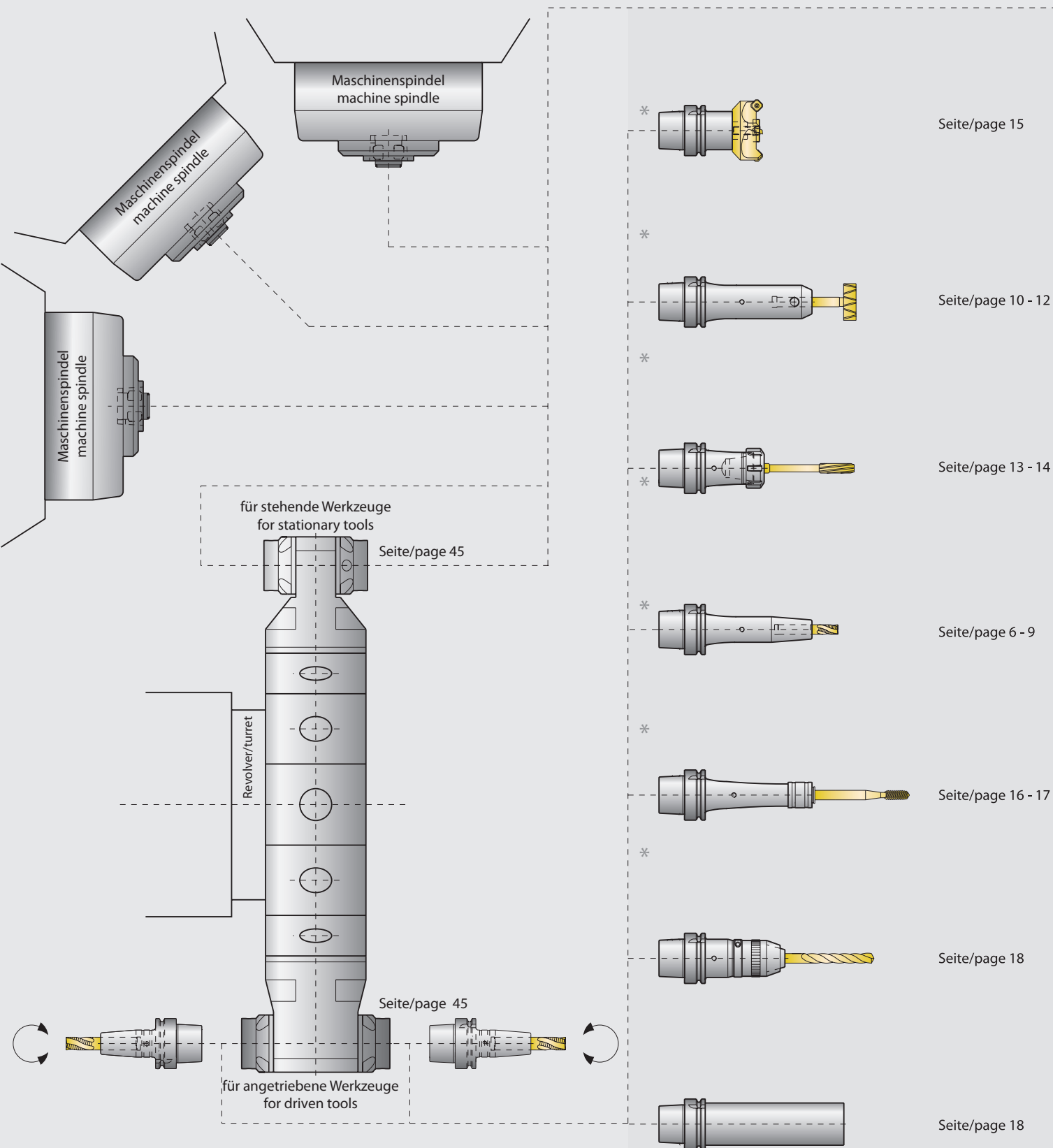


S W I S S
FLEX



HSK *by* **SWISS**  **TOOLS**



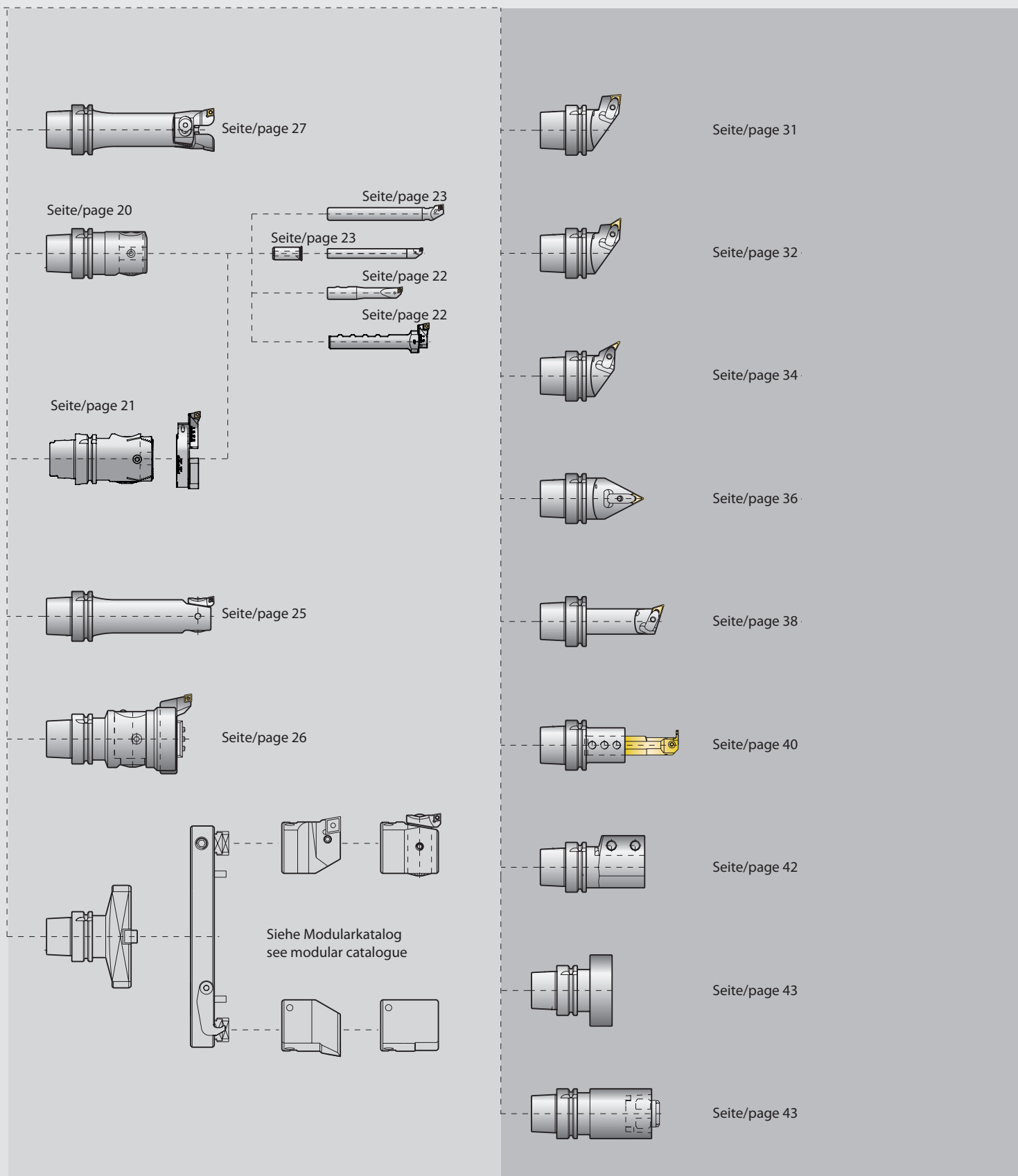
* feingewuchtet G 2,5 (od. Ru ≤ 2 gmm/kg)
fine balanced G 2,5 (or Ru ≤ 2 gmm/kg)

Spindelwerkzeuge / precision boring tools

Seite/page 19 - 28

Drehwerkzeuge / turning tools

Seite/page 29 - 47



Wendeplatten / inserts

Seite/page 48 - 51

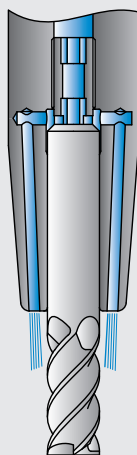


Cool-Jet für Schrumpf- und Weldonfutter

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)

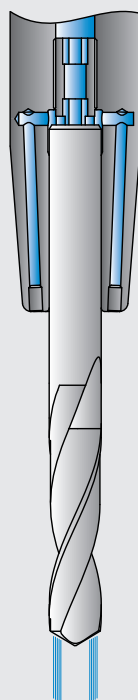
HIT



Cool-Jet for heat shrink chuck and weldon adapter

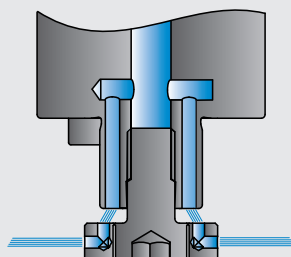
The key feature of the Cool-Jet system are two exterior cooling holes. The holes are directed to the tool center to avoid the deflection of the coolant jet by centrifugal force. The holes are lockable by using set screws.

(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.

