8
606305-621	63	22	160	48	19	M10
606305-631	63	27	160	60	21	M12
606305-641	63	32	160	78	24	M16

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

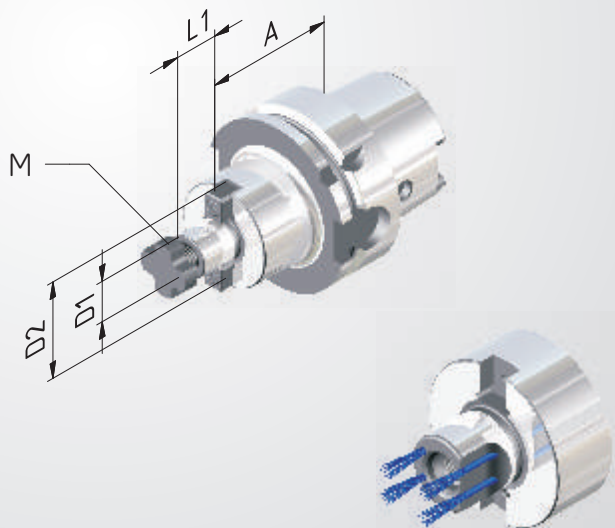
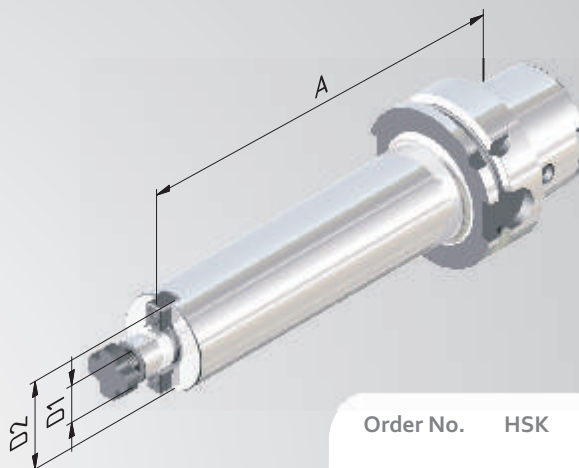
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.



Fine balanced
G 2,5 at 25.000^{mm/s}
or max. residual imbalance
≤ 1 gmm



Order No.	HSK	D1	A	D2	l1	M
SHORT						
606305-21	63	16	50	38	17	M8
606305-22	63	22	50	48	19	M10
606305-23	63	27	60	60	21	M12
606305-24	63	32	60	78	24	M16
MEDIUM						
606305-319	63	16	75	38	17	M8
606305-329	63	22	75	48	19	M10
606305-339	63	27	80	60	21	M12
606305-349	63	32	80	78	24	M16
606305-359	63	40	80	89	27	M20
= 100						
606305-211	63	16	100	38	17	M8
606305-221	63	22	100	48	19	M10
606305-231	63	27	100	60	21	M12
606305-241	63	32	100	78	24	M16
606305-251	63	40	100	89	27	M20
= 160						
606305-619	63	16	160	38	17	M8
606305-629	63	22	160	48	19	M10
606305-639	63	27	160	60	21	M12
606305-649	63	32	160	78	24	M16

Combi shell mill holder

Application: For adapting shell mills with transverse and longitudinal groove.

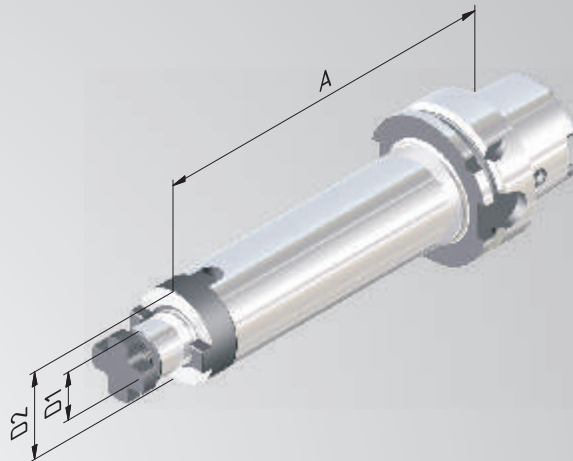
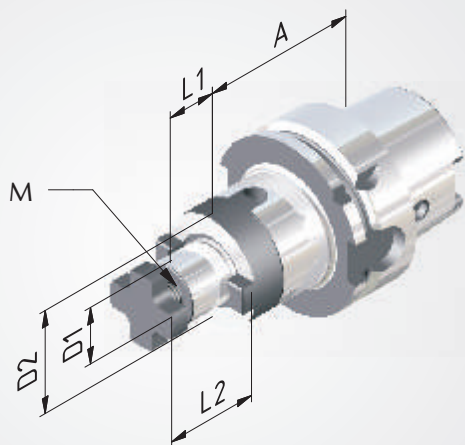
Technical Design: Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw, drive key and adjusting spring.

Accessories: See page 135.



Fine balanced
 $G_{2,5}$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	l1	l2	M
			SHORT				
606306-01	63	16	60	32	17	27	M8
606306-02	63	22	60	40	19	31	M10
606306-03	63	27	60	48	21	33	M12
606306-04	63	32	60	58	24	38	M16
606306-05	63	40	70	70	27	41	M20
			= 100				
606306-011	63	16	100	32	17	27	M8
606306-021	63	22	100	40	19	31	M10
606306-031	63	27	100	48	21	33	M12
606306-041	63	32	100	58	24	38	M16
			= 160				
606306-61	63	16	160	32	17	27	M8
606306-62	63	22	160	40	19	31	M10
606306-63	63	27	160	48	21	33	M12
606306-64	63	32	160	58	24	38	M16
606306-65	63	40	160	70	27	41	M20

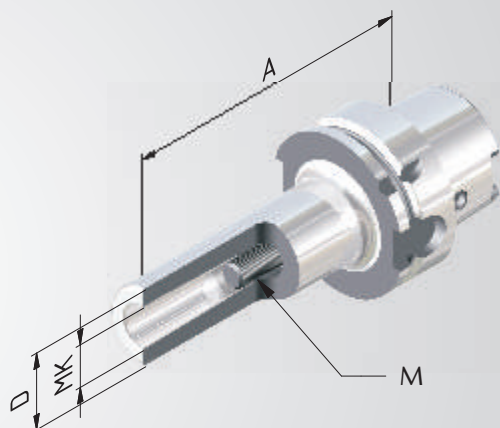
Morse taper adapter according to DIN 228A

Application: For holding morse taper tools with tang according to DIN 228A.

Technical Design: Runout of outer taper to $D_1 \leq 0,008$ mm.



Balanced
G 6,3 at 8.000^{min-1}



Order No.	HSK	MK	M	A	D
606314-01	63	1	M6	100	25
606314-02	63	2	M10	120	32
606314-03	63	3	M12	140	40
606314-04	63	4	M16	160	48

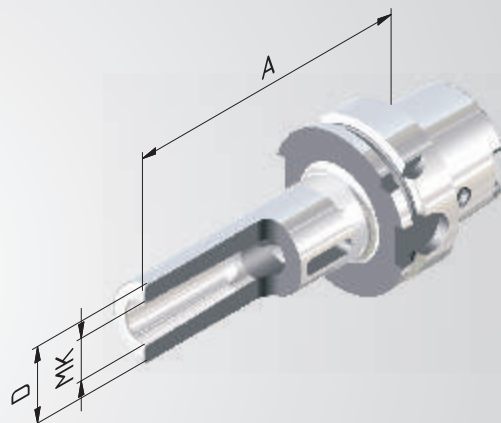
Morse taper adapter according to DIN 228B

Application: For holding morse taper tools with tang according to DIN 228B

Technical Design: Runout of outer taper to $D_1 \leq 0,008$ mm.



Balanced
G 6,3 at 8.000^{min-1}



Order No.	HSK	MK	A	D
606313-01	63	1	100	25
606313-02	63	2	120	32
606313-03	63	3	140	40
606313-04	63	4	160	48

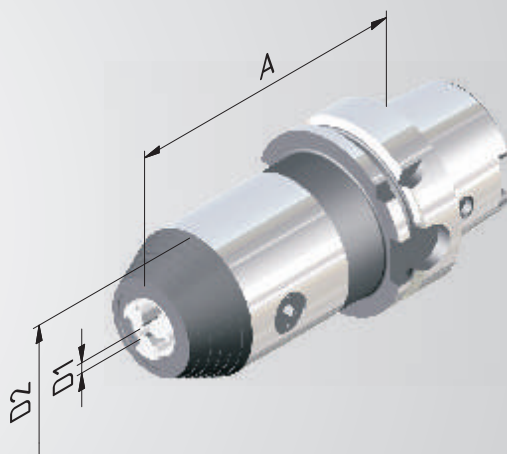
Short drill chuck

Application: For clamping tools with cylindrical shank. Also suitable for tools with internal coolant.

Technical Design: Wrench.



Balanced
G 6,3 at 8.000^{min-1}



Order No.	HSK	Clamping range D1	A	D2
606395-31	63	1-13	104	43
606395-32	63	1-16	109	56

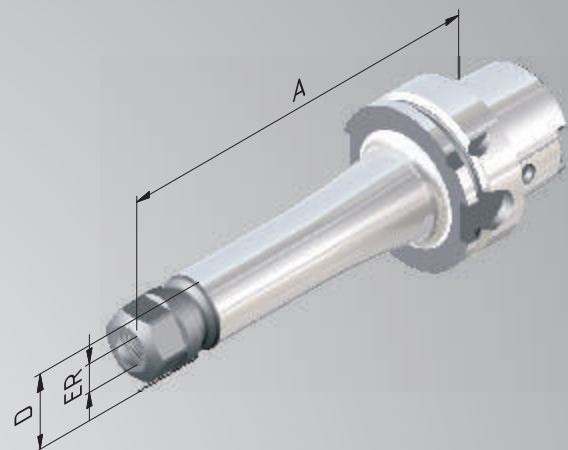
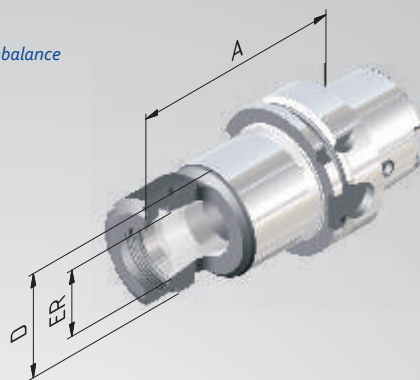


Collet chuck ER

- Application:** For clamping tools with cylindrical shank in collets ER
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the Collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
 $G 2,5$ at $25.000^{rev/min}$
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.

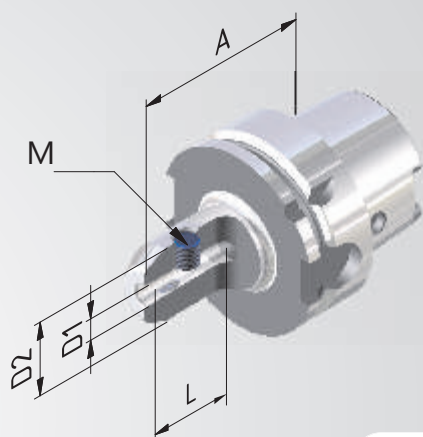
Order No.	HSK	ER	Clamping Range	A	D
				= 100	
608002-01	80	16	1-10	100	28
608002-02	80	25	1-16	100	42
608002-03	80	32	2-20	100	50
				= 160	
608002-011	80	16	1-10	160	28
608002-021	80	25	1-16	160	42
608002-031	80	32	2-20	160	50

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	L	M
608004-01	80	6	80	25	35	M6
608004-02	80	8	80	28	35	M8
608004-03	80	10	80	35	41	M10
608004-04	80	12	80	42	48	M12
608004-06	80	16	100	48	51	M14
608004-08	80	20	100	52	53	M16
608004-09	80	25	100	65	60	M18x2
608004-10	80	32	110	72	64	M20x2

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

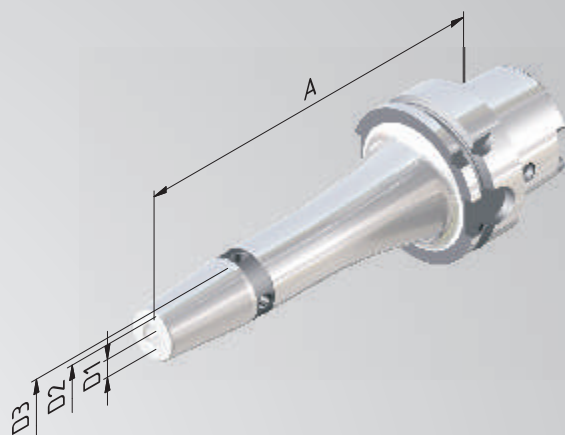
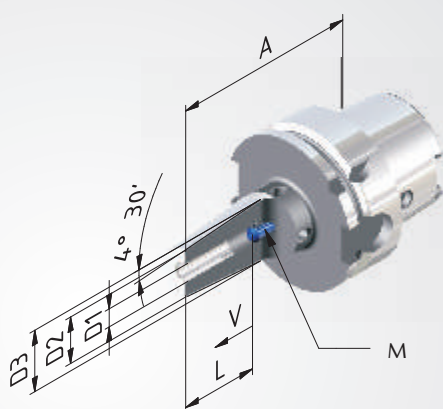
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



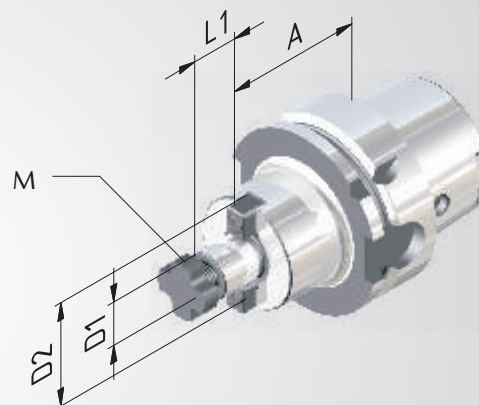
Order No.	HSK	D1	A	D2	D3	V	L	M
			SHORT					
608021-01	80	6	85	21	27	10	37	M5
608021-02	80	8	85	21	27	10	37	M6
608021-03	80	10	90	24	32	10	42	M8x1
608021-04	80	12	95	24	32	10	48	M10x1
608021-05	80	14	95	27	34	10	48	M10x1
608021-06	80	16	100	27	34	10	51	M12x1
608021-07	80	18	100	33	42	10	51	M12x1
608021-08	80	20	105	33	42	10	53	M16x1
608021-09	80	25	115	44	53	10	59	M16x1
608021-10	80	32	120	44	53	10	63	M16x1
			= 160					
608021-61	80	6	160	21	27	10	37	M5
608021-62	80	8	160	21	27	10	37	M6
608021-63	80	10	160	24	32	10	42	M8x1
608021-64	80	12	160	24	32	10	48	M10x1
608021-66	80	16	160	27	34	10	51	M12x1
608021-68	80	20	160	33	42	10	53	M16x1
608021-69	80	25	160	44	53	10	59	M16x1

Shell mill holder

- Application:** For adapting shell mills with transverse slot.
- Technical Design:** With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.
- Includes:** Clamping screw and drive keys.
- Accessories:** See page 134.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



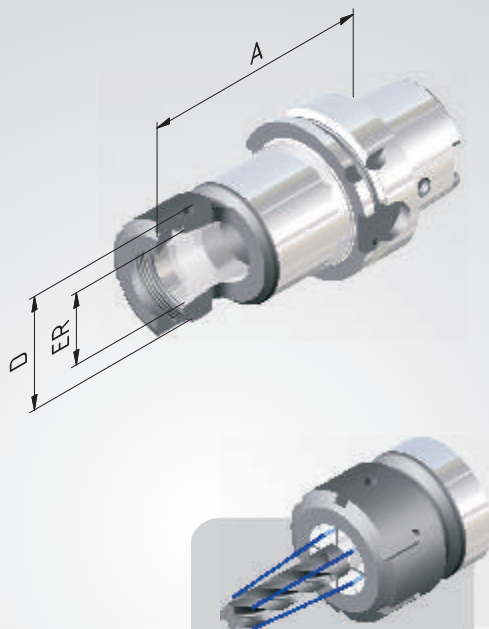
Order No.	HSK	D1	A	D2	l1	M
			SHORT			
608005-02	80	22	50	48	19	M8
608005-03	80	27	50	60	21	M10
608005-04	80	32	60	78	24	M12
608005-05	80	40	60	89	27	M16

Collet chuck ER

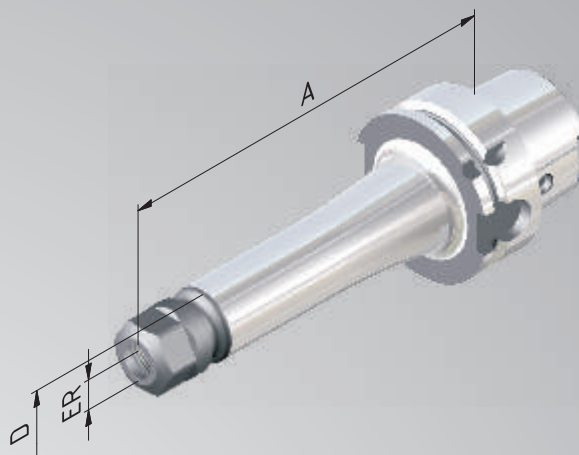
- Application:** For clamping tools with cylindrical shank in collets ER
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the Collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.



Order No.	HSK	ER	Clamping Range	A	D
SHORT					
610002-01	100	16	1–10	100	28
610002-02	100	25	1–16	100	42
610002-03	100	32	2–20	100	50
610002-04	100	40	4–26	120	63
= 160					
610002-011	100	16	1–10	160	28
610002-021	100	25	1–16	160	42
610002-031	100	32	2–20	160	50
610002-041	100	40	4–26	160	63
= 200					
610002-12	100	16	1–10	200	28
610002-22	100	25	1–16	200	42
610002-32	100	32	2–20	200	50
610002-42	100	40	4–26	200	63

Endmill holder Weldon

Application: For clamping tools with cylindrical shank according to DIN 1835 B.

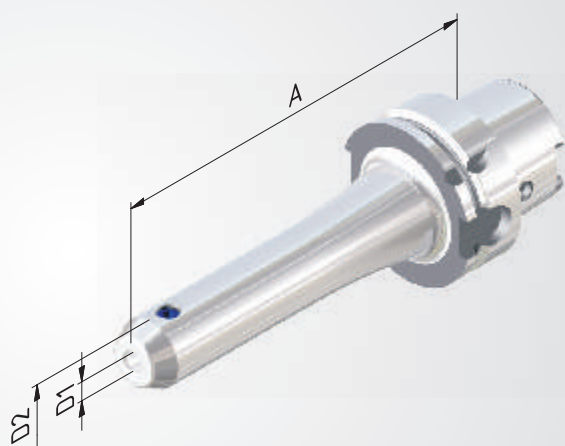
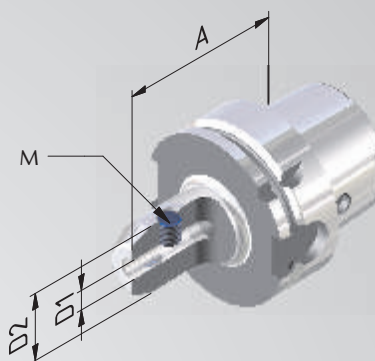
Technical Design: Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).

Includes: Clamping screw.

Accessories: See page 132



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



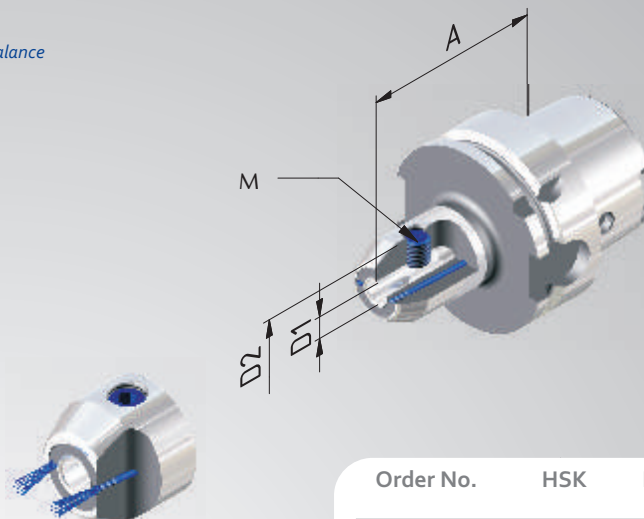
Order No.	HSK	D1	A	D2	L	M
SHORT						
610004-01	100	6	80	25	35	M6
610004-02	100	8	80	28	35	M8
610004-03	100	10	80	35	41	M10
610004-04	100	12	80	42	48	M12
610004-05	100	14	80	42	48	M12
610004-06	100	16	100	48	51	M14
610004-07	100	18	100	50	51	M14
610004-08	100	20	100	52	53	M16
610004-10	100	25	100	65	60	M18x2
610004-11	100	32	100	72	64	M20x2
610004-12	100	40	120	80	74	M20x2
= 160						
610004-61	100	6	160	25	35	M6
610004-62	100	8	160	28	35	M8
610004-63	100	10	160	35	41	M10
610004-64	100	12	160	42	48	M12
610004-65	100	14	160	42	48	M12
610004-66	100	16	160	48	51	M14
610004-67	100	18	160	50	51	M14
610004-68	100	20	160	52	53	M16
610004-69	100	25	160	65	60	M18x2
610004-70	100	32	160	72	64	M20x2

Endmill holder Weldon »Cool Tool«

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Clamping screw and 2 x M3-screws to plug the coolant holes if needed.
- Accessories:** See page 132.



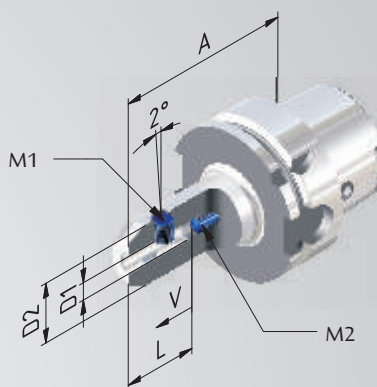
Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
≤ 1 gmm



Order No.	HSK	D1	A SHORT	D2	L	M
6100041-01	100	6	80	25	35	M6
6100041-02	100	8	80	28	35	M8
6100041-03	100	10	80	35	41	M10
6100041-04	100	12	80	42	48	M12
6100041-05	100	14	80	42	48	M12
6100041-06	100	16	100	48	51	M14
6100041-07	100	18	100	50	51	M14
6100041-08	100	20	100	52	53	M16
6100041-09	100	25	100	65	60	M18x2
6100041-10	100	32	100	72	64	M20x2

Endmill holder Whistle Notch

- Application:** For clamping tools with cylindrical shank according to DIN 1835 E.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw and set screw.
- Accessories:** See page 133.



Order No.	HSK	D1	A	D2	L	M1	M2
			SHORT				
610009-01	100	6	90	25	36,5	M6	M5
610009-02	100	8	90	28	36,5	M8	M6
610009-03	100	10	90	35	40,5	M10	M8
610009-04	100	12	100	42	45,5	M12	M10
610009-05	100	14	100	42	45,5	M12	M10
610009-06	100	16	100	48	48,5	M14	M12
610009-07	100	18	100	50	48,5	M14	M12
610009-08	100	20	110	52	50,5	M16	M16
610009-10	100	25	120	65	56,5	M18x2	M20
610009-11	100	32	120	72	60,5	M20x2	M20

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

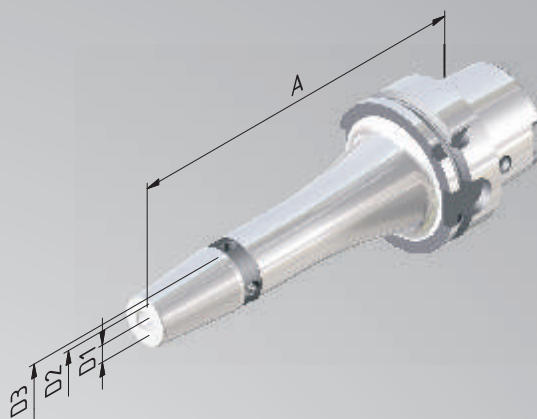
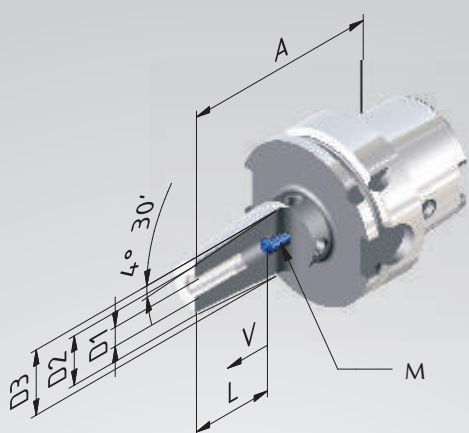
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	D3	V	L	M
SHORT								
610021-01	100	6	85	21	27	10	37	M5
610021-02	100	8	85	21	27	10	37	M6
610021-03	100	10	90	24	32	10	42	M8x1
610021-04	100	12	95	24	32	10	48	M10x1
610021-05	100	14	95	27	34	10	48	M10x1
610021-06	100	16	100	27	34	10	51	M12x1
610021-07	100	18	100	33	42	10	51	M12x1
610021-08	100	20	105	33	42	10	53	M16x1
610021-09	100	25	115	44	53	10	59	M16x1
610021-10	100	32	120	44	53	10	63	M16x1
= 120								
610021-31	100	6	120	21	27	10	37	M5
610021-32	100	8	120	21	27	10	37	M6
610021-33	100	10	120	24	32	10	42	M8x1
610021-34	100	12	120	24	32	10	48	M10x1
610021-35	100	14	120	27	34	10	48	M10x1
610021-36	100	16	120	27	34	10	51	M12x1
610021-37	100	18	120	33	42	10	51	M12x1
610021-38	100	20	120	33	42	10	53	M16x1

Extended versions see next page >>

Shrink fit holder 4,5°

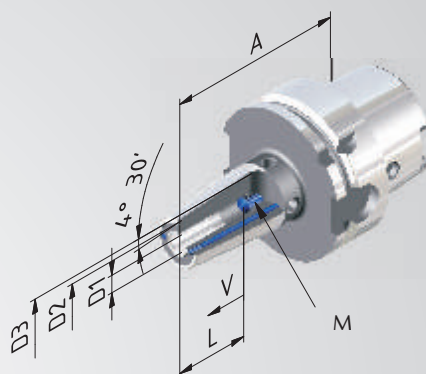
Order No.	HSK	D1	A	D2	D3	V	L	M
= 130								
610021-51	100	6	130	21	27	10	37	M5
610021-52	100	8	130	21	27	10	37	M6
610021-53	100	10	130	24	32	10	42	M8x1
610021-54	100	12	130	24	32	10	48	M10x1
610021-55	100	14	130	27	34	10	48	M10x1
610021-56	100	16	130	27	34	10	51	M12x1
610021-57	100	18	130	33	42	10	51	M12x1
610021-58	100	20	130	33	42	10	53	M16x1
610021-59	100	25	130	44	53	10	59	M16x1
= 160								
610021-61	100	6	160	21	27	10	37	M5
610021-62	100	8	160	21	27	10	37	M6
610021-63	100	10	160	24	32	10	42	M8x1
610021-64	100	12	160	24	32	10	48	M10x1
610021-65	100	14	160	27	34	10	48	M10x1
610021-66	100	16	160	27	34	10	51	M12x1
610021-67	100	18	160	33	42	10	51	M12x1
610021-68	100	20	160	33	42	10	53	M16x1
610021-69	100	25	160	44	53	10	59	M16x1
610021-70	100	32	160	44	53	10	63	M16x1
= 200								
610021-81	100	6	200	21	27	10	37	M5
610021-82	100	8	200	21	27	10	37	M6
610021-83	100	10	200	24	32	10	42	M8x1
610021-84	100	12	200	24	32	10	48	M10x1
610021-85	100	14	200	27	34	10	48	M10x1
610021-86	100	16	200	27	34	10	51	M12x1
610021-87	100	18	200	33	42	10	51	M12x1
610021-88	100	20	200	33	42	10	53	M16x1
610021-89	100	25	200	44	53	10	59	M16x1
610021-90	100	32	200	44	53	10	63	M16x1

Shrink fit holder »Cool Tool« 4,5°

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Set screw and 2 x M3 screws to plug the coolant holes if needed.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
≤ 1 gmm



Order No.	HSK	D1	A SHORT	D2	D3	V	L	M
610021-019	100	6	85	21	27	10	37	M5
610021-029	100	8	85	21	27	10	37	M6
610021-039	100	10	90	24	32	10	42	M8x1
610021-049	100	12	95	24	32	10	48	M10x1
610021-059	100	14	95	27	34	10	48	M10x1
610021-069	100	16	100	27	34	10	51	M12x1
610021-079	100	18	100	33	42	10	51	M12x1
610021-089	100	20	105	33	42	10	53	M16x1
610021-099	100	25	115	44	53	10	59	M16x1

ABS holder

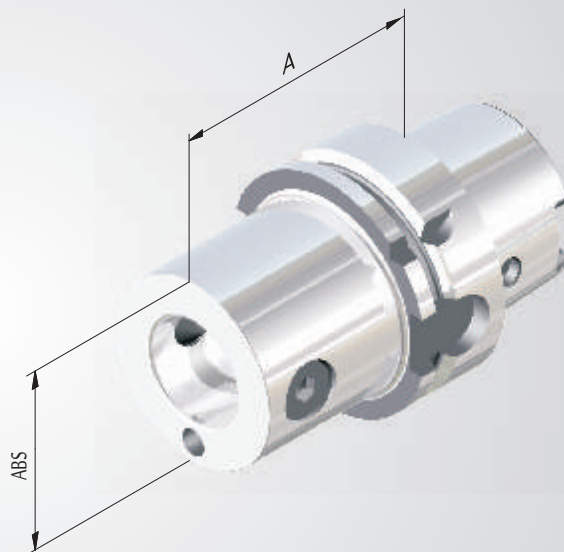
Application: For holding modular tool shanks with ABS-interface.

