



S W I S S
FLEX
22/04

SWISS+TOOLS[®]

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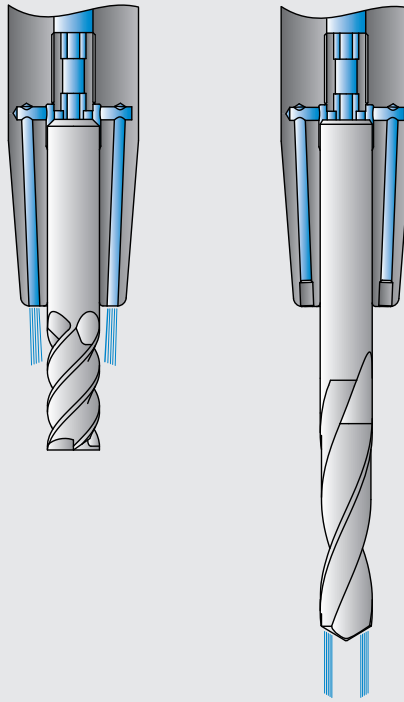
SWISS+TOOLS[®]

Cool-Jet für Schrumpf- und Weldonfutter

Das Cool-Jet Kühlsystem besteht aus zwei Aussenkühlbohrungen. Die Bohrungen sind leicht zum Werkzeugzentrum geneigt damit der Kühlmittelstrahl nicht von der Fliehkraft abgelenkt wird. Die Bohrungen können mit Gewindestiften verschlossen werden.

(Alle Schrumpf- und Weldonfutter mit Cool-Jet werden verschlossen geliefert)

HIT



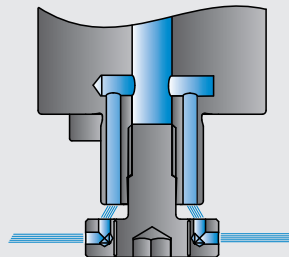
Cool-Jet for heat shrink chuck and weldon adapter

The key feature of the Cool-Jet system are two exterior cooling holes. The holes are directed to the tool center to avoid the deflection of the coolant jet by centrifugal force. The holes are lockable by using set screws.

(All heat shrink chucks and weldon adapters with cool-jet are locked when delivered)

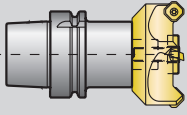
Fräsdorne mit Differentialschraube und Cool-Jet

Messerköpfe, gespannt auf unseren Fräsdornen mit Cool-Jet, werden effizient mit Kühlmittel versorgt. Zum Einen über die Innenkühlung des Messerkopfes und zum Anderen über unsere Differentialschraube.

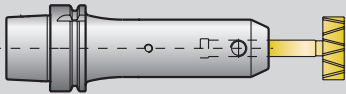


Milling arbors with differential screw and cool-jet

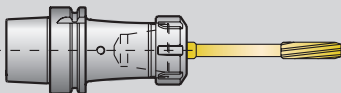
Milling cutters clamped on our milling arbors with cool-jet are cooled efficiently. On the one hand by the interior cooling through the milling cutter and on the other hand by our differential screw.



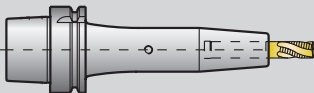
**Fräsdorn /
Milling arbor
Seite/page 22**



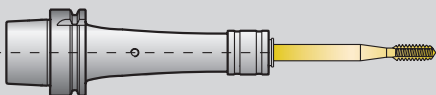
**Flächenspannfutter /
End mill holder Weldon
Seite/page 16 - 19**



**Spannzangenfutter /
Collet chuck
Seite/page 20 - 21**



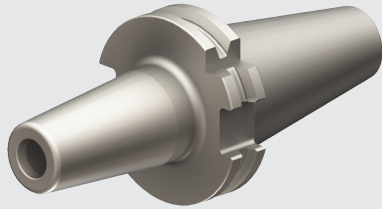
**Schrumpffutter /
Heat shrink chuck
Seite/page 4 - 15**



**Gewindeschneidfutter /
Tapping chuck
Seite/page 23 - 24**

DIN ISO 7388-1 (SK DIN 69871)
Schrumpffutter Typ L

- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet G 2.5/25000 U/min
- axiale Längenverstellung

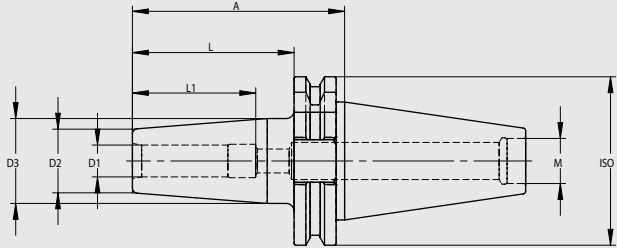


DIN ISO 7388-1 (SK DIN 69871)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders G 2.5/25000 r/min
- axial adjustment

DIN ISO 7388-1 (SK DIN 69871)
Porte-outils de frettage type L

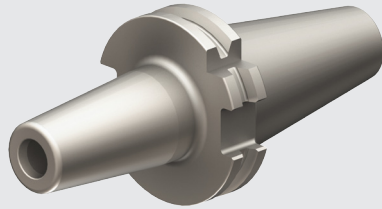
- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	ISO	D1	D2	D3	A	L	L1	M
SK4.S03.K01.080	ISO40 AD	3	12	17	80	61	-	16
SK4.S03.K01.120	ISO40 AD	3	12	17	120	101	-	16
SK4.S04.K01.080	ISO40 AD	4	15	20	80	61	-	16
SK4.S04.K01.120	ISO40 AD	4	15	20	120	101	-	16
SK4.S06.K01.080	ISO40 AD	6	21	27	80	61	36	16
SK4.S06.K01.120	ISO40 AD	6	21	27	120	101	36	16
SK4.S08.K01.080	ISO40 AD	8	21	27	80	61	36	16
SK4.S08.K01.120	ISO40 AD	8	21	27	120	101	36	16
SK4.S10.K01.080	ISO40 AD	10	24	32	80	61	41	16
SK4.S10.K01.120	ISO40 AD	10	24	32	120	101	41	16
SK4.S12.K01.080	ISO40 AD	12	24	32	80	61	46	16
SK4.S12.K01.120	ISO40 AD	12	24	32	120	101	46	16
SK4.S16.K01.080	ISO40 AD	16	27	34	80	61	49	16
SK4.S16.K01.120	ISO40 AD	16	27	34	120	101	49	16
SK4.S20.K01.080	ISO40 AD	20	33	41	80	61	51	16
SK4.S20.K01.120	ISO40 AD	20	33	41	120	101	51	16
SK4.S25.K01.100	ISO40 AD	25	44	53	100	81	57	16
SK4.S25.K01.120	ISO40 AD	25	44	53	120	101	57	16
SK4.S32.K01.100	ISO40 AD	32	44	53	100	81	61	16
SK4.S32.K01.120	ISO40 AD	32	44	53	120	101	61	16

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- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung

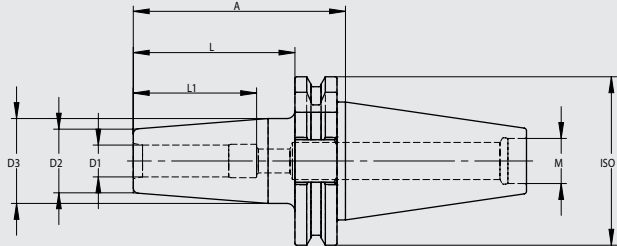


DIN ISO 7388-1 (SK DIN 69871)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- axial adjustment

DIN ISO 7388-1 (SK DIN 69871)
Porte-outils de frettage type L

- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	ISO	D1	D2	D3	A	L	L1	M
SK5.S04.K01.100	ISO50 AD	4	15	20	100	81	-	24
SK5.S04.K01.160	ISO50 AD	4	15	20	160	141	-	24
SK5.S04.K01.200	ISO50 AD	4	15	20	200	181	-	24
SK5.S06.K01.100	ISO50 AD	6	21	27	100	81	36	24
SK5.S06.K01.160	ISO50 AD	6	21	27	160	141	36	24
SK5.S06.K01.200	ISO50 AD	6	21	27	200	181	36	24
SK5.S08.K01.100	ISO50 AD	8	21	27	100	81	36	24
SK5.S08.K01.160	ISO50 AD	8	21	27	160	141	36	24
SK5.S08.K01.200	ISO50 AD	8	21	27	200	181	36	24
SK5.S10.K01.100	ISO50 AD	10	24	32	100	81	41	24
SK5.S10.K01.160	ISO50 AD	10	24	32	160	141	41	24
SK5.S10.K01.200	ISO50 AD	10	24	32	200	181	41	24
SK5.S12.K01.100	ISO50 AD	12	24	32	100	81	46	24
SK5.S12.K01.160	ISO50 AD	12	24	32	160	141	46	24
SK5.S12.K01.200	ISO50 AD	12	24	32	200	181	46	24
SK5.S14.K01.100	ISO50 AD	12	24	32	100	81	46	24
SK5.S14.K01.160	ISO50 AD	12	24	32	160	141	46	24
SK5.S14.K01.200	ISO50 AD	12	24	32	200	181	46	24
SK5.S16.K01.100	ISO50 AD	16	27	34	100	81	49	24
SK5.S16.K01.160	ISO50 AD	16	27	34	160	141	49	24
SK5.S16.K01.200	ISO50 AD	16	27	34	200	181	49	24
SK5.S18.K01.100	ISO50 AD	18	33	41	100	81	49	24
SK5.S18.K01.160	ISO50 AD	18	33	41	160	141	49	24
SK5.S18.K01.200	ISO50 AD	18	33	41	200	181	49	24
SK5.S20.K01.100	ISO50 AD	20	33	41	100	81	51	24
SK5.S20.K01.160	ISO50 AD	20	33	41	160	141	51	24
SK5.S20.K01.200	ISO50 AD	20	33	41	200	181	51	24
SK5.S25.K01.100	ISO50 AD	25	44	53	100	81	57	24
SK5.S25.K01.160	ISO50 AD	25	44	53	160	141	57	24
SK5.S25.K01.200	ISO50 AD	25	44	53	200	181	57	24
SK5.S32.K01.100	ISO50 AD	32	44	53	100	81	61	24
SK5.S32.K01.160	ISO50 AD	32	44	53	160	141	61	24
SK5.S32.K01.200	ISO50 AD	32	44	53	200	181	61	24