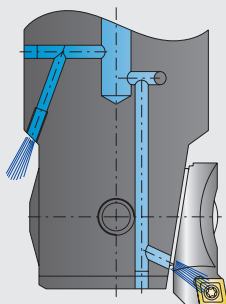


Milling arbors with differential screw and cool-jet

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.

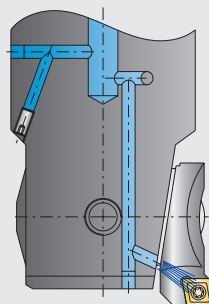
Cool-Jet für Feinbohrköpfe Ø30.9-153.1

Das Cool-Jet Kühlsystem in den Feinbohrköpfen besteht aus zwei Aussenkühlbohrungen. Eine Bohrung zielt auf die Wendeschneidplatte und dient zur Kühlung und zum Spänetransport. Durch die Bohrung auf der gegenüberliegenden Seite, die auch verschlossen werden kann, wird die bearbeitete Bohrung freigespült.



Cool-Jet for fine boring heads Ø30.9-153.1

The Cool-Jet system of the fine boring head consists of two cooling holes. One is going to the insert and the second one is for the chip transport. The second one can also be closed.



S w i s s
FLEX

Werkzeug-
aufnahmen

Toolholders



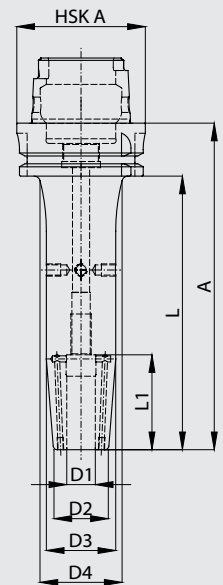
Schrumpffutter Typ S

- 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

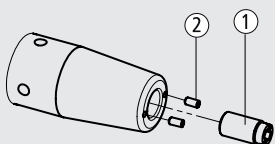
Bestell-Nr. / Order number	HSK A	D1	D2	D3	D4	A	L	L1
HA6.S06.K21.080	63	6	21	26	-	80	54	36
HA6.S06.K21.130	63	6	21	27	34	130	104	36
HA6.S06.K21.160	63	6	21	27	34	160	134	36
HA6.S08.K21.080	63	8	21	26	-	80	54	36
HA6.S08.K21.130	63	8	21	27	34	130	104	36
HA6.S08.K21.160	63	8	21	27	34	160	134	36
HA6.S10.K21.085	63	10	24	30	-	85	59	41
HA6.S10.K21.130	63	10	24	32	39	130	104	41
HA6.S10.K21.160	63	10	24	32	39	160	134	41
HA6.S12.K21.090	63	12	24	30	-	90	64	46
HA6.S12.K21.130	63	12	24	32	39	130	104	46
HA6.S12.K21.160	63	12	24	32	39	160	134	46
HA6.S14.K21.090	63	14	27	34	-	90	64	46
HA6.S14.K21.130	63	14	27	34	41	130	104	46
HA6.S14.K21.160	63	14	27	34	41	160	134	46
HA6.S16.K21.095	63	16	27	34	-	95	69	49
HA6.S16.K21.130	63	16	27	34	41	130	104	49
HA6.S16.K21.160	63	16	27	34	41	160	134	49
HA6.S18.K21.095	63	18	33	41	-	95	69	49
HA6.S18.K21.130	63	18	33	41	48	130	104	49
HA6.S18.K21.160	63	18	33	41	48	160	134	49
HA6.S20.K21.100	63	20	33	41	-	100	74	51
HA6.S20.K21.130	63	20	33	41	48	130	104	51
HA6.S20.K21.160	63	20	33	41	48	160	134	51
HA6.S25.K21.115	63	25	44	52	-	115	89	57
HA6.S25.K21.160	63	25	44	52	-	160	134	57
HA6.S32.K21.120	63	32	44	52	-	120	94	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

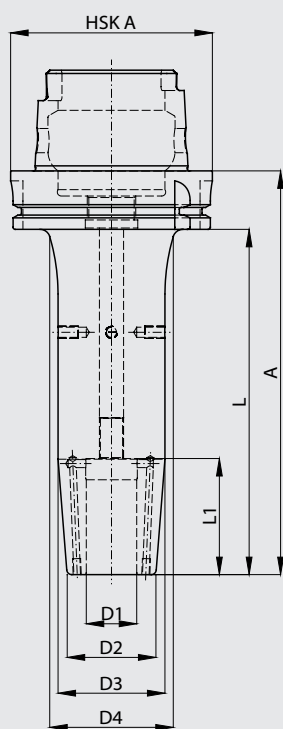


Schrumpffutter Typ S

Heat shrink chuck type 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

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

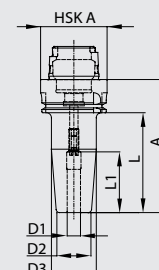


Schrumpffutter Typ L

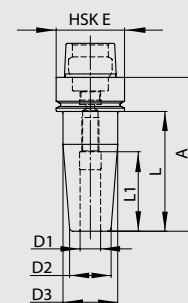
- Standardausführung für hohe Klemmkraft
- für HM- und HSS-Werkzeuge
- Schafttoleranz h6
- Rundlaufgenauigkeit 3 µm
- Aufnahmen feingewuchtet
G 2.5/25000 U/min
- axiale Längenverstellung



Bestell-Nr. / Order number	HSK A	D1	D2	D3	A	L	L1
HA4.S06.K01.080	40	6	21	27	80	60	36
HA4.S08.K01.080	40	8	21	27	80	60	36
HA4.S10.K01.080	40	10	24	32	80	60	41
HA4.S12.K01.090	40	12	24	32	90	70	46
HA4.S14.K01.090	40	14	27	34	90	70	46
HA4.S16.K01.090	40	16	27	34	90	70	49

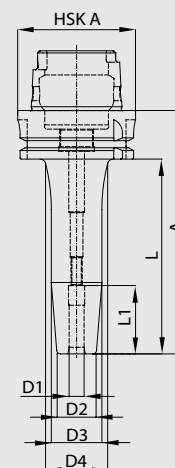


Bestell-Nr. / Order number	HSK E	D1	D2	D3	A	L	L1
HE4.S06.K01.080	40	6	21	27	80	60	36
HE4.S08.K01.080	40	8	21	27	80	60	36
HE4.S10.K01.080	40	10	24	32	80	60	41
HE4.S12.K01.090	40	12	24	32	90	70	46
HE4.S14.K01.090	40	14	27	34	90	70	46
HE4.S16.K01.090	40	16	27	34	90	70	49



Bestell-Nr. / Order number	HSK A	D1	D2	D3	A	L	L1
HE5.S06.K01.080	50	6	21	27	80	54	36
HE5.S08.K01.080	50	8	21	27	80	54	36
HE5.S10.K01.085	50	10	24	32	85	59	41
HE5.S12.K01.090	50	12	24	32	90	64	46
HE5.S14.K01.090	50	14	27	34	90	64	46
HE5.S16.K01.095	50	16	27	34	95	69	49

Bestell-Nr. / Order number	HSK A	D1	D2	D3	D4	A	L	L1
HA6.S06.K01.080	63	6	21	26	-	80	54	36
HA6.S06.K01.130	63	6	21	27	34	130	104	36
HA6.S08.K01.080	63	8	21	26	-	80	54	36
HA6.S08.K01.130	63	8	21	27	34	130	104	36
HA6.S10.K01.085	63	10	24	30	-	85	59	41
HA6.S10.K01.130	63	10	24	32	39	130	104	41
HA6.S12.K01.090	63	12	24	30	-	90	64	46
HA6.S12.K01.130	63	12	24	32	39	130	104	46
HA6.S14.K01.090	63	14	27	34	-	90	64	46
HA6.S14.K01.130	63	14	27	34	41	130	104	46
HA6.S16.K01.095	63	16	27	34	-	95	69	49
HA6.S16.K01.130	63	16	27	34	41	130	104	49
HA6.S18.K01.095	63	18	33	41	-	95	69	49
HA6.S18.K01.130	63	18	33	41	48	130	104	49
HA6.S20.K01.100	63	20	33	41	-	100	74	51
HA6.S20.K01.130	63	20	33	41	48	130	104	51
HA6.S25.K01.115	63	25	44	52	-	115	89	57
HA6.S32.K01.120	63	32	44	52	-	120	94	61



• Ersatzteile siehe Seite 6

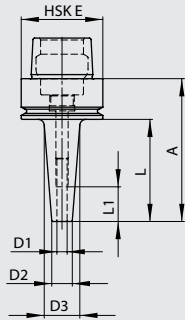
• spare parts see page 6

Schrumpffutter Typ M

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

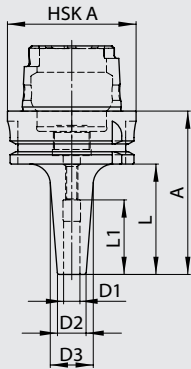
Heat shrink chuck type M

- 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 E	D1	D2	D3	A	L	L1
HE4.S03.K01.070	40	3	10	17.5	70	50	9
HE4.S04.K01.070	40	4	10	17.5	70	50	12
HE4.S05.K01.070	40	5	10	17.5	70	50	15

Bestell-Nr. / Order number	HSK E	D1	D2	D3	A	L	L1
HE5.S03.K01.070	50	3	10	16.5	70	44	9
HE5.S04.K01.070	50	4	10	16.5	70	44	12
HE5.S05.K01.070	50	5	10	16.5	70	44	15