Technical Design: With ABS mounting parts.

Includes: See page 136.



Balanced
G 6,3 at 8.000 min⁻¹



Order No.	HSK	ABS	A
610026-02	100	32	60
610026-03	100	40	80
610026-04	100	50	80
610026-05	100	63	90
610026-06	100	80	90
610026-07	100	100	100

Shell mill holder

Application: For adapting shell mills with transverse slot.

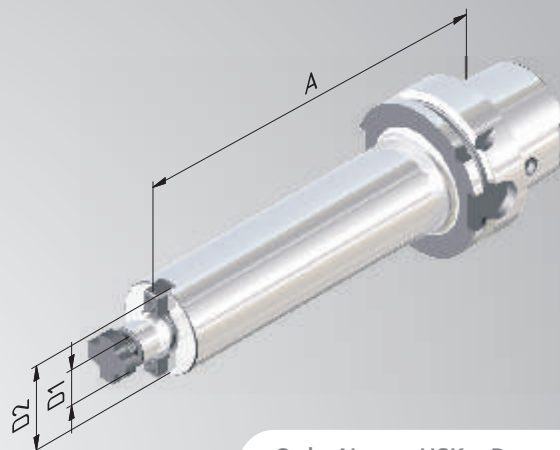
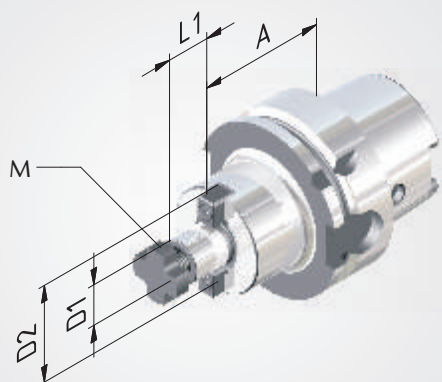
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories: See page 134.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	l1	M
SHORT						
610005-01	100	16	50	38	17	M8
610005-02	100	22	50	48	19	M10
610005-03	100	27	50	60	21	M12
610005-04	100	32	50	78	24	M16
610005-05	100	40	60	89	27	M20
610005-07	100	60	70	140	40	M32
= 100						
610005-011	100	16	100	38	17	M8
610005-021	100	22	100	48	19	M10
610005-031	100	27	100	60	21	M12
610005-041	100	32	100	78	24	M16
610005-051	100	40	100	89	27	M20
= 160						
610005-611	100	16	160	38	17	M8
610005-621	100	22	160	48	19	M10
610005-631	100	27	160	60	21	M12
610005-641	100	32	160	78	24	M16
610005-651	100	40	160	89	27	M20

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

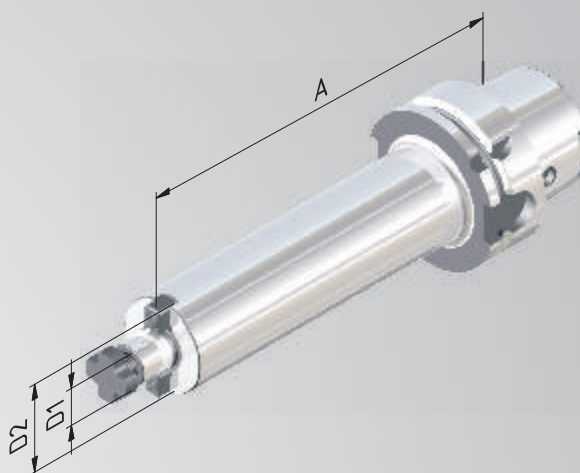
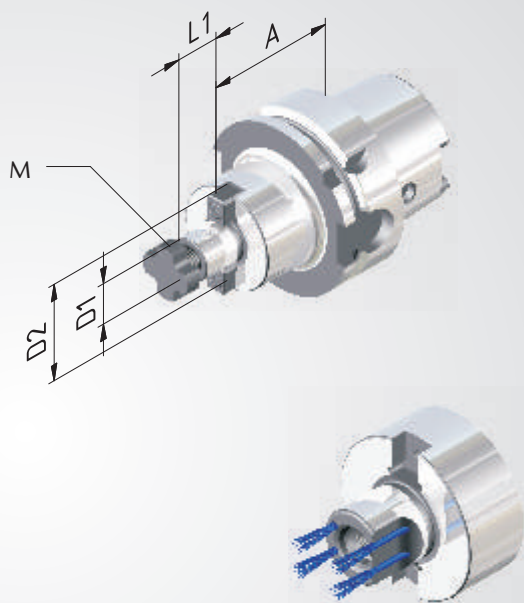
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	l1	M
SHORT						
610005-21	100	16	50	38	17	M8
610005-22	100	22	50	48	19	M10
610005-23	100	27	50	60	21	M12
610005-24	100	32	50	78	24	M16
610005-25	100	40	60	89	27	M20
= 100						
610005-211	100	16	100	38	17	M8
610005-221	100	22	100	48	19	M10
610005-231	100	27	100	60	21	M12
610005-241	100	32	100	78	24	M16
610005-251	100	40	100	89	27	M20
= 160						
610005-619	100	16	160	38	17	M8
610005-629	100	22	160	48	19	M10
610005-639	100	27	160	60	21	M12
610005-649	100	32	160	78	24	M16
610005-659	100	40	160	89	27	M20

Combi shell mill holder

Application: For adapting shell mills with transverse and longitudinal groove.

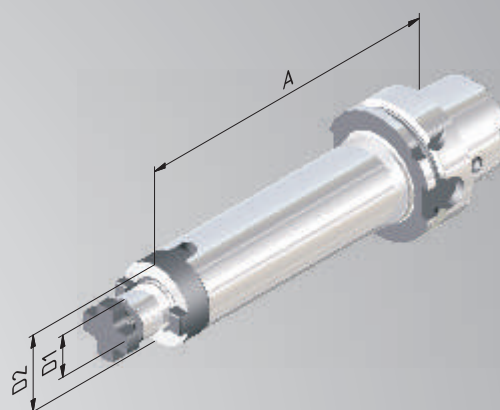
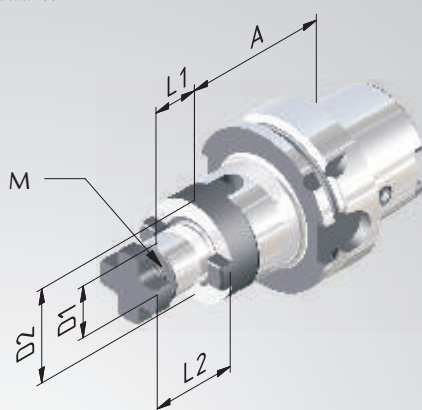
Technical Design: Runout of outer taper to $D_1 \leq 0,006 \text{ mm}$.

Includes: Clamping screw, drive key and adjusting spring.

Accessories: See page 135.



Fine balanced
 $G 2,5$ at 25.000 rpm
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Order No.	HSK	D1	A	D2	l1	l2	M
SHORT							

610006-01	100	16	60	32	17	27	M8
610006-02	100	22	60	40	19	31	M10
610006-03	100	27	60	48	21	33	M12
610006-04	100	32	60	58	24	38	M16
610006-05	100	40	70	70	27	41	M20

= 100

610006-011	100	16	100	32	17	27	M8
610006-021	100	22	100	40	19	31	M10
610006-031	100	27	100	48	21	33	M12
610006-041	100	32	100	58	24	38	M16
610006-051	100	40	100	70	27	41	M20

= 160

610006-61	100	16	160	32	17	27	M8
610006-62	100	22	160	40	19	31	M10
610006-63	100	27	160	48	21	33	M12
610006-64	100	32	160	58	24	38	M16
610006-65	100	40	160	70	27	41	M20

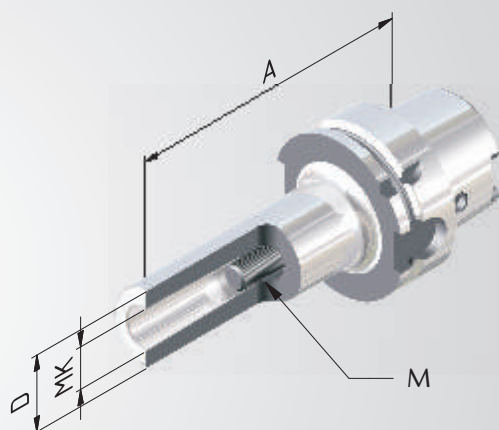
Morse taper adapter according to DIN 228A

Application: For holding morse taper tools with tang according to DIN 228A.

Technical Design: Runout of outer taper to $D_1 \leq 0,008$ mm.



Balanced
G 6,3 at 8.000 min⁻¹



Order No.	HSK	MK	M	A
610014-02	100	2	M10	120
610014-03	100	3	M12	150
610014-04	100	4	M16	170

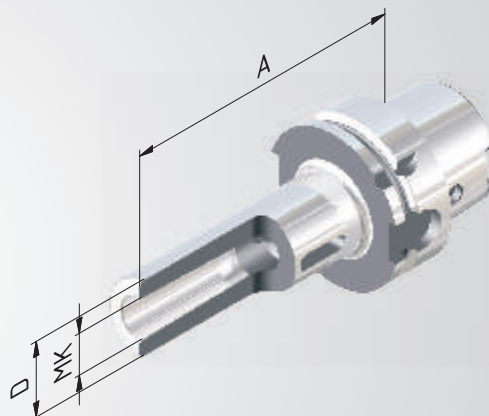
Morse taper adapter according to DIN 228B

Application: For holding morse taper tools with tang according to DIN 228B.

Technical Design: Runout of outer taper to $D_1 \leq 0,008$ mm.



Balanced
G 6,3 at 8.000 min⁻¹



Order No.	HSK	MK	A	D
610013-01	100	1	110	25
610013-02	100	2	120	32
610013-03	100	3	150	40
610013-04	100	4	170	48

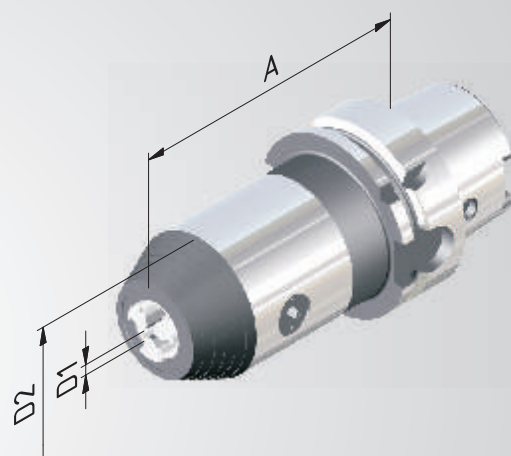
Short drill chuck

Application: For clamping tools with cylindrical shank. Also suitable for tools with internal coolant.

Technical Design: Wrench.



Fine balanced
G 6,3 at 8.000^{min-1}

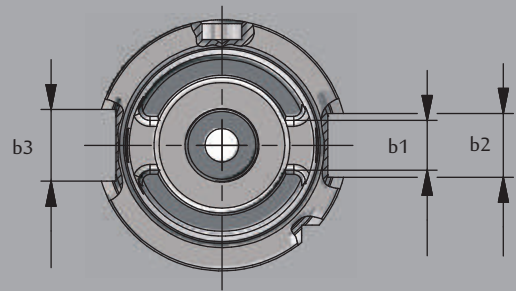
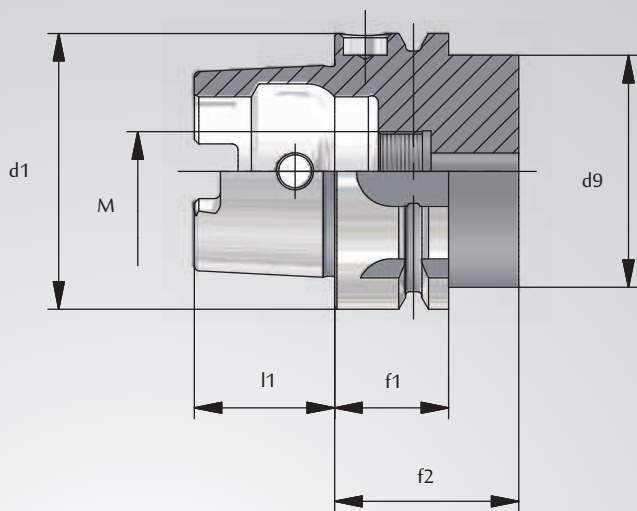


Order No.	HSK	Clamping range D1	A	D2
610095-31	100	1-13	122	43
610095-32	100	1-16	127	56



TOOL HOLDERS WITH SHAFT HSK A₄₀+A₅₀

HSK A₄₀ + A₅₀



HSK	d_1	d_9 max.	l_1	f_1	f_2 min.	b_1	b_2	b_3	M
40	40	34	20	20	35	8,05	9	11	M12x1
50	50	42	25	26	42	10,54	12	14	M16x1

Collet chuck ER

Application: For clamping tools with cylindrical shank in collets ER

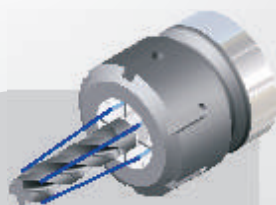
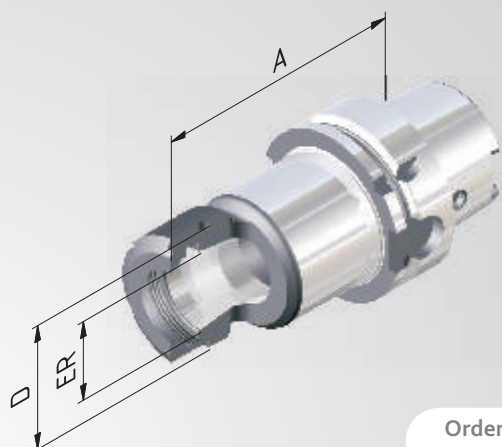
Technical Design: Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.

Includes: Clamping nut.

Accessories: See page 128.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



Sealed versions see
page 130.

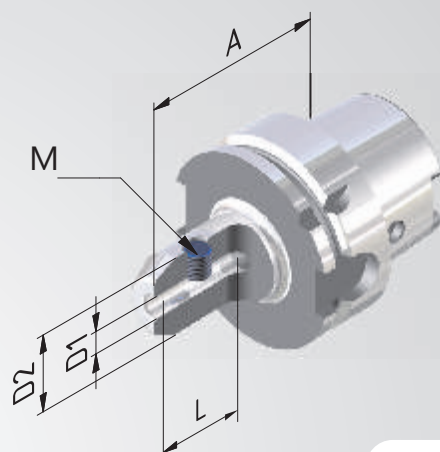
Order No.	HSK	ER	Clamping range	A	D
40					
EXTRA SHORT					
604002-001	40	16	1-10	60	28
604002-002	40	25	1-16	70	42
604002-003	40	32	2-20	70	50
SHORT					
604002-07	40	11	1-7	80	19
604002-01	40	16	1-10	80	28
604002-02	40	25	1-16	80	42
604002-03	40	32	2-20	100	50
50					
EXTRA SHORT					
605002-001	50	16	1-10	60	28
605002-002	50	25	1-16	70	42
605002-003	50	32	2-20	80	50
SHORT					
605002-01	50	16	1-10	100	28
605002-02	50	25	1-16	100	42
605002-03	50	32	2-20	100	50

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003 \text{ mm}$. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132.



Fine balanced
 $G 2,5 \text{ at } 25.000^{rev/min}$
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Order No.	HSK	D1	A	D2	L	M1
	40		SHORT			
604004-01	40	6	60	25	35	M6
604004-02	40	8	60	28	35	M8
604004-03	40	10	60	35	41	M10
604004-04	40	12	70	42	48	M12
604004-05	40	14	75	42	48	M12
604004-06	40	16	75	48	51	M14
	50		SHORT			
605004-01	50	6	65	25	35	M6
605004-02	50	8	65	28	35	M8
605004-03	50	10	65	35	41	M10
605004-04	50	12	80	42	48	M12
605004-06	50	16	80	48	51	M14
605004-08	50	20	80	52	53	M16

Shrink fit holder

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

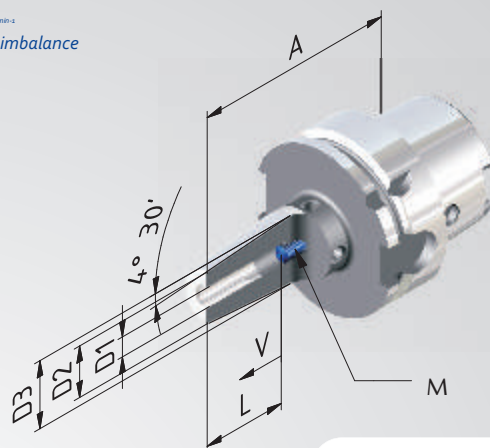
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



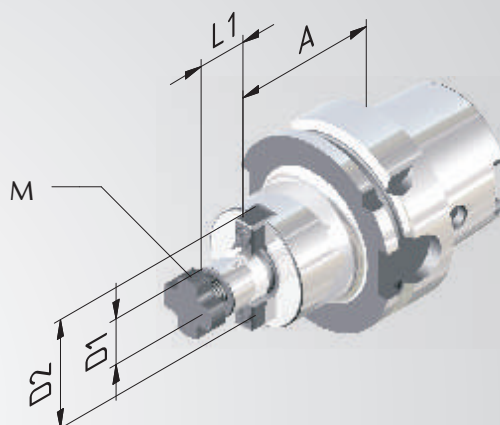
Order No.	HSK	D1	A	D2	D3	V	L	M
	40		SHORT					
604021-13	40	3	60	12	17	-	-	-
604021-14	40	4	60	12	17	-	-	-
604021-15	40	5	60	12	17	-	-	-
604021-01	40	6	80	21	27	10	37	M5
604021-02	40	8	80	21	27	10	37	M6
604021-03	40	10	80	24	32	10	42	M8x1
604021-04	40	12	90	24	32	10	48	M10x1
604021-05	40	14	90	27	34	10	48	M10x1
604021-06	40	16	90	27	34	10	51	M12x1
	50		SHORT					
605021-13	50	3	60	12	17	-	-	-
605021-14	50	4	60	12	17	-	-	-
605021-15	50	5	60	12	17	-	-	-
605021-01	50	6	80	21	27	10	37	M5
605021-02	50	8	80	21	27	10	37	M6
605021-03	50	10	85	24	32	10	42	M8x1
605021-04	50	12	90	24	32	10	48	M10x1
605021-05	50	14	90	27	34	10	48	M10x1
605021-06	50	16	95	27	34	10	51	M12x1
605021-07	50	18	95	33	42	10	51	M12x1
605021-08	50	20	100	33	42	10	53	M16x1

Shell mill holder

- Application:** For adapting shell mills with transverse slot.
- Technical Design:** With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.
- Includes:** Clamping screw and drive keys.
- Accessories:** See page 134.

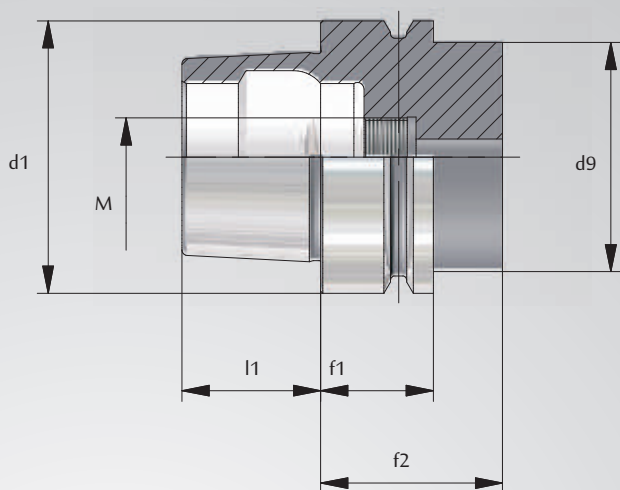


Fine balanced
 $G 2,5$ at $25.000^{rev/min}$
or max. residual imbalance
 ≤ 1 gmm



Order No.	HSK	D1	A	D2	l1	M
	40	SHORT				
604005-01	40	16	50	38	17	M8
604005-02	40	22	60	48	19	M10
	50					
605005-01	50	16	50	38	17	M8
605005-02	50	22	60	48	19	M10
605005-03	50	27	60	60	21	M12

TOOL HOLDERS WITH SHANK HSK-FORM E



HSK-FORM E

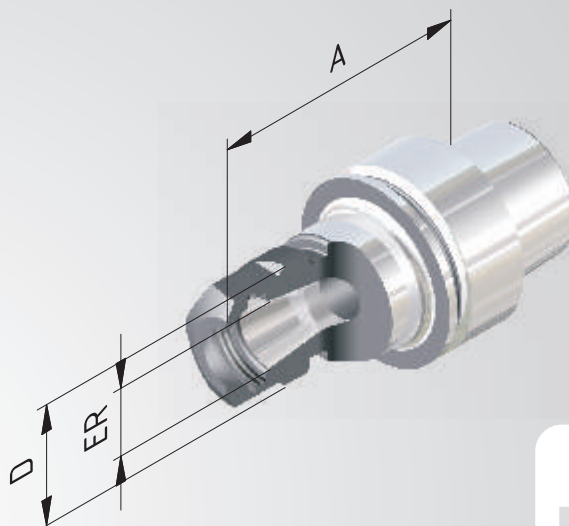
HSK	d_1	d_9 max.	l_1	f_1	f_2 min.	M
40	40	34	20	20	35	M12x1
50	51	42	25	26	42	M16x1

Collet chuck ER

- Application:** For clamping tools with cylindrical shank in collets ER
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.