JIS B 6339 (MAS 403 BT)
Schrumpffutter Typ L

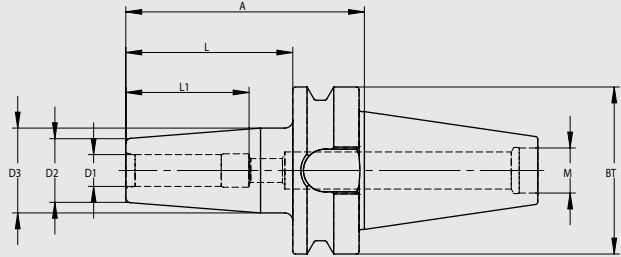
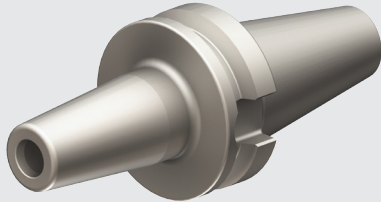
- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung

JIS B 6339 (MAS 403 BT)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- axial adjustment

JIS B 6339 (MAS 403 BT)
Porte-outils de frettage type L

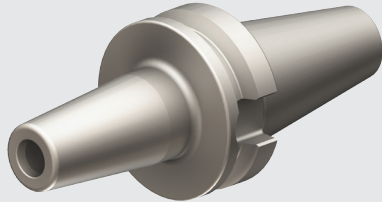
- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	BT	D1	D2	D3	A	L	L1	M
BT3.S03.K01.080	BT30 AD	3	12	17	80	58	-	12
BT3.S04.K01.080	BT30 AD	4	15	20	80	58	-	12
BT3.S06.K01.080	BT30 AD	6	21	27	80	58	36	12
BT3.S08.K01.080	BT30 AD	8	21	27	80	58	36	12
BT3.S10.K01.080	BT30 AD	10	24	32	80	58	41	12
BT3.S12.K01.080	BT30 AD	12	24	32	80	58	46	12
BT3.S16.K01.080	BT30 AD	16	27	34	80	58	49	12
BT3.S20.K01.090	BT30 AD	20	33	41	90	68	51	12
BT4.S03.K01.090	BT40 AD	3	12	17	90	63	-	16
BT4.S03.K01.120	BT40 AD	3	12	17	120	93	-	16
BT4.S03.K01.160	BT40 AD	3	12	17	160	133	-	16
BT4.S04.K01.090	BT40 AD	4	15	20	90	63	-	16
BT4.S04.K01.120	BT40 AD	4	15	20	120	93	-	16
BT4.S04.K01.160	BT40 AD	4	15	20	160	133	-	16
BT4.S06.K01.090	BT40 AD	6	21	27	90	63	36	16
BT4.S06.K01.120	BT40 AD	6	21	27	120	93	36	16
BT4.S06.K01.160	BT40 AD	6	21	27	160	133	36	16
BT4.S08.K01.090	BT40 AD	8	21	27	90	63	36	16
BT4.S08.K01.120	BT40 AD	8	21	27	120	93	36	16
BT4.S08.K01.160	BT40 AD	8	21	27	160	133	36	16
BT4.S10.K01.090	BT40 AD	10	24	32	90	63	41	16
BT4.S10.K01.120	BT40 AD	10	24	32	120	93	41	16
BT4.S10.K01.160	BT40 AD	10	24	32	160	133	41	16
BT4.S12.K01.090	BT40 AD	12	24	32	90	63	46	16
BT4.S12.K01.120	BT40 AD	12	24	32	120	93	46	16
BT4.S12.K01.160	BT40 AD	12	24	32	160	133	46	16
BT4.S16.K01.090	BT40 AD	16	27	34	90	63	49	16
BT4.S16.K01.120	BT40 AD	16	27	34	120	93	49	16
BT4.S16.K01.160	BT40 AD	16	27	34	160	133	49	16
BT4.S20.K01.090	BT40 AD	20	33	41	90	63	51	16
BT4.S20.K01.120	BT40 AD	20	33	41	120	93	51	16
BT4.S20.K01.160	BT40 AD	20	33	41	160	133	51	16
BT4.S25.K01.100	BT40 AD	25	44	53	100	73	57	16
BT4.S25.K01.120	BT40 AD	25	44	53	120	93	57	16
BT4.S25.K01.160	BT40 AD	25	44	53	160	133	57	16
BT4.S32.K01.100	BT40 AD	32	44	53	100	73	61	16
BT4.S32.K01.120	BT40 AD	32	44	53	120	93	61	16
BT4.S32.K01.160	BT40 AD	32	44	53	160	133	61	16

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- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
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- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung

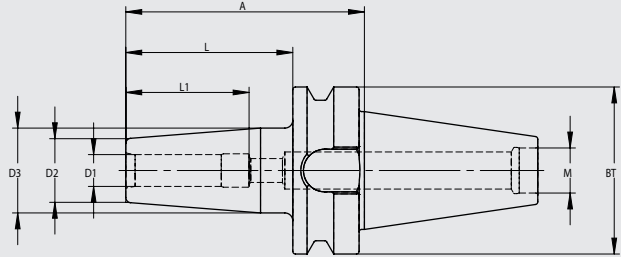


JIS B 6339 (MAS 403 BT)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- axial adjustment

JIS B 6339 (MAS 403 BT)
Porte-outils de frettage type L

- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	BT	D1	D2	D3	A	L	L1	M
BT5.S04.K01.105	BT50 AD	4	15	20	105	67	-	24
BT5.S04.K01.165	BT50 AD	4	15	20	165	127	-	24
BT5.S04.K01.210	BT50 AD	4	15	20	210	172	-	24
BT5.S06.K01.105	BT50 AD	6	21	27	105	67	36	24
BT5.S06.K01.130	BT50 AD	6	21	27	130	92	36	24
BT5.S06.K01.165	BT50 AD	6	21	27	165	127	36	24
BT5.S06.K01.210	BT50 AD	6	21	27	210	172	36	24
BT5.S08.K01.105	BT50 AD	8	21	27	105	67	36	24
BT5.S08.K01.130	BT50 AD	8	21	27	130	92	36	24
BT5.S08.K01.165	BT50 AD	8	21	27	165	127	36	24
BT5.S08.K01.210	BT50 AD	8	21	27	210	172	36	24
BT5.S10.K01.105	BT50 AD	10	24	32	105	67	41	24
BT5.S10.K01.130	BT50 AD	10	24	32	130	92	41	24
BT5.S10.K01.165	BT50 AD	10	24	32	165	127	41	24
BT5.S10.K01.210	BT50 AD	10	24	32	210	172	41	24
BT5.S12.K01.105	BT50 AD	12	24	32	105	67	46	24
BT5.S12.K01.130	BT50 AD	12	24	32	130	92	46	24
BT5.S12.K01.165	BT50 AD	12	24	32	165	127	46	24
BT5.S12.K01.210	BT50 AD	12	24	32	210	172	46	24
BT5.S14.K01.105	BT50 AD	14	27	34	105	67	46	24
BT5.S14.K01.130	BT50 AD	14	27	34	130	92	46	24
BT5.S14.K01.165	BT50 AD	14	27	34	165	127	46	24
BT5.S14.K01.210	BT50 AD	14	27	34	210	172	46	24
BT5.S16.K01.105	BT50 AD	16	27	34	105	67	49	24
BT5.S16.K01.130	BT50 AD	16	27	34	130	92	49	24
BT5.S16.K01.165	BT50 AD	16	27	34	165	127	49	24
BT5.S16.K01.210	BT50 AD	16	27	34	210	172	49	24
BT5.S18.K01.105	BT50 AD	18	33	41	105	67	49	24
BT5.S18.K01.130	BT50 AD	18	33	41	130	92	49	24
BT5.S18.K01.165	BT50 AD	18	33	41	165	127	49	24
BT5.S18.K01.210	BT50 AD	18	33	41	201	163	49	24
BT5.S20.K01.105	BT50 AD	20	33	41	105	67	51	24
BT5.S20.K01.130	BT50 AD	20	33	41	130	92	51	24
BT5.S20.K01.165	BT50 AD	20	33	41	165	127	51	24
BT5.S20.K01.210	BT50 AD	20	33	41	201	163	51	24
BT5.S25.K01.105	BT50 AD	25	44	53	105	67	57	24
BT5.S25.K01.130	BT50 AD	25	44	53	130	92	57	24
BT5.S25.K01.165	BT50 AD	25	44	53	165	127	57	24
BT5.S25.K01.210	BT50 AD	25	44	53	210	172	57	24
BT5.S32.K01.105	BT50 AD	32	44	53	105	67	61	24
BT5.S32.K01.130	BT50 AD	32	44	53	130	92	61	24
BT5.S32.K01.165	BT50 AD	32	44	53	165	127	61	24
BT5.S32.K01.210	BT50 AD	32	44	53	210	172	61	24