Bestell-Nr. / Order number	HSK A	D1	D2	D3	A	L	L1
HA6.S03.K01.080	63	3	10	17	80	54	9
HA6.S04.K01.080	63	4	10	17	80	54	12
HA6.S05.K01.080	63	5	10	17	80	54	15
HA6.S06.K05.080	63	6	14	21	80	54	36
HA6.S08.K05.080	63	8	14	21	80	54	36
HA6.S10.K05.080	63	10	20	28	80	54	41
HA6.S12.K05.080	63	12	20	28	80	54	46

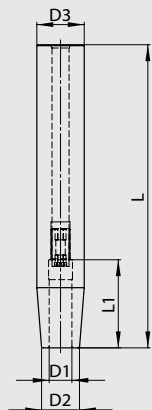


Schrumpfverlängerungen

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

Shrinking extensions

- 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



• Ersatzteile siehe Seite 6

• spare parts see page 6

Flächenspannfutter Weldon Typ L

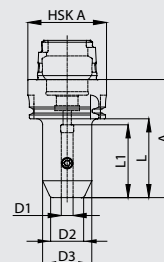
End mill adapter Weldon type L

- zur Aufnahme von Werkzeugen mit Zylinderschaft nach DIN 1835 B
- Aufnahme feingewuchtet
G 2.5/25 000 U/min

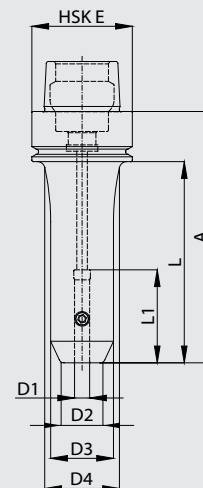
- to clamp tools with cylindrical shank according to DIN 1835 B
- fine balanced toolholders
G 2.5/25 000 r/min



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



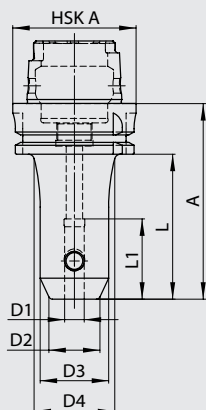
Bestell-Nr. / Order number	HSK E	D1	D2	D3	D4	A	L	L1
HE4.W06.K01.060	40	6	17	25	-	60	40	37
HE4.W06.K01.100	40	6	17	25	30	100	80	37
HE4.W08.K01.060	40	8	20	28	-	60	40	37
HE4.W08.K01.100	40	8	20	28	30	100	80	37
HE4.W10.K01.060	40	10	25	35	-	60	40	41
HE4.W10.K01.100	40	10	25	35	-	100	80	41
HE4.W12.K01.070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



Bestell-Nr. / Order number	HSK E	D1	D2	D3	D4	A	L	L1
HE5.W06.K01.065	50	6	17	25	-	65	39	37
HE5.W06.K01.100	50	6	17	25	31	100	74	37
HE5.W08.K01.065	50	8	20	28	-	65	39	37
HE5.W08.K01.100	50	8	20	28	30	100	74	37
HE5.W10.K01.065	50	10	25	35	-	65	39	41
HE5.W10.K01.100	50	10	25	35	38	100	74	41
HE5.W12.K01.080	50	12	30	42	-	80	54	46
HE5.W14.K01.080	50	14	32	45	-	80	54	46
HE5.W16.K01.080	50	16	36	48	-	80	54	49
HE5.W18.K01.080	50	18	38	48	-	80	54	49
HE5.W20.K01.080	50	20	40	52	-	80	54	51

Flächenspannfutter Weldon Typ L End mill adapter Weldon type L

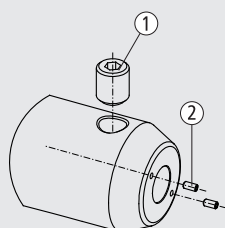
- zur Aufnahme von Werkzeugen mit Zylinderschaft nach DIN 1835 B
- Aufnahme feingewuchtet
G 2.5/25 000 U/min
- to clamp tools with cylindrical shank according to DIN 1835 B
- fine balanced toolholders
G 2.5/25 000 r/min



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

Ersatzteile / Zubehör

Spare parts / Accessories



Für Flächenspannfutter	Bestell-Nr. / Order number	Dimension	Bestell-Nr. / Order number	Dimension
For end mill adapter	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

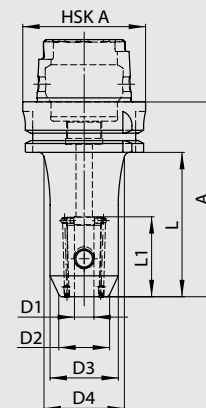
End mill adapter Weldon type S

- zur Aufnahme von Werkzeugen mit Zylinderschaft nach DIN 1835 B
- Aufnahme feingewuchtet
G 2.5/25 000 U/min
- 2 Cool-Jet Bohrungen (verschlussbar) dargestellt auf Seite 4

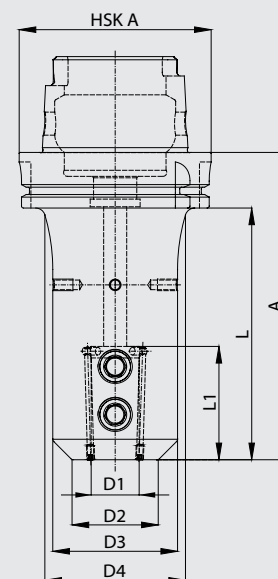
- to clamp tools with cylindrical shank according to DIN 1835 B
- fine balanced toolholders
G 2.5/25 000 r/min
- 2 Cool-Jet holes (lockable)



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



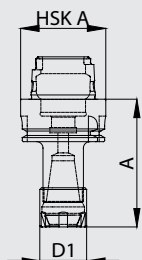
Bestell-Nr. / Order number	HSK A	D1	D2	D3	D4	A	L	L1
HA0.W06.K21.080	100	6	17	30	-	80	51	37
HA0.W06.K21.160	100	6	17	30	38	160	131	37
HA0.W08.K21.080	100	8	20	32	-	80	51	37
HA0.W08.K21.160	100	8	20	32	40	160	131	37
HA0.W10.K21.080	100	10	25	35	-	80	51	41
HA0.W10.K21.160	100	10	25	35	43	160	131	41
HA0.W12.K21.080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



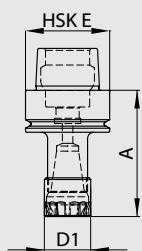
Spannzangenfutter ER Typ L

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 A	Spannzange / Collet	Spannbereich / Clamping range	D1	A
HA4.E17.K01.060*	40	ER 16	0.5–10	22	60
HA4.E17.K01.100	40	ER 16	0.5–10	22	100
HA4.E25.K01.070*	40	ER 25	0.5–16	42	70
HA4.E25.K01.100	40	ER 25	0.5–16	42	100
HA4.E32.K01.100	40	ER 32	1 –20	50	100



Bestell-Nr./ Order number	HSK E	Spannzange / Collet	Spannbereich / Clamping range	D1	A
HE4.E17.K01.060*	40	ER 16	0.5–10	22	60
HE4.E17.K01.100	40	ER 16	0.5–10	22	100
HE4.E25.K01.070*	40	ER 25	0.5–16	42	70
HE4.E25.K01.100	40	ER 25	0.5–16	42	100
HE4.E32.K01.100	40	ER 32	1 –20	50	100



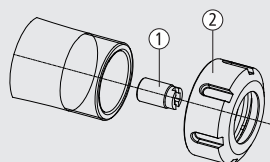
Bestell-Nr./ Order number	HSK E	Spannzange / Collet	Spannbereich / Clamping range	D1	A
HE5.E17.K01.060*	50	ER 16	0.5– 10	22	60
HE5.E17.K01.120	50	ER 16	0.5– 10	22	120
HE5.E25.K01.070*	50	ER 25	0.5– 16	42	70
HE5.E25.K01.120	50	ER 25	0.5– 16	42	120
HE5.E32.K01.100	50	ER 32	1 – 20	50	100
HE5.E40.K01.120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

* Ohne axiale Längenverstellung

* without axial adjustment

• Spannzangen und Spannschlüssel siehe
Preisliste

• collets and clamping keys see price list



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 S

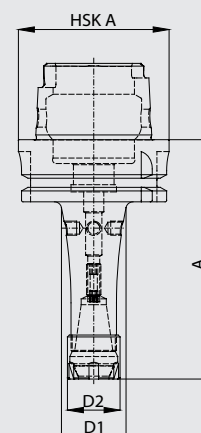
Collet chuck ER type S

- für Spannzangen nach DIN 6499
- zur Aufnahme von Werkzeugen mit Zylinderschaft
- 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 A	D1	Spannzange / Collet	Spannbereich / Clamping range	D2	A
HA6.E17.K01.100	63	27	ER 16	0.5–10	22	100
HA6.E17.K01.160	63	33	ER 16	0.5–10	22	160
HA6.E25.K01.100	63	37	ER 25	0.5–16	42	100
HA6.E25.K01.160	63	43	ER 25	0.5–16	42	160
HA6.E32.K01.100	63	45	ER 32	1 –20	50	100
HA6.E32.K01.160	63	50	ER 32	1 –20	50	160
HA6.E40.K01.100	63	52	ER 40	2 –30	63	100
HA6.E40.K01.160	63	52	ER 40	2 –30	63	160