Order No.	HSK	ER	A	D
	40	EXTRA SHORT		
404002-001	40	11	60	19
404002-002	40	16	60	28
404002-003	40	25	70	42
		= 80		
404002-01	40	16	80	28
404002-02	40	25	80	42
	50	EXTRA SHORT		
405002-001	50	16	60	28
405002-002	50	25	70	42
405002-003	50	32	80	50
		= 100		
405002-01	50	16	100	28
405002-03	50	25	100	42
405002-04	50	32	100	50

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

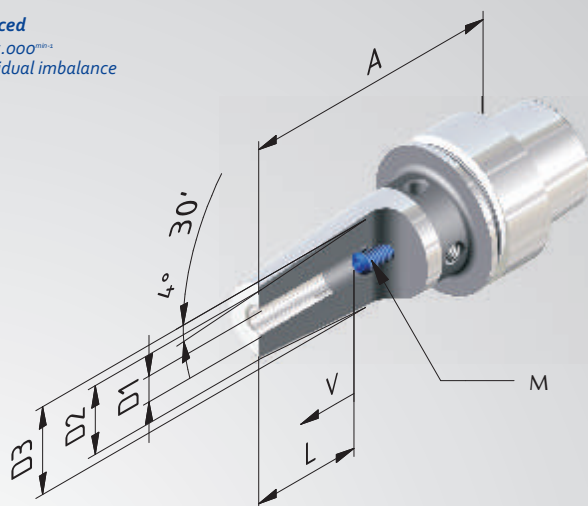
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
≤ 1 gmm



Order No.	HSK	D1	A	D2	D3	V	L	M
		40	SHORT					
404021-13	40	3	60	12	17	-	-	-
404021-14	40	4	60	12	17	-	-	-
404021-15	40	5	60	12	17	-	-	-
404021-01	40	6	80	21	27	10	37	M5
404021-02	40	8	80	21	27	10	37	M6
404021-03	40	10	80	24	32	10	42	M8x1
404021-04	40	12	90	24	32	10	48	M10x1
404021-05	40	14	90	27	34	10	48	M10x1
404021-06	40	16	90	27	34	10	51	M12x1
		50	SHORT					
405021-13	50	3	60	12	17	-	-	-
405021-14	50	4	60	12	17	-	-	-
405021-15	50	5	60	12	17	-	-	-
405021-01	50	6	80	21	27	10	37	M5
405021-02	50	8	80	21	27	10	37	M6
405021-03	50	10	85	24	32	10	42	M8x1
405021-04	50	12	90	24	32	10	48	M10x1
405021-05	50	14	90	27	34	10	48	M10x1
405021-06	50	16	95	27	34	10	51	M12x1

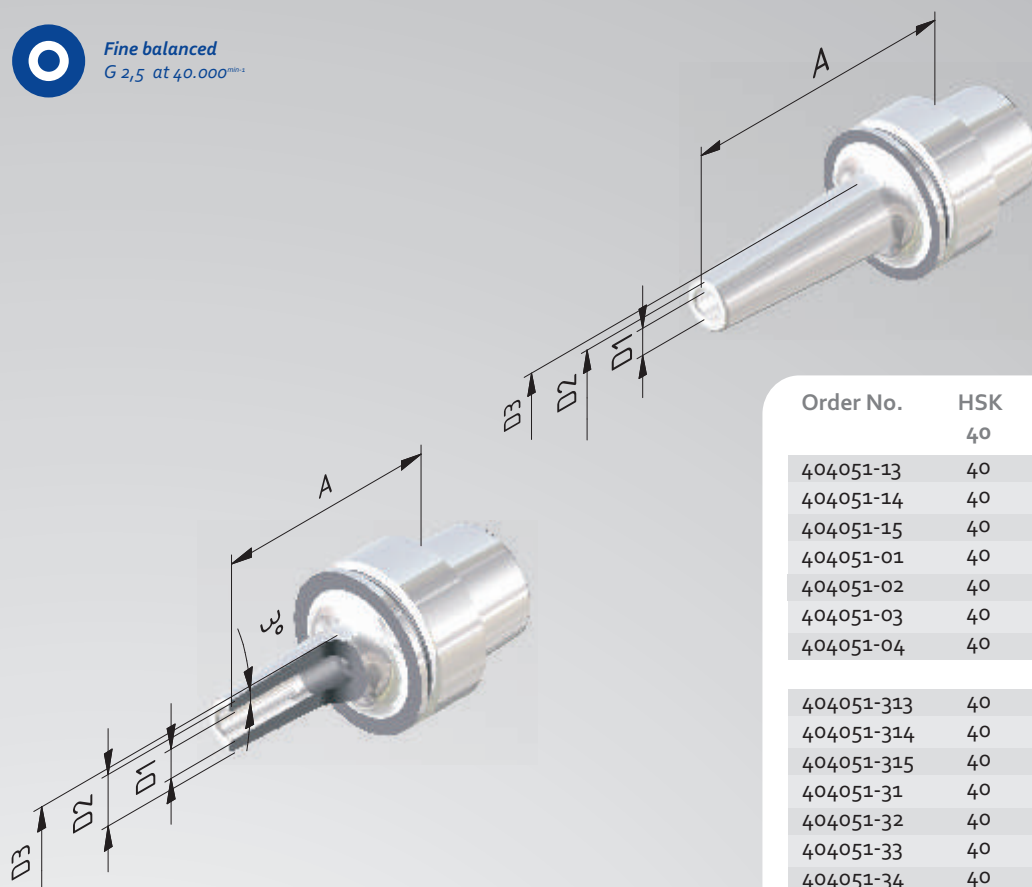
Shrink fit holder 3°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. Runout of outer taper to D1 $\leq$ 0,003 mm.



Fine balanced
G 2,5 at 40.000^{min-1}



Order No.	HSK	D1	A	D2	D3
-----------	-----	----	---	----	----

	40		= 60		
404051-13	40	3	60	9	14
404051-14	40	4	60	10	15
404051-15	40	5	60	11	16
404051-01	40	6	60	12	17
404051-02	40	8	60	14	19
404051-03	40	10	60	16	21
404051-04	40	12	60	18	23

= 70

404051-313	40	3	70	9	15
404051-314	40	4	70	10	16
404051-315	40	5	70	11	17
404051-31	40	6	70	12	18
404051-32	40	8	70	14	20
404051-33	40	10	70	16	22
404051-34	40	12	70	18	24

= 80

404051-513	40	3	80	9	16
404051-514	40	4	80	10	17
404051-515	40	5	80	11	18
404051-51	40	6	80	12	19
404051-52	40	8	80	14	21
404051-53	40	10	80	16	23
404051-54	40	12	80	18	25

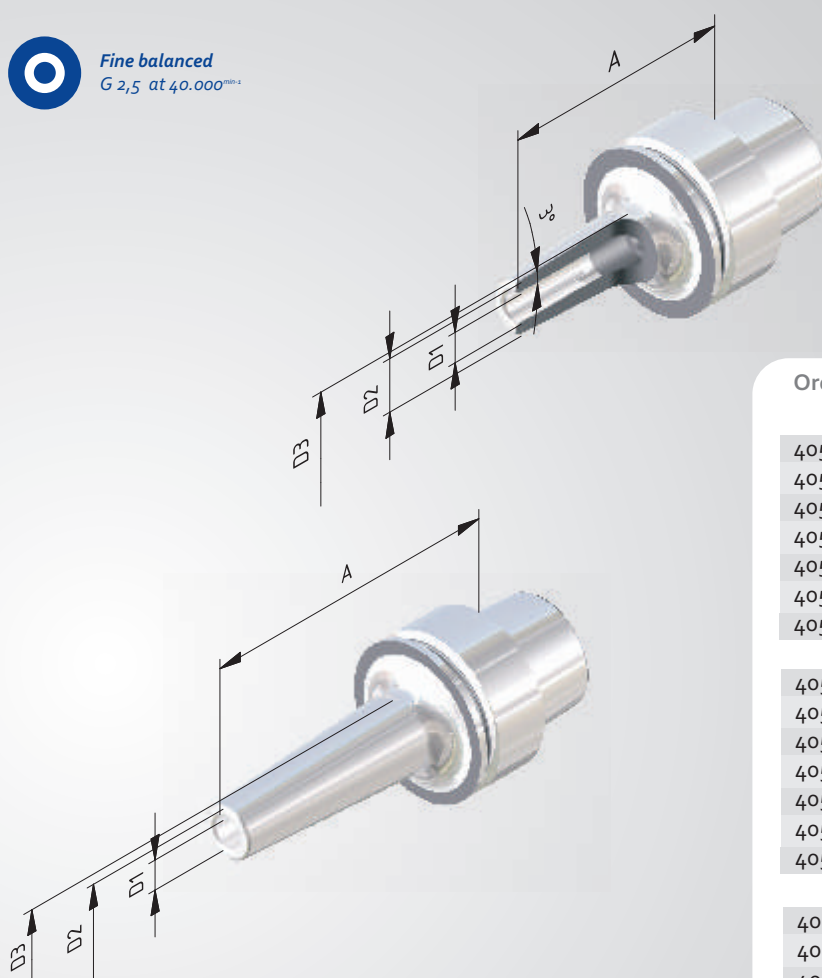
Shrink fit holder 3°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. Runout of outer taper to D1 $\leq$ 0,003 mm.



Fine balanced
G 2,5 at 40.000^{min-1}

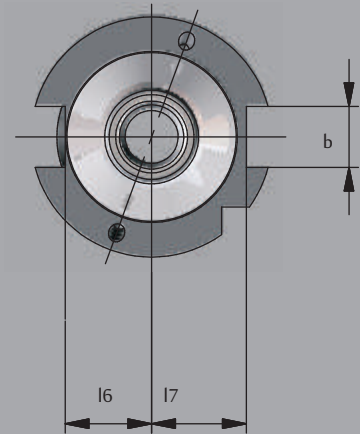
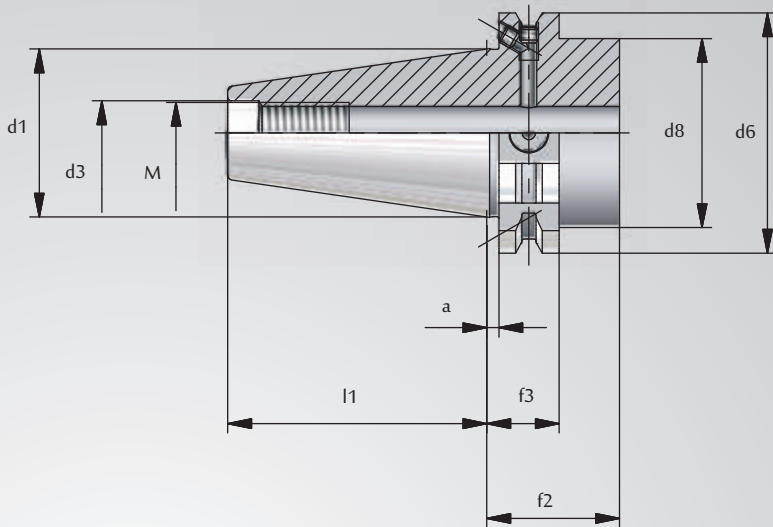


Order No.	HSK	D1	A	D2	D3
	50		= 70		
405051-13	50	3	70	9	14
405051-14	50	4	70	10	15
405051-15	50	5	70	11	16
405051-01	50	6	70	12	17
405051-02	50	8	70	14	19
405051-03	50	10	70	16	21
405051-04	50	12	70	18	23
			= 80		
405051-313	50	3	80	9	15
405051-314	50	4	80	10	16
405051-315	50	5	80	11	17
405051-31	50	6	80	12	18
405051-32	50	8	80	14	20
405051-33	50	10	80	16	22
405051-34	50	12	80	18	24
			= 100		
405051-513	50	3	100	9	17
405051-514	50	4	100	10	18
405051-515	50	5	100	11	19
405051-51	50	6	100	12	20
405051-52	50	8	100	14	22
405051-53	50	10	100	16	24
405051-54	50	12	100	18	26

TOOL HOLDERS

WITH SHANK ISO 7388-1, FORM AD/AF
FORMER DIN 69871, FORM AD/B

DIN 69871



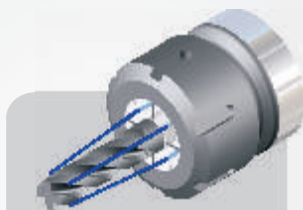
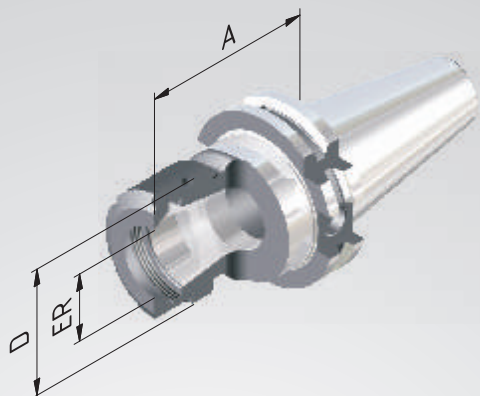
SK	l ₁	d ₁	d ₆	f ₃	f ₂ min.	a	M	d ₃	d ₈ max.	b	l ₆	l ₇
40	68,4	44,45	63,55	19,1	35	3,2	M16	17	50	16,1	22,8	25
50	101,75	69,85	97,5	19,1	35	3,2	M24	25	80	25,7	35,5	37,7

Collet chuck ER

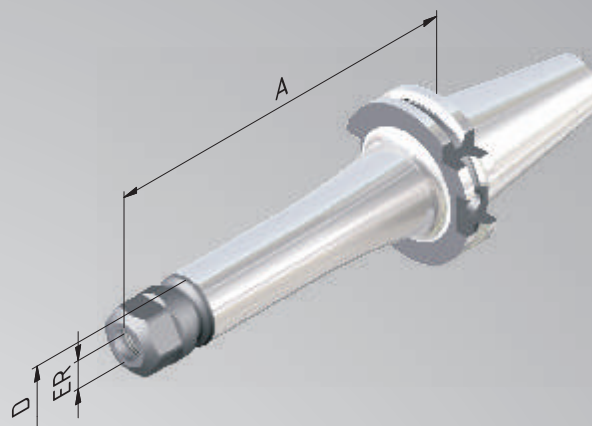
- Application:** For clamping tools with cylindrical shank in collets ER.
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.



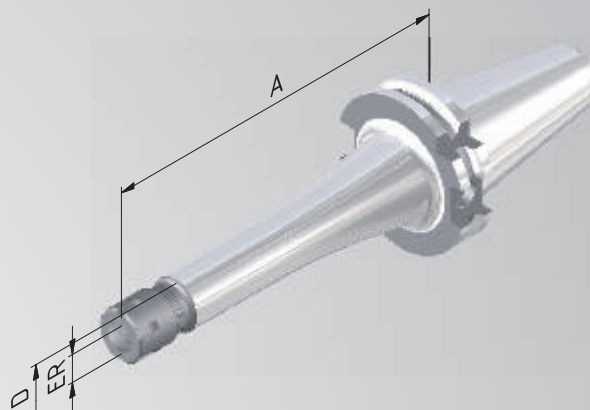
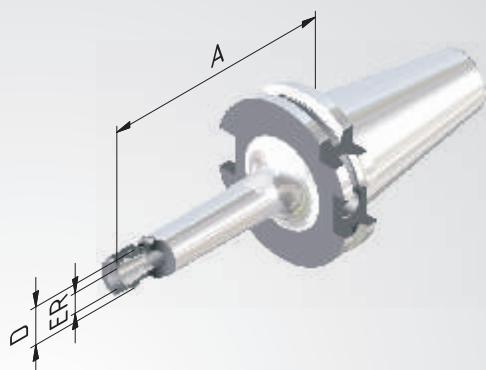
Order No.	SK	ER	Clamping range	A	D
= 70					
714002-01	40	16	1-10	70	28
714002-02	40	20	1-13	70	34
714002-03	40	25	1-16	70	42
714002-04	40	32	2-20	70	50
714002-05	40	40	4-26	70	63
= 100					
714002-31	40	16	1-10	100	28
714002-32	40	20	1-13	100	34
714002-33	40	25	1-16	100	42
714002-34	40	32	2-20	100	50
714002-35	40	40	4-26	100	63
= 160					
714002-61	40	16	1-10	160	28
714002-63	40	25	1-16	160	42
714002-64	40	32	2-20	160	50
714002-65	40	40	4-26	160	63
= 200					
714002-81	40	16	1-10	200	28
714002-83	40	25	1-16	200	42
714002-84	40	32	2-20	200	50

Collet chuck ER »Mini«

- Application:** For clamping tools with cylindrical shank in collets ER.
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper. max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
G 2,5 at 25.000^{min}
or max. residual imbalance
 ≤ 1 gmm



Sealed versions see
pages 130, 131.

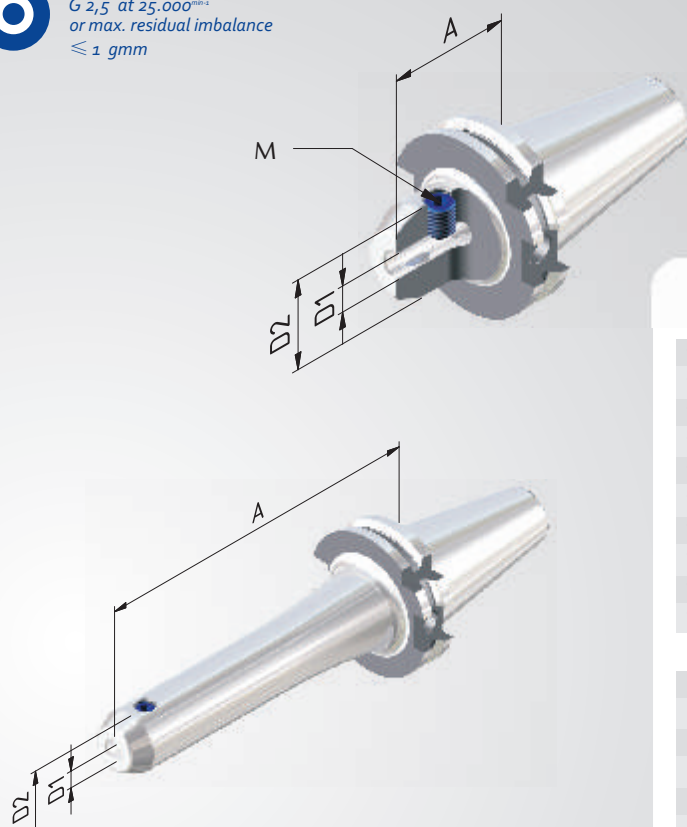
Order No.	SK	ER	Clamping range	A	D
= 100					
714002-41	40	11	1-7	100	16
714002-43	40	16	1-10	100	22
714002-47	40	20	1-13	100	28
714002-45	40	25	1-16	100	35
= 130					
714002-51	40	11	1-7	130	16
714002-52	40	16	1-10	130	22
714002-53	40	20	1-16	130	28
714002-54	40	25	1-13	130	35
= 160					
714002-42	40	11	1-7	160	16
714002-44	40	16	1-10	160	22
714002-48	40	20	1-13	160	28
714002-46	40	25	1-16	160	35

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



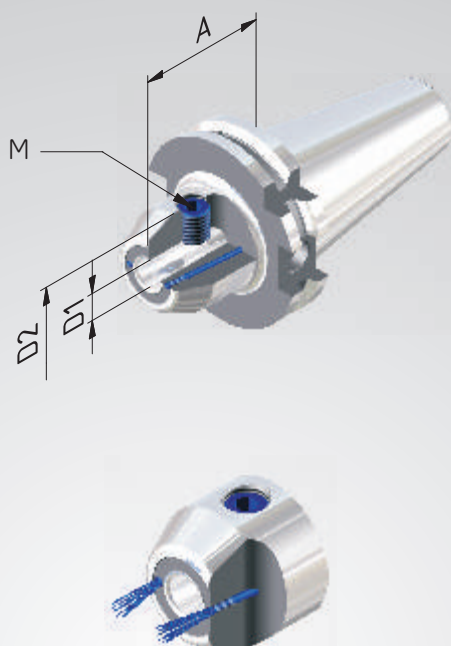
Order No.	SK	D1	A	D2	L	M
SHORT						
714004-01	40	6	50	25	35	M6
714004-02	40	8	50	28	35	M8
714004-03	40	10	50	35	41	M10
714004-04	40	12	50	42	48	M12
714004-05	40	14	50	42	48	M12
714004-06	40	16	63	48	51	M14
714004-07	40	18	63	48	51	M14
714004-08	40	20	63	52	53	M16
714004-09	40	25	100	65	60	M18x2
714004-10	40	32	100	72	64	M20x2
= 100						
714004-31	40	6	100	25	35	M6
714004-32	40	8	100	28	35	M8
714004-33	40	10	100	35	41	M10
714004-34	40	12	100	42	48	M12
714004-35	40	14	100	42	48	M12
714004-36	40	16	100	48	51	M14
714004-38	40	20	100	52	53	M16
= 160						
714004-61	40	6	160	25	35	M6
714004-62	40	8	160	28	35	M8
714004-63	40	10	160	35	41	M10
714004-64	40	12	160	42	48	M12
714004-65	40	14	160	42	48	M12
714004-66	40	16	160	48	51	M14
714004-68	40	20	160	52	53	M16

Endmill holder Weldon »Cool Tool«

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Clamping screw and 2 x M3-screws to plug the coolant holes if needed.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{min}
or max. residual imbalance
≤ 1 gmm



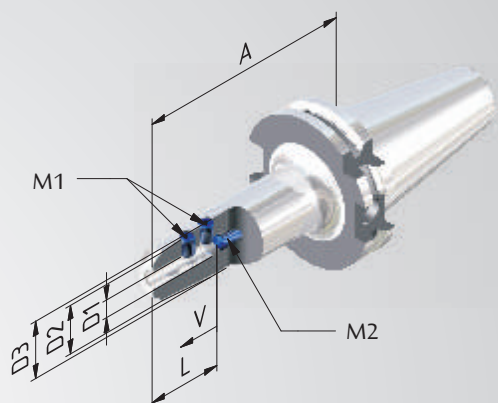
Order No.	SK	D1	A SHORT	D2	L	M
7140041-01	40	6	50	25	35	M6
7140041-02	40	8	50	28	35	M8
7140041-03	40	10	50	35	41	M10
7140041-04	40	12	50	42	48	M12
7140041-05	40	14	50	42	48	M12
7140041-06	40	16	63	48	51	M14
7140041-08	40	20	63	52	53	M16
7140041-09	40	25	100	65	60	M18x2
7140041-10	40	32	100	72	64	M20x2
= 100						
7140041-31	40	6	100	25	35	M6
7140041-32	40	8	100	28	35	M8
7140041-33	40	10	100	35	41	M10
7140041-34	40	12	100	42	48	M12
7140041-36	40	16	100	48	51	M14
7140041-38	40	20	100	52	53	M16
= 130						
7140041-51	40	6	130	25	35	M6
7140041-52	40	8	130	28	35	M8
7140041-53	40	10	130	35	41	M10
7140041-54	40	12	130	42	48	M12
7140041-55	40	14	130	42	48	M12
7140041-56	40	16	130	48	51	M14
7140041-57	40	18	130	50	51	M14
7140041-58	40	20	130	52	53	M16
7140041-59	40	25	130	65	60	M18x2
7140041-60	40	32	130	72	64	M20x2

Slim endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B and E.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H₄ (more accurate as DIN).
- Includes:** Special clamping screw (with ball head) and set screw.
- Accessories:** See page 132.



Balanced
G 6,3 at 8.000^{mm/s}



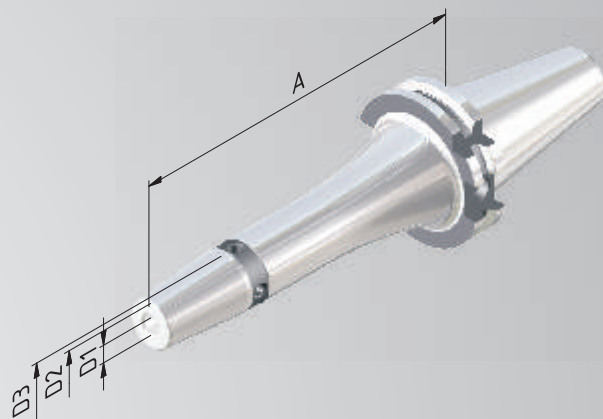
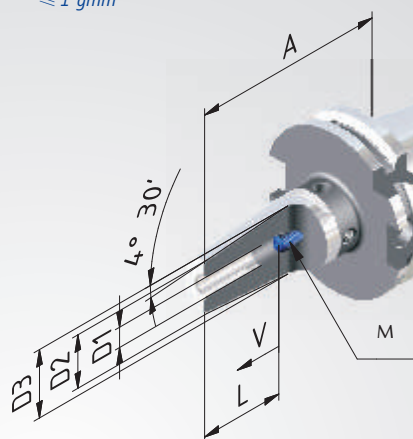
Order No.	SK	D1	A	D2	D3	L	M1	M2
			= 100					
714027-01	40	6	100	13	24	36,5	M6	M5
714027-03	40	8	100	15	26	36,5	M6	M6
714027-05	40	10	100	16	28	40,5	M6	M8x1
714027-07	40	12	100	17	29	45,5	M6	M10x1
714027-09	40	14	100	19	32	45,5	M8	M10x1
714027-11	40	16	100	21	34	48,5	M8	M12x1
714027-13	40	18	100	23	36	48,5	M8	M12x1
714027-15	40	20	100	25	38	50,5	M8	M16x1

Shrink fit holder 4,5°

- Application:** For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.
- Technical Design:** Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.
- Includes:** Set screw.
- Accessories:** See page 133.



Fine balanced
G 2,5 at 25.000^{min} s
or max. residual imbalance
 ≤ 1 gmm



Extra short shrink fit holders
can be found on page 61,
shrink fit holders »Cool Tool«.

Order No.	SK	D1	A	D2	D3	V	L	M
SHORT								
714021-13	40	3	80	12	17	-	-	-
714021-14	40	4	80	12	17	-	-	-
714021-15	40	5	80	12	17	-	-	-
714021-01	40	6	80	21	27	10	37	M5
714021-02	40	8	80	21	27	10	37	M6
714021-03	40	10	80	24	32	10	42	M8x1
714021-04	40	12	80	24	32	10	48	M10x1
714021-05	40	14	80	27	34	10	48	M10x1
714021-06	40	16	80	27	34	10	51	M12x1
714021-07	40	18	80	33	42	10	51	M12x1
714021-08	40	20	80	33	42	10	53	M16x1
714021-09	40	25	100	44	53	10	59	M16x1
714021-10	40	32	100	44	53	10	63	M16x1

Order No.	SK	D1	A	D2	D3	V	L	M
SHORT								
714021-13	40	3	80	12	17	-	-	-
714021-14	40	4	80	12	17	-	-	-
714021-15	40	5	80	12	17	-	-	-
714021-01	40	6	80	21	27	10	37	M5
714021-02	40	8	80	21	27	10	37	M6
714021-03	40	10	80	24	32	10	42	M8x1
714021-04	40	12	80	24	32	10	48	M10x1
714021-05	40	14	80	27	34	10	48	M10x1
714021-06	40	16	80	27	34	10	51	M12x1
714021-07	40	18	80	33	42	10	51	M12x1
714021-08	40	20	80	33	42	10	53	M16x1
714021-09	40	25	100	44	53	10	59	M16x1
714021-10	40	32	100	44	53	10	63	M16x1

Long versions see next page >>

Shrink fit holder 4,5°



Fine balanced
G 2,5 at 25.000^{min}
or max. residual imbalance
≤ 1 gmm

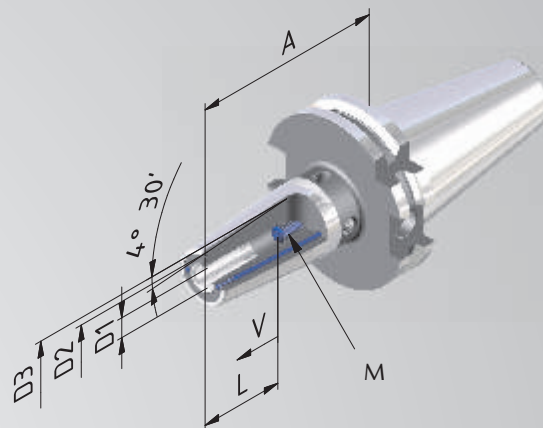
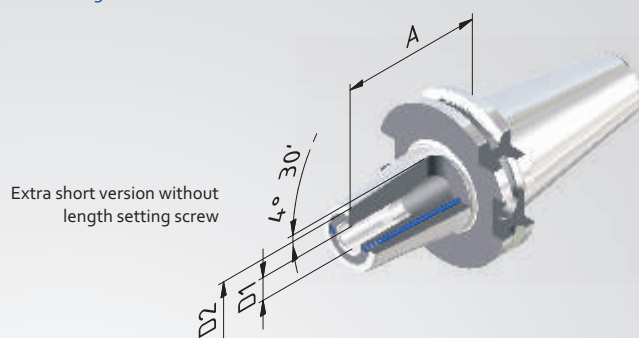
Order No.	SK	D1	A = 120	D2	D3	V	L	M
714021-31	40	6	120	21	27	10	37	M5
714021-32	40	8	120	21	27	10	37	M6
714021-33	40	10	120	24	32	10	42	M8x1
714021-34	40	12	120	24	32	10	48	M10x1
714021-35	40	14	120	27	34	10	48	M10x1
714021-36	40	16	120	27	34	10	51	M12x1
714021-37	40	18	120	33	42	10	51	M12x1
714021-38	40	20	120	33	42	10	53	M16x1
714021-39	40	25	120	44	53	10	59	M16x1
= 130								
714021-513	40	3	130	21	27	-	-	-
714021-514	40	4	130	21	27	-	-	-
714021-515	40	5	130	24	32	-	-	-
714021-51	40	6	130	21	27	10	37	M5
714021-52	40	8	130	21	27	10	37	M6
714021-53	40	10	130	24	32	10	42	M8x1
714021-54	40	12	130	24	32	10	48	M10x1
714021-55	40	14	130	27	34	10	48	M10x1
714021-56	40	16	130	27	34	10	51	M12x1
714021-57	40	18	130	33	42	10	51	M12x1
714021-58	40	20	130	33	42	10	53	M16x1
714021-59	40	25	130	44	53	10	59	M16x1
714021-60	40	32	130	44	53	10	63	M16x1
= 160								
714021-61	40	6	160	21	27	10	37	M5
714021-62	40	8	160	21	27	10	37	M6
714021-63	40	10	160	24	32	10	42	M8x1
714021-64	40	12	160	24	32	10	48	M10x1
714021-65	40	14	160	27	34	10	48	M10x1
714021-66	40	16	160	27	34	10	51	M12x1
714021-67	40	18	160	33	42	10	51	M12x1
714021-68	40	20	160	33	42	10	53	M16x1
714021-69	40	25	160	44	53	10	59	M16x1
= 200								
714021-81	40	6	200	21	27	10	37	M5
714021-82	40	8	200	21	27	10	37	M6
714021-83	40	10	200	24	32	10	42	M8x1
714021-84	40	12	200	24	32	10	48	M10x1
714021-85	40	14	200	27	34	10	48	M10x1
714021-86	40	16	200	27	34	10	51	M12x1
714021-87	40	18	200	33	42	10	51	M12x1
714021-88	40	20	200	33	42	10	53	M16x1
714021-89	40	25	200	44	53	10	59	M16x1

Shrink fit holder »Cool Tool« 4,5°

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Set screw and 2 x M3 screws to plug the coolant holes if needed.
- Accessories:** See page 134.