ISO 26623-1 PSC
Schrumpffutter Typ L

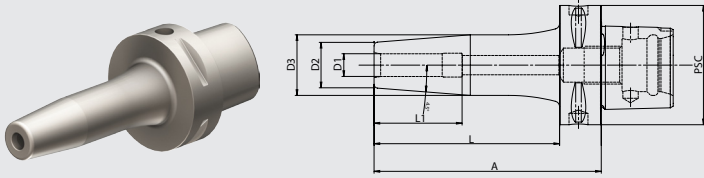
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Porte-outils de frettage type L

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- réglage axial



Bestell-Nr. / Order number/ Code	PSC	D1	D2	D3	A	L	L1	kg
PS6.S03.K01.080	63	3	15	20	80	58	-	0.85
PS6.S03.K01.120	63	3	15	20	120	98	-	0.95
PS6.S03.K01.160	63	3	15	20	160	138	-	1.03
PS6.S04.K01.080	63	4	15	20	80	58	-	0.85
PS6.S04.K01.120	63	4	15	20	120	98	-	0.95
PS6.S04.K01.160	63	4	15	20	160	138	-	1.03
PS6.S05.K01.080	63	5	15	20	80	58	-	0.95
PS6.S05.K01.120	63	5	15	20	120	98	-	1.15
PS6.S05.K01.160	63	5	15	20	160	138	-	1.30
PS6.S06.K01.080	63	6	21	26	80	58	36	0.95
PS6.S06.K01.120	63	6	21	26	120	98	36	1.12
PS6.S06.K01.160	63	6	21	26	160	138	36	1.30
PS6.S08.K01.080	63	8	21	26	80	58	36	0.95
PS6.S08.K01.120	63	8	21	26	120	98	36	1.13
PS6.S08.K01.160	63	8	21	26	160	138	36	1.29
PS6.S10.K01.080	63	10	24	30	80	58	41	1.00
PS6.S10.K01.120	63	10	24	30	120	98	41	1.26
PS6.S10.K01.160	63	10	24	30	160	138	41	1.50
PS6.S12.K01.080	63	12	24	30	80	58	46	0.98
PS6.S12.K01.120	63	12	24	30	120	98	46	1.25
PS6.S12.K01.160	63	12	24	30	160	138	46	1.48
PS6.S16.K01.085	63	16	27	34	85	63	49	1.04
PS6.S16.K01.120	63	16	27	34	120	98	49	1.30
PS6.S16.K01.160	63	16	27	34	160	138	49	1.56
PS6.S20.K01.085	63	20	33	41	85	63	51	1.10
PS6.S20.K01.120	63	20	33	41	120	98	51	1.55
PS6.S20.K01.160	63	20	33	41	160	138	51	1.93

HSK ISO 12164-1 (DIN 69893)
Schrumpffutter Typ L

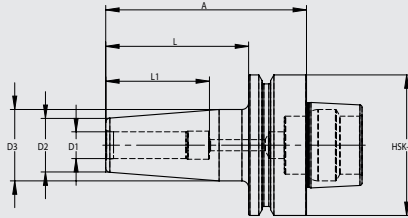
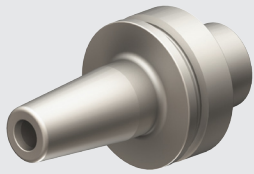
- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung

HSK ISO 12164-1 (DIN 69893)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- axial adjustment

HSK ISO 12164-1 (DIN 69893)
Porte-outils de frettage type L

- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial

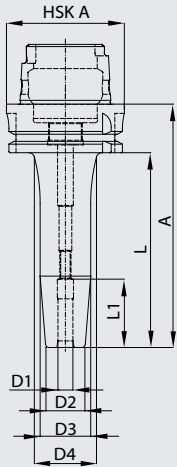
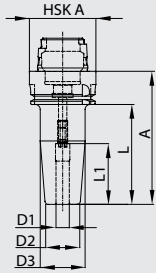


Bestell-Nr. / Order number/ Code	HSK	D1	D2	D3	A	L	L1	kg
HF6.S04.K01.080	F63	4	15	20	80	54	-	0.75
HF6.S06.K01.080	F63	6	21	27	80	54	36	0.84
HF6.S08.K01.080	F63	8	21	27	80	54	36	0.83
HF6.S10.K01.085	F63	10	24	32	85	59	41	0.91
HF6.S12.K01.085	F63	12	24	32	85	59	46	0.98

HSK ISO 12164-1 (DIN 69893)

Schrumpffutter Typ L

- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet G 2.5/25000 U/min
- axiale Längenverstellung



HSK ISO 12164-1 (DIN 69893)

Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders G 2.5/25000 r/min
- axial adjustment

HSK ISO 12164-1 (DIN 69893)

Porte-outils de frettage type L

- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	HSK	D1	D2	D3	A	L	L1
HA4.S06.K01.080	A40	6	21	26	80	60	36
HA4.S08.K01.080	A40	8	21	26	80	60	36
HA4.S10.K01.080	A40	10	24	30	80	60	41
HA4.S12.K01.090	A40	12	24	30	90	70	46
HA4.S14.K01.090	A40	14	27	34	90	70	46
HA4.S16.K01.090	A40	16	27	34	90	70	49
HA5.S04.K01.070	A50	4	12	18	70	44	-
HA5.S06.K01.080	A50	6	21	26	80	54	36
HA5.S08.K01.080	A50	8	21	26	80	54	36
HA5.S10.K01.085	A50	10	24	30	85	59	41
HA5.S12.K01.090	A50	12	24	30	90	64	46
HA5.S16.K01.095	A50	16	27	34	95	69	49
HA6.S04.K01.080	A63	4	15	20	80	54	36
HA6.S04.K01.130	A63	4	15	20	130	104	36
HA6.S04.K01.160	A63	4	15	20	160	134	36
HA6.S04.K01.200	A63	4	15	20	200	174	36
HA6.S06.K01.080	A63	6	21	26	80	54	36
HA6.S06.K01.130	A63	6	21	26	130	104	36
HA6.S06.K01.160	A63	6	21	26	160	134	36
HA6.S06.K01.200	A63	6	21	26	200	174	36
HA6.S08.K01.080	A63	8	21	26	80	54	36
HA6.S08.K01.130	A63	8	21	26	130	104	36
HA6.S08.K01.160	A63	8	21	26	160	134	36
HA6.S08.K01.200	A63	8	21	26	200	174	36
HA6.S10.K01.085	A63	10	24	30	85	59	41
HA6.S10.K01.130	A63	10	24	30	130	104	41
HA6.S10.K01.160	A63	10	24	30	160	134	41
HA6.S10.K01.200	A63	10	24	30	200	174	41
HA6.S12.K01.090	A63	12	24	30	90	64	46
HA6.S12.K01.130	A63	12	24	30	130	104	46
HA6.S12.K01.160	A63	12	24	30	160	134	46
HA6.S12.K01.200	A63	12	24	30	200	174	46
HA6.S14.K01.090	A63	14	27	34	90	64	46
HA6.S14.K01.130	A63	14	27	34	130	104	46
HA6.S14.K01.160	A63	14	27	34	160	134	46
HA6.S14.K01.200	A63	14	27	34	200	174	46
HA6.S16.K01.095	A63	16	27	34	95	69	49
HA6.S16.K01.130	A63	16	27	34	130	104	49
HA6.S16.K01.160	A63	16	27	34	160	134	49
HA6.S16.K01.200	A63	16	27	34	200	174	49
HA6.S18.K01.095	A63	18	33	41	95	69	49
HA6.S18.K01.130	A63	18	33	41	130	104	49
HA6.S18.K01.160	A63	18	33	41	160	134	49
HA6.S18.K01.200	A63	18	33	41	200	174	49
HA6.S20.K01.100	A63	20	33	41	100	74	51
HA6.S20.K01.130	A63	20	33	41	130	104	51
HA6.S20.K01.160	A63	20	33	41	160	134	51
HA6.S20.K01.200	A63	20	33	41	200	174	51
HA6.S25.K01.115	A63	25	44	52	115	89	57
HA6.S25.K01.160	A63	25	44	52	160	134	57
HA6.S25.K01.200	A63	25	44	52	200	174	57
HA6.S32.K01.120	A63	32	44	52	120	94	61
HA6.S32.K01.160	A63	32	44	52	160	134	61
HA6.S32.K01.200	A63	32	44	52	200	174	61

HSK ISO 12164-1 (DIN 69893)
Schrumpffutter Typ L

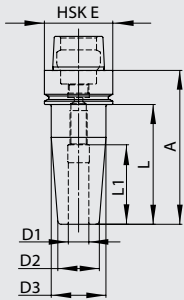
- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung

HSK ISO 12164-1 (DIN 69893)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- axial adjustment

HSK ISO 12164-1 (DIN 69893)
Porte-outils de frettage type L

- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	HSK	D1	D2	D3	A	L	L1
HE3.S03.K01.060	E32	3	12	17	60	40	9
HE3.S04.K01.060	E32	4	15	20	60	40	12
HE3.S06.K01.070	E32	6	21	26	70	50	36
HE3.S08.K01.070	E32	8	21	26	70	50	36
HE3.S10.K01.080	E32	10	24	26	80	60	41
HE4.S04.K01.060	E40	4	12	18	60	40	12
HE4.S06.K01.080	E40	6	21	26	80	60	36
HE4.S08.K01.080	E40	8	21	26	80	60	36
HE4.S10.K01.080	E40	10	24	30	80	60	41
HE4.S12.K01.090	E40	12	24	30	90	70	46
HE4.S14.K01.090	E40	14	27	34	90	70	46
HE4.S16.K01.090	E40	16	27	34	90	70	49
HE5.S04.K01.070	E50	4	12	18	70	44	12
HE5.S06.K01.080	E50	6	21	26	80	54	36
HE5.S08.K01.080	E50	8	21	26	80	54	36
HE5.S10.K01.085	E50	10	24	30	85	59	41
HE5.S12.K01.090	E50	12	24	30	90	64	46
HE5.S14.K01.090	E50	14	27	34	90	64	46
HE5.S16.K01.095	E50	16	27	34	95	69	49