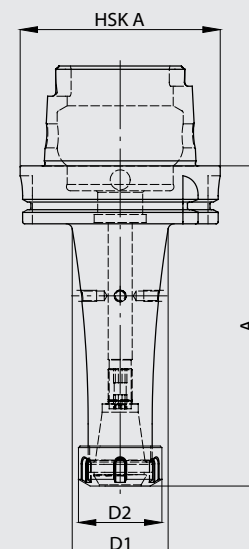


- Ersatzteile siehe Seite 13

- spare parts see page 13



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



- * Ohne axiale Längenverstellung

- * without axial adjustment

- Spannzangen und Spannschlüssel siehe Preisliste

- collets and clamping keys see price list

- Ersatzteile siehe Seite 13

- spare parts see page 13

Differentialschraube

ersetzt Fräseranzugschraube

Differential screw

substitutes clamping screw

- für extrem hohe Anzugsmomente
- Kühlmittelfluss siehe Seite 4

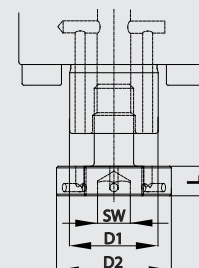
- for extremely high clamping torque
- coolant see page 4



Bestell-Nr. / Order number	M	D1	D2	SW	L	Δ P
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

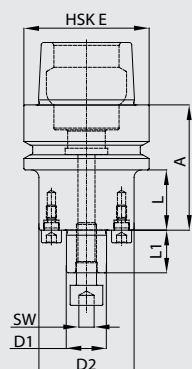


Fräsdorn Typ L

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 E	D1	D2	SW	A	L	L1
HE4.D16.001.050	40	16	38	6	50	30	17
HE4.D22.001.050	40	22	48	8	50	30	19
HE4.D27.001.065	40	27	58	10	65	45	21

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

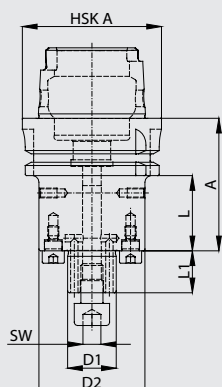


Fräsdorn Typ S

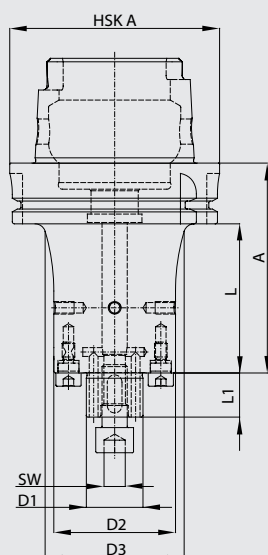
Milling arbor type S

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

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



Bestell-Nr. / Order number	HSK A	D1	D2	SW	A	L	L1
HA6.D16.K01.060	63	16	38	6	60	34	17
HA6.D16.K01.100	63	16	38	6	100	74	17
HA6.D16.K01.160	63	16	38	6	160	134	17
HA6.D22.K01.060	63	22	48	8	60	34	19
HA6.D22.K01.100	63	22	48	8	100	74	19
HA6.D22.K01.160	63	22	48	8	160	134	19
HA6.D27.K01.060	63	27	58	10	60	34	21
HA6.D27.K01.100	63	27	58	10	100	74	21
HA6.D27.K01.160	63	27	58	10	160	134	21
HA6.D32.K01.060	63	32	72	12	60	34	24
HA6.D32.K01.100	63	32	72	12	100	74	24
HA6.D32.K01.160	63	32	72	12	160	134	24
HA6.D40.K01.070	63	40	80	14	70	44	27
HA6.D40.K01.100	63	40	80	14	100	74	27
HA6.D40.K01.160	63	40	80	14	160	134	27



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



• Ersatzteile siehe Seite 16

• spare parts see page 16

Gewindeschneidfutter Typ S

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

Tapping chuck type S

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

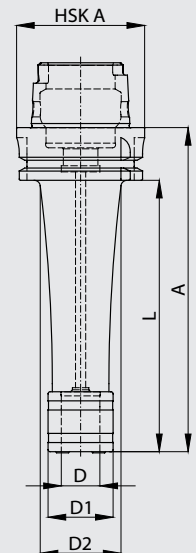
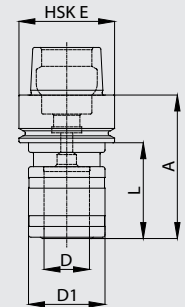
Bestell-Nr. / Order number	HSK A	M	D	D1	D2	A	L
HA4.Go1.K01.060	40	M3-M14	19	32	32	60	40
HA4.Go2.K01.100	40	M6-M24	31	50	50	100	80

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

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

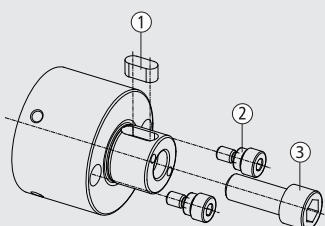
Bestell-Nr. / Order number	HSK A	M	D	D1	D2	A	L
HA6.Go1.K01.080	63	M3-M14	19	32	34	80	54
HA6.Go1.K01.160	63	M3-M14	19	32	40	160	134
HA6.Go2.K01.100	63	M6-M24	31	50	52	100	74
HA6.Go2.K01.160	63	M6-M24	31	50	52	160	134
HA6.Go3.K01.120	63	M14-M36	48	72	72	120	94

Bestell-Nr. / Order number	HSK A	M	D	D1	D2	A	L
HA0.Go1.K01.090	100	M3-M14	19	32	34	90	61
HA0.Go1.K01.160	100	M3-M14	19	32	40	160	131
HA0.Go1.K01.200	100	M3-M14	19	32	40	200	171
HA0.Go2.K01.110	100	M6-M24	31	50	52	110	81
HA0.Go2.K01.160	100	M6-M24	31	50	60	160	131
HA0.Go2.K01.200	100	M6-M24	31	50	60	200	171
HA0.Go3.K01.130	100	M14-M36	48	72	72	130	101



• Schnellwechseleinsätze siehe Seite 17

• quick-change adapters see page 17



Ersatzteile / Zubehör

Spare parts / Accessories

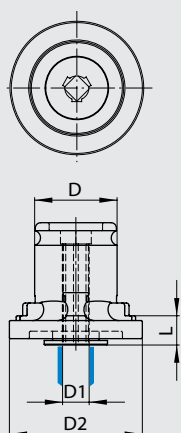
Für Fräsdorn For milling arbors	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Dimension
	Passfeder / Fitting key ①	Mitnehmerbolzen / Drive bolt ②	Fräseranzugschraube / Clamping screw ③	
xxx.D16.xxx.xxx	D16.ER3.001.014	D16.ER2.001.015	D16.ER1.002.025	M 8 x 25
xxx.D22.xxx.xxx	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

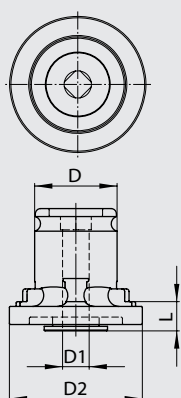
Quick-change adapters

- 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



Bestell-Nr. / Order number	D	D1 Ø / □	D2	L
Go1.U03.K01.007	19	3.5 / 2.7	32	7
Go1.U04.K01.007	19	4.0 / 3.0	32	7
Go1.U05.K01.007	19	4.5 / 3.4	32	7
Go1.U06.K01.007	19	6.0 / 4.9	32	7
Go1.U07.K01.007	19	7.0 / 5.5	32	7
Go1.U08.K01.007	19	8.0 / 6.2	32	7
Go1.U09.K01.007	19	9.0 / 7.0	32	7
Go1.U10.K01.007	19	10.0 / 8.0	32	7
Go1.U11.K01.007	19	11.0 / 9.0	32	7
Go2.U06.K01.011	31	6.0 / 4.9	50	11
Go2.U07.K01.011	31	7.0 / 5.5	50	11
Go2.U08.K01.011	31	8.0 / 6.2	50	11
Go2.U09.K01.011	31	9.0 / 7.0	50	11
Go2.U10.K01.011	31	10.0 / 8.0	50	11
Go2.U11.K01.011	31	11.0 / 9.0	50	11
Go2.U12.K01.011	31	12.0 / 9.0	50	11
Go2.U14.K01.011	31	14.0 / 11.0	50	11
Go2.U16.K01.011	31	16.0 / 12.0	50	11
Go2.U18.K01.011	31	18.0 / 14.5	50	11



- Schnellwechseleinsätze mit D 48 auf Anfrage

- Quick-change adapters with D 48 upon request

NC-Bohrfutter

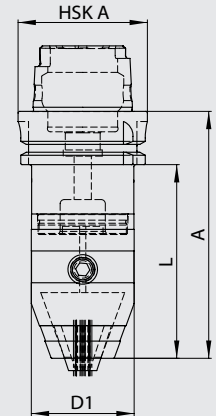
- zum Spannen von Bohrwerkzeugen mit Zylinderschaft
- für Rechts- und Linkslauf
- Spannen und lösen durch Sechskantstiftschlüssel
- mit Innenkühlung
- Aufnahmen feingewuchtet
G 2.5/18000 U/min