Fine balanced
G 2,5 at 25.000^{min} s
or max. residual imbalance
≤ 1 gmm



Order No.	SK	D1	A	D2	D3	V	L	M
-----------	----	----	---	----	----	---	---	---

EXTRASHORT

7140219-03	40	10	65	26	-	-	42	-
7140219-04	40	12	65	26	-	-	48	-
7140219-06	40	16	65	29	-	-	51	-
7140219-08	40	20	65	35	-	-	53	-
7140219-09	40	25	75	45	-	-	59	-

SHORT

714021-139*	40	3	80	26	-	-	42	-
714021-149*	40	4	80	26	-	-	48	-
714021-159*	40	5	80	29	-	-	51	-
714021-019	40	6	80	21	27	10	37	M5
714021-029	40	8	80	21	27	10	37	M6
714021-039	40	10	80	24	32	10	42	M8x1
714021-049	40	12	80	24	32	10	48	M10x1
714021-059	40	14	80	27	34	10	48	M10x1
714021-069	40	16	80	27	34	10	51	M12x1
714021-079	40	18	80	33	42	10	51	M12x1
714021-089	40	20	80	33	42	10	53	M16x1
714021-099	40	25	100	44	53	10	59	M16x1

* Cool tool holes can not be plugged.

Long versions see next page >>

Shrink fit holder »Cool Tool« 4,5°



Fine balanced
G 2,5 at 25.000^{min} s
or max. residual imbalance
≤ 1 gmm

Order No.	SK	D ₁	A	D ₂	D ₃	V	L	M
= 120								
714021-319	40	6	120	21	27	10	37	M5
714021-329	40	8	120	21	27	10	37	M6
714021-339	40	10	120	24	32	10	42	M8x1
714021-349	40	12	120	24	32	10	48	M10x1
714021-359	40	14	120	27	34	10	48	M10x1
714021-369	40	16	120	27	34	10	51	M12x1
714021-379	40	18	120	33	42	10	51	M12x1
714021-389	40	20	120	33	42	10	53	M16x1
= 130								
714021-5139*	40	3	130	12	17	-	-	-
714021-5149*	40	4	130	12	17	-	-	-
714021-5159*	40	5	130	12	17	-	-	-
714021-519	40	6	130	21	27	10	37	M5
714021-529	40	8	130	21	27	10	37	M6
714021-539	40	10	130	24	32	10	42	M8x1
714021-549	40	12	130	24	32	10	48	M10x1
714021-559	40	14	130	27	34	10	48	M10x1
714021-569	40	16	130	27	34	10	51	M12x1
714021-579	40	18	130	33	42	10	51	M12x1
714021-589	40	20	130	33	42	10	53	M16x1
714021-599	40	25	130	44	53	10	59	M16x1
714021-609	40	32	130	44	53	10	63	M16x1

* Cool tool holes can not be plugged.

Extended slim shrink fit holder

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

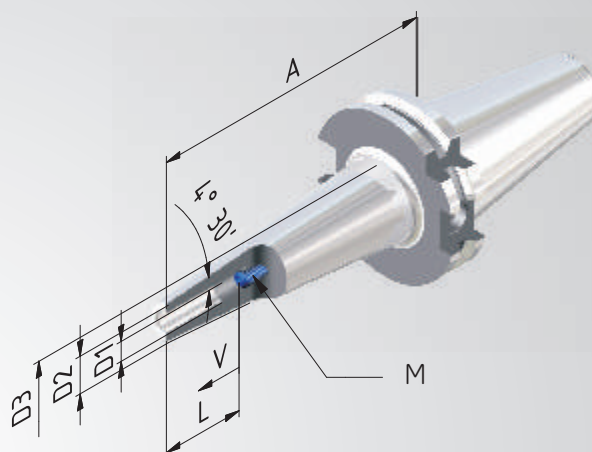
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{min-1}
or max. residual imbalance
 ≤ 1 gmm



Order No.	SK	D1	A	D2	D3	V	L	M
			= 120					
714021-413	40	3	120	9	25	-	-	-
714021-414	40	4	120	9	25	-	-	-
714021-415	40	5	120	9	25	-	-	-
714021-41	40	6	120	15	30	10	37	M5
714021-42	40	8	120	15	30	10	37	M6
714021-43	40	10	120	18	32	10	42	M8x1
714021-44	40	12	120	18	32	10	48	M10x1

Version »Cool Tool«

7140219-41	40	6	120	15	31	10	37	M5
7140219-42	40	8	120	16	32	10	37	M6
7140219-43	40	10	120	18	34	10	42	M8x1
7140219-44	40	12	120	20	36	10	48	M10x1

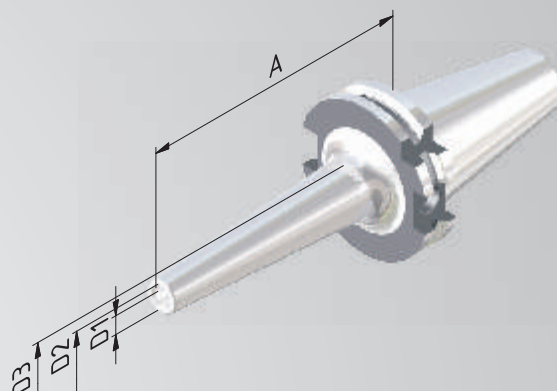
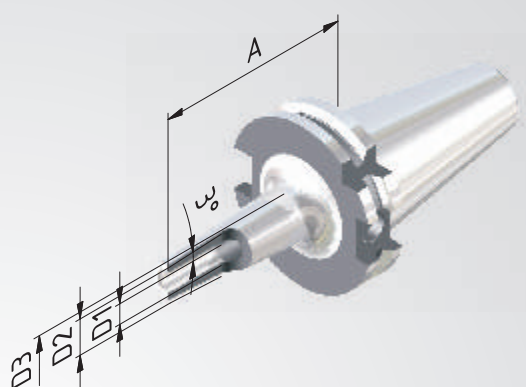
Shrink fit holder 3°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. Runout of outer taper to $D_1 \leq 0,003$ mm.



Fine balanced
 $G_{2,5}$ at 25.000^{min-1}
or max. residual imbalance
 ≤ 1 gmm



Order No.	SK	D1	A	D2	D3
= 80					
714051-13	40	3	80	9	35
714051-14	40	4	80	10	37
714051-15	40	5	80	11	38
714051-01	40	6	80	12	19
714051-02	40	8	80	14	21
714051-03	40	10	80	16	23
714051-04	40	12	80	18	25
= 120					
714051-313	40	3	120	9	39
714051-314	40	4	120	10	41
714051-315	40	5	120	11	42
714051-31	40	6	120	12	23
714051-32	40	8	120	14	25
714051-33	40	10	120	16	27
714051-34	40	12	120	18	29

Thread shank adapter

Application: For clamping threaded shank end mill bodies.

Technical Design: Runout of outer taper to $D_1 \leq 0,005$ mm.



Fine balanced
 $G 2,5$ at 25.000 min^{-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$

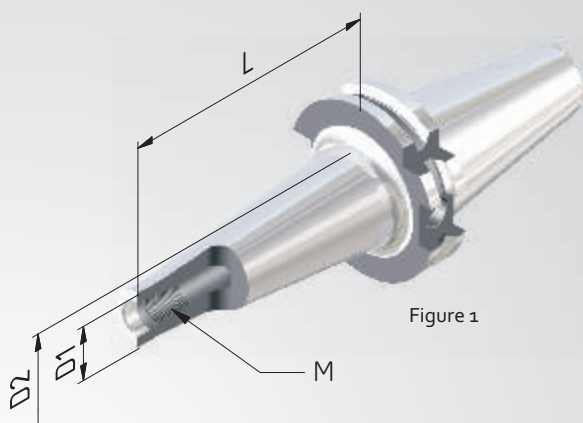


Figure 1

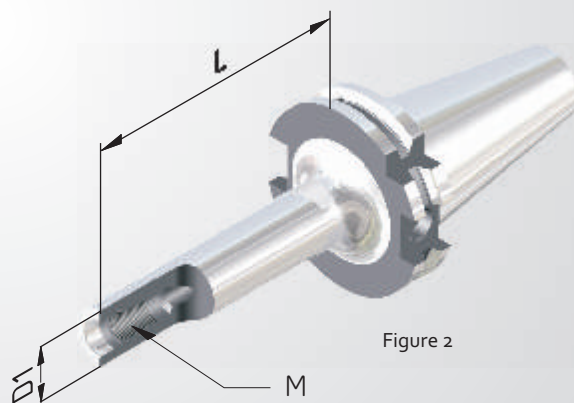


Figure 2

Order No.	SK	M	L	D1	D2
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Conical (Figure 1)

714008-01	40	M8	25	13	15
714008-02	40	M8	50	13	23
714008-03	40	M8	75	13	25
714010-01	40	M10	25	18	23
714010-02	40	M10	50	18	25
714010-03	40	M10	75	18	30
714010-04	40	M10	100	18	35
714010-06	40	M10	150	18	45
714012-01	40	M12	25	21	24
714012-02	40	M12	50	21	30
714012-03	40	M12	75	21	35
714012-04	40	M12	100	21	38
714012-06	40	M12	150	21	48
714016-01	40	M16	25	29	29
714016-02	40	M16	50	29	34
714016-03	40	M16	75	29	35
714016-04	40	M16	100	29	40
714016-06	40	M16	150	29	48

Cylindrical (Figure 2)

7140057-01	40	M5	25	10	
7140057-01	40	M6	25	10	
7140087-01	40	M8	25	13	
7140087-02	40	M8	50	13	
7140087-03	40	M8	75	13	
7140107-01	40	M10	25	18	
7140107-02	40	M10	50	18	
7140107-04	40	M10	100	18	
7140107-06	40	M10	150	18	
7140127-01	40	M12	25	21	
7140127-02	40	M12	50	21	
7140127-03	40	M12	75	21	
7140127-04	40	M12	100	21	
7140127-06	40	M12	150	21	
7140167-01	40	M16	25	29	
7140167-02	40	M16	50	29	
7140167-03	40	M16	75	29	
7140167-04	40	M16	100	29	
7140167-06	40	M16	150	29	

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

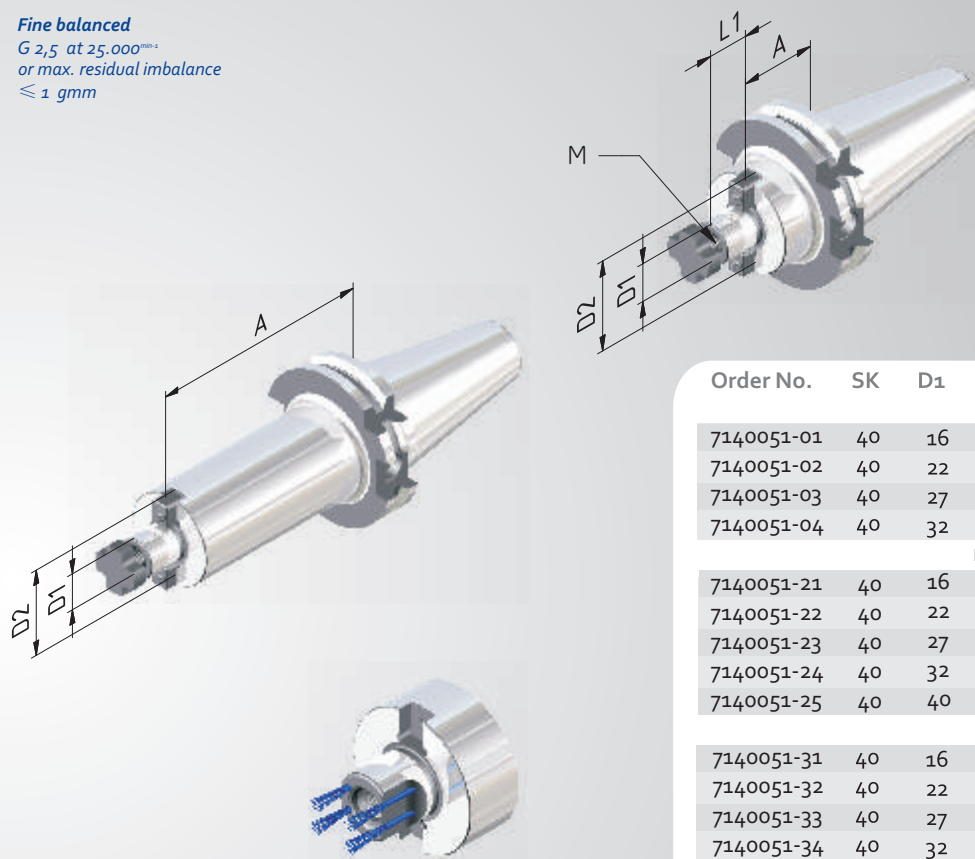
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.



Fine balanced
 $G 2,5$ at 25.000 mm^2
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Order No.	SK	D1	A	D2	l1	M
SHORT						
7140051-01	40	16	35	38	17	M8
7140051-02	40	22	35	48	19	M10
7140051-03	40	27	35	50	21	M12
7140051-04	40	32	50	78	24	M16
MEDIUM						
7140051-21	40	16	60	38	17	M8
7140051-22	40	22	60	48	19	M10
7140051-23	40	27	60	50	21	M12
7140051-24	40	32	60	78	24	M16
7140051-25	40	40	60	89	27	M20
= 100						
7140051-31	40	16	100	38	17	M8
7140051-32	40	22	100	48	19	M10
7140051-33	40	27	100	50	21	M12
7140051-34	40	32	100	78	24	M16
= 160						
7140051-62	40	22	160	48	19	M10
7140051-63	40	27	160	50	21	M12
7140051-64	40	32	160	78	24	M16

Combi shell mill holder

Application: For adapting shell mills with transverse and longitudinal groove.

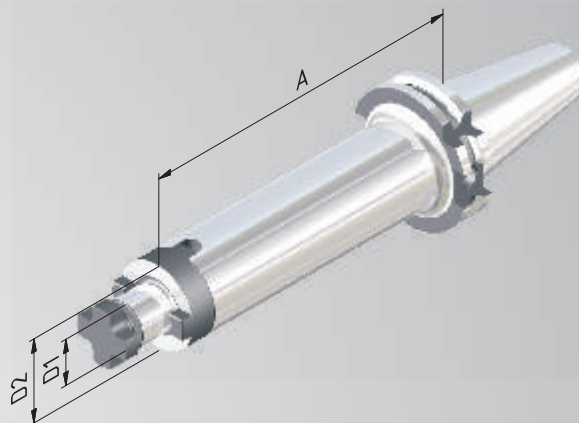
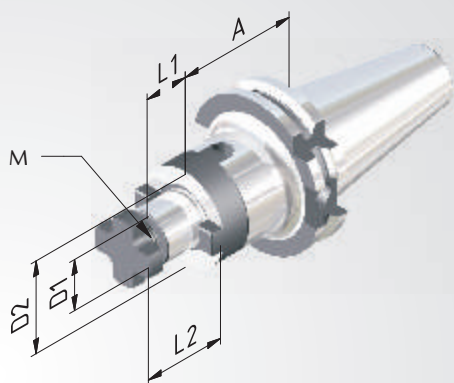
Technical Design: Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw, drive keys and adjusting spring.

Accessories: See from page 135.



Fine balanced
 $G 2,5$ at 25.000 min^{-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Order No.	SK	D1	A	D2	l1	l2	M
-----------	----	----	---	----	----	----	---

SHORT

714006-01	40	16	55	32	17	27	M8
714006-02	40	22	55	40	19	31	M10
714006-03	40	27	55	48	21	33	M12
714006-04	40	32	60	58	24	38	M16

= 100

714006-31	40	16	100	32	17	27	M8
714006-32	40	22	100	40	19	31	M10
714006-33	40	27	100	48	21	33	M12
714006-34	40	32	100	58	24	38	M16

= 160

714006-61	40	16	160	32	17	27	M8
714006-62	40	22	160	40	19	31	M10
714006-63	40	27	160	48	21	33	M12
714006-64	40	32	160	58	24	38	M16

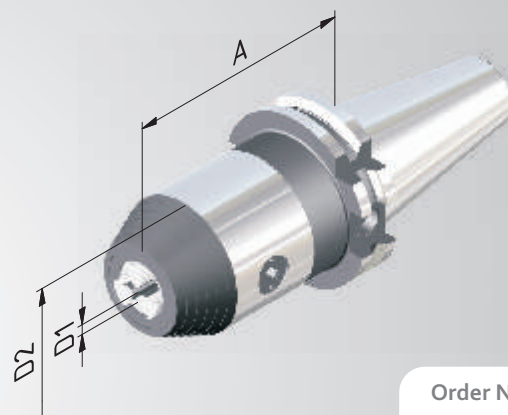
Short drill chuck

Application: For clamping tools with cylindrical shank. Also suitable for tools with internal coolant.

Technical Design: Wrench.



Balanced
G 6,3 at 8.000^{mm-1}



Order No.	SK	Clamping range D1	A	D2
FORM A without internal coolant				
714095-01	40	1-13	81	45
714095-02	40	1-16	87	56
FORM AD for tools with internal coolant				
714095-31	40	1-13	81	45
714095-32	40	1-16	87	56

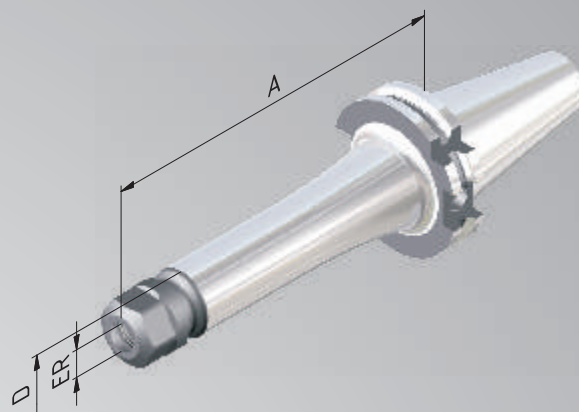
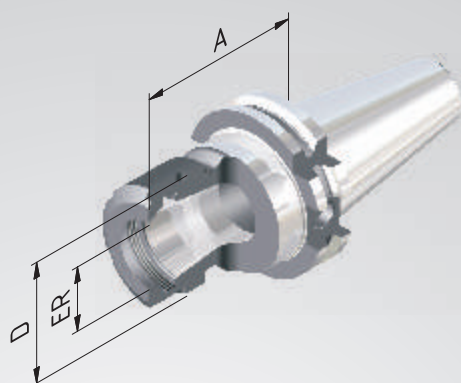


Collet chuck ER

- Application:** For clamping tools with cylindrical shank in collets ER
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the Collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut
- Accessories:** See page 128.



Fine balanced
 $G 2,5$ at 25.000^{min-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.

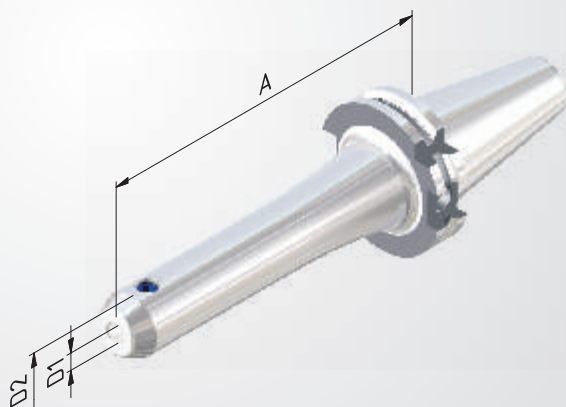
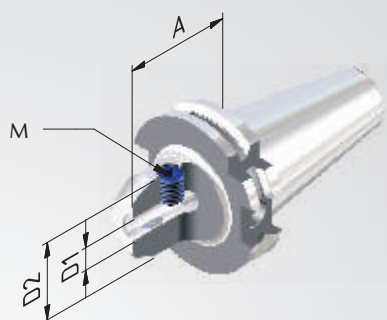
Order No.	SK	ER	Clamping range	A	D
= 70					
715002-01	50	16	1-10	70	28
715002-02	50	25	1-16	70	42
715002-03	50	32	2-20	70	50
715002-04	50	40	4-26	70	63
= 100					
715002-31	50	16	1-10	100	28
715002-32	50	25	1-16	100	42
715002-33	50	32	2-20	100	50
715002-34	50	40	4-26	100	63
= 160					
715002-61	50	16	1-10	160	28
715002-62	50	25	1-16	160	42
715002-63	50	32	2-20	160	50
715002-64	50	40	4-26	160	63

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132.