HSK ISO 12164-1 (DIN 69893)
Schrumpffutter Typ L

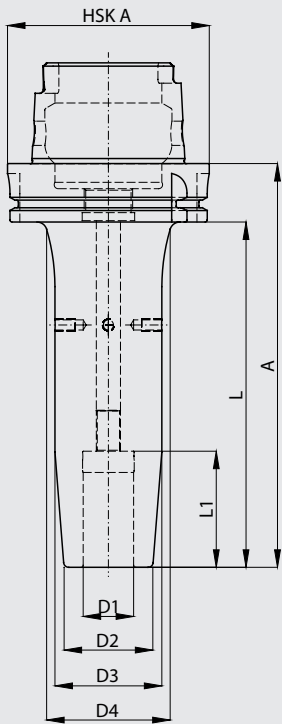
- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung

HSK ISO 12164-1 (DIN 69893)
Heat shrink chuck type L

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- axial adjustment

HSK ISO 12164-1 (DIN 69893)
Porte-outils de frettage type L

- design standard pour une plus grande force de serrage
- pour outils en carbure et en acier High-Speed
- tolérance de tige h6
- runout 3 µm
- porte-outils finement équilibrés G 2.5/25000 t/min
- réglage axial



Bestell-Nr. / Order number	HSK	D1	D2	D3	A	L	L1
HA0.S06.K01.085	A100	6	21	26	85	56	36
HA0.S06.K01.130	A100	6	21	30	130	101	36
HA0.S06.K01.160	A100	6	21	30	160	131	36
HA0.S06.K01.200	A100	6	21	30	200	171	36
HA0.S08.K01.085	A100	8	21	26	85	56	36
HA0.S08.K01.130	A100	8	21	30	130	101	36
HA0.S08.K01.160	A100	8	21	30	160	131	36
HA0.S08.K01.200	A100	8	21	30	200	171	36
HA0.S10.K01.090	A100	10	24	30	90	61	41
HA0.S10.K01.130	A100	10	24	34	130	101	41
HA0.S10.K01.160	A100	10	24	34	160	131	41
HA0.S10.K01.200	A100	10	24	34	200	171	41
HA0.S12.K01.095	A100	12	24	30	95	66	46
HA0.S12.K01.130	A100	12	24	34	130	101	46
HA0.S12.K01.160	A100	12	24	34	160	131	46
HA0.S12.K01.200	A100	12	24	34	200	171	46
HA0.S16.K01.100	A100	16	27	34	100	71	49
HA0.S16.K01.160	A100	16	27	37	160	131	49
HA0.S16.K01.200	A100	16	27	37	200	171	49
HA0.S20.K01.105	A100	20	33	41	105	76	51
HA0.S20.K01.160	A100	20	33	44	160	131	51
HA0.S20.K01.200	A100	20	33	44	200	171	51
HA0.S25.K01.115	A100	25	44	53	115	86	57
HA0.S25.K01.160	A100	25	44	56	160	131	57
HA0.S25.K01.200	A100	25	44	56	200	171	57
HA0.S32.K01.120	A100	32	44	53	120	91	61
HA0.S32.K01.160	A100	32	44	56	160	131	61
HA0.S32.K01.200	A100	32	44	56	200	171	61

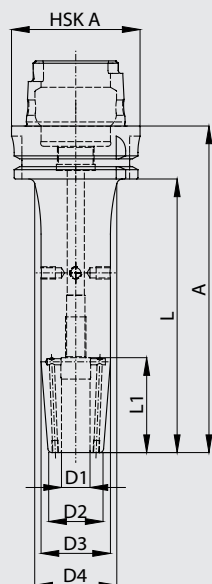


Schrumpffutter Typ S

- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- 2 Cool-Jet Bohrungen (verschlussbar)
- axiale Längenverstellung

Heat shrink chuck type S

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- 2 Cool-Jet holes (lockable)
- axial adjustment

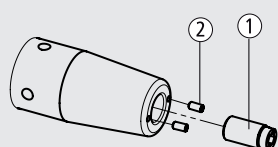


Bestell-Nr. / Order number	HSK	D1	D2	D3	D4	A	L	L1
HA6.S06.K21.080	A63	6	21	26	-	80	54	36
HA6.S06.K21.130	A63	6	21	27	34	130	104	36
HA6.S06.K21.160	A63	6	21	27	34	160	134	36
HA6.S08.K21.080	A63	8	21	26	-	80	54	36
HA6.S08.K21.130	A63	8	21	27	34	130	104	36
HA6.S08.K21.160	A63	8	21	27	34	160	134	36
HA6.S10.K21.085	A63	10	24	30	-	85	59	41
HA6.S10.K21.130	A63	10	24	32	39	130	104	41
HA6.S10.K21.160	A63	10	24	32	39	160	134	41
HA6.S12.K21.090	A63	12	24	30	-	90	64	46
HA6.S12.K21.130	A63	12	24	32	39	130	104	46
HA6.S12.K21.160	A63	12	24	32	39	160	134	46
HA6.S14.K21.090	A63	14	27	34	-	90	64	46
HA6.S14.K21.130	A63	14	27	34	41	130	104	46
HA6.S14.K21.160	A63	14	27	34	41	160	134	46
HA6.S16.K21.095	A63	16	27	34	-	95	69	49
HA6.S16.K21.130	A63	16	27	34	41	130	104	49
HA6.S16.K21.160	A63	16	27	34	41	160	134	49
HA6.S18.K21.095	A63	18	33	41	-	95	69	49
HA6.S18.K21.130	A63	18	33	41	48	130	104	49
HA6.S18.K21.160	A63	18	33	41	48	160	134	49
HA6.S20.K21.100	A63	20	33	41	-	100	74	51
HA6.S20.K21.130	A63	20	33	41	48	130	104	51
HA6.S20.K21.160	A63	20	33	41	48	160	134	51
HA6.S25.K21.115	A63	25	44	52	-	115	89	57
HA6.S25.K21.160	A63	25	44	52	-	160	134	57
HA6.S32.K21.120	A63	32	44	52	-	120	94	61
HA6.S32.K21.160	A63	32	44	52	-	160	134	61



Ersatzteile / Zubehör

Spare parts / Accessories



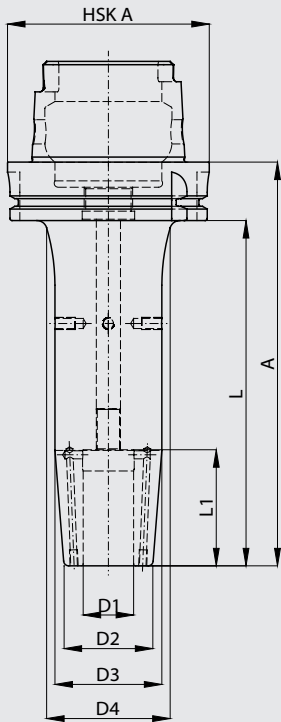
Für Schrumpffutter / For heat shrink chuck	Bestell-Nr. / Order number	Dimension	Bestell-Nr. / Order number	Dimension
	Anschlagschraube / Stop screw	①	Cool-Jet Verschlusschraube/ Screw plug	②
xxx.S06.xxx.xxx	ERU.AN1.K01.014	M 5 x 14	ERU.CJ2.001.006	M 3 x 6
xxx.S08.xxx.xxx	ERU.AN2.K01.016	M 6 x 16	ERU.CJ2.001.006	M 3 x 6
xxx.S10.xxx.xxx	ERU.AN3.K01.020	M 8 x 1 x 16	ERU.CJ2.001.006	M 3 x 6
xxx.S12 ... S14.xxx.xxx	ERU.AN4.K01.020	M10 x 1 x 20	ERU.CJ2.001.006	M 3 x 6
xxx.S16 ... S20.xxx.xxx	ERU.AN5.K01.020	M12 x 1 x 20	ERU.CJ2.001.006	M 3 x 6
xxx.S25 ... S50.xxx.xxx	ERU.AN5.K01.020	M12 x 1 x 20	ERU.CJ3.001.008	M 4 x 8

Schrumpffutter Typ S

- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- 2 Cool-Jet Bohrungen (verschliessbar)
- axiale Längenverstellung

Heat shrink chuck type S

- standard design for a better clamping force
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders
G 2.5/25000 r/min
- 2 Cool-Jet holes (lockable)
- axial adjustment