Bestell-Nr./ Order number	HSK A	D1	Spannbereich / Clamping range	A	L
HA6.BF1.K01.120	63	45	1 – 13	120	94
HA6.BF2.K01.125	63	49	1.5 – 16	125	99
HA0.BF1.K01.125	100	45	1 – 13	125	96
HA0.BF2.K01.130	100	49	1.5 – 16	130	101

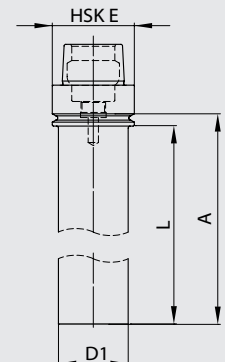
NC-drill chuck

- to clamp drilling tools with cylindrical shank
- for clockwise and anticlockwise rotation
- clamp and release with hex socket head spanner
- with inner coolant supply
- fine balanced toolholders
G 2.5/18000 r/min



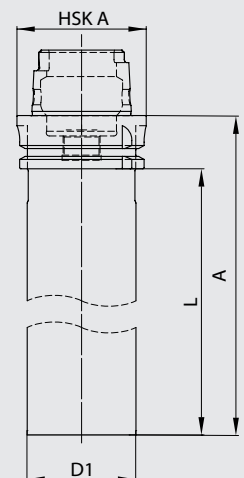
Kontrolldorn

Bestell-Nr./ Order number	HSK E	D1	A	L
HE4.KD1.034.140	40	34	140	120
HE5.KD1.042.150	50	42	150	124



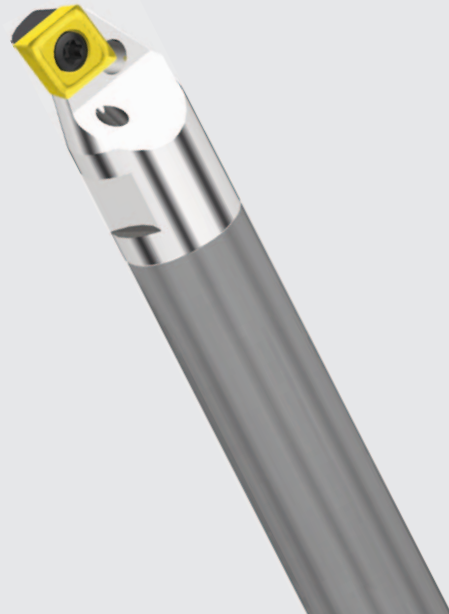
Control pin

Bestell-Nr./ Order number	HSK A	D1	A	L
HA6.KD1.053.200	63	53	200	174
HA0.KD1.087.300	100	87	300	271



Spindel-
werkzeuge

Precision
boring tools



Ausdrehkopf ø 3-88.1
Fine boring head ø 3-88.1

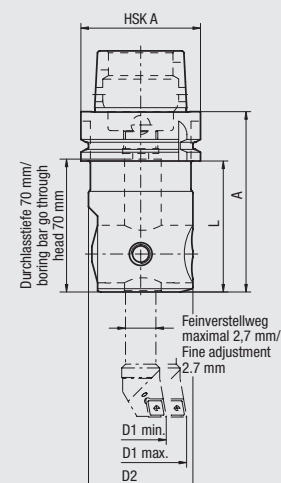
- für Ausdrehbohrstangen mit Schaftdurchmesser 16 mm
- DurchmesserEinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.01mm resp. über Nonius 0.002mm in Durchmesser
- mit Innenkühlung

- for boring bars with a shank diameter of 16 mm
- diametrical adjustment nearly without reversal backlash
- with 0.01mm diametrical adjustment nonius 0.002mm in diameter
- with inner coolant supply



Bestell-Nr. / Order number	HSK E	D1 min.	D1 max.	D2	A	L
HE4.A55.K01.085	40	3.0	88.1	55	85	65
HE5.A55.K01.090	50	3.0	88.1	55	90	64

Bestell-Nr. / Order number	HSK A	D1 min.	D1 max.	D2	A	L
HA6.A55.K01.095	63	3.0	88.1	55	95	69
HA0.A55.K01.100	100	3.0	88.1	55	100	71

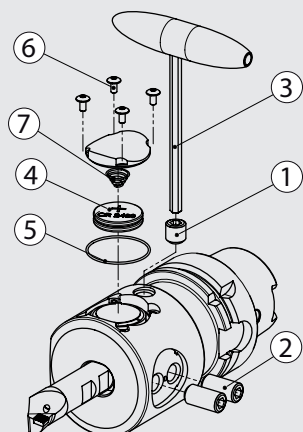
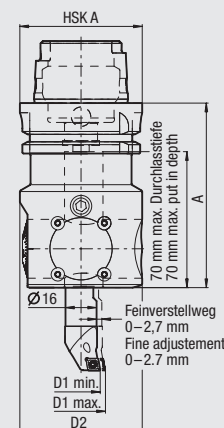

**Ausdrehkopf ø 3-88.1
mit Digitalanzeige**
**Fine boring head ø 3-88.1
with digital display**

- Auflösung Digitalanzeige 0.001mm d.h. 0.002 mm im Durchmesser
- direktes Messwegsystem - Umkehrspielfrei
- µ-genaue Masskorrekturen +/- möglich
- Einschalten über Magnetschalter (kühlmit-teldicht und verschleissfest)
- automatische Abschaltung (Batteriesparmo-dus)
- Drehzahl bis 16 000 U/min (mit Auswuch-tring)
- kompatibel mit standard Auswuchtringen
- innere Kühlmittelzuführung
- umfangreiches Standard (ø 16mm) Stahl- und Hartmetall Bohrstangen Sortiment von ø 3.0 mm bis ø 88.1 mm
- alle Bohrstangen in der Auskraglänge ein-stellbar
- Analogbetrieb durch Skalaschraube möglich

- solution of the digital display 0.001 mm 0.002 mm in diameter
- direct measuring system - without reversal backlash
- +/- adjustment on a µ-basic
- switch on with a magnetic switch (water-proof and wear resistant)
- automatic switch off (battery save mode)
- up to 16 000 revolution/min (with balan-cing ring)
- compatible with standard balancing ring
- inner coolant supply
- large range of boring bars (ø 16 mm) made of steel and solid carbide (ø 3.0 mm - ø 88.1 mm)
- all boring bars can be pushed through the fixation pilot
- analog mode is possible by using scale screw



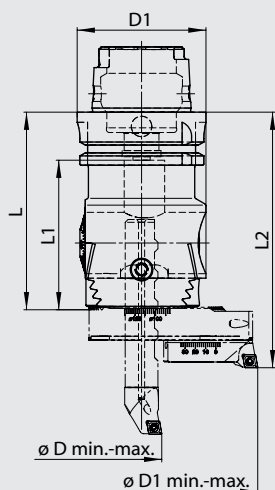
Bestell-Nr. / Order number	HSK A	D1 min.	D1 max.	D2	A
HA6.A63.K01.095	63	3.0	88.1	63	95


Ersatzteile / Zubehör
Spare parts / Accessories

Für Ausdrehkopf	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
For boring head	Klemmschraube / Clamping screw ①	Befestigungsschraube / Fitting screw ②	Einstellschlüssel / Setting key ③
HA6.A63.K01.095	A63.ER1.001.010	A63.ER1.101.020	A63.ER3.001.000
Hxx.A55.K01.xxx	A55.ER1.001.016	A55.ER1.101.008	
Für Ausdrehkopf	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
For boring head	Batteriesatz / Batterie set ④	O-Ring/ O-ring ⑤	Linsenschrauben/ Lens head screw ⑥
HA6.A63.K01.095	A63.ER2.001.000	A63.ER4.001.030	A63.ER5.001.006
			Vorspannfeder/ Coil spring ⑦
			A63.BG5.502.000

Ausdrehkopf ø3-320

Fine boring head ø3-320



- für Ausdrehstähle mit Schaftdurchmesser 16mm und Feinbohrbrücken
- DurchmesserEinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.01mm resp. über Nonius 0.002mm im Durchmesser
- mit Innenkühlung
- Ausdrehstähle durchschiebbar (L1)

- for boring bars with a shank diameter of 16mm and fine boring bridges
- diametrical adjustment nearly without reversal backlash
- 0.01mm diametrical adjustment 0.002mm by nonius
- with inner coolant supply
- boring bars go through head (L1)

Bestell-Nr. / Order number	D1	ø D min.-max.	ø D1 min.-max.	L	L1	L2
HA6.MH1.K01.095	63	3 - 88.1	86 - 320	96	72.5	125

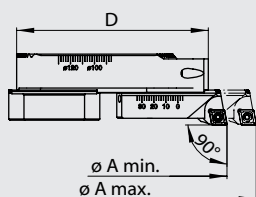
- Länge L1 bezeichnet die maximale Durchlastiefe für den Ausdrehstahl
- Ausdrehstähle, Feinbohrbrücken und Wendeplattenhalter müssen separat bestellt werden.
- die Ausdrehdurchmesser ø D min.-max. werden mit Ausdrehstäben erreicht
- die Ausdrehdurchmesser ø D1 min.-max. werden mit Feinbohrbrücken erreicht

- length L1 stands for the maximal put in depth for the boring bar
- boring bars, fine boring bridges and insert holders must be ordered separately
- boring diameters ø D min.-max. are only available with boring bars
- boring diameters ø D1 min.-max. are only available with fine boring bridges