Fine balanced
 $G 2,5$ at 25.000^{min-1}
or max. residual imbalance
 ≤ 1 gmm



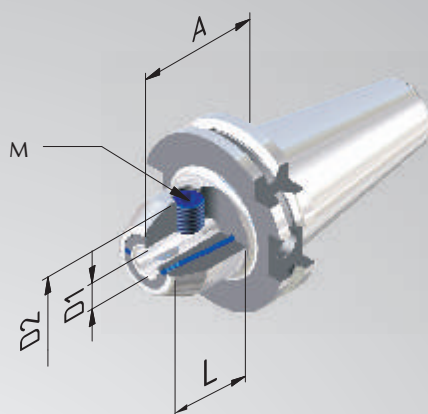
Order No.	SK	D1	A	D2	L	M1
			SHORT			
715004-01	50	6	63	25	35	M6
715004-02	50	8	63	28	35	M8
715004-03	50	10	63	35	41	M10
715004-04	50	12	63	42	48	M12
715004-05	50	14	63	42	48	M12
715004-06	50	16	63	48	51	M14
715004-08	50	20	63	52	53	M16
715004-09	50	25	80	65	60	M18x2
715004-10	50	32	100	72	64	M20x2
= 100						
715004-31	50	6	100	25	35	M6
715004-32	50	8	100	28	35	M8
715004-33	50	10	100	35	41	M10
715004-34	50	12	100	42	48	M12
715004-35	50	14	100	42	48	M12
715004-36	50	16	100	48	51	M14
715004-38	50	20	100	52	53	M16
715004-39	50	25	100	65	60	M18x2
= 160						
715004-61	50	6	160	25	35	M6
715004-62	50	8	160	28	35	M8
715004-63	50	10	160	35	41	M10
715004-64	50	12	160	42	48	M12
715004-65	50	14	160	42	48	M12
715004-66	50	16	160	48	51	M14
715004-68	50	20	160	52	53	M16
715004-69	50	25	160	65	60	M18x2
715004-70	50	32	160	72	64	M20x2

Endmill holder Weldon »Cool Tool«

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Clamping screw and 2 x M3-screws to plug the coolant holes if needed.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{min-1}
or max. residual imbalance
≤ 1 gmm



Order No.	SK	D1	A SHORT	D2	L	M
7150041-01	50	6	63	25	35	M6
7150041-02	50	8	63	28	35	M8
7150041-03	50	10	63	35	41	M10
7150041-04	50	12	63	42	48	M12
7150041-05	50	14	63	42	48	M12
7150041-06	50	16	63	48	51	M14
7150041-07	50	18	63	48	51	M14
7150041-08	50	20	63	52	53	M16
7150041-09	50	25	80	65	60	M18x2
7150041-10	50	32	100	72	64	M20x2

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

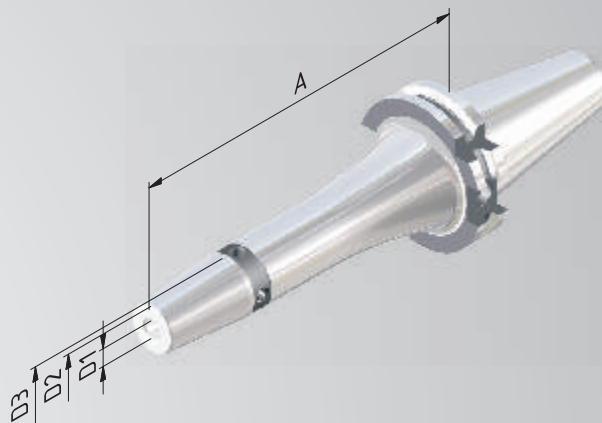
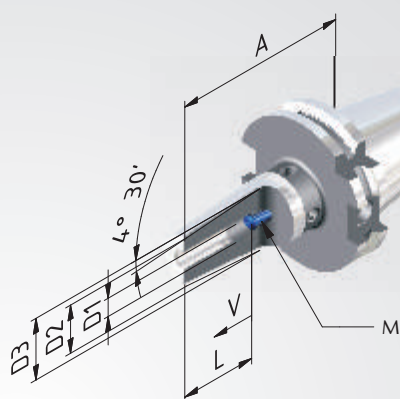
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
G 2,5 at 25.000^{min}·s
or max. residual imbalance
≤ 1 gmm



Order No.	SK	D1	A	D2	D3	V	L	M
-----------	----	----	---	----	----	---	---	---

SHORT

715021-01	50	6	80	21	27	10	37	M5
715021-02	50	8	80	21	27	10	37	M6
715021-03	50	10	80	24	32	10	42	M8x1
715021-04	50	12	80	24	32	10	48	M10x1
715021-05	50	14	80	27	34	10	48	M10x1
715021-06	50	16	80	27	34	10	51	M12x1
715021-07	50	18	80	33	42	10	51	M12x1
715021-08	50	20	80	33	42	10	53	M16x1
715021-09	50	25	100	44	53	10	59	M16x1
715021-10	50	32	100	44	53	10	63	M16x1

Long versions see next page >>

Shrink fit holder 4,5 °



Fine balanced
G 2,5 at 25.000^{min}
or max. residual imbalance
≤ 1 gmm

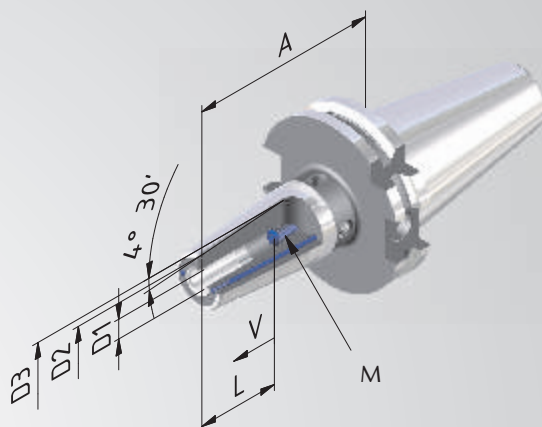
Order No.	SK	D1	A	D2	D3	V	L	M
= 120								
715021-31	50	6	120	21	27	10	37	M5
715021-32	50	8	120	21	27	10	37	M6
715021-33	50	10	120	24	32	10	42	M8x1
715021-34	50	12	120	24	32	10	48	M10x1
715021-35	50	14	120	27	34	10	48	M10x1
715021-36	50	16	120	27	34	10	51	M12x1
715021-37	50	18	120	33	42	10	51	M12x1
715021-38	50	20	120	33	42	10	53	M16x1
715021-39	50	25	120	44	53	10	59	M16x1
715021-40	50	32	120	44	53	10	63	M16x1
= 130								
715021-51	50	6	130	21	27	10	37	M5
715021-52	50	8	130	21	27	10	37	M6
715021-53	50	10	130	24	32	10	42	M8x1
715021-54	50	12	130	24	32	10	48	M10x1
715021-55	50	14	130	27	34	10	48	M10x1
715021-56	50	16	130	27	34	10	51	M12x1
715021-57	50	18	130	33	42	10	51	M12x1
715021-58	50	20	130	33	42	10	53	M16x1
715021-59	50	25	130	44	53	10	59	M16x1
715021-60	50	32	130	44	53	10	63	M16x1
= 160								
715021-61	50	6	160	21	27	10	37	M5
715021-62	50	8	160	21	27	10	37	M6
715021-63	50	10	160	24	32	10	42	M8x1
715021-64	50	12	160	24	32	10	48	M10x1
715021-65	50	14	160	27	34	10	48	M10x1
715021-66	50	16	160	27	34	10	51	M12x1
715021-67	50	18	160	33	42	10	51	M12x1
715021-68	50	20	160	33	42	10	53	M16x1
715021-69	50	25	160	44	53	10	59	M16x1
715021-70	50	32	160	44	53	10	63	M16x1
= 200								
715021-81	50	6	200	21	27	10	37	M5
715021-82	50	8	200	21	27	10	37	M6
715021-83	50	10	200	24	32	10	42	M8x1
715021-84	50	12	200	24	32	10	48	M10x1
715021-85	50	14	200	27	34	10	48	M10x1
715021-86	50	16	200	27	34	10	51	M12x1
715021-87	50	18	200	33	42	10	51	M12x1
715021-88	50	20	200	33	42	10	53	M16x1
715021-89	50	25	200	44	53	10	59	M16x1
715021-90	50	32	200	44	53	10	63	M16x1

Shrink fit holder »Cool Tool« 4,5 °

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Set screw and 2 x M3 screws to plug the coolant holes if needed.
- Accessories:** See page 134.



Fine balanced
G 2,5 at 25.000^{min-1}
or max. residual imbalance
≤ 1 gmm



Order No.	SK	D1	A	D2	D3	V	L	M
			SHORT					
715021-019	50	6	80	21	27	10	37	M5
715021-029	50	8	80	21	27	10	37	M6
715021-039	50	10	80	24	32	10	42	M8x1
715021-049	50	12	80	24	32	10	48	M10x1
715021-059	50	14	80	27	34	10	48	M10x1
715021-069	50	16	80	27	34	10	51	M12x1
715021-079	50	18	80	33	42	10	51	M12x1
715021-089	50	20	80	33	42	10	53	M16x1
715021-099	50	25	100	44	53	10	59	M16x1
715021-109	50	32	100	44	53	10	63	M16x1

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

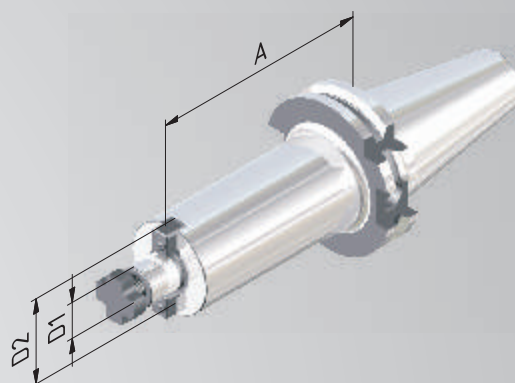
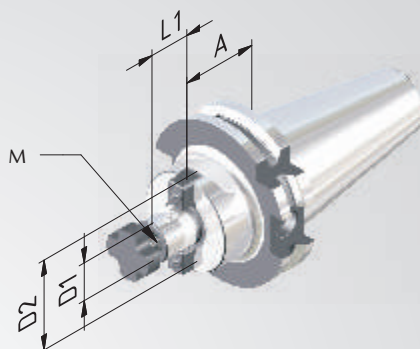
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.



Fine balanced
 $G 2,5$ at $25.000^{min.}$
or max. residual imbalance
 ≤ 1 gmm



Order No.	SK	D1	A	D2	l1	M
SHORT						
7150051-02	50	22	35	48	19	M10
7150051-03	50	27	35	60	21	M12
7150051-04	50	32	35	78	24	M16
7150051-05	50	40	50	89	27	M20
= 100						
7150051-32	50	22	100	48	19	M10
7150051-33	50	27	100	60	21	M12
7150051-34	50	32	100	78	24	M16
7150051-35	50	40	100	89	27	M20
= 160						
7150051-621	50	22	160	48	19	M10
7150051-631	50	27	160	60	21	M12
7150051-641	50	32	160	78	24	M16
7150051-651	50	40	160	89	27	M20

Combi shell mill holder

Application: For adapting shell mills with transverse and longitudinal groove.

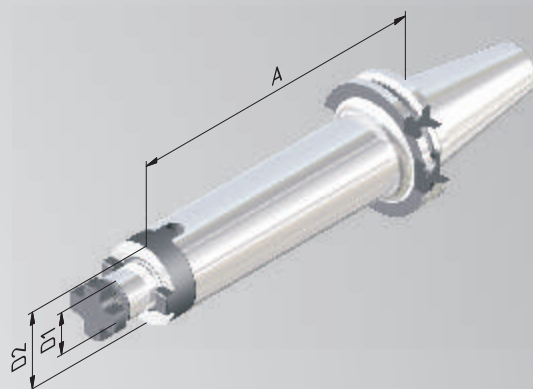
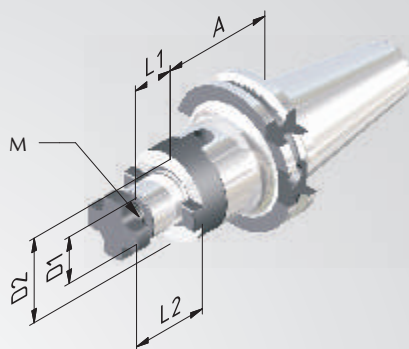
Technical Design: Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw, drive keys and adjusting spring.

Accessories: See from page 135.



Fine balanced
 $G 2,5$ at 25.000^{min-1}
or max. residual imbalance
 ≤ 1 gmm



Order No.	SK	D1	A	D2	l1	l2	M
-----------	----	----	---	----	----	----	---

= 55

715006-02	50	22	55	40	19	31	M10
715006-03	50	27	55	48	21	33	M12
715006-04	50	32	55	58	24	38	M16
715006-05	50	40	55	70	27	41	M20

= 100

715006-32	50	22	100	40	19	31	M10
715006-33	50	27	100	48	21	33	M12
715006-34	50	32	100	58	24	38	M16
715006-35	50	40	100	70	27	41	M20

= 160

715006-62	50	22	160	40	19	31	M10
715006-63	50	27	160	48	21	33	M12
715006-64	50	32	160	58	24	38	M16
715006-65	50	40	160	70	27	41	M20

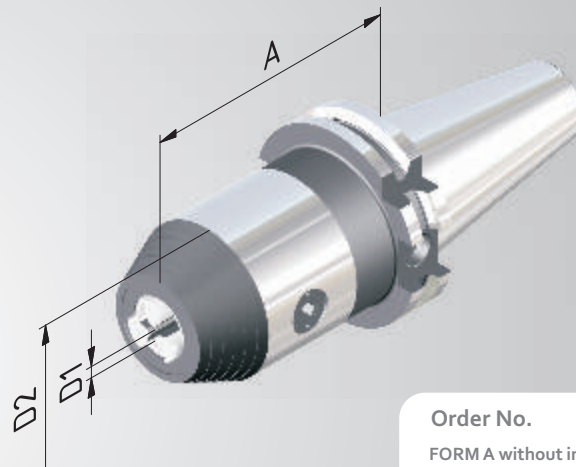
Short drill chuck

Application: For clamping tools with cylindrical shank. Also suitable for tools with internal coolant.

Technical Design: Wrench.



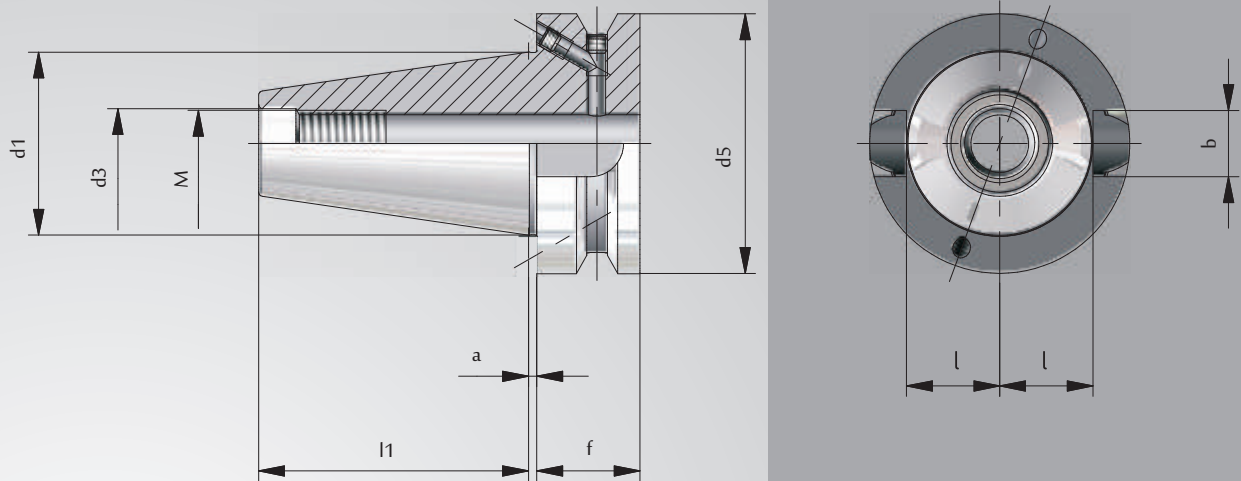
Balanced
G 6,3 at 8.000^{min-1}



Order No.	SK	Clamping range D1	A	D2
FORM A without internal coolant				
715095-01	50	1-13	91	43
715095-02	50	1-16	97	56
FORM AD for tools with internal coolant				
715095-31	50	1-13	91	43
715095-32	50	1-16	97	56

TOOL HOLDERS WITH SHANK ISO 7388-2, FORM JD/JF FORMER MAS-BT, FORM AD/B

MAS-BT



BT	l_1	d_1	d_5	f	a	M	d_3	b	l
30*	48,4	31,75	46	20	2	M12	12,5	16,1	16,3
40	65,4	44,45	63	25	2	M16	17	16,1	22,6
50	101,8	69,85	100	35	3	M24	25	25,7	35,4

*Version AD.

Collet chuck ER

Application: For clamping tools with cylindrical shank in collets ER

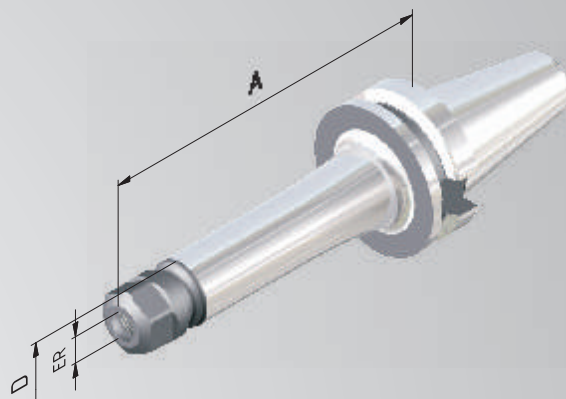
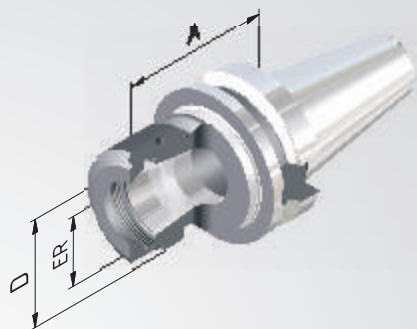
Technical Design: Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.

Includes: Clamping nut.

Accessories: See page 128.



Fine balanced
 $G_{2,5}$ at 25.000^{min}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130, 131.

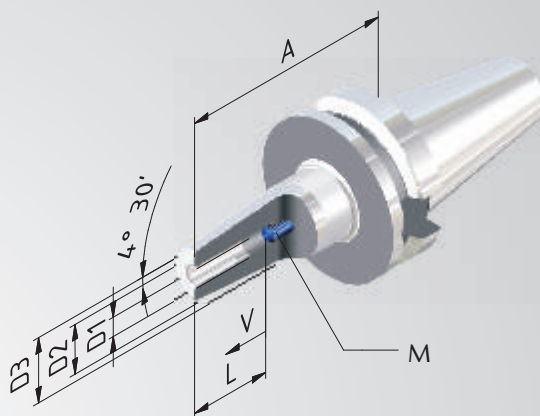
Order No.	BT	ER	Clamping range	A	D
SHORT					
753002-01	30	11	1-7	60	19
753002-02	30	16	1-10	60	28
753002-03	30	20	1-13	60	34
753002-04	30	25	1-16	60	42
LONG					
753002-22	30	16	1-10	80	28
753002-23	30	20	1-13	80	34
753002-24	30	25	1-16	80	42
753002-31	30	11	1-7	100	19
753002-32	30	16	1-10	100	28
753002-33	30	20	1-13	100	34
753002-34	30	25	1-16	100	42

Shrink fit holder 4,5°

- Application:** For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.
- Technical Design:** Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.
- Includes:** Set screw.
- Accessories:** See page 133.



Fine balanced
 $G 2,5$ at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm



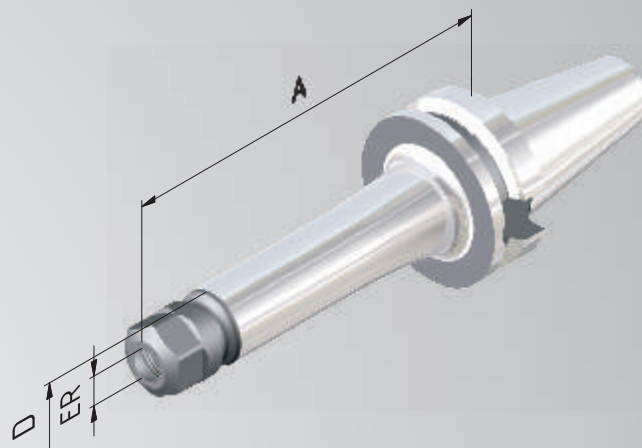
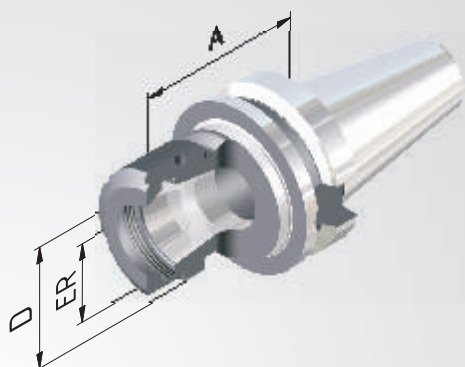
Order No.	BT	D1	A	D2	D3	V	L	M
SHORT								
753021-13	30	3	80	12	17	-	-	-
753021-14	30	4	80	12	17	-	-	-
753021-15	30	5	80	12	17	-	-	-
753021-01	30	6	80	21	27	10	37	M5
753021-02	30	8	80	21	27	10	37	M6
753021-03	30	10	80	24	32	10	42	M8x1
753021-04	30	12	80	24	32	10	48	M10x1
753021-05	30	14	80	27	34	10	48	M10x1
753021-06	30	16	80	27	34	10	51	M12x1
753021-07	30	18	90	33	42	10	51	M12x1
753021-08	30	20	90	33	42	10	53	M16x1

Collet chuck ER

- Application:** For clamping tools with cylindrical shank in collets ER
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
 $G 2,5$ at $25.000^{min.}$
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130,131.

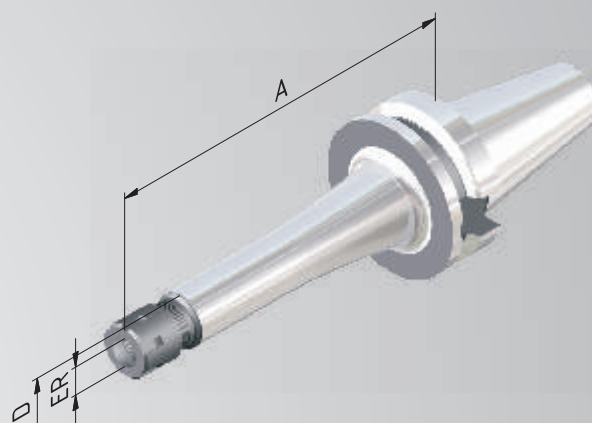
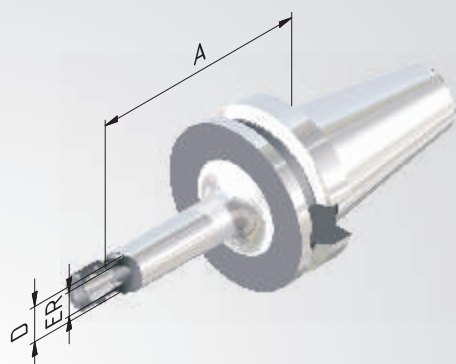
Order No.	BT	ER	Clamping range	A	D
= 70					
754002-01	40	16	1-10	70	28
754002-03	40	25	1-16	70	42
754002-04	40	32	2-20	70	50
754002-05	40	40	4-26	70	63
= 100					
754002-31	40	16	1-10	100	28
754002-33	40	25	1-16	100	42
754002-34	40	32	2-20	100	50
= 160					
754002-61	40	16	1-10	160	28
754002-63	40	25	1-16	160	42
754002-64	40	32	2-20	160	50

Collet chuck ER »Mini«

- Application:** For clamping tools with cylindrical shank in collets ER.
- Technical Design:** Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper. max. runout of $\leq 8\mu$ at $2,5 \times D$.
- Includes:** Clamping nut.
- Accessories:** See page 128.



Fine balanced
 $G 2,5$ at $25.000^{min.4}$
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
pages 130,131.

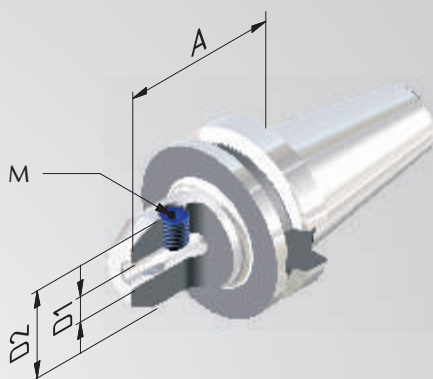
Order No.	BT	ER	Clamping range	A	D1
= 100					
754002-41	40	11	1-7	100	16
754002-43	40	16	1-10	100	22
754002-45	40	25	1-16	100	35
= 160					
754002-42	40	11	1-7	160	16
754002-44	40	16	1-10	160	22
754002-46	40	25	1-16	160	35

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{min}1
or max. residual imbalance
≤ 1 gmm



Order No.	BT	D1	A	D2	L	M
SHORT						
754004-01	40	6	50	25	35	M6
754004-02	40	8	50	28	35	M8
754004-03	40	10	63	35	41	M10
754004-04	40	12	63	42	48	M12
754004-05	40	14	63	42	48	M12
754004-06	40	16	63	48	51	M14
754004-07	40	18	63	48	51	M14
754004-08	40	20	63	52	53	M16
754004-09	40	25	90	65	60	M18x2
754004-10	40	32	100	72	64	M20x2
= 100						
754004-31	40	6	100	25	35	M6
754004-32	40	8	100	28	35	M8
754004-33	40	10	100	35	41	M10
754004-34	40	12	100	42	48	M12
754004-36	40	16	100	48	51	M14
754004-38	40	20	100	52	53	M16

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

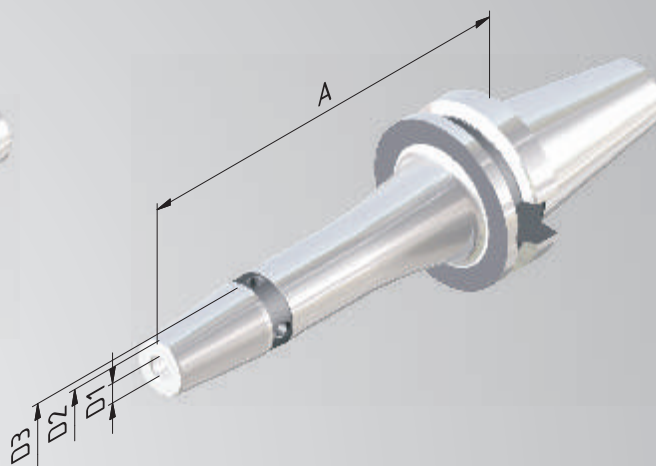
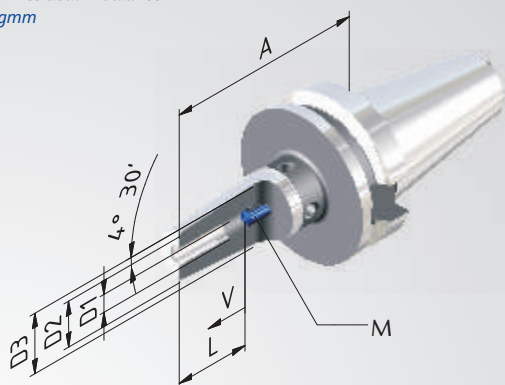
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at $25.000^{min.4}$
or max. residual imbalance
 ≤ 1 gmm



Order No.	BT	D1	A	D2	D3	V	L	M
SHORT								
754021-13	40	3	90	12	17	-	-	-
754021-14	40	4	90	12	17	-	-	-
754021-15	40	5	90	12	17	-	-	-
754021-01	40	6	90	21	27	10	37	M5
754021-02	40	8	90	21	27	10	37	M6
754021-03	40	10	90	24	32	10	42	M8x1
754021-04	40	12	90	24	32	10	48	M10x1
754021-05	40	14	90	27	34	10	48	M10x1
754021-06	40	16	90	27	34	10	51	M12x1
754021-07	40	18	90	33	42	10	51	M12x1
754021-08	40	20	90	33	42	10	53	M16x1
754021-09	40	25	100	44	53	10	59	M16x1

Long versions see next page >>

Shrink fit holder 4,5°



Fine balanced
G 2,5 at 25.000^{mm}⁻¹
or max. residual imbalance
≤ 1 gmm

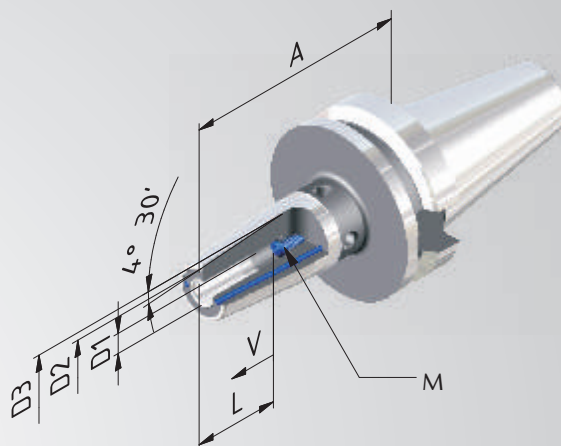
Order No.	BT	D1	A	D2	D3	V	L	M
= 120								
754021-31	40	6	120	21	27	10	37	M5
754021-32	40	8	120	21	27	10	37	M6
754021-33	40	10	120	24	32	10	42	M8x1
754021-34	40	12	120	24	32	10	48	M10x1
754021-35	40	14	120	27	34	10	48	M10x1
754021-36	40	16	120	27	34	10	51	M12x1
754021-37	40	18	120	33	42	10	51	M12x1
754021-38	40	20	120	33	42	10	53	M16x1
754021-39	40	25	120	44	53	10	59	M16x1
= 130								
754021-513	40	3	130	12	17			
754021-514	40	4	130	12	17			
754021-515	40	5	130	12	17			
754021-51	40	6	130	21	27	10	37	M5
754021-52	40	8	130	21	27	10	37	M6
754021-53	40	10	130	24	32	10	42	M8x1
754021-54	40	12	130	24	32	10	48	M10x1
754021-55	40	14	130	27	34	10	48	M10x1
754021-56	40	16	130	27	34	10	51	M12x1
754021-57	40	18	130	33	42	10	51	M12x1
754021-58	40	20	130	33	42	10	53	M16x1
754021-59	40	25	130	44	53	10	59	M16x1
= 160								
754021-61	40	6	160	21	27	10	37	M5
754021-62	40	8	160	21	27	10	37	M6
754021-63	40	10	160	24	32	10	42	M8x1
754021-64	40	12	160	24	32	10	48	M10x1
754021-65	40	14	160	27	34	10	48	M10x1
754021-66	40	16	160	27	34	10	51	M12x1
754021-67	40	18	160	33	42	10	51	M12x1
754021-68	40	20	160	33	42	10	53	M16x1
754021-69	40	25	160	44	53	10	59	M16x1
= 200								
754021-81	40	6	200	21	27	10	37	M5
754021-82	40	8	200	21	27	10	37	M6
754021-83	40	10	200	24	32	10	42	M8x1
754021-84	40	12	200	24	32	10	48	M10x1
754021-85	40	14	200	27	34	10	48	M10x1
754021-86	40	16	200	27	34	10	51	M12x1
754021-87	40	18	200	33	42	10	51	M12x1
754021-88	40	20	200	33	42	10	53	M16x1
754021-89	40	25	200	44	53	10	59	M16x1

Shrink fit holder »Cool Tool« 4,5°

- Application:** Particularly suitable for tools without internal coolant, and for machining at difficult positions with bad chip removal.
- Technical Design:** Two holes in the toolholder lead the coolant directly to the cutting edge. Coolant holes can be re-sealed with screws for the use of tools with internal coolant holes.
- Includes:** Set screw and 2 x M3 screws to plug the coolant holes if needed.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{min-1}
or max. residual imbalance
≤ 1 gmm



Order No.	BT	D1	A = SHORT	D2	D3	V	L	M
754021-019	40	6	90	21	27	10	37	M5
754021-029	40	8	90	21	27	10	37	M6
754021-039	40	10	90	24	32	10	42	M8x1
754021-049	40	12	90	24	32	10	48	M10x1
754021-059	40	14	90	27	34	10	48	M10x1
754021-069	40	16	90	27	34	10	51	M12x1
754021-079	40	18	90	33	42	10	51	M12x1
754021-089	40	20	90	33	42	10	53	M16x1
754021-099	40	25	100	44	53	10	59	M16x1

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

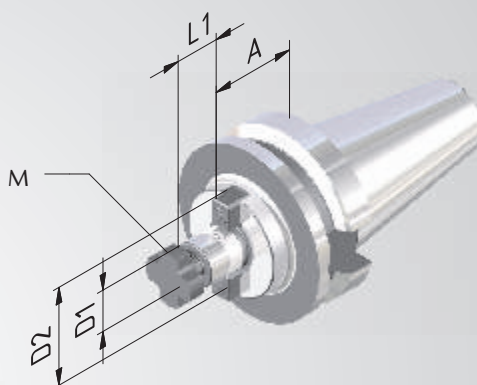
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.