Bestell-Nr. / Order number	HSK	D1	D2	D3	D4	A	L	L1
HA0.S06.K21.085	A100	6	21	26	-	85	56	36
HA0.S06.K21.130	A100	6	21	30	-	130	101	36
HA0.S06.K21.160	A100	6	21	30	39	160	131	36
HA0.S06.K21.200	A100	6	21	27	39	200	171	36
HA0.S08.K21.085	A100	8	21	26	-	85	56	36
HA0.S08.K21.130	A100	8	21	30	-	130	101	36
HA0.S08.K21.160	A100	8	21	30	39	160	131	36
HA0.S08.K21.200	A100	8	21	27	39	200	171	36
HA0.S10.K21.090	A100	10	24	30	-	90	61	41
HA0.S10.K21.130	A100	10	24	34	-	130	101	41
HA0.S10.K21.160	A100	10	24	34	43	160	131	41
HA0.S10.K21.200	A100	10	24	32	43	200	171	41
HA0.S12.K21.095	A100	12	24	30	-	95	66	46
HA0.S12.K21.130	A100	12	24	34	-	130	101	46
HA0.S12.K21.160	A100	12	24	34	43	160	131	46
HA0.S12.K21.200	A100	12	24	32	43	200	171	46
HA0.S14.K21.095	A100	14	27	34	-	95	66	46
HA0.S14.K21.130	A100	14	27	37	--	130	101	46
HA0.S14.K21.160	A100	14	27	37	46	160	131	46
HA0.S14.K21.200	A100	14	27	34	46	200	171	46
HA0.S16.K21.100	A100	16	27	34	-	100	71	49
HA0.S16.K21.130	A100	16	27	37	-	130	101	49
HA0.S16.K21.160	A100	16	27	37	46	160	131	49
HA0.S16.K21.200	A100	16	27	34	46	200	171	49
HA0.S18.K21.100	A100	18	33	41	-	100	71	49
HA0.S18.K21.130	A100	18	33	44	-	130	101	49
HA0.S18.K21.160	A100	18	33	44	53	160	131	49
HA0.S18.K21.200	A100	18	33	41	53	200	171	49
HA0.S20.K21.105	A100	20	33	41	-	105	76	51
HA0.S20.K21.130	A100	20	33	44	-	130	101	51
HA0.S20.K21.160	A100	20	33	44	53	160	131	51
HA0.S20.K21.200	A100	20	33	41	53	200	171	51
HA0.S25.K21.115	A100	25	44	53	-	115	86	57
HA0.S25.K21.160	A100	25	44	56	65	160	131	57
HA0.S25.K21.200	A100	25	44	53	65	200	171	57
HA0.S32.K21.120	A100	32	44	53	-	120	91	61
HA0.S32.K21.160	A100	32	44	56	65	160	131	61
HA0.S32.K21.200	A100	32	44	53	65	200	171	61
HA0.S40.K21.125	A100	40	60	70	-	125	96	71
HA0.S50.K21.130	A100	50	69	79	-	130	101	82

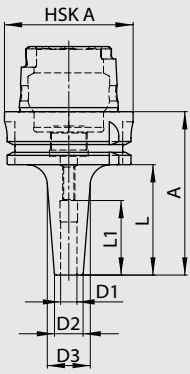


Schrumpffutter Typ M

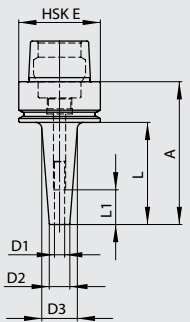
Heat shrink chuck type M

- extrem schlanke Ausführung
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet G 2.5/25000 U/min

- extreme slim design
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- fine balanced toolholders G 2.5/25000 r/min



Bestell-Nr. / Order number	HSK	D1	D2	D3	A	L	L1
HA6.S03.K05.080	A63	3	12	17	80	54	9
HA6.S04.K05.080	A63	4	12	17	80	54	12
HA6.S05.K05.080	A63	5	12	17	80	54	15
HA6.S06.K05.080	A63	6	14	21	80	54	36
HA6.S08.K05.080	A63	8	14	21	80	54	36
HA6.S10.K05.080	A63	10	20	28	80	54	41
HA6.S12.K05.080	A63	12	20	28	80	54	46



Bestell-Nr. / Order number	HSK E	D1	D2	D3	A	L	L1
HE3.S03.K05.060	E32	3	9	13	60	40	9
HE3.S04.K05.060	E32	4	12	16	60	40	12
HE3.S06.K05.070	E32	6	14	19	70	50	36
HE3.S08.K05.070	E32	8	14	19	70	50	36
HE3.S10.K05.080	E32	10	16	22	80	60	41
HE4.S03.K05.070	E40	3	10	17.5	70	50	9
HE4.S04.K05.070	E40	4	10	17.5	70	50	12
HE4.S05.K05.070	E40	5	10	17.5	70	50	15
HE4.S06.K05.080	E40	6	14	19	80	60	36
HE4.S08.K05.080	E40	8	14	19	80	60	36
HE4.S10.K05.080	E40	10	16	22	80	60	41
HE4.S12.K05.090	E40	12	20	25	90	70	46
HE4.S14.K05.090	E40	14	22	27	90	70	46
HE4.S16.K05.090	E40	16	24	29	90	70	49
HE5.S03.K05.070	E50	3	10	16.5	70	44	9
HE5.S04.K05.070	E50	4	10	16.5	70	44	12
HE5.S05.K05.070	E50	5	10	16.5	70	44	15
HE5.S06.K05.080	E50	6	14	19	80	54	36
HE5.S08.K05.080	E50	8	14	19	80	54	36
HE5.S10.K05.085	E50	10	16	22	85	59	41
HE5.S12.K05.090	E50	12	20	25	90	64	46
HE5.S14.K05.090	E50	14	22	27	90	64	46
HE5.S16.K05.095	E50	16	24	29	95	69	49

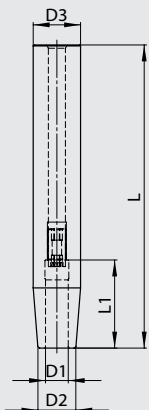


Schrumpferlängerungen

Shrinking extensions

- extrem schlanke Ausführung
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- axiale Längenverstellung

- extreme slim design
- for solid carbide and high speed steel tools
- shank tolerance h6
- true running 3 µm
- axial adjustment



Bestell-Nr. / Order number	D1	D2	D3	L	L1
U16.S03.K01.160*	3	10	16	160	9
U16.S04.K01.160*	4	10	16	160	12
U16.S05.K01.160*	5	10	16	160	15
U20.S06.K01.160	6	14	20	160	36
U20.S08.K01.160	8	14	20	160	36
U25.S10.K01.160	10	20	25	160	41
U25.S12.K01.160	12	20	25	160	46
U25.S14.K01.160	14	20	25	160	46
U32.S16.K01.160	16	27	32	160	49
U32.S20.K01.160	20	27	32	160	51

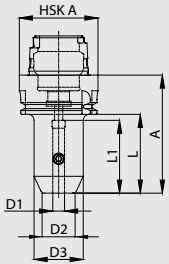
* Ohne axiale Längenverstellung

* without axial adjustment



Flächenspannfutter Weldon Typ L End mill adapter Weldon type L

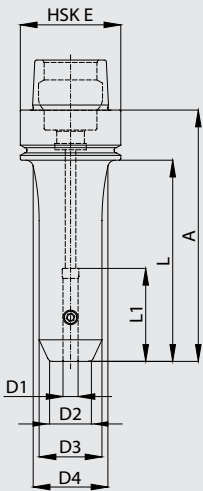
- zur Aufnahme von Werkzeugen mit Zylinder-schaft nach DIN 1835 B
- Aufnahme feingewuchtet G 2.5/25 000 U/min
- to clamp tools with cylindrical shank according to DIN 1835 B
- fine balanced toolholders G 2.5/25 000 r/min



Bestell-Nr. / Order number	HSK	D1	D2	D3	A	L	L1
HA4.W06.K01.060	A40	6	17	25	60	40	37
HA4.W08.K01.060	A40	8	20	28	60	40	37
HA4.W10.K01.060	A40	10	25	35	60	40	41
HA4.W12.K01.070	A40	12	30	42	70	50	46
HA4.W14.K01.075	A40	14	32	45	75	55	46
HA4.W16.K01.075	A40	16	36	48	75	55	49



Bestell-Nr. / Order number	HSK	D1	D2	D3	D4	A	L	L1
HE4.W06.K01.060	E40	6	17	25	-	60	40	37
HE4.W06.K01.100	E40	6	17	25	30	100	80	37
HE4.W08.K01.060	E40	8	20	28	-	60	40	37
HE4.W08.K01.100	E40	8	20	28	30	100	80	37
HE4.W10.K01.060	E40	10	25	35	-	60	40	41
HE4.W10.K01.100	E40	10	25	35	-	100	80	41
HE4.W12.K01.070	E40	12	30	42	-	70	50	46
HE4.W12.K01.100	E40	12	30	42	-	100	80	46
HE4.W14.K01.075	E40	14	32	45	-	75	55	46
HE4.W14.K01.100	E40	14	32	45	-	100	80	46
HE4.W16.K01.075	E40	16	36	48	-	75	55	49
HE4.W16.K01.100	E40	16	36	48	-	100	80	49

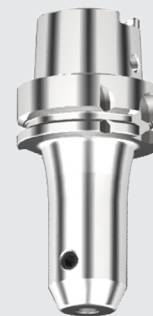
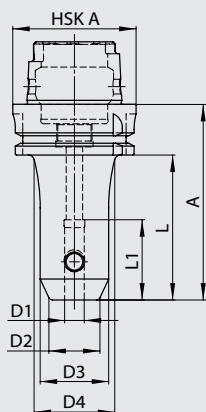


Bestell-Nr. / Order number	HSK	D1	D2	D3	D4	A	L	L1
HE5.W06.K01.065	E50	6	17	25	-	65	39	37
HE5.W06.K01.100	E50	6	17	25	31	100	74	37
HE5.W08.K01.065	E50	8	20	28	-	65	39	37
HE5.W08.K01.100	E50	8	20	28	30	100	74	37
HE5.W10.K01.065	E50	10	25	35	-	65	39	41
HE5.W10.K01.100	E50	10	25	35	38	100	74	41
HE5.W12.K01.080	E50	12	30	42	-	80	54	46
HE5.W14.K01.080	E50	14	32	45	-	80	54	46
HE5.W16.K01.080	E50	16	36	48	-	80	54	49
HE5.W18.K01.080	E50	18	38	48	-	80	54	49
HE5.W20.K01.080	E50	20	40	52	-	80	54	51