Feinbohrbrücken ø86-320

Fine boring bridges ø86-320



Aluminium-Brücken

- mit Innenkühlung

Aluminium bridges

- with inner coolant supply

Bestell-Nr. / Order number	D	ø A min.	ø A max.
MH1.BV2.K01.015	80	86	164
MH1.BV2.K02.015	158	162	320



Wendeplattenhalter

- mit Innenkühlung

Insert holders

- with inner coolant supply

Bestell-Nr. / Order number	Wendeplatte / Insert	ø A min.	ø A max.
BV2.WCA.K11.014	CC .. 06 02 ..	86	320
BV2.WCB.K11.014	CC .. 09 T3 ..	86	320



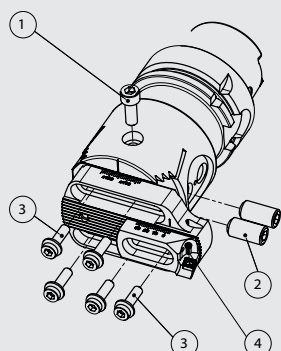
Gegengewicht

- zum Feinwuchten auf einem Wuchtgerät

Counter weight

- to balance with balancing machine

Bestell-Nr. / Order number
BV2.ER1.001.012



Ersatzteile / Zubehör

Spare parts / Accessories

Für Ausdrehkopf For boring head	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Klemmschraube / Clamping screw ①	Befestigungsschraube / Fastening screw ②	Befestigungsschraube / Fastening screw ③
HA6.MH1.K01.095	MH1.ER1.001.016	MH1.ER2.001.020	MH1.ER3.001.016
Für Wp-Halter For insert holder	Bestell-Nr. / Order number	Bestell-Nr. / Order number	
	Torx-Schraube / Torx screw ④	Torx-Schlüssel / Torx driver	
BV2.WCA.K11.014	WCA.ER2.001.006	WCA.ER1.001.000	
BV2.WCB.K11.014	WCB.ER2.001.009	WCB.ER1.001.000	

Ausdrehstahl ø 9.75-88.1

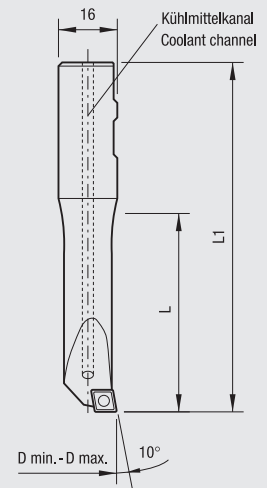
Boring bar ø 9.75-88.1

- mit Innenkühlung

- with inner coolant supply



Bestell-Nr. / Order number	D min.	D max.	L	L1	Wendeplatte / Insert
B10.WCA.K11.075	9.75	15.1	30	75	CC .. 06 02 ..
B12.WCA.K11.080	11.75	17.1	37	80	CC .. 06 02 ..
B14.WCA.K11.085	13.75	19.1	43	85	CC .. 06 02 ..
B15.WCA.K11.090	14.75	20.1	51	90	CC .. 06 02 ..
B16.WCA.K11.095	15.75	21.1	57	95	CC .. 06 02 ..
B18.WCA.K11.100	17.75	23.1	67	100	CC .. 06 02 ..
B20.WCB.K11.105	19.75	25.1	72	105	CC .. 09 T3 ..
B22.WCB.K11.110	21.75	27.1	77	110	CC .. 09 T3 ..
B25.WCB.K11.115	24.75	30.1	82	115	CC .. 09 T3 ..
B28.WCB.K11.115	27.75	33.1	82	115	CC .. 09 T3 ..
B32.WCB.K11.115	31.75	37.1	82	115	CC .. 09 T3 ..
B35.WCB.K11.115	34.75	40.1	82	115	CC .. 09 T3 ..
B39.WCB.K11.115	38.75	44.1	82	115	CC .. 09 T3 ..
B43.WCB.K11.115	42.75	48.1	82	115	CC .. 09 T3 ..
B48.WCB.K11.115	47.75	53.1	82	115	CC .. 09 T3 ..



Verstellbare Ausdrehstäbe ø29.75-88.1

Adjustable boring bars ø29.75-88.1

Schäfte

- mit Innenkühlung

Shanks

- with inner coolant supply

Bestell-Nr. / Order number	ø D min.	ø D max.	L	L1	für Wendeplattenhalter / for insert holder
U16.BV1.K01.103	29.75	48.1	85	115	BV1.WCA.K11.012
U16.BV2.K01.101	47.75	88.1	85	115	BV2.WC x.K11.014

Wendeplattenhalter

- mit Innenkühlung

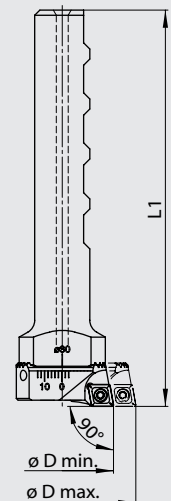
Insert holders

- with inner coolant supply

Bestell-Nr. / Order number	ø D min.	ø D max.	Wendeplatte / Insert	für Schaft / for shank
BV1.WCA.K11.012	29.75	48.1	CC .. 06 02 ..	U16.BV1.K01.103
BV2.WCA.K11.014	47.75	88.1	CC .. 06 02 ..	U16.BV2.K01.101
BV2.WCB.K11.014	47.75	88.1	CC .. 09 T3 ..	U16.BV2.K01.101

- Länge L bezeichnet die maximale Ausdrehlänge
- Schäfte und Wendeplattenhalter müssen separat bestellt werden

- length L stands for the maximal boring depth
- shanks and insert holder must be ordered separately

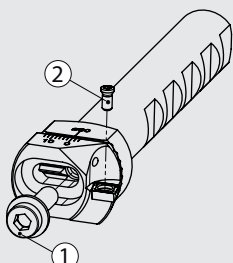
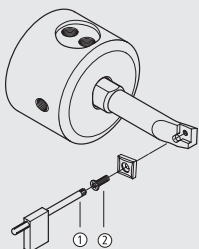


Ersatzteile / Zubehör

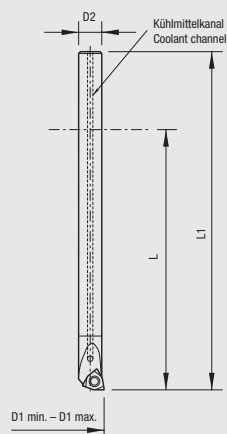
Spare parts / Accessories

Für Ausdrehstahl For boring bar	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Torx-Schlüssel / Torx driver ①	Torx-Schraube / Torx screw ②
B10...B12.WCA.xxx.xxx	WCA.ER1.001.000	WCA.ER2.001.005
B14...B18.WCA.xxx.xxx	WCA.ER1.001.000	WCA.ER2.001.006
B20...B48.WCB.xxx.xxx	WCB.ER1.001.000	WCB.ER2.001.009
B06...B08.WWA.xxx.xxx	WWA.ER1.001.000	WWA.ER2.001.004
HSx.A09...A12.xxx.xxx	WCA.ER1.001.000	WCA.ER2.001.005
HSx.A13...A35.xxx.xxx	WCA.ER1.001.000	WCA.ER2.001.006

Für Schaft For shank	Bestell-Nr. / Order number	Für Wp-Halter For insert holder	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Befestigungsschraube / Fastening screw ①		Torx-Schraube / Torx screw ②	Torx-Schlüssel / Torx driver
U16.BV1.K01.103	MH1.ER1.001.016	xxx.WCA.K11.xxx	WCA.ER2.001.006	WCA.ER1.001.000
U16.BV2.K01.101	MH1.ER1.001.016	xxx.WCB.K11.xxx	WCB.ER2.001.009	WCB.ER1.001.000



Ausdrehstahl mit Hartmetallschaft



- Länge L bezeichnet die maximale Ausdrehlänge

Bestell-Nr. / Order number	D1 min.	D1 max.	D2	L	L1	Wendeplatte / Insert
B06.WWA.K11.080	5.8	11.2	5	50	85	WC...02 01 ..
B08.WWA.K11.100	7.8	13.2	6	60	95	WC...02 01 ..

Boring bar with solid carbide shank

- length L stands for the maximal boring depth

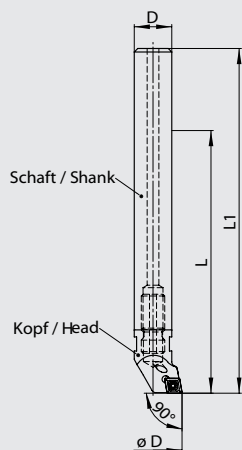


High-Speed Ausdrehstähle ø8.75-40.1 (Hartmetallschaft)

- zum Ausdrehen von langen Bohrungen
- sehr gute Dämpfungseigenschaften durch Hartmetallschaft
- mit Innenkühlung

High-Speed boring bars ø8.75-40.1 (solid carbide shank)

- to machine long holes
- high end absorability by solid carbide shank
- with inner coolant supply