Fine balanced
 $G 2,5$ at 25.000 min^{-1}
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Order No.	BT	D1	A	D2	l1	M
SHORT						
7540051-01	40	16	35	38	17	M8
7540051-02	40	22	35	48	19	M10
7540051-03	40	27	35	60	21	M12
7540051-04	40	32	50	78	24	M16
7540051-05	40	40	50	89	27	M20
= 100						
7540051-31	40	16	100	38	17	M8
7540051-32	40	22	100	48	19	M10
7540051-33	40	27	100	60	21	M12
7540051-34	40	32	100	78	24	M16

Combi shell mill holder

Application: For adapting shell mills with transverse and longitudinal groove.

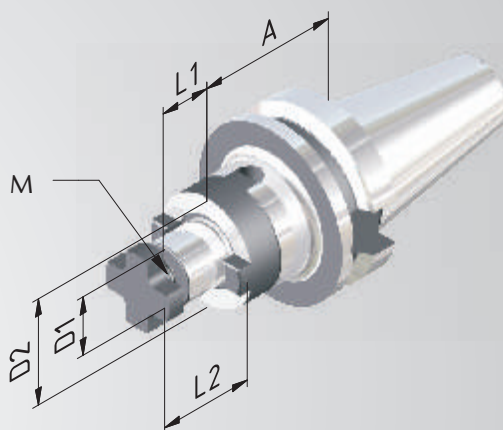
Technical Design: Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw, drive keys and adjusting spring.

Accessories: See page 135.



Fine balanced
 $G 2,5$ at $25.000^{min.s}$
or max. residual imbalance
 ≤ 1 gmm



Order No.	BT	D1	A	D2	l1	l2	M
			SHORT				
754006-01	40	16	55	32	17	27	M8
754006-02	40	22	55	40	19	31	M10
754006-03	40	27	55	48	21	33	M12
754006-04	40	32	60	58	24	38	M16

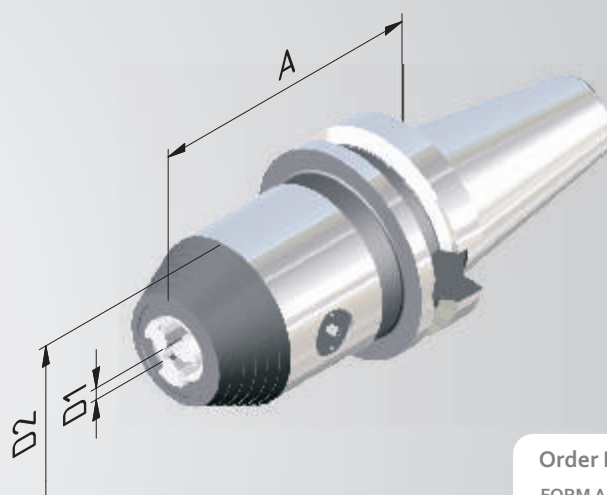
Short drill chuck

Application: For clamping tools with cylindrical shank. Also suitable for tools with internal coolant.

Technical Design: Wrench.



Balanced
G 6,3 at 8.000^{min-1}



Order No.	BT	Clamping range	A	D2
FORM A without internal coolant				
754095-01	40	1-13	89	45
754095-02	40	1-16	95	56
FORM AD for tools with internal coolant				
754095-31	40	1-13	89	45
754095-32	40	1-16	95	56

Collet chuck ER

Application: For clamping tools with cylindrical shank in collets ER

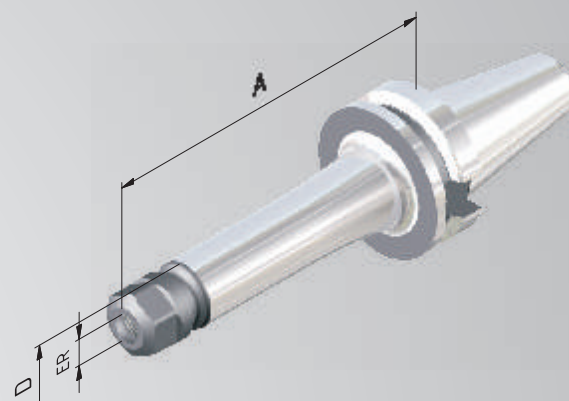
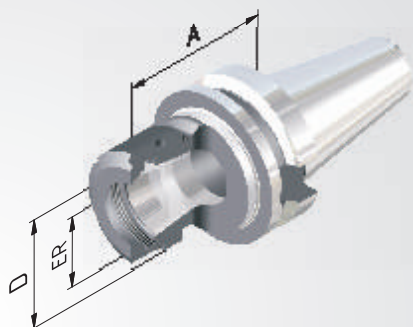
Technical Design: Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.

Includes: Clamping nut.

Accessories: See page 128.



Fine balanced
G 2,5 at 25.000^{min}1
or max. residual imbalance
 ≤ 1 gmm



Sealed versions see
pages 130,131.

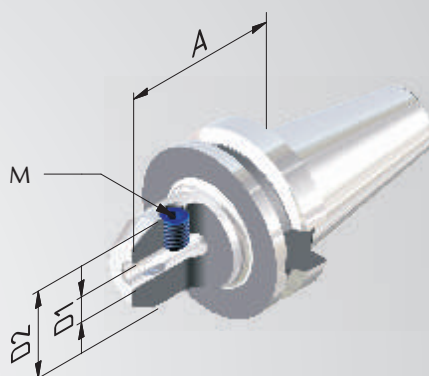
Order No.	BT	ER	A SHORT	D	Clamping range
755002-01	50	16	70	28	1-10
755002-02	50	25	70	42	1-16
755002-03	50	32	70	50	2-20
755002-04	50	40	80	63	4-26
= 100					
755002-31	50	16	100	28	1-10
755002-32	50	25	100	42	1-16
755002-33	50	32	100	50	2-20
755002-34	50	40	100	63	4-26
= 160					
755002-61	50	16	160	28	1-10
755002-62	50	25	160	42	1-16
755002-63	50	32	160	50	2-20
755002-64	50	40	160	63	4-26

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132.



Fine balanced
G 2,5 at 25.000^{min}4
or max. residual imbalance
≤ 1 gmm



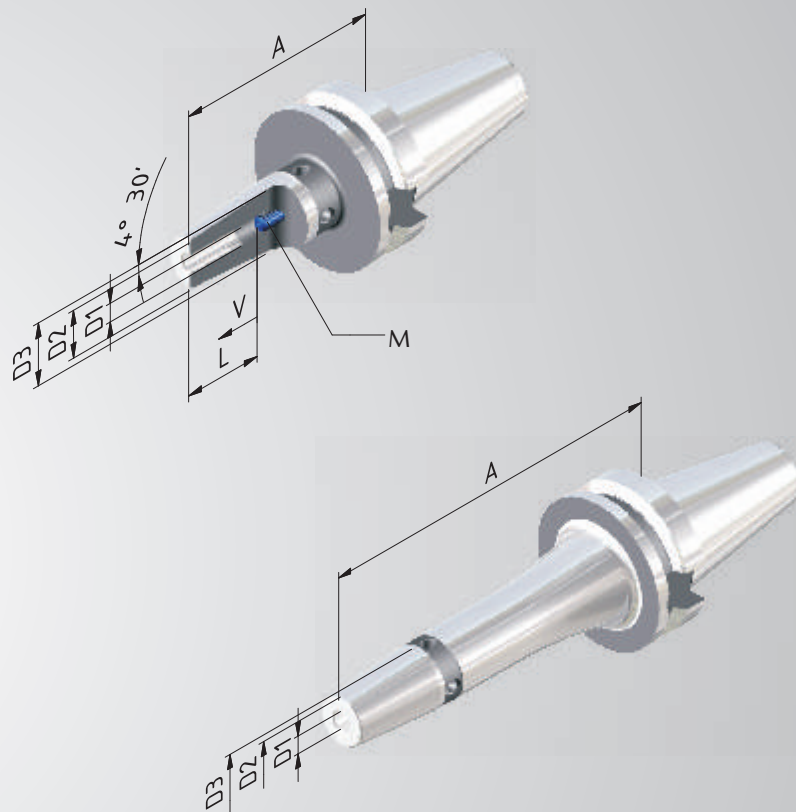
Order No.	BT	D1	A	D2	L	M
			SHORT			
755004-01	50	6	63	25	35	M6
755004-02	50	8	63	28	35	M8
755004-03	50	10	70	35	41	M10
755004-04	50	12	80	42	48	M12
755004-06	50	16	80	48	51	M14
755004-08	50	20	80	52	53	M16
755004-09	50	25	100	65	60	M18x2
755004-10	50	32	105	72	64	M20x2

Shrink fit holder 4,5°

- Application:** For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.
- Technical Design:** Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.
- Includes:** Set screw.
- Accessories:** See page 133.



Fine balanced
G 2,5 at 25.000^{min}1
or max. residual imbalance
≤ 1 gmm



Long versions see next page >>

Shrink fit holder 4,5°



Fine balanced
G 2,5 at 25.000^{min} or max. residual imbalance
≤ 1 gmm

Order No.	BT	D1	A	D2	D3	V	L	M
= 100								
755021-01	50	6	100	21	27	10	37	M5
755021-02	50	8	100	21	27	10	37	M6
755021-03	50	10	100	24	32	10	42	M8x1
755021-04	50	12	100	24	32	10	48	M10x1
755021-05	50	14	100	27	34	10	48	M10x1
755021-06	50	16	100	27	34	10	51	M12x1
755021-07	50	18	100	33	42	10	51	M12x1
755021-08	50	20	100	33	42	10	53	M16x1
755021-09	50	25	100	44	53	10	59	M16x1
755021-10	50	32	100	44	53	10	63	M16x1
= 130								
755021-51	50	6	130	21	27	10	37	M5
755021-52	50	8	130	21	27	10	37	M6
755021-53	50	10	130	24	32	10	42	M8x1
755021-54	50	12	130	24	32	10	48	M10x1
755021-55	50	14	130	27	34	10	48	M10x1
755021-56	50	16	130	27	34	10	51	M12x1
755021-57	50	18	130	33	42	10	51	M12x1
755021-58	50	20	130	33	42	10	53	M16x1
755021-59	50	25	130	44	53	10	59	M16x1
755021-60	50	32	130	44	53	10	63	M16x1
= 160								
755021-61	50	6	160	21	27	10	37	M5
755021-62	50	8	160	21	27	10	37	M6
755021-63	50	10	160	24	32	10	42	M8x1
755021-64	50	12	160	24	32	10	48	M10x1
755021-65	50	14	160	27	34	10	48	M10x1
755021-66	50	16	160	27	34	10	51	M12x1
755021-67	50	18	160	33	42	10	51	M12x1
755021-68	50	20	160	33	42	10	53	M16x1
755021-69	50	25	160	44	53	10	59	M16x1
755021-70	50	32	160	44	53	10	63	M16x1
= 200								
755021-81	50	6	200	21	27	10	37	M5
755021-82	50	8	200	21	27	10	37	M6
755021-83	50	10	200	24	32	10	42	M8x1
755021-84	50	12	200	24	32	10	48	M10x1
755021-85	50	14	200	27	34	10	48	M10x1
755021-86	50	16	200	27	34	10	51	M12x1
755021-87	50	18	200	33	42	10	51	M12x1
755021-88	50	20	200	33	42	10	53	M16x1
755021-89	50	25	200	44	53	10	59	M16x1
755021-90	50	32	200	44	53	10	63	M16x1

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

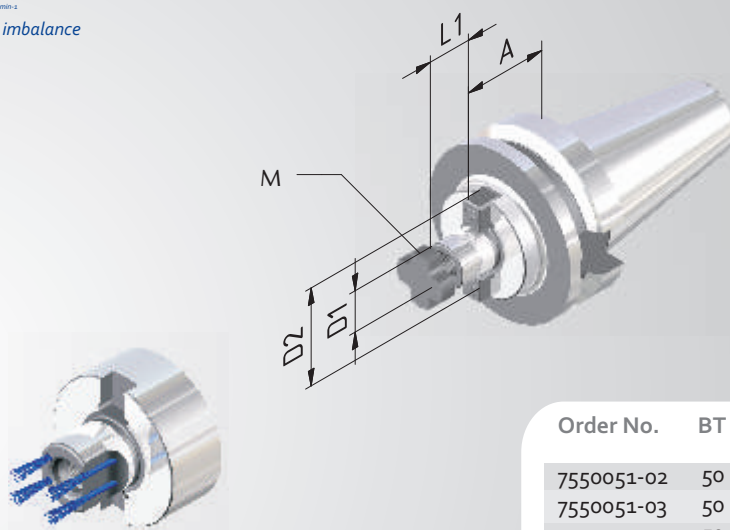
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.



Fine balanced
G 2,5 at 25.000^{min} or max. residual imbalance
 ≤ 1 gmm



Order No.	BT	D1	A	D2	l1	M
			= 55			
7550051-02	50	22	55	48	19	M8
7550051-03	50	27	55	60	21	M10
7550051-04	50	32	55	78	24	M12
7550051-05	50	40	55	89	27	M16
			= 100			
7550051-32	50	22	100	48	19	M8
7550051-33	50	27	100	60	21	M10
7550051-34	50	32	100	78	24	M12

Combi shell mill holder

Application: For adapting shell mills with transverse and longitudinal groove.

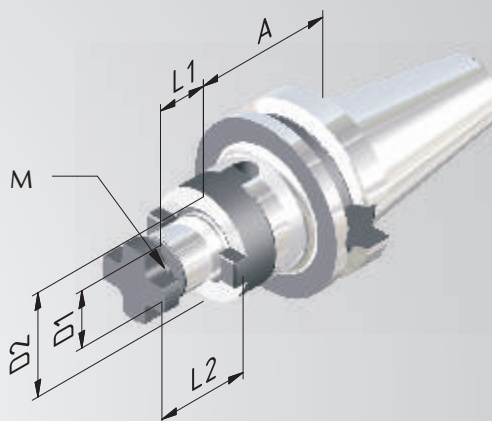
Technical Design: Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw, drive keys and adjusting spring.

Accessories: See page 135.



Fine balanced
 $G_{2,5}$ at $25.000^{min.}$
or max. residual imbalance
 ≤ 1 gmm



Order No.	BT	D1	A = 70	D2	l1	l2	M
755006-02	50	22	70	40	19	31	M8
755006-03	50	27	70	48	21	33	M10
755006-04	50	32	70	58	24	38	M12
755006-05	50	40	70	70	27	41	M16

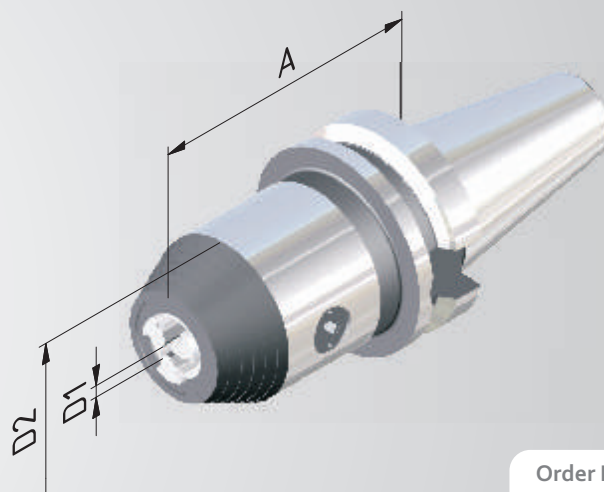
Short drill chuck

Application: For clamping tools with cylindrical shank. Also suitable for tools with internal coolant.

Technical Design: Wrench.



Balanced
G 6,3 at 8.000^{min-1}



Order No.	BT	Clamping range	A	D2
755095-01	50	1-13	111	45
755095-02	50	1-16	116	50



$$x' = Dm/2 \times \cos y - 2 \times e \times \cos(2y) + e \times \cos(4y)$$

CORUM – Tool holders with polygon shank

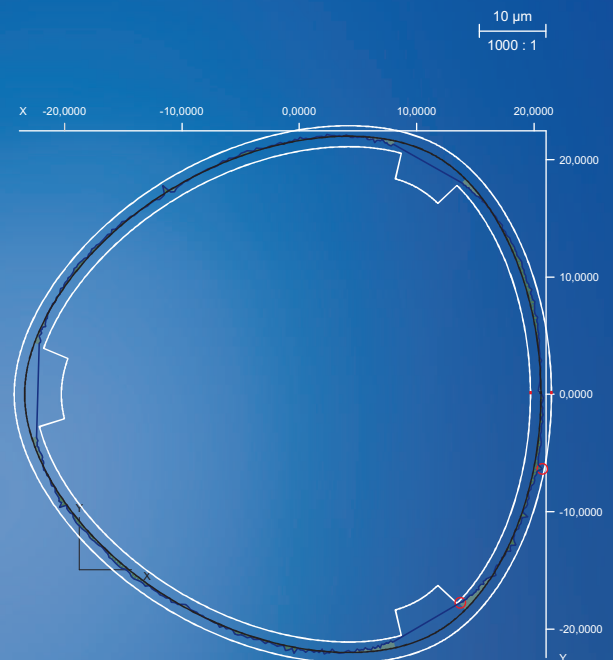
We are proud to present our new generation of tool holders: CORUM. The shape of the polygonal section, similar to a heart, was the inspiration for the name («Cor», lat. for »heart«).

With this expansion in our product range, we offer an attractive alternative in the polygon toolholders. According to our slogan "the μ -maker", we guarantee also with these toolholders highest precision and quality. In addition to the perfect polygonal shape our toolholders convince by many thoughtful details:

- Fine balanced design G2,5 25.000/min.
- Bore for Balluff-Chip as standard
- Hard reworked functional surfaces on the inside geometry, thereby the clamping shoulder concentricity is more accurate than ISO standard (2)
- Many extended versions as standard.

The size designation of our toolholders CORUM with nominal diameter 63 mm is:

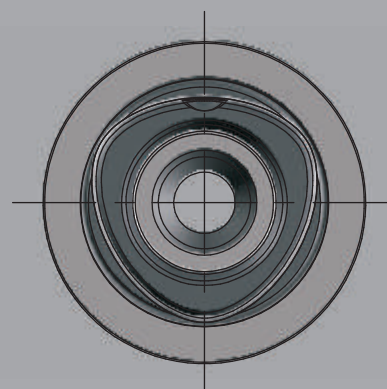
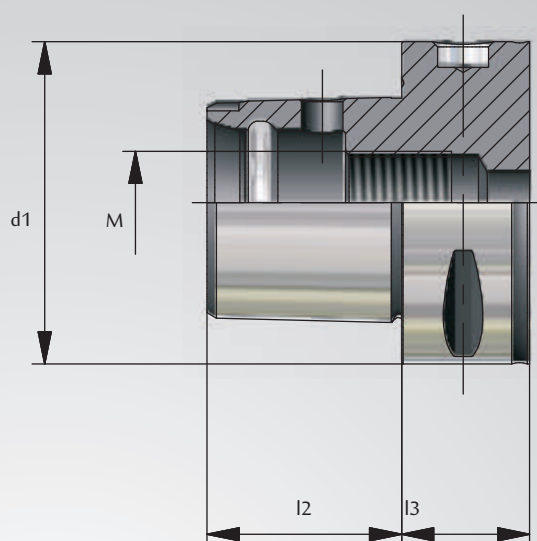
→ C6 ←



The certified polygon shape of our CORUM tool holder by an independent testing company. Please note the almost perfect overlap of the reference and actual geometry.

ZEISS

TOOL HOLDERS WITH POLYGONAL SHANK CORUM



POLYGONAL SHAFT CORUM

C	d1	l2	l3	M
4	40	24	20	M14x1,5
5	50	30	20	M16x1,5
6	63	38	22	M20x2
8	80	48	30	M20x2

Collet chuck ER

Application: For clamping tools with cylindrical shank in collets ER

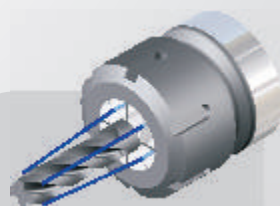
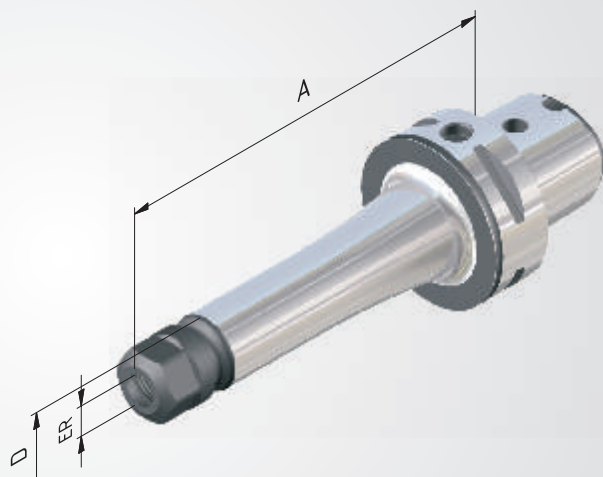
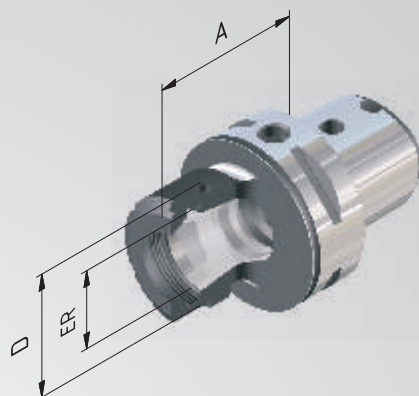
Technical Design: Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper max. runout of $\leq 8\mu$ at $2,5 \times D$.

Includes: Clamping nut.

Accessories: See page 128.



Fine balanced
G 2,5 at 25.000^{min} s
or max. residual imbalance
 ≤ 1 gmm



Sealed versions see
pages 130,131.

Order No.	C	ER	A	D2
SHORT				
304002-01	4	16	70	28
304002-02	4	25	55	42
304002-03	4	32	55	50
SHORT				
305002-01	5	16	55	28
305002-02	5	25	55	42
305002-03	5	32	60	50
SHORT				
306302-01	6	16	60	28
306302-02	6	25	60	42
306302-03	6	32	60	50
306302-04	6	40	65	63
= 100				
306302-31	6	16	100	28
306302-32	6	25	100	42
306302-33	6	32	100	50
306302-34	6	40	100	63
= 130				
306302-52	6	25	130	42
306302-53	6	32	130	50
= 160				
306302-61	6	16	160	28
306302-62	6	25	160	42
306302-63	6	32	160	50
SHORT				
308002-01	8	16	65	28
308002-02	8	25	70	42
308002-03	8	32	70	50
308002-04	8	40	70	63

Collet chuck ER »Mini«

Application: For clamping tools with cylindrical shank in collets ER.

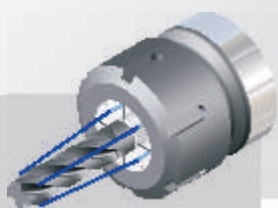
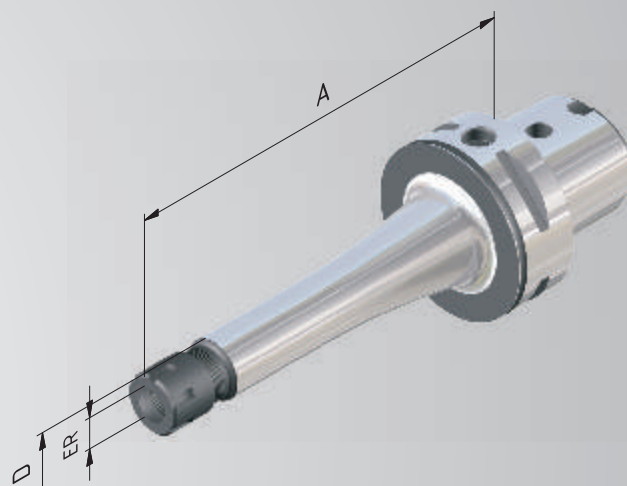
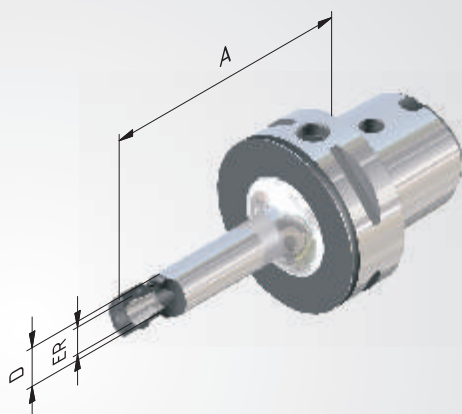
Technical Design: Runout of outer taper to inner taper. Due to adjusted taper tolerances of the ER-Inner taper and the collet taper. max. runout of $\leq 8\mu$ at $2,5 \times D$.