Flächenspannfutter Weldon Typ L End mill adapter Weldon type L

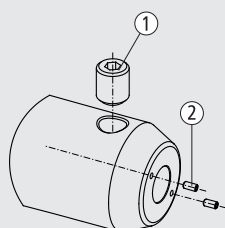
- zur Aufnahme von Werkzeugen mit Zylinder-schaft nach DIN 1835 B
- Aufnahme feingewuchtet G 2.5/25 000 U/min
- to clamp tools with cylindrical shank according to DIN 1835 B
- fine balanced toolholders G 2.5/25 000 r/min



Bestell-Nr. / Order number	HSK	D1	D2	D3	D4	A	L	L1
HA6.W06.K01.065	A63	6	17	30	-	65	39	37
HA6.W06.K01.100	A63	6	17	30	36	100	74	37
HA6.W06.K01.130	A63	6	17	30	36	130	104	37
HA6.W08.K01.065	A63	8	20	32	-	65	39	37
HA6.W08.K01.100	A63	8	20	32	38	100	74	37
HA6.W08.K01.130	A63	8	20	32	38	130	104	37
HA6.W10.K01.065	A63	10	25	35	-	65	39	41
HA6.W10.K01.100	A63	10	25	35	41	100	74	41
HA6.W10.K01.130	A63	10	25	35	41	130	104	41
HA6.W12.K01.080	A63	12	30	42	-	80	54	46
HA6.W12.K01.100	A63	12	30	42	-	100	74	46
HA6.W12.K01.130	A63	12	30	42	48	130	104	46
HA6.W14.K01.080	A63	14	32	45	-	80	54	46
HA6.W14.K01.100	A63	14	32	45	-	100	74	46
HA6.W14.K01.130	A63	14	32	45	50	130	104	46
HA6.W16.K01.080	A63	16	36	48	-	80	54	49
HA6.W16.K01.100	A63	16	36	48	-	100	74	49
HA6.W16.K01.130	A63	16	36	48	50	130	104	49
HA6.W18.K01.080	A63	18	38	48	-	80	54	49
HA6.W18.K01.100	A63	18	38	48	-	100	74	49
HA6.W18.K01.130	A63	18	38	48	50	130	104	49
HA6.W20.K01.080	A63	20	40	52	-	80	54	51
HA6.W20.K01.100	A63	20	40	52	-	100	74	51
HA6.W20.K01.130	A63	20	40	52	-	130	104	51
HA6.W25.K01.110	A63	25	45	63	-	110	84	59
HA6.W32.K01.110	A63	32	52	72	-	110	84	63

Ersatzteile / Zubehör

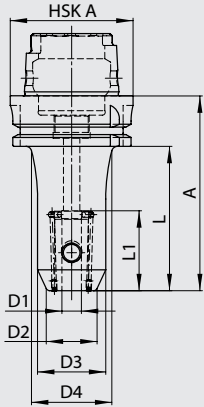
Spare parts / Accessories



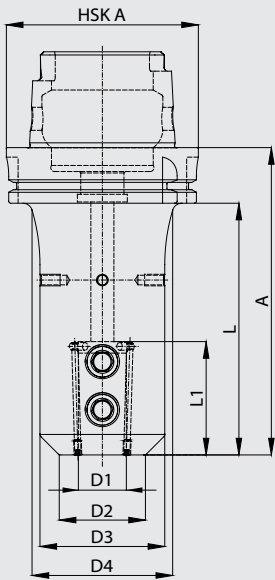
Für Flächenspannfutter For end mill adapter	Bestell-Nr. / Order number	Dimension	Bestell-Nr. / Order number	Dimension
	Klemmscharube / Clamping screw ①		Cool-Jet Verschlusschraube / Screw plug ②	
xxx.W06.xxx.xxx	W06.ER1.001.010	M 6 x 10	ERU.CJ2.001.006	M 3 x 6
xxx.W08.xxx.xxx	W08.ER1.001.010	M 8 x 10	ERU.CJ2.001.006	M 3 x 6
xxx.W10.xxx.xxx	W10.ER1.001.012	M10 x 12	ERU.CJ2.001.006	M 3 x 6
xxx.W12 . . . W14.xxx.xxx	W12.ER1.001.016	M12 x 16	ERU.CJ2.001.006	M 3 x 6
xxx.W16 . . . W18.xxx.xxx	W16.ER1.001.016	M14 x 16	ERU.CJ2.001.006	M 3 x 6
xxx.W20.xxx.xxx	W20.ER1.001.016	M16 x 16	ERU.CJ2.001.006	M 3 x 6
xxx.W25.xxx.xxx	W25.ER1.001.020	M18 x 2 x 20	ERU.CJ3.001.008	M 4 x 8
xxx.W32 . . . W40.xxx.xxx	W32.ER1.001.020	M20 x 2 x 20	ERU.CJ3.001.008	M 4 x 8

Flächenspannfutter Weldon Typ S End mill adapter Weldon type S

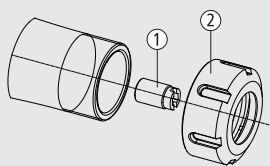
- zur Aufnahme von Werkzeugen mit Zylinder-schaft nach DIN 1835 B
- Aufnahme feingewuchtet
G 2.5/25 000 U/min
- 2 Cool-Jet Bohrungen (verschlussbar)
- to clamp tools with cylindrical shank according to DIN 1835 B
- fine balanced toolholders
G 2.5/25 000 r/min
- 2 Cool-Jet holes (lockable)



Bestell-Nr./ Ordernumber	HSK	D1	D2	D3	D4	A	L	L1
HA6.W06.K21.065	A63	6	17	30	-	65	39	37
HA6.W06.K21.100	A63	6	17	30	36	100	74	37
HA6.W06.K21.130	A63	6	17	30	36	130	104	37
HA6.W06.K21.160	A63	6	17	30	36	160	134	37
HA6.W08.K21.065	A63	8	20	32	-	65	39	37
HA6.W08.K21.100	A63	8	20	32	38	100	74	37
HA6.W08.K21.100	A63	8	20	32	38	100	74	37
HA6.W08.K21.160	A63	8	20	32	38	160	134	37
HA6.W10.K21.065	A63	10	25	35	-	65	39	41
HA6.W10.K21.100	A63	10	25	35	41	100	74	41
HA6.W10.K21.130	A63	10	25	35	41	130	104	41
HA6.W10.K21.160	A63	10	25	35	41	160	134	41
HA6.W12.K21.080	A63	12	30	42	-	80	54	46
HA6.W12.K21.100	A63	12	30	42	-	100	74	46
HA6.W12.K21.130	A63	12	30	42	48	130	104	46
HA6.W12.K21.160	A63	12	30	42	48	160	134	46
HA6.W14.K21.080	A63	14	32	45	-	80	54	46
HA6.W14.K21.100	A63	14	32	45	-	100	74	46
HA6.W14.K21.130	A63	14	32	45	50	130	104	46
HA6.W14.K21.160	A63	14	32	45	51	160	134	46
HA6.W16.K21.080	A63	16	36	48	-	80	54	49
HA6.W16.K21.100	A63	16	36	48	-	100	74	49
HA6.W16.K21.130	A63	16	36	48	50	130	104	49
HA6.W16.K21.160	A63	16	36	48	50	160	134	49
HA6.W18.K21.080	A63	18	38	48	-	80	54	49
HA6.W18.K21.100	A63	18	38	48	-	100	74	49
HA6.W18.K21.130	A63	18	38	48	50	130	104	49
HA6.W18.K21.160	A63	18	38	48	50	160	134	49
HA6.W20.K21.080	A63	20	40	52	-	80	54	51
HA6.W20.K21.100	A63	20	40	52	-	100	74	51
HA6.W20.K21.130	A63	20	40	52	-	130	104	51
HA6.W20.K21.160	A63	20	40	52	-	160	134	51
HA6.W25.K21.110	A63	25	45	63	-	110	84	59
HA6.W25.K21.160	A63	25	45	63	-	160	134	59
HA6.W32.K21.110	A63	32	52	72	-	110	84	63



Bestell-Nr. / Order number	HSK	D1	D2	D3	D4	A	L	L1
HA0.W06.K21.080	A100	6	17	30	-	80	51	37
HA0.W06.K21.160	A100	6	17	30	38	160	131	37
HA0.W08.K21.080	A100	8	20	32	-	80	51	37
HA0.W08.K21.160	A100	8	20	32	40	160	131	37
HA0.W10.K21.080	A100	10	25	35	-	80	51	41
HA0.W10.K21.160	A100	10	25	35	43	160	131	41
HA0.W12.K21.080	A100	12	30	42	-	80	51	46
HA0.W12.K21.160	A100	12	30	42	50	160	131	46
HA0.W14.K21.080	A100	14	32	45	-	80	51	46
HA0.W14.K21.160	A100	14	32	45	53	160	131	46
HA0.W16.K21.100	A100	16	36	48	-	100	71	49
HA0.W16.K21.160	A100	16	36	48	56	160	131	49
HA0.W18.K21.100	A100	18	38	48	-	100	71	49
HA0.W18.K21.160	A100	18	38	48	56	160	131	49
HA0.W20.K21.100	A100	20	40	52	-	100	71	51
HA0.W20.K21.160	A100	20	40	52	60	160	131	51
HA0.W25.K21.100	A100	25	45	65	-	100	71	59
HA0.W25.K21.160	A100	25	45	65	73	160	131	59
HA0.W32.K21.100	A100	32	52	72	-	100	71	63
HA0.W32.K21.160	A100	32	52	72	80	160	131	63
HA0.W40.K21.110	A100	40	60	80	-	110	81	73