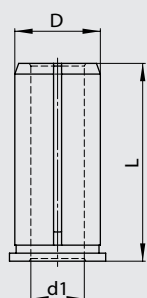
HS-Kopf / HS-head Bestell-Nr. / Order number	HS-Schaft / HS-shank Bestell-Nr. / Order number	ØD min.	ØD max.	D	L	L1	Wende- platte / Insert
HS5.A09.K11.018	U08.HS5.K01.073	8.75	14.1	8	56	91	CC...06 02 ..
HS5.A10.K11.018	U09.HS5.K01.080	9.75	15.1	9	63	98	CC...06 02 ..
HS6.A11.K11.023	U10.HS6.K01.082	10.75	16.1	10	70	105	CC...06 02 ..
HS6.A12.K11.023	U11.HS6.K01.089	11.75	17.1	11	77	112	CC...06 02 ..
HS6.A13.K11.023	U12.HS6.K01.096	12.75	18.1	12	84	119	CC...06 02 ..
HS6.A14.K11.023	U13.HS6.K01.103	13.75	19.1	13	91	126	CC...06 02 ..
HS6.A15.K11.023	U14.HS6.K01.110	14.75	20.1	14	98	133	CC...06 02 ..
HS6.A16.K11.023	U14.HS6.K01.110	15.75	21.1	14	98	133	CC...06 02 ..
HS0.A17.K11.027	U16.HS0.K01.120	16.75	22.1	16	112	147	CC...06 02 ..
HS0.A18.K11.027	U16.HS0.K01.120	17.75	23.1	16	112	147	CC...06 02 ..
HS0.A20.K11.027	U16.HS0.K01.120	19.75	25.1	16	112	147	CC...06 02 ..
HS0.A22.K11.027	U16.HS0.K01.120	21.75	27.1	16	112	147	CC...06 02 ..
HS0.A25.K11.027	U16.HS0.K01.120	24.75	30.1	16	112	147	CC...06 02 ..
HS0.A28.K11.027	U16.HS0.K01.120	27.75	33.1	16	112	147	CC...06 02 ..
HS0.A32.K11.027	U16.HS0.K01.120	31.75	37.1	16	112	147	CC...06 02 ..
HS0.A35.K11.027	U16.HS0.K01.120	34.75	40.1	16	112	147	CC...06 02 ..

- **HS-Kopf und HS-Schaft müssen separat bestellt werden**
- Die maximale Ausdrehlänge kann mit den Schaftverlängerungen der Seite 24 verlängert werden

- **HS head and HS shank must be ordered separately**
- the max. boring depth can be extended by using boring bar extensions from page 24



Reduktionshülse



Bestell-Nr. / Order number	D	d1	L
U04.U16.001.037	16	4	37
U05.U16.001.037	16	5	37
U06.U16.001.037	16	6	37
U08.U16.001.037	16	8	37
U09.U16.001.037	16	9	37
U10.U16.001.037	16	10	37
U11.U16.001.037	16	11	37
U12.U16.001.037	16	12	37
U13.U16.001.037	16	13	37
U14.U16.001.037	16	14	37

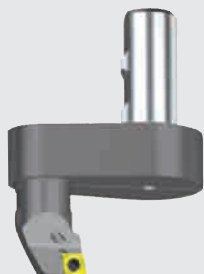


Überdrehhalter ø5.3-48.6

Pin turning adapter ø5.3-48.6

- zum Überdrehen von Aussendurchmessern
- mit Innenkühlung

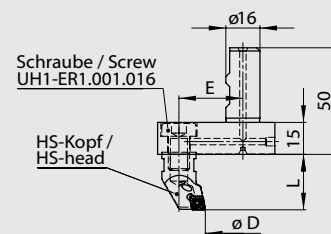
- to turn pins
- with inner coolant supply



HS-Kopf/ HS-head Bestell-Nr. / Order number	Überdrehhalter / Pin turning adapter Bestell-Nr. / Order number	ØD min.	ØD max.	E	L	Wende- platte / Insert
HS0.A35.K11.027	UH1.U20.K01.015	5.3	10.6	20	27	CC .. 06 02 ..
HS0.A32.K11.027	UH1.U20.K01.015	8.3	13.6	20	27	CC .. 06 02 ..
HS0.A28.K11.027	UH1.U20.K01.015	12.3	17.6	20	27	CC .. 06 02 ..
HS0.A25.K11.027	UH1.U20.K01.015	15.3	20.6	20	27	CC .. 06 02 ..
HS0.A22.K11.027	UH1.U20.K01.015	18.3	23.6	20	27	CC .. 06 02 ..
HS0.A20.K11.027	UH1.U20.K01.015	20.3	25.6	20	27	CC .. 06 02 ..
HS0.A18.K11.027	UH1.U20.K01.015	22.3	27.6	20	27	CC .. 06 02 ..
HS0.A17.K11.027	UH1.U20.K01.015	23.3	28.6	20	27	CC .. 06 02 ..
HS0.A35.K11.027	UH1.U30.K01.015	25.3	30.6	30	27	CC .. 06 02 ..
HS0.A32.K11.027	UH1.U30.K01.015	28.3	33.6	30	27	CC .. 06 02 ..
HS0.A28.K11.027	UH1.U30.K01.015	32.3	37.6	30	27	CC .. 06 02 ..
HS0.A25.K11.027	UH1.U30.K01.015	35.3	40.6	30	27	CC .. 06 02 ..
HS0.A22.K11.027	UH1.U30.K01.015	38.3	43.6	30	27	CC .. 06 02 ..
HS0.A20.K11.027	UH1.U30.K01.015	40.3	45.6	30	27	CC .. 06 02 ..
HS0.A18.K11.027	UH1.U30.K01.015	42.3	47.6	30	27	CC .. 06 02 ..
HS0.A17.K11.027	UH1.U30.K01.015	43.3	48.6	30	27	CC .. 06 02 ..

- HS-Kopf und HS-Schaft müssen separat bestellt werden

- HS head and HS shank must be ordered separately



Schaftverlängerungen

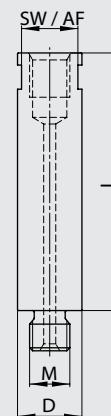
Boring bar extensions

- die Schaftverlängerung sind aus gehärtetem Stahl mit innerer Kühlmittelzuführung

- the bar extensions are manufactured from hardened steel with inner coolant supply



Bestell-Nr. / Order number	D	L	M	SW / AF
HS5.U08.K01.016	8	16	M 5	7
HS5.U08.K01.032	8	32	M 5	7
HS5.U09.K01.018	9	18	M 5	8
HS5.U09.K01.036	9	36	M 5	8
HS6.U10.K01.020	10	20	M 6	8
HS6.U10.K01.040	10	40	M 6	8
HS6.U11.K01.022	11	22	M 6	9
HS6.U11.K01.044	11	44	M 6	9
HS6.U12.K01.024	12	24	M 6	10
HS6.U12.K01.048	12	48	M 6	10
HS6.U13.K01.026	13	26	M 6	11
HS6.U13.K01.052	13	52	M 6	11
HS6.U14.K01.028	14	28	M 6	12
HS6.U14.K01.056	14	56	M 6	12
HS0.U16.K01.032	16	32	M 10	14
HS0.U16.K01.064	16	64	M 10	14



Universal - Auswuchtring

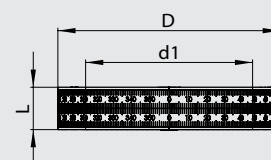
Universal balancing ring

- zum Auswuchten verstellbarer Werkzeuge, z.B. Ausdrehköpfe
- für die Ausdrehköpfe sind Einstelltabelle verfügbar, womit die Unwucht über 90% reduziert wird

- to balance adjustable tools, e.g. fine boring heads
- balancing charts for fine boring heads are available in order to reduce unbalance by 90%



Bestell-Nr. / Order number	D	d1	L
AR1.U55.001.016	75	55	16
AR1.U63.001.016	84	63	16

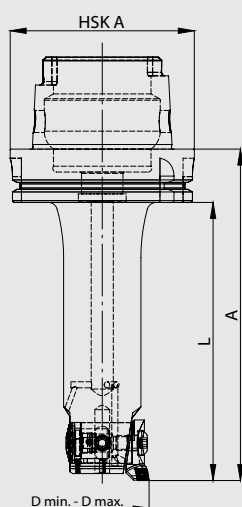


Feinbohrkopf mit Wendeplattenhalter

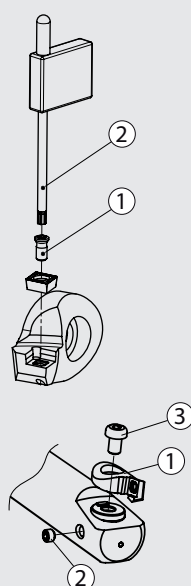
- für höchste Präzision beim Schlichten von Bohrungen
- Durchmesserereinstellungen mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.01 mm resp. über Nonius 0.002 mm im Durchmesser

Fine boring head with insert holder

- for finish boring in highest precision
- diametrical adjustemnt nearly without reversal backlash
- with 0.01mm diametrical adjustment nonius 0.002mm in diameter