Includes: Clamping nut.

Accessories: See page 128.



Fine balanced
G 2,5 at 25.000^{min} 1/s
or max. residual imbalance
 $\leq 1 \text{ gmm}$



Sealed versions see
 pages 130,131.

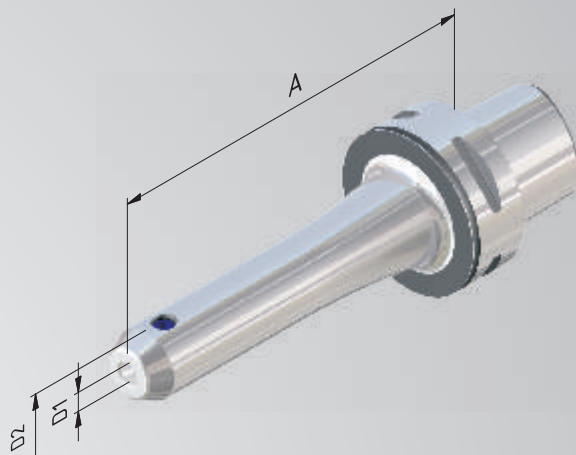
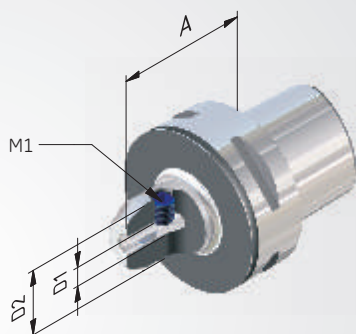
Order No.	C	ER	A = 100	D ₂
306302-21	6	11	100	16
306302-22	6	16	100	22
			= 160	
306302-23	6	11	160	16
306302-24	6	16	160	22

Endmill holder Weldon

- Application:** For clamping tools with cylindrical shank according to DIN 1835 B.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H_4 (more accurate as DIN).
- Includes:** Clamping screw.
- Accessories:** See page 132.



Fine balanced
 $G 2,5$ at 25.000^{min}
or max. residual imbalance
 ≤ 1 gmm



Order No.	C	D1	A	D2	M
SHORT					
304004-01	4	6	50	25	M6
304004-02	4	8	50	28	M8
304004-03	4	10	50	35	M10
304004-04	4	12	55	42	M12
304004-05	4	14	55	44	M12
304004-06	4	16	55	48	M14
SHORT					
305004-01	5	6	50	25	M6
305004-02	5	8	50	28	M8
305004-03	5	10	55	35	M10
305004-04	5	12	60	42	M12
305004-05	5	14	60	44	M12
305004-06	5	16	60	48	M14
305004-07	5	18	60	50	M14
305004-08	5	20	60	52	M16
305004-09	5	25	80	65	M18x2

Endmill holder Weldon



Order No.	C	D1	A	D2	M
SHORT					
306304-01	6	6	55	25	M6
306304-02	6	8	55	28	M8
306304-03	6	10	60	35	M10
306304-04	6	12	60	42	M12
306304-05	6	14	60	44	M12
306304-06	6	16	65	48	M14
306304-07	6	18	65	50	M14
306304-08	6	20	65	52	M16
306304-09	6	25	80	65	M18x2
306304-10	6	32	90	72	M20x2

Version »Cool Tool«

3063041-01	6	6	55	25	M6
3063041-02	6	8	55	28	M8
3063041-03	6	10	60	35	M10
3063041-04	6	12	60	42	M12
3063041-05	6	14	60	44	M12
3063041-06	6	16	65	48	M14
3063041-07	6	18	65	50	M14
3063041-08	6	20	65	52	M16
3063041-09	6	25	80	65	M18x2
3063041-10	6	32	90	72	M20x2

= 100

306304-31	6	6	100	25	M6
306304-32	6	8	100	28	M8
306304-33	6	10	100	35	M10
306304-34	6	12	100	42	M12
306304-35	6	14	100	44	M12
306304-36	6	16	100	48	M14
306304-37	6	18	100	50	M14
306304-38	6	20	100	52	M16

SHORT

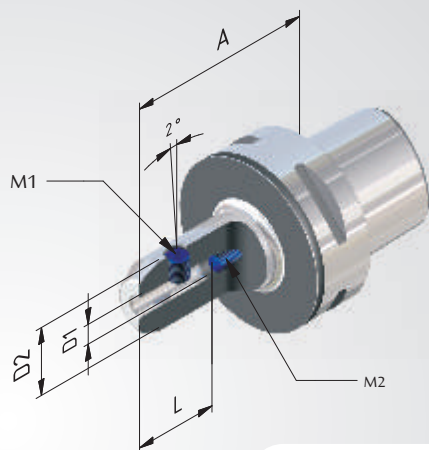
308004-01	8	6	70	25	M6
308004-02	8	8	70	28	M8
308004-03	8	10	70	35	M10
308004-04	8	12	70	42	M12
308004-05	8	14	70	44	M12
308004-06	8	16	70	48	M14
308004-07	8	18	70	50	M14
308004-08	8	20	70	52	M16
308004-09	8	25	80	65	M18x2
308004-10	8	32	80	72	M20x2

Endmill holder Whistle Notch

- Application:** For clamping tools with cylindrical shank according to DIN 1835 E.
- Technical Design:** Runout of outer taper to $D_1 \leq 0,003$ mm. Tolerance of bore H₄ (more accurate as DIN).
- Includes:** Clamping screw and set screw.
- Accessories:** See page 133.



Balanced
G 6,3 at 8.000^{mm-1}



Order No.	C	D	A SHORT	D2	L	M1	M2
306309-01	6	6	75	25	36,5	M6	M5
306309-02	6	8	75	28	36,5	M8	M6
306309-03	6	10	75	35	40,5	M10	M8
306309-04	6	12	80	42	45,5	M12	M10
306309-05	6	14	80	44	45,5	M12	M10
306309-06	6	16	80	49	48,5	M14	M12
306309-07	6	18	80	50	48,5	M14	M12
306309-08	6	20	85	52	50,5	M16	M16
306309-09	6	25	90	65	56,5	M18x2	M20
306309-10	6	32	95	72	60,5	M20x2	M20

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

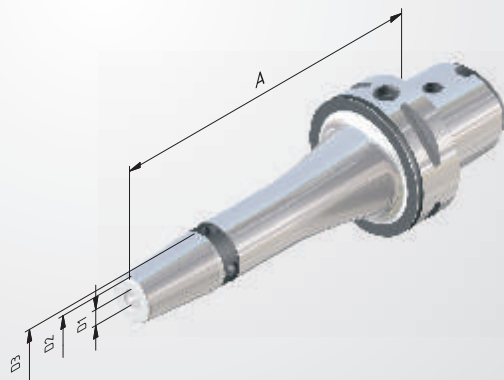
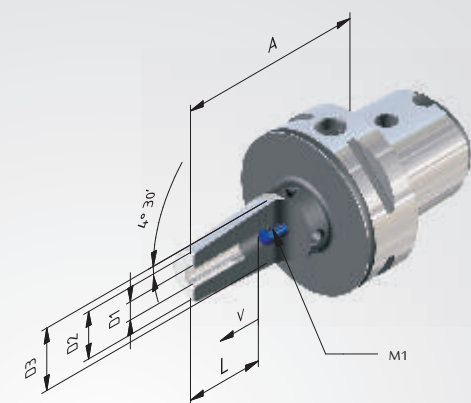
Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
 $G 2,5$ at 25.000^{min}
 or max. residual imbalance
 ≤ 1 gmm



Order No.	C	D1	A	D2	D3	V	L	M1
SHORT								
304021-01	4	6	75	21	27	10	36	M5
304021-02	4	8	75	12	17	10	36	M6
304021-03	4	10	75	12	17	10	42	M8x1
304021-04	4	12	75	21	27	10	47	M10x1
304021-05	4	14	80	21	27	10	47	M10x1
304021-06	4	16	80	24	32	10	50	M12x1
304021-07	4	18	80	24	32	10	50	M12x1
304021-08	4	20	85	27	34	10	52	M16x1
SHORT								
305021-01	5	6	75	21	27	10	36	M5
305021-02	5	8	75	21	27	10	36	M6
305021-03	5	10	75	24	32	10	42	M8x1
305021-04	5	12	75	24	32	10	47	M10x1
305021-05	5	14	80	27	34	10	47	M10x1
305021-06	5	16	80	27	34	10	50	M12x1
305021-07	5	18	80	33	42	10	50	M12x1
305021-08	5	20	85	33	42	10	52	M16x1
305021-09	5	25	90	44	53	10	58	M16x1
SHORT								
306321-13	6	3	80	12	17	-	-	-
306321-14	6	4	80	12	17	-	-	-
306321-15	6	5	80	12	17	-	-	-
306321-01	6	6	80	21	27	10	36	M5
306321-02	6	8	80	21	27	10	36	M6
306321-03	6	10	80	24	32	10	42	M8x1
306321-04	6	12	80	24	32	10	47	M10x1
306321-05	6	14	85	27	34	10	47	M10x1
306321-06	6	16	85	27	34	10	50	M12x1
306321-07	6	18	85	33	40	10	50	M12x1
306321-08	6	20	85	33	40	10	52	M16x1
306321-09	6	25	90	44	52	10	58	M16x1
306321-10	6	32	95	44	53	10	62	M16x1

Long versions see next page >>

Shrink fit holder 4,5°

Application: For clamping tools with cylindrical shank of solid carbide or HSS, tol. h6.

Technical Design: Made of special heat resistant steel. Suitable for inductive shrinking unit. With four additional threads for supplementary fine balancing. Runout of outer taper to $D_1 \leq 0,003$ mm.

Includes: Set screw.

Accessories: See page 133.



Fine balanced
G 2,5 at 25.000^{rpm}
or max. residual imbalance
 ≤ 1 gmm

Order No.	C	D1	A	D2	D3	V	L	M1
= 120								
306321-31	6	6	120	21	27	10	36	M5
306321-32	6	8	120	21	27	10	36	M6
306321-33	6	10	120	24	32	10	42	M8x1
306321-34	6	12	120	24	32	10	47	M10x1
306321-35	6	14	120	27	34	10	47	M10x1
306321-36	6	16	120	27	34	10	50	M12x1
306321-37	6	18	120	42	44	10	50	M12x1
306321-38	6	20	120	42	44	10	52	M16x1
306321-39	6	25	120	44	53	10	58	M16x1
306321-40	6	32	120	44	53	10	58	M16x1
= 160								
306321-61	6	6	160	21	27	10	36	M5
306321-62	6	8	160	21	27	10	36	M6
306321-63	6	10	160	24	32	10	42	M8x1
306321-64	6	12	160	24	32	10	47	M10x1
306321-65	6	14	160	27	34	10	47	M10x1
306321-66	6	16	160	27	34	10	50	M12x1
306321-67	6	18	160	42	44	10	50	M12x1
306321-68	6	20	160	42	44	10	52	M16x1
306321-69	6	25	160	44	53	10	58	M16x1
306321-70	6	32	160	44	53	10	58	M16x1
SHORT								
308021-01	8	6	80	21	27	10	36	M5
308021-02	8	8	80	21	27	10	36	M6
308021-03	8	10	80	24	32	10	42	M8x1
308021-04	8	12	80	24	32	10	47	M10x1
308021-05	8	14	85	27	34	10	47	M10x1
308021-06	8	16	85	27	34	10	50	M12x1
308021-07	8	18	85	42	44	10	50	M12x1
308021-08	8	20	85	42	44	10	52	M16x1
308021-09	8	25	90	44	53	10	58	M16x1
308021-10	8	32	95	44	53	10	58	M16x1

Shell mill holder »Cool Tool«

Application: For adapting shell mills with coolant through to the cutting edges.

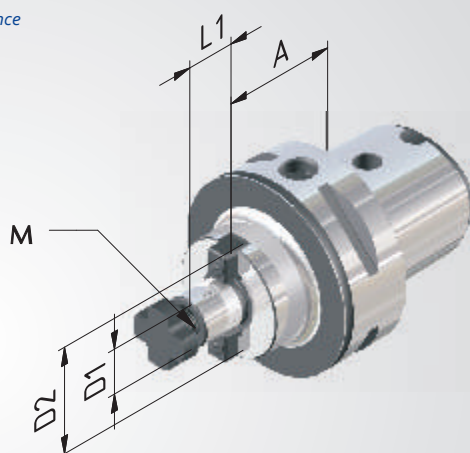
Technical Design: With extended flange. Runout of outer taper to $D_1 \leq 0,006$ mm.

Includes: Clamping screw and drive keys.

Accessories and Spareparts: See page 134.

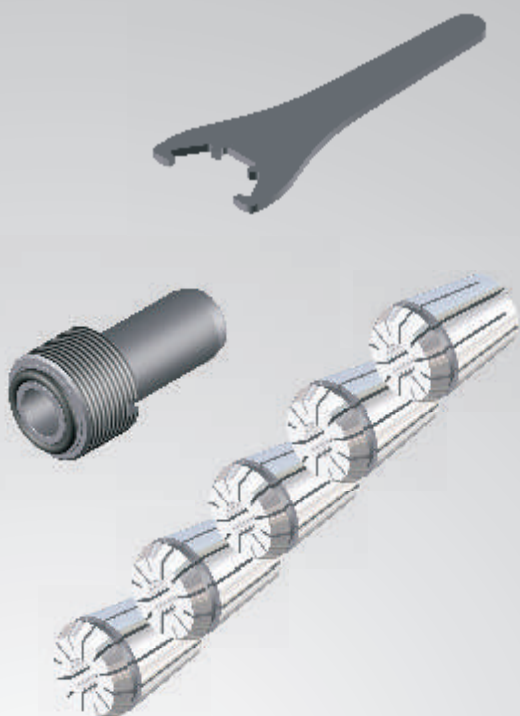


Fine balanced
 $G 2,5$ at $25.000^{min.s}$
 or max. residual imbalance
 ≤ 1 gmm



Order No.	C	D1	A	D2	l1	M
SHORT						
304005-21	4	16	32	38	17	M8
304005-22	4	22	25	48	19	M10
SHORT						
305005-21	5	16	35	38	17	M8
305005-22	5	22	25	48	19	M10
305005-23	5	27	25	60	21	M12
305005-24	5	32	40	63	24	M16
SHORT						
306305-21	6	16	40	38	17	M8
306305-22	6	22	25	48	19	M10
306305-23	6	27	25	60	21	M12
306305-24	6	32	25	63	24	M16
= 65						
306305-211	6	16	65	38	17	M8
306305-221	6	22	65	48	19	M10
306305-231	6	27	65	60	21	M12
306305-241	6	32	65	63	24	M16
SHORT						
308005-21	8	16	50	38	17	M8
308005-22	8	22	50	48	19	M10
308005-23	8	27	50	60	21	M12
308005-24	8	32	60	63	24	M16

ACCESSORIES AND SPARE PARTS

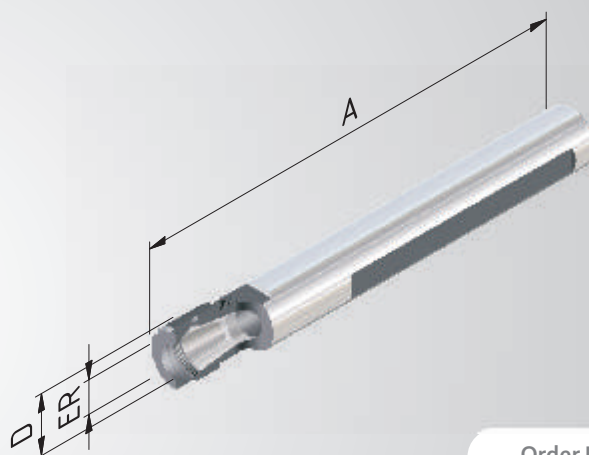


Collet chuck extensions »Mini«

Application: For the extension of tool holders. Cylindrical shank can be clamped in end mill holder or collet chuck.

Includes: Clamping nut.

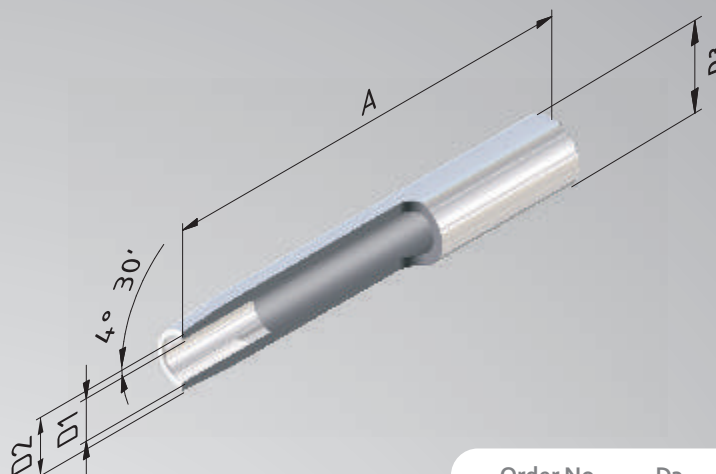
Accessories: See page 133.



Order No.	D	ER	A SHORT
119-49	16	11	169
119-50	20	16	163
119-51	25	20	164

Shrink fit extensions without length adjustment screw

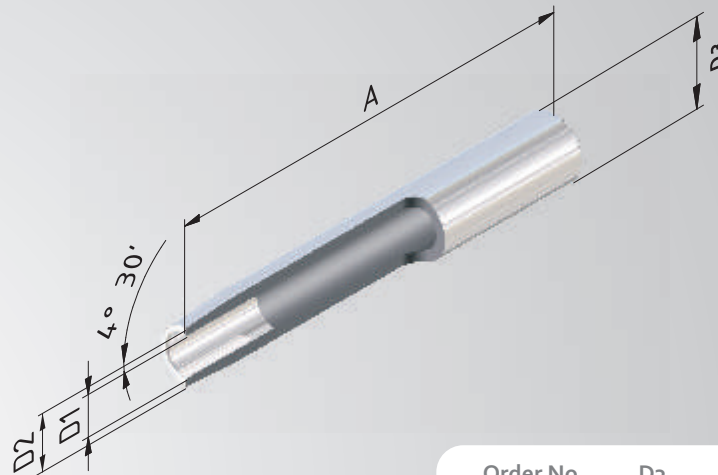
Application: For the extension of tool holders. Cylindrical shank can be clamped in end mill holder or collet chuck.



Order No.	D3	D1	D2	A
				= 160
2112-13	12	3	8	160
2112-14	12	4	8	160
2116-13	16	3	10	160
2116-14	16	4	10	160
2116-15	16	5	10	160
2116-01	16	6	10	160
2120-15	20	5	14	160
2120-01	20	6	14	160
2120-02	20	8	14	160
2125-02	25	8	19	160
2125-03	25	10	20	160
2125-04	25	12	20	160
2125-05	25	14	20	160
2125-06	25	16	22	160
2132-03	32	10	24	160
2132-04	32	12	24	160
2132-05	32	14	27	160
2132-06	32	16	27	160
2132-07	32	18	27	160
2132-08	32	20	27	160

Shrink fit extensions without length adjustment screw

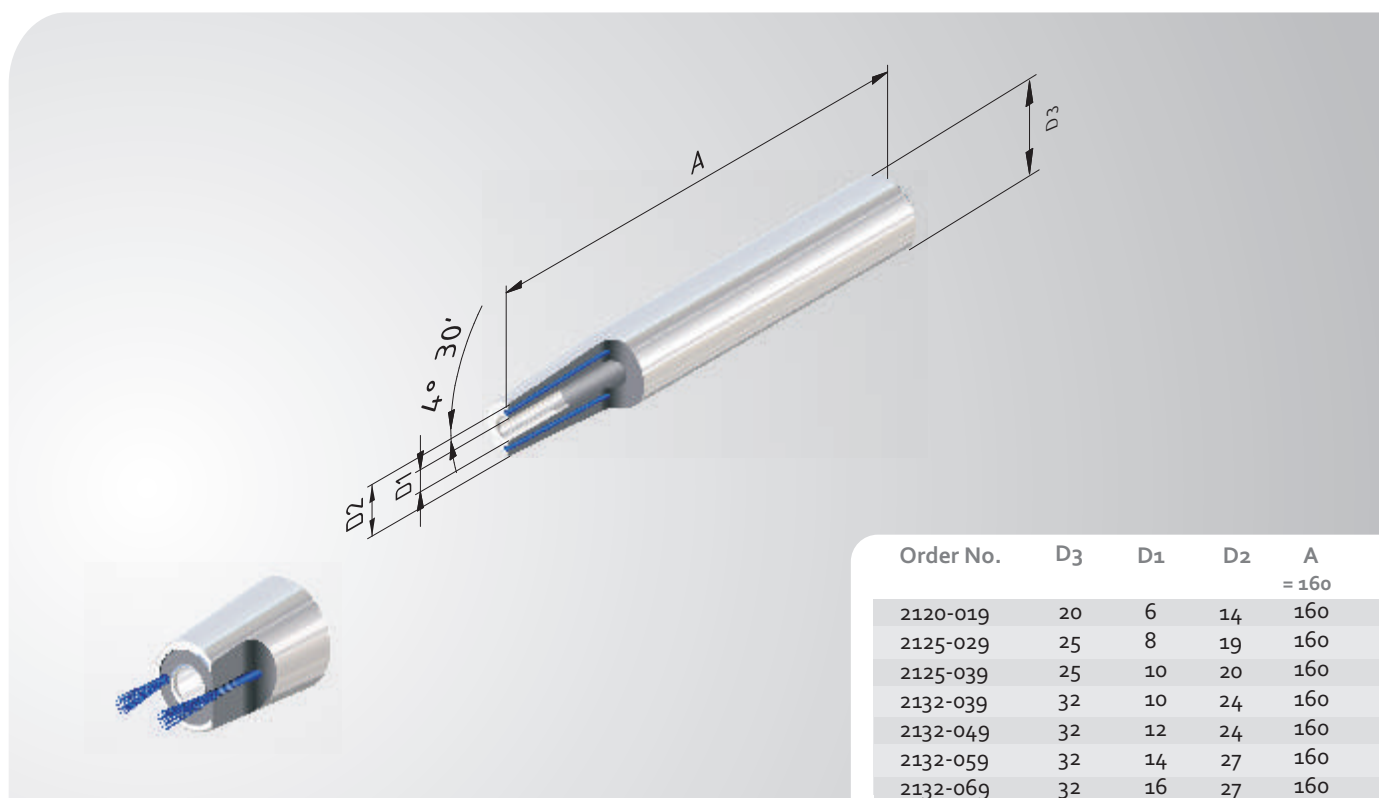
Application: For the extension of tool holders. Cylindrical shank can be clamped in end mill holder or collet chuck.



Order No.	D3	D1	D2	A
				= 300
2120-61	20	6	14	300
2120-62	20	8	14	300
2125-62	25	8	19	300
2125-63	25	10	20	300
2125-64	25	12	20	300
2125-65	25	14	20	300
2125-66	25	16	22	300
2132-63	32	10	24	300
2132-64	32	12	24	300
2132-65	32	14	27	300
2132-66	32	16	27	300
2132-68	32	20	27	300

Shrink fit extensions »cool tool« without length adjustment screw

Application: For the extension of tool holders. Cylindrical shank can be clamped in end mill holder or collet chuck.

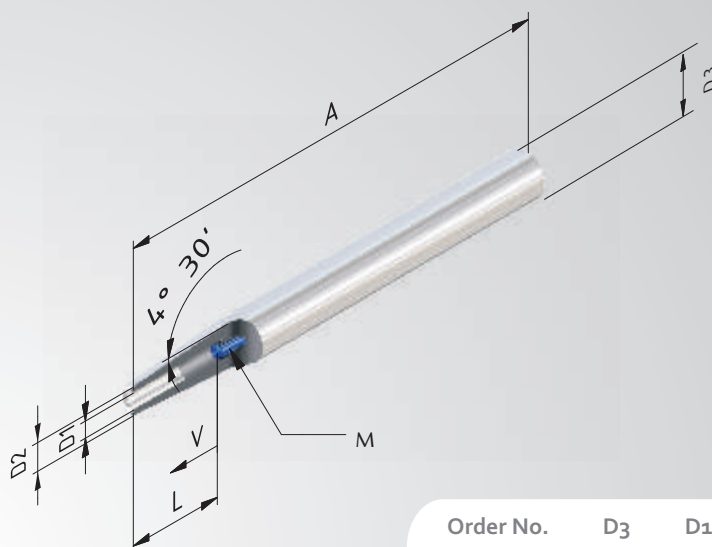


Shrink fit extensions with length adjustment screw

Application: For the extension of tool holders. Cylindrical shank can be clamped in end mill holder or collet chuck.

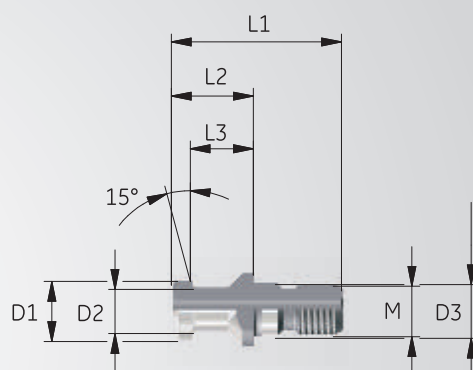
Includes: Clamping screw.

Accessories: See page 133.