Ersatzteile / Zubehör

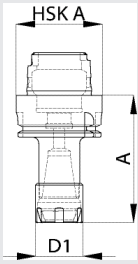
Spare parts / Accessories

Für Spannzangenfutter	Bestell-Nr. / Order number	Dimension	Bestell-Nr. / Order number	Dimension
For collet chuck	Anschlagschraube / Stop screw ①		Spannmutter / Clamping nut ②	
xxx.E17.xxx.xxx	ERU.AN2.K01.016	M 6 x 16	E17.ER1.001.018	M19 x 1
xxx.E25.xxx.xxx	ERU.AN5.K01.020	M12 x 1 x 20	E25.ER1.001.020	M32 x 1.5
xxx.E32.xxx.xxx	ERU.AN5.K01.020	M12 x 1 x 20	E32.ER1.001.023	M40 x 1.5
xxx.E40.xxx.xxx	ERU.AN5.K01.020	M12 x 1 x 20	E40.ER1.001.025	M50 x 1.5

Spannzangenfutter ER Typ L

Collet chuck ER type L

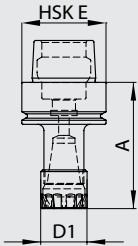
- für Spannzangen nach DIN 6499
 - zur Aufnahme von Werkzeugen mit Zylinder-schaft
 - axiale Längenverstellung
 - Grundkörper feingewuchtet
G 2.5/25000 U/min
- for collets according to DIN 6499
 - to clamp tools with cylindrical shank
 - axial adjustment
 - fine balanced base tool
G 2.5/25000 r/min



Bestell-Nr./ Order number	HSK	Spannzange / Collet	Spannbereich / Clamping range	D1	A
HA4.E17.K01.060*	A40	ER 16	0.5–10	22	60
HA4.E17.K01.100	A40	ER 16	0.5–10	22	100
HA4.E25.K01.070*	A40	ER 25	0.5–16	42	70
HA4.E25.K01.100	A40	ER 25	0.5–16	42	100
HA4.E32.K01.100	A40	ER 32	1 –20	50	100



Bestell-Nr./ Order number	HSK	Spannzange / Collet	Spannbereich / Clamping range	D1	A
HE4.E17.K01.060*	E40	ER 16	0.5–10	22	60
HE4.E17.K01.100	E40	ER 16	0.5–10	22	100
HE4.E25.K01.070*	E40	ER 25	0.5–16	42	70
HE4.E25.K01.100	E40	ER 25	0.5–16	42	100
HE4.E32.K01.100	E40	ER 32	1 –20	50	100



Bestell-Nr./ Order number	HSK	Spannzange / Collet	Spannbereich / Clamping range	D1	A
HE5.E17.K01.060*	E50	ER 16	0.5– 10	22	60
HE5.E17.K01.120	E50	ER 16	0.5– 10	22	120
HE5.E25.K01.070*	E50	ER 25	0.5– 16	42	70
HE5.E25.K01.120	E50	ER 25	0.5– 16	42	120
HE5.E32.K01.100	E50	ER 32	1 – 20	50	100
HE5.E40.K01.120	E50	ER 40	2 – 30	63	120



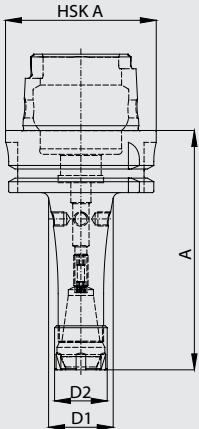
* Ohne axiale Längenverstellung

* without axial adjustment

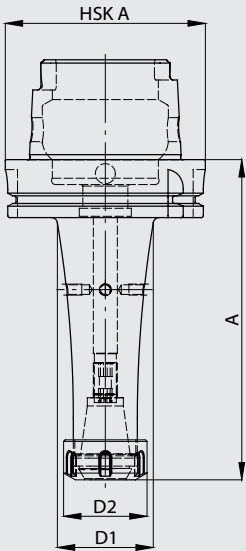
Spannzangenfutter ER Typ S

Collet chuck ER type S

- für Spannzangen nach DIN 6499
 - zur Aufnahme von Werkzeugen mit Zylinder-schaft
 - axiale Längenverstellung
 - Grundkörper feingewuchtet
G 2.5/25000 U/min
- for collets according to DIN 6499
 - to clamp tools with cylindrical shank
 - axial adjustment
 - fine balanced base tool
G 2.5/25000 r/min



Bestell-Nr./ Order number	HSK	D1	Spannzange / Collet	Spannbereich / Clamping range	D2	A
HA6.E17.K01.100	A63	27	ER 16	0.5–10	22	100
HA6.E17.K01.160	A63	33	ER 16	0.5–10	22	160
HA6.E25.K01.100	A63	37	ER 25	0.5–16	42	100
HA6.E25.K01.160	A63	43	ER 25	0.5–16	42	160
HA6.E32.K01.100	A63	45	ER 32	1 –20	50	100
HA6.E32.K01.160	A63	50	ER 32	1 –20	50	160
HA6.E40.K01.100	A63	52	ER 40	2 –30	63	100
HA6.E40.K01.160	A63	52	ER 40	2 –30	63	160



Bestell-Nr./ Order number	HSK	D1	Spannzange / Collet	Spannbereich / Clamping range	D2	A
HA0.E17.K01.100	A100	27	ER 16	0.5–10	22	100
HA0.E17.K01.160	A100	33	ER 16	0.5–10	22	160
HA0.E17.K01.200	A100	33	ER 16	0.5–10	22	200
HA0.E25.K01.100	A100	37	ER 25	0.5–16	42	100
HA0.E25.K01.160	A100	37	ER 25	0.5–16	42	160
HA0.E25.K01.200	A100	43	ER 25	0.5–16	42	200
HA0.E32.K01.100	A100	45	ER 32	1 –20	50	100
HA0.E32.K01.160	A100	51	ER 32	1 –20	50	160
HA0.E32.K01.200	A100	51	ER 32	1 –20	50	200
HA0.E40.K01.100*	A100	56	ER 40	2 –30	63	100
HA0.E40.K01.160	A100	63	ER 40	2 –30	63	160
HA0.E40.K01.200	A100	63	ER 40	2 –30	63	200

* Ohne axiale Längenverstellung

* without axial adjustment



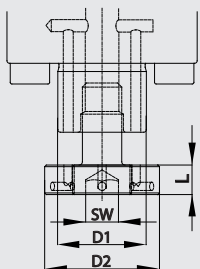
Differentialschraube

ersetzt Fräseranzugschraube

Differential screw

substitutes clamping screw

- für extrem hohe Anzugsmomente
 - Kühlmittelfluss siehe Seite 4
- for extremely high clamping torque
 - coolant see page 4



Bestell-Nr./ Order number	M	D1	D2	SW	L	ΔP
D16.ER1.K61.012	8	16	20	6	7	0.25
D22.ER1.K61.016	10	22	28	8	8	0.5
D27.ER1.K61.018	12	27	35	10	9	0.75
D32.ER1.K61.024	16	32	42	12	10	1
D40.ER1.K61.030	20	40	52	14	11	1.5

- Delta P entspricht der Steigungsdifferenz
- delta P consists with the pitch difference

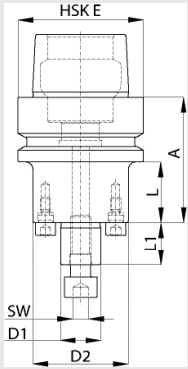


Fräsdorn Typ L

Milling arbor type L

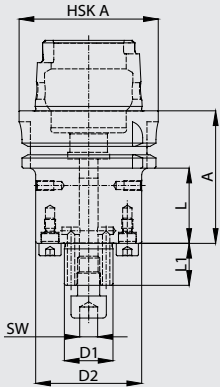
- zur Aufnahme von Fräsern mit Quernut
- eingeschraubte Mitnehmerbolzen
- Aufnahmen feingewuchtet
G 2.5/18000 U/min

- to clamp milling cutters with cross drive
- screwed drive bolt
- fine balanced toolholders
G 2.5/18000 r/min

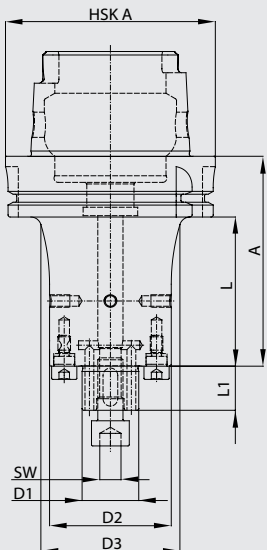


Bestell-Nr. / Order number	HSK	D1	D2	SW	A	L	L1
HE4.D16.001.050	E40	16	38	6	50	30	17
HE4.D22.001.050	E40	22	48	8	50	30	19
HE4.D27.001.065	E40	27	58	10	65	45	21

Bestell-Nr. / Order number	HSK	D1	D2	SW	A	L	L1
HE5.D16.001.050	E50	16	38	6	50	24	17
HE5.D22.001.050	E50	22	48	8	50	24	19
HE5.D27.001.065	E50	27	58	10	65	39	21
HE5.D32.001.065	E50	32	72	12	65	39	24