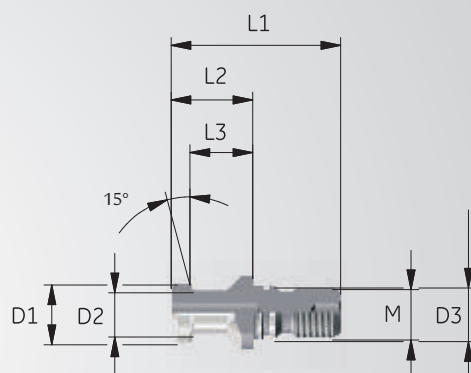
Order No.	D ₃	D ₁	D ₂	A = 160	V	L	M
211621-01	16	6	10	160	10	37	M5
212021-01	20	6	14	160	10	37	M5
212021-02	20	8	14	160	10	37	M6
212521-02	25	8	19	160	10	37	M6
212521-03	25	10	20	160	10	42	M8x1
212521-04	25	12	20	160	10	48	M10x1
212521-05	25	14	20	160	10	48	M10x1
212521-06	25	16	22	160	10	51	M12x1
213221-03	32	10	24	160	10	42	M8x1
213221-04	32	12	24	160	10	48	M10x1
213221-05	32	14	27	160	10	48	M10x1
213221-06	32	16	27	160	10	51	M12x1
213221-07	32	18	27	160	10	51	M12x1
213221-08	32	20	27	160	10	53	M16x1

Pull stud DIN 69872 Form A, with through hole



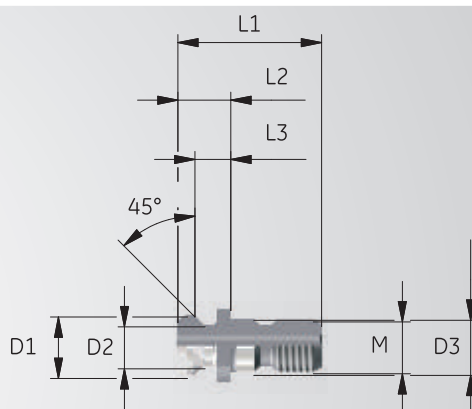
Order No.	SK	D1	D2	D3	L1	L2	L3	M
7124-01	40	19	14	17	54	26	20	M16
7124-21	50	28	21	25	74	34	25	M24

Pull stud DIN 69872 Form B, without through hole, with O-Ring on the collar



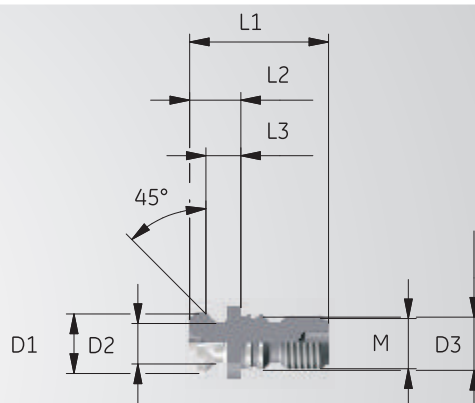
Order No.	SK	D1	D2	D3	L1	L2	L3	M
7124-01B	40	19	14	17	54	26	20	M16
7124-21B	50	28	21	25	74	34	25	M24

Pull stud ISO 7388 B with through hole



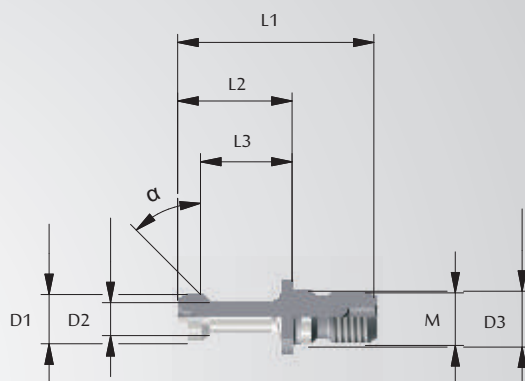
Order No.	SK	D1	D2	D3	L1	L2	L3	M
7425-11	40	18,95	12,95	17	44,5	16,4	11,5	M16
7425-31	50	29,1	19,6	25	65,5	25,55	17,95	M24

Pull stud ISO 7388 B without through hole, with O-Ring on the collar



Order No.	SK	D1	D2	D3	L1	L2	L3	M
7425-11B	40	18,95	12,95	17	44,5	16,4	11,5	M16
7425-31B	50	29,1	19,6	25	65,5	25,55	17,95	M24

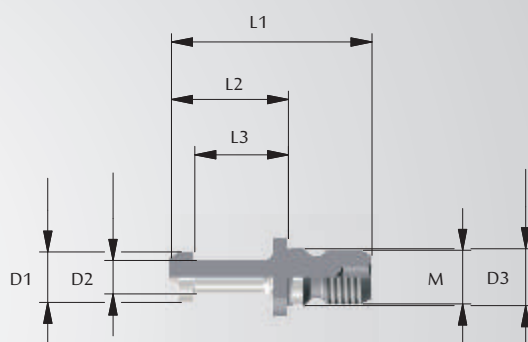
Pull stud MAS 403 30° and 45°



Order No.	BT	Degree	D1	D2	D3	L1	L2	L3	M
7525-51	30	30	11	7	12,5	43	23	18	M12
7524-11	40	45	15	10	17	60	35	28	M16
7524-01*	40	45	15	10	17	57,2	32,2	25,2	M16
7525-11	40	30	15	10	17	60	35	28	M16
7524-31	50	45	23	17	25	85	45	35	M24
7525-31	50	30	23	17	25	85	45	35	M24

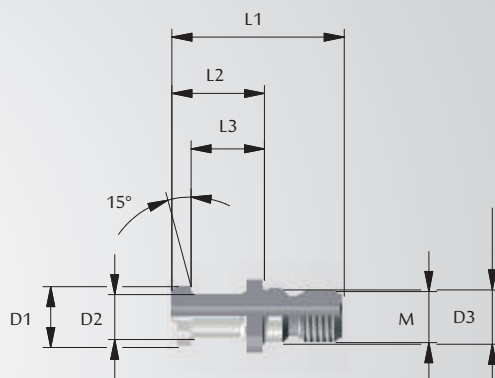
* BT 40 45° 3 mm shortened.

Pull stud Mori-Seiki MAS 90°



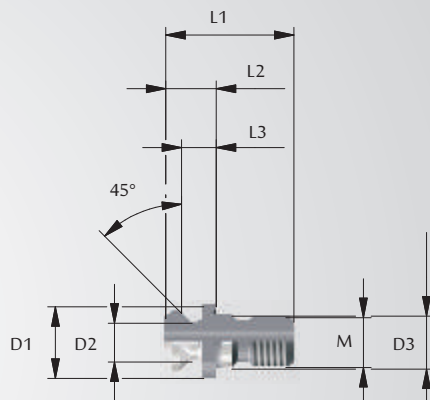
Order No.	BT	D1	D2	D3	L1	L2	L3	M
7526-11	40	15	10	17	60	35	28	M16
7526-31	50	23	17	25	85	45	35	M24

Pull stud JIS B 6339 with through hole



Order No.	BT	D1	D2	D3	L1	L2	L3	M
7528-11	40	19	14	17	54	29	23	M16
7528-31	50	28	21	25	74	34	25	M24

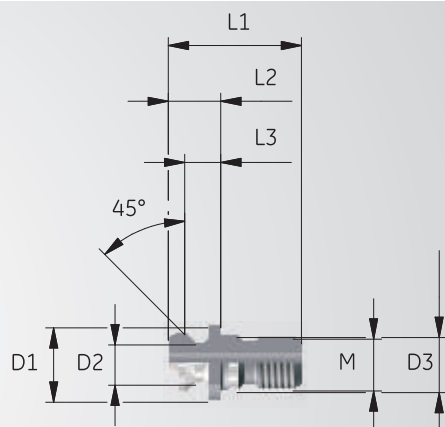
Pull stud ANSI-CAT 40 (Mazak) with through hole and sealing at the end face



Order No.	SK	D1	D2	D3	L1	L2	L3	M
7424-62	40	18,796	12,446	17	41,3	16,3	11,2	M16
7424-61*	40	18,796	12,446	17	44,5	19,3	14,03	M16

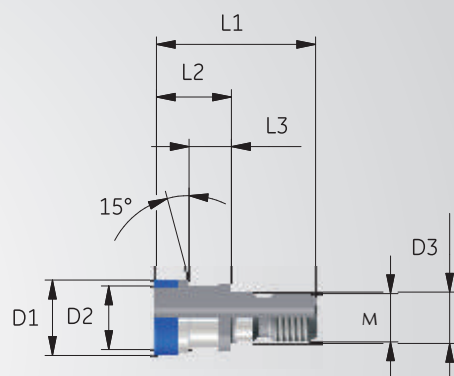
* 3mm extended.

Pull stud ANSI-CAT 50 (Mazak) with through hole and recess for O-Ring



Order No.	SK	D1	D2	D3	L1	L2	L3	M
7424-31	50	28,95	20,82	25	65,4	25,4	17,78	M24

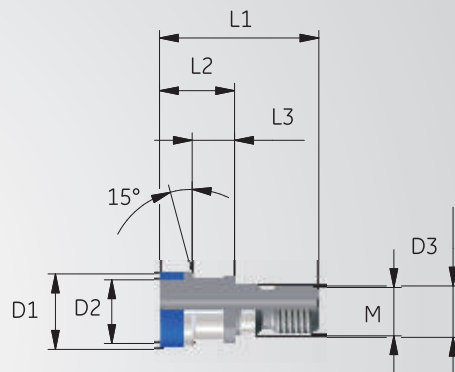
Pull stud Ott-Ringnut with through hole



Order No.	SK	D1	D2	D3	L1	L2	L3	M
7125-41	40	25	21,1	17	53	25	13,6	M16
7125-42	50	39,3	32	25	65	25	13,35	M24

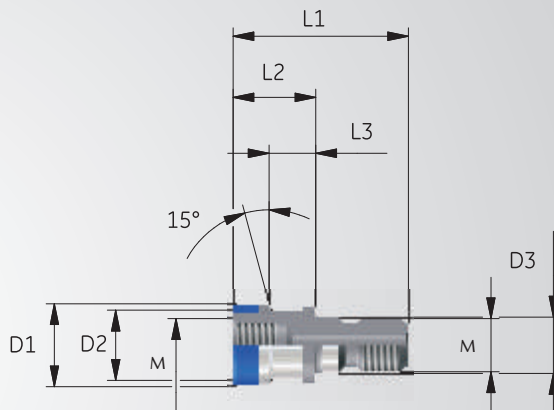
PULL STUD

Pull stud Ott-Ringnut without through hole, sealed



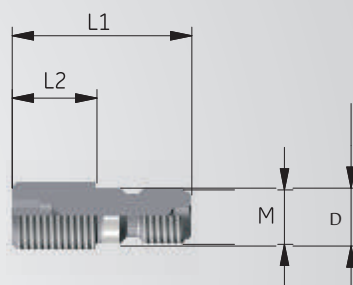
Order No.	SK	D1	D2	D3	L1	L2	L3	M
7125-46	40	25	21,1	17	53	25	13,6	M16
7125-47	50	39,3	32	25	65	25	13,35	M24

Pull stud Ott-Ringnut with internal thread



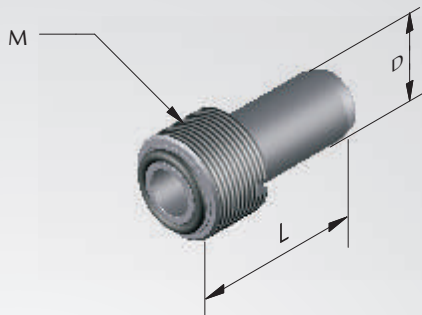
Order No.	SK	D1	D2	D3	L1	L2	L3	M
7125-11	40	25	21,1	17	53	25	13,6	M16
7125-12	50	39,3	32	25	65	25	13,35	M24

Pull stud with thread S20x2



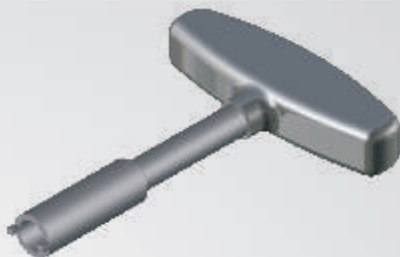
Order No.	SK	D	L1	L2	M
7428-01	40	17	41,3	16,3	M16

Coolant tube



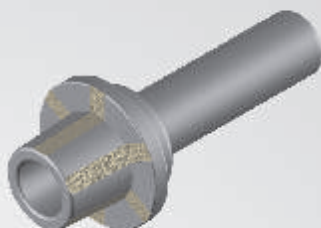
Order No.	HSK	M	D	I
603224	32	M10x1	6	26
604024	40	M12x1	8	29
605024	50	M16x1	10	33
606324	63	M18x1	12	36,5
608024	80	M20x1,5	14	39,5
610024	100	M24x1,5	16	43,5

Wrench for coolant tube



Order No.	HSK
603225	32
604025	40
605025	50
606325	63
608025	80
610025	100

Taper cleaner



Order No.	HSK
228032	32
228040	40
228050	50
228063	63
228080	80
228100	100

ER-collets – repeatable accuracy 5 μ



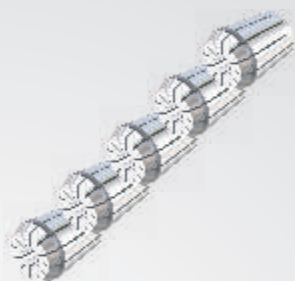
- High precision design with concentricity and repeat accuracy of 5 μ .
- All lengthwise edges deburred and rounded additionally. This protects the inner cone of the chuck and provides consistently high concentricity.
- Increased holding forces and rigidity by super-finish-version.

Order No. ER Diam. increasing

124-0xxx	11	1,0-2,5	0,5
		3,0-7,0	0,5
124-1xxx	16	1,0-2,5	0,5
		3,0-10,0	1
124-2xxx	20	1,0-2,5	0,5
		3,0-13,0	1
124-3xxx	25	1,0-2,5	0,5
		3,0-16,0	1
124-4xxx	32	2,0-2,5	0,5
		3,0-20,0	1
124-5xxx	40	4,0-26,0	1

Please complete the item no. with the respective diameter of the collet, i.e. ER 16 with $\varnothing$ 2,5 = 124-1025.

Collet set



Order No. ER Diam. increasing Pieces/Set

124-0S	11	1,0-7,0	0,5	13
124-1S	16	1,0-10,0	1	10
124-2S	20	2,0-13,0	1	12
124-3S	25	2,0-16,0	1	15
124-4S	32	3,0-20,0	1	18
124-5S	40	4,0-26,0	1	23

Wrench



Order No. ER sw

162-02	11	17
162-03	16	25
162-04	20	30
162-05	25	-
162-06	32	-
162-07	40	-

Wrench ER Mini



Order No.	ER
162-22	11
162-23	16
162-24	20
162-25	25

Nuts ER



Order No.	ER	SW	fig.
107-10	11	17	1
107-20	16	25	1
107-30	20	30	1
107-40	25	-	2
107-50	32	-	2
107-60	40	-	2

Nuts ER Mini



Order No.	ER
107-10M	11
107-20M	16
107-30M	20
107-40M	25

Sealed ER-collets with jet nozzels »Cool Tool« – repeatable accuracy of collet 2 μ

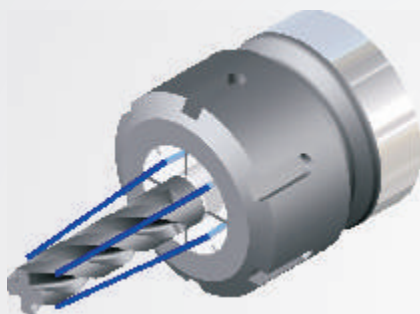
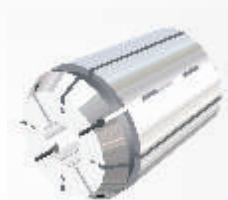


fig.: Collet with jet nozzels »Cool Tool« for tool holders without internal cooling.



- Highest runout accuracy combined with effective cooling and chip removal.
- Applicable up to 120 bar.
- Only shanks with nominal size can be used, tolerance h8.
- Shanks with lateral clamping flat can only be used limited. Which means the clamping flat has to be behind the sealing plug, otherwise the coolant can leak along the shank.

Order No.	ER	Diameter
129-3xx	25	4/6/8/10/12/14
129-4xx	32	4/6/8/10/12 14/16/18

Please complete the item number with the respective diameter of the collet, i.e. ER 25 with $\varnothing 8 = 129-308$.

Sealed ER-collets – repeatable accuracy of collet 5 μ



fig.: internal cooling with sealed collet.



- For tools with internal coolant up to 120 bar!
- Only shanks with standard dimensions can be used, tolerance h8.
- Shanks with lateral clamping flat can only be used limited, which means the clamping flat has to be behind the sealing plug, otherwise the coolant can leak along the shank.

Order No.	ER	Diameter
128-1xx	16	3/4/6/8/10 5/7/9
128-2xx	20	3/4/6/8 10/12 5/7/9/11
128-3xx	25	4/6/8/10/12 14/16 3/5/7/9/11 13/15
128-4xx	32	4/6/8/10/12 14/16/18/20 3/5/7/9/11 13/15/17/19
128-5xx	40	6/8/10/12/14 16/18/20/25

Please complete the item number with the respective diameter of the collet, i.e. ER 25 with $\varnothing 10 = 128-310$.

Sealable ER -Nuts

- for using with sealing discs, for sealing conventional ER-collets.
- for tools with internal cooling up to 100 bar.



Please note:

Sealable clamping nuts are 5 mm longer than regular clamping nuts.
Due to this the overall length of the chucks also increases by 5 mm.

Order No.	ER	SW
107-21	16	25
107-31	20	30
107-41	25	-
107-51	32	-
107-61	40	-

Sealing discs for sealable ER clamping nuts

The sealing discs are available in steps of 0,5 mm.
This means, the discs can cover a range of 0,4 mm from normal size shank down to smaller diameters. For example, to clamp a drill of dia. 5,7 a disc of the size 6 mm will be used.

Please note! For high pressure of 100 bar, the size of the shank has to be the same as the nominal size of the disc.

For ordering please complete the item number with the diameter of the disc,

- i.e.: sealing disc for ER 25 with diameter 5,5 = 107-41055
- i.e.: sealing disc for ER 32 with diameter 12 = 107-5112



Order No.	ER
107-21xxx	16
107-31xxx	20
107-41xxx	25
107-51xxx	32
107-61xxx	40

Clamping screw for endmill holder



Order No.	for Ø	Thread
235-02	6	M6
235-03	8	M8
235-04	10	M10
235-05	12+14	M12
235-06	16+18	M14
235-07	20	M16
235-08	25	M18x2
235-09	32	M20x2

Clamping screw for slim endmill holder with ball head



Order No.	for Ø	Thread
236-02	6-12	M6
236-03	14-20	M8

Length adjustment screw for slim endmill holder



Order No.	for Ø	Thread
238-01	6	M5
238-02	8	M6
238-03	10	M8x1
238-04	12 + 14	M10x1
238-06	16 + 18	M12x1
238-08	20	M16x1

Plug screw for cool tool bore



Order No.	for Ø	Thread
242-01	6-32	M3

Clamping screw for Whistle-Notch



Order No.	for Ø	Thread
235-02	6	M6
235-03	8	M8
235-04	10	M10
235-05	12+14	M12
235-06	16+18	M14
235-07	20	M16
235-08	25	M18x2
235-09	32	M20x2

Length adjustment screw for Whistle-Notch



Order No.	for Ø	Thread
237-01	6	M5
237-02	8	M6
237-03	10	M8
237-04	12	M10
237-05	14	M10
237-06	16	M12
237-07	18	M12
237-08	20	M16
237-09	25+32	M20

Length adjustment screw for shrink fit holder



Order No.	for Ø	Thread
238-01	6	M5
238-02	8	M6
238-03	10	M8x1
238-04	12+14	M10x1
238-06	16+18	M12x1
238-08	20+25+32	M16x1

Wrench for shell mill holder



Order No. for Ø

226-03	16
226-04	22
226-05	27
226-06	32
226-07	40
226-08	50
226-09	60

Clamping screw for shell mill holder



Order No. for Ø Thread

225-03	16	M8
225-04	22	M10
225-05	27	M12
225-06	32	M16
225-07	40	M20
225-08	50	M24
225-09	60	M30

Drive key for shell mill holder



Order No. for Ø

240-01	16
240-02	22
240-03	27
240-04	32
240-05	40
240-06	50
240-07	60

SK40 SHORT for Ø

240-01	16
240-02	22
240-43	27
240-04	32
240-05	40

Drive key for CORUM

Order No. C₄ for Ø

240-01	16
240-42	22

C₅ for Ø

240-01	16
240-02	22
240-43	27
240-44	32

C₆ for Ø

240-01	16
240-02	22
240-43	27
240-44	32

C₈ for Ø

240-01	16
240-02	22
240-43	27
240-44	32

Drive key screws



Order No. for Ø

240-31	16
240-32	22
240-33	27
240-34	32
240-35	40
240-36	50
240-37	60

Wrench for combi shell mill holder



Order No. for Ø

226-03	16
226-04	22
226-05	27
226-06	32
226-07	40

Clamping screw for combi shell mill holder



Order No.	for Ø	Thread
225-03	16	M8
225-04	22	M10
225-05	27	M12
225-06	32	M16
225-07	40	M20

Adjustment spring



Order No.	for Ø
223-02	16
223-03	22
223-04	27
223-05	32
223-06	40

Drive key



Order No.	for Ø
224-03	16
224-04	22
224-05	27
224-06	32
224-07	40

Spare parts for ABS holders



Clamping set consisting of tapered screw and clamping screw.

Order No.	ABS
400-01	25
400-02	32
400-03	40
400-04	50
400-05	63
400-06	80
400-07	100

Prices valid until 31.12.2015. Our previous price documents become invalid with the publication of this catalogue.

Please take note of the following detailed information when placing your orders:

1. The prices are non-binding basic prices in euros/unit, plus VAT, ex works, excluding packaging.
2. The minimum order value is 50.00 euros net. In the case of orders under the minimum order value, we will increase the order value to 50.00 euros net.
3. Basically speaking, goods returned for crediting for goods from service properly rendered due to orders placed incorrectly by the customer are only accepted within 10 days after delivery subject to deduction of a 15% rewarehousing charge, at least, however, 30.00 euros.
4. Our invoices shall be paid 10 days after delivery with 2% settlement discount or 30 days net.
5. In the event of the placing of an order, we require that our conditions of sale are known and have been accepted, unless special agreements have been entered into in writing.
6. All illustrations in the catalogue are non-binding. Subject to technical changes without prior notice, errors excepted. The copyright for text, graphic design and pictorial representation is held by K. Schüssler GmbH & Co. KG.

Conditions of sale:

1. General

The terms of delivery are an integral part of all supply contracts and are accepted with the placing of the order. Any deviating terms and conditions of business on the part of the Buyer shall not be binding on us, even if we do not expressly object.

2. Offer and order confirmation:

All offers are non-binding, also with regard to the delivery periods. It is possible to deviate from the offer in the event of design modifications. Dimensions, weights, illustrations, output figures and drawings are only binding for the design if expressly confirmed as such in writing. The agreements become legally binding with the written order confirmation. If the Client makes drawings etc. available, he shall be responsible for ensuring that third-party rights are not violated.

3. Prices and payment

The prices valid on the day of delivery are used for invoicing. Our prices shall apply for delivery ex supply plant, excluding the costs for the packaging. Our invoices shall be paid – unless otherwise agreed – 10 days after delivery with 2% settlement discount or 30 days net. The withholding of payments or offsetting with other receivables is prohibited. In the case of payments by cheque, the obligation to pay is only fulfilled when the proceeds have been credited to our account; in the case of bills of exchange with the payment on the due date. Default interest, discount charges etc. shall be borne by the Customer. We will only supply against payment in advance or security if the financial position of the Customer is bad. In this case, any unmatured bills of exchange or cheques become due for payment immediately.

4. Delivery

Delivery periods commence with the day of fulfilment of any advance performance obligations (including, for example, advance payment) of the Purchaser and all technical and other requirements for commencing the production. The delivery period shall be reasonably extended in the event that unforeseen obstacles occur at our plant or at our subcontractors (e.g. plant disruptions, goods becoming scrap, delays in the delivery of essential raw materials), insofar as these affect the production or delivery. We shall not be responsible for the above-mentioned circumstances even during the delay in performance. The Purchaser is notified of the start and end of delivery obstacles.

Default in delivery occurs if we culpably delay the delivery. The default in delivery can be claimed after granting a reasonable grace period.

Any further claims of the Buyer are excluded. If the delivery becomes impossible due to Acts of God, there is no claim to performance. The day of delivery is the day of the agreement or the readiness for dispatch. The risk passes to the recipient on this day.

5. Shipping and packaging

The shipping is carried out at the recipient's account and risk. If the shipping is delayed as a consequence of circumstances which we are not responsible for, the risk passes to the Purchaser from the day of the readiness for dispatch. The goods are packed and shipped according to normal trade practice. The responsibility for shipment at the lowest possible price is not assumed. The packaging is invoiced and will not be taken back.

6. Warranty

The liability for defects commences with the day of the delivery for all defects which we are responsible for, which occur within 10 days from the date of shipment and are notified to us immediately in writing, at the latest however within two weeks after the defect has been determined. We will remedy all defects that occur due to faulty material or craftsmanship free of charge, namely by repairing, by reconditioning or by delivering new parts. All further claims, e.g. rescission of the contract, reduction of the purchase price, compensatory damages, offsetting as well as rights of retention are excluded. We will not be liable for repairs which are carried out by third parties, for damage caused by natural wear and tear or by improper handling and for parts which do not come from our own production. The Buyer must provide us with the requisite time and opportunity for undertaking the necessary repairs or replacement deliveries, otherwise we shall be released from the liability for defects. We may refuse to remedy defects as long as the Purchaser does not meet his obligations.

7. Retention of title

The products shall remain our property until such time as payment has been made. The retention of title shall continue even if individual receivables are included in a current account and the balance has been deducted and accepted. The Purchaser shall only be entitled and authorised to resell the reserved goods, provided that the purchase-price claim from the resale passes to us in accordance with the above conditions and the Purchaser himself retains the title in the reserved goods until such time as full payment of the purchase price has been made by the customer. The Purchaser is not authorised to make any other disposition. The Purchaser already assigns his receivables from a resale of the reserved goods to us if he is not in possession of these before he has acquired the title in them. In this respect, it is irrespective of whether he sells the reserved goods to one or several customers, together with other goods which do not belong to us. The assigned receivables are used as security for our receivables to the amount of the value of the reserved goods sold in each case. The Purchaser must notify us immediately in the event of attachments, confiscations or other dispositions by third parties.

8. Place of performance and jurisdiction

The place of performance for deliveries and payments and the place of jurisdiction is Tübingen. This shall apply to any proceedings restricted to documentary evidence, summary bill of exchange enforcement proceedings and cheque payment enforcement proceedings. In the event of foreign business transactions, Tübingen or a different court can be designated at our discretion as the place of jurisdiction for all disputes arising from this order. Similarly, the decision regarding the applicable law is left to us.

HOW TO REACH US



Continue on the A81 to Singen coming **from the north and from the west** on the A81 to the south of Stuttgart. Exit A81 to Rottenburg. Drive towards from Rottenburg to Hechingen and Bodelshausen.

Coming **from the east**, exit the A8 at Stuttgart Airport and follow the B27 towards Tübingen. Exit the B27 at Bodelshausen.

Coming **from the south**, exit the A8 at Empfingen and follow the direction to Haigerloch. From Haigerloch further towards to Hechingen and Bodelshausen.

In **Bodelshausen** you will find us directly at the local main road **Bahnhofstraße 108**.



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