Bestell-Nr. / Order number	HSK	D1	D2	SW	A	L	L1
HA6.D16.K01.060	A63	16	38	6	60	34	17
HA6.D16.K01.100	A63	16	38	6	100	74	17
HA6.D16.K01.160	A63	16	38	6	160	134	17
HA6.D22.K01.060	A63	22	48	8	60	34	19
HA6.D22.K01.100	A63	22	48	8	100	74	19
HA6.D22.K01.160	A63	22	48	8	160	134	19
HA6.D27.K01.060	A63	27	58	10	60	34	21
HA6.D27.K01.100	A63	27	58	10	100	74	21
HA6.D27.K01.160	A63	27	58	10	160	134	21
HA6.D32.K01.060	A63	32	72	12	60	34	24
HA6.D32.K01.100	A63	32	72	12	100	74	24
HA6.D32.K01.160	A63	32	72	12	160	134	24
HA6.D40.K01.070	A63	40	80	14	70	44	27
HA6.D40.K01.100	A63	40	80	14	100	74	27
HA6.D40.K01.160	A63	40	80	14	160	134	27



Bestell-Nr. / Order number	HSK	D1	D2	D3	SW	A	L	L1
HA0.D16.K01.060	A100	16	38	-	6	60	31	17
HA0.D16.K01.100	A100	16	38	46	6	100	71	17
HA0.D16.K01.160	A100	16	38	46	6	160	131	17
HA0.D22.K01.060	A100	22	48	-	8	60	31	19
HA0.D22.K01.100	A100	22	48	56	8	100	71	19
HA0.D22.K01.160	A100	22	48	56	8	160	131	19
HA0.D27.K01.060	A100	27	58	-	10	60	31	21
HA0.D27.K01.100	A100	27	58	66	10	100	71	21
HA0.D27.K01.160	A100	27	58	66	10	160	131	21
HA0.D32.K01.060	A100	32	72	-	12	60	31	24
HA0.D32.K01.100	A100	32	72	80	12	100	71	24
HA0.D32.K01.160	A100	32	72	80	12	160	131	24
HA0.D40.K01.070	A100	40	80	-	14	70	41	27
HA0.D40.K01.100	A100	40	80	-	14	100	71	27
HA0.D40.K01.160	A100	40	80	-	14	160	131	27

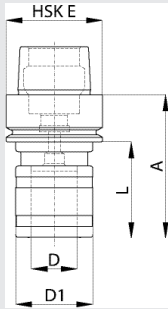


Gewindeschneidfutter Typ S

Tapping chuck type S

- für Schnellwechseleinsätze «System Bilz»
- ohne Längenausgleich für Maschinen mit synchronisiertem Gewindeschneiden
- mit Innenkühlung

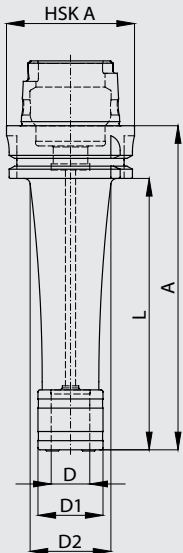
- for quick change adapter «System Bilz»
- without length-compensation for machines with synchronized tapping
- with inner coolant supply



Bestell-Nr. / Order number	HSK	M	D	D1	D2	A	L
HA4.Go1.K01.060	A40	M3-M14	19	32	32	60	40
HA4.Go2.K01.100	A40	M6-M24	31	50	50	100	80

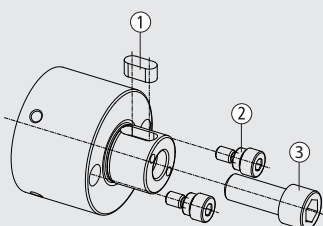
Bestell-Nr. / Order number	HSK	M	D	D1	D2	A	L
HE4.Go1.K01.060	E40	M3-M14	19	32	32	60	40
HE4.Go2.K01.100	E40	M6-M24	31	50	50	100	80

Bestell-Nr. / Order number	HSK	M	D	D1	D2	A	L
HE5.Go1.K01.065	E50	M3-M14	19	32	32	65	39
HE5.Go2.K01.105	E50	M6-M24	31	50	50	105	79



Bestell-Nr. / Order number	HSK	M	D	D1	D2	A	L
HA6.Go1.K01.080	A63	M3-M14	19	32	34	80	54
HA6.Go1.K01.160	A63	M3-M14	19	32	40	160	134
HA6.Go2.K01.100	A63	M6-M24	31	50	52	100	74
HA6.Go2.K01.160	A63	M6-M24	31	50	52	160	134
HA6.Go3.K01.120	A63	M14-M36	48	72	72	120	94

Bestell-Nr. / Order number	HSK	M	D	D1	D2	A	L
HA0.Go1.K01.090	A100	M3-M14	19	32	34	90	61
HA0.Go1.K01.160	A100	M3-M14	19	32	40	160	131
HA0.Go2.K01.110	A100	M6-M24	31	50	52	110	81
HA0.Go2.K01.160	A100	M6-M24	31	50	60	160	131
HA0.Go3.K01.130	A100	M14-M36	48	72	72	130	101



Ersatzteile / Zubehör

Spare parts / Accessories

Für Fräsdorn For milling arbors	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Dimension
	Passfeder / Fitting key ^①	Mitnehmerbolzen / Drive bolt ^②	Fräseranzugschraube / Clamping screw ^③	
xxx.D16.xxx.xxx	D16.ER3.001.014	D16.ER2.001.015	D16.ER1.002.025	M 8 x 25
xxx.D22.xxx.xxx	D22.ER3.001.014	D22.ER2.001.017	D22.ER1.002.025	M10 x 25
xxx.D27.xxx.xxx	D27.ER3.001.018	D27.ER2.001.021	D27.ER1.002.030	M12 x 30
xxx.D32.xxx.xxx	D32.ER3.001.020	D32.ER2.001.022	D32.ER1.002.035	M16 x 35
xxx.D40.xxx.xxx	D40.ER3.001.022	D40.ER2.001.023	D40.ER1.002.040	M20 x 40

Schnellwechseleinsätze

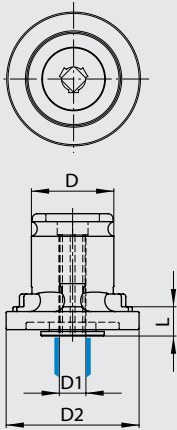
Quick-change adapters

- zur Aufnahme von Gewindebohrern nach DIN 371 und DIN 376
- für Gewindeschneidfutter «System Bilz»

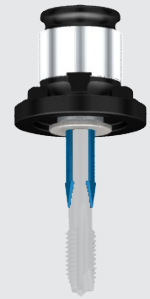
- to clamp taps according to DIN 371 and DIN 376
- for tapping chuck «System Bilz»

- mit drei Aussenkühlbohrungen

- with three exterior cooling holes



Bestell-Nr. / Order number	D	D1 Ø / □	D2	L
Go1.U03.K31.007	19	3.5 / 2.7	32	7
Go1.U04.K31.007	19	4.0 / 3.0	32	7
Go1.U05.K31.007	19	4.5 / 3.4	32	7
Go1.U06.K31.007	19	6.0 / 4.9	32	7
Go1.U07.K31.007	19	7.0 / 5.5	32	7
Go1.U08.K31.007	19	8.0 / 6.2	32	7
Go1.U09.K31.007	19	9.0 / 7.0	32	7
Go1.U10.K31.007	19	10.0 / 8.0	32	7
Go1.U11.K31.007	19	11.0 / 9.0	32	7
Go2.U06.K31.011	31	6.0 / 4.9	50	11
Go2.U07.K31.011	31	7.0 / 5.5	50	11
Go2.U08.K31.011	31	8.0 / 6.2	50	11
Go2.U09.K31.011	31	9.0 / 7.0	50	11
Go2.U10.K31.011	31	10.0 / 8.0	50	11
Go2.U11.K31.011	31	11.0 / 9.0	50	11
Go2.U12.K31.011	31	12.0 / 9.0	50	11
Go2.U14.K31.011	31	14.0 / 11.0	50	11
Go2.U16.K31.011	31	16.0 / 12.0	50	11
Go2.U18.K31.011	31	18.0 / 14.5	50	11



Kühlmittelrohr

- Verhindert Verschmutzung der Spindel
- Zwei O-Ringe für leichte Beweglichkeit des Rohres
- Spezialbeschichtung mit extrem glatter Oberfläche
- Schont das Dichtsystem der Spindel
- Passend für alle Fabrikate

Coolant tube

- Prevents spindle from being spoiled
- Dual o-ring design makes tube slightly movable
- Special coating with extremely smooth surface
- No damaging of the sealing system
- Suitable for all brands

Bestell-Nr. / Order number	Typ/ Type
HA4.ER4.001.030	HSK 40
HA5.ER4.001.033	HSK 50
HA6.ER4.001.036	HSK 63
HA0.ER4.001.044	HSK 100

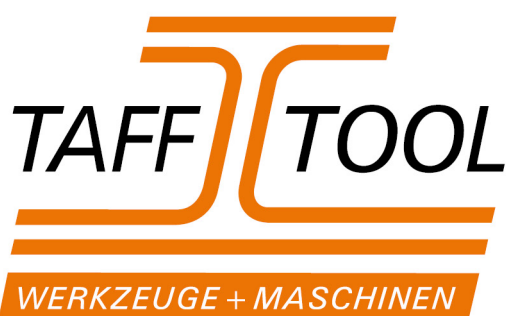


Schlüssel für Kühlmittelrohr

Bestell-Nr. / Order number	Typ/ Type
HA4.ER4.002.115	HSK 40
HA5.ER4.002.115	HSK 50
HA6.ER4.002.136	HSK 63
HA0.ER4.002.136	HSK 100

Wrench for coolant tube





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