Bestell-Nr. / Order number	HSK A	D1 min.	D1 max.	A	L	Wendeplatte / Insert
HA6.F20.K12.090	63	23.9	31.1	90	64	CC .. 06 02 ..
HA6.F20.K12.130	63	23.9	31.1	130	104	CC .. 06 02 ..
HA6.F20.K12.170	63	23.9	31.1	170	144	CC .. 06 02 ..
HA6.F25.K22.105	63	30.9	40.1	105	79	CC .. 06 02 ..
HA6.F25.K22.150	63	30.9	40.1	150	124	CC .. 06 02 ..
HA6.F25.K22.195	63	30.9	40.1	195	169	CC .. 06 02 ..
HA6.F32.K22.110	63	39.9	51.1	110	84	CC .. 06 02 ..
HA6.F32.K22.165	63	39.9	51.1	165	139	CC .. 06 02 ..
HA6.F32.K22.220	63	39.9	51.1	220	194	CC .. 06 02 ..
HA6.F42.K22.120	63	50.9	67.1	120	94	CC .. 06 02 ..
HA6.F42.K22.180	63	50.9	67.1	180	154	CC .. 06 02 ..
HA6.F42.K22.240	63	50.9	67.1	240	214	CC .. 06 02 ..
HA6.F55.K22.125	63	66.9	87.1	125	–	CC .. 09 T3 ..
HA6.F72.K22.145	63	86.9	116.1	145	–	CC .. 09 T3 ..
HA0.F20.K12.120	100	23.9	31.1	120	91	CC .. 06 02 ..
HA0.F20.K12.150	100	23.9	31.1	150	121	CC .. 06 02 ..
HA0.F20.K12.180	100	23.9	31.1	180	151	CC .. 06 02 ..
HA0.F25.K22.120	100	30.9	40.1	120	91	CC .. 06 02 ..
HA0.F25.K22.160	100	30.9	40.1	160	131	CC .. 06 02 ..
HA0.F25.K22.200	100	30.9	40.1	200	171	CC .. 06 02 ..
HA0.F32.K22.120	100	39.9	51.1	120	91	CC .. 06 02 ..
HA0.F32.K22.170	100	39.9	51.1	170	141	CC .. 06 02 ..
HA0.F32.K22.220	100	39.9	51.1	220	191	CC .. 06 02 ..
HA0.F42.K22.120	100	50.9	67.1	120	91	CC .. 06 02 ..
HA0.F42.K22.180	100	50.9	67.1	180	151	CC .. 06 02 ..
HA0.F42.K22.240	100	50.9	67.1	240	211	CC .. 06 02 ..
HA0.F55.K22.130	100	66.9	87.1	130	101	CC .. 09 T3 ..
HA0.F55.K22.200	100	66.9	87.1	200	171	CC .. 09 T3 ..
HA0.F55.K22.270	100	66.9	87.1	270	241	CC .. 09 T3 ..
HA0.F72.K22.140	100	86.9	116.1	140	111	CC .. 09 T3 ..
HA0.F72.K22.220	100	86.9	116.1	220	191	CC .. 09 T3 ..
HA0.F72.K22.300	100	86.9	116.1	300	271	CC .. 09 T3 ..
HA0.F94.K22.170	100	115.9	153.1	170	–	CC .. 09 T3 ..



Ersatzteile / Zubehör

Spare parts / Accessories

Für Wendeplattenhalter For insert holder	Bestell-Nr. / Order number	Dimension	Bestell-Nr. / Order number	Dimension
	Torx-Schraube / Torx screw	①	Torx-Schlüssel / Torx driver	②
xxx.WCA.xxx.xxx	WCA.ER2.001.006	M2.5 x 6	WCA.ER1.001.000	T 7
xxx.WCB.xxx.xxx	WCB.ER2.001.009	M 4 x 9	WCB.ER1.001.000	T15

Für Feinbohrkopf For fine boring head	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Dimensi- on	Bestell-Nr. / Order number	Dimensi- on
	Wendeplattenhalter / Insert holder	Feststellschraube / Tighening screw		Befestigungsschraube / Fastening screw	
	①	②		③	
xxx.F20.xxx.xxx	F20.WCA.001.005	F20.ER1.001.003	M 4 x 3	F20.ER1.101.006	M 4 x 6
xxx.F25.xxx.xxx	F25.WCA.001.006	F25.ER1.001.003	M 5 x 3	F25.ER1.101.008	M 5 x 8
xxx.F32.xxx.xxx	F32.WCA.001.007	F32.ER1.001.005	M 6 x 5	F32.ER1.101.010	M 6 x 10
xxx.F42.xxx.xxx	F42.WCA.001.009	F42.ER1.001.005	M 8 x 5	F42.ER1.101.012	M 8 x 12
xxx.F55.xxx.xxx	F55.WCB.001.013	F55.ER1.001.008	M10 x 8	F55.ER1.101.016	M10 x 16
xxx.F72.xxx.xxx	F55.WCB.001.013	F72.ER1.001.016	M10 x 16	F55.ER1.101.016	M10 x 16
xxx.F94.xxx.xxx	F55.WCB.001.013	F94.ER1.001.024	M10 x 24	F55.ER1.101.016	M10 x 16



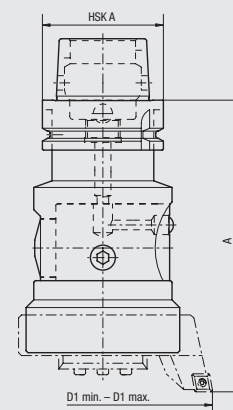
Feinbohrkopf ø 86-402

- für höchste Präzision beim Schlichten von Bohrungen
- Zustellgenauigkeit von 0.01 mm resp. über Nonius 0.002 mm im Durchmesser
- mit verstellbarer Kühlmitteldüse

Fine boring head ø 86-402

- for finish boring in highest precision
- diametrical adjustment nearly without reversal backlash
- with 0.01mm diametrical adjustment nonius 0.002mm in diameter
- with adjustment coolant nozzle

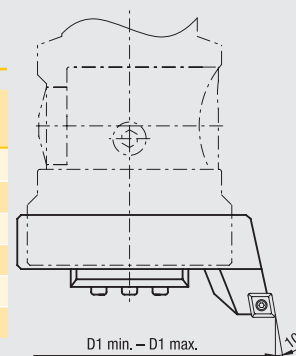
Bestell-Nr. / Order number	HSK A	D1min.	D1 max.	A
HA6.F00.K11.154	63	86.0	402.0	154
HA0.F00.K11.154	100	86.0	402.0	154



Plattenhalter inkl. Druckplatte und Abstützung

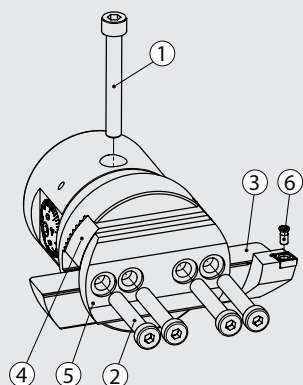
Insert holder incl. clamp plate and support block

Bestell-Nr. / Order number	D1min.	D1 max.	A
F00.WCB.086.000	86	138	CC ... 09 T3 ...
F00.WCC.086.000	86	138	CC ... 12 04 ...
F00.WCB.136.000	136	220	CC ... 09 T3 ...
F00.WCC.136.000	136	220	CC ... 12 04 ...
F00.WCB.188.000	188	302	CC ... 09 T3 ...
F00.WCB.242.000	242	402	CC ... 09 T3 ...



Ersatzteile / Zubehör

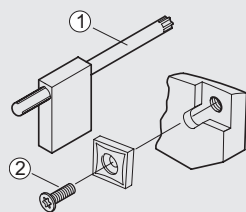
Spare parts / Accessories



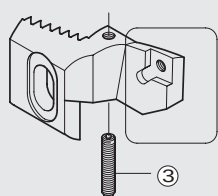
Für Feinbohrkopf/ For fine boring head	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Feststellschraube/ Tightening screw ①	Befestigungsschraube/ Fastening screw ②
HAx.F00.K11.154	F00.ER1.001.060	F00.ER1.101.045

Für Artikel-Nr./ For part number	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Plattenhalter/ Insert holder ③	Abstützung/ support block ④	Druckplatte/ Clamp plate ⑤
F00.WCB.086.000	F00.WCB.086.001	F00.WCB.086.003	F00.WCB.086.002
F00.WCC.086.000	F00.WCC.086.001	F00.WCC.086.003	F00.WCC.086.002
F00.WCB.136.000	F00.WCB.136.001	F00.WCB.136.003	F00.WCB.136.002
F00.WCC.136.000	F00.WCC.136.001	F00.WCC.136.003	F00.WCC.136.002
F00.WCB.188.000	F00.WCB.188.001	F00.WCB.136.003	F00.WCB.136.002
F00.WCB.242.000	F00.WCB.242.001	F00.WCB.136.003	F00.WCB.136.002

Für Plattenhalter/ For insert holder	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Torx-Schlüssel/ Torx driver	Torx-Schraube/ Torx screw ⑥
F00.WCB.xxx.000	WCB.ER1.001.000	WCB.ER2.001.009
F00.WCC.xxx.000	WCC.ER1.001.000	WCC.ER2.001.009



Für Wendeplattenhalter/ For insert holder	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Einstellschraube/ Adjustment screw ③	Torx-Schlüssel/ Torx driver ①	Torx-Schraube Torx screw ②
Z20.WCA...	Z20.ER3.001.007	WCA.ER1.001.000	WCA.ER2.001.006
Z25.WCA...	Z25.ER3.001.010	WCA.ER1.001.000	WCA.ER2.001.006
Z32.WCB...	Z32.ER3.001.013	WCB.ER1.001.000	WCB.ER2.001.009
Z42.WCB...	Z42.ER3.001.016	WCB.ER1.001.000	WCB.ER2.001.009
Z55.WCC...	Z55.ER3.001.020	WCC.ER1.001.000	WCC.ER2.001.010
Z72.WCC...	Z72.ER3.001.030	WCC.ER1.001.000	WCC.ER2.001.010
Z92.WCC...	Z94.ER3.001.040	WCC.ER1.001.000	WCC.ER2.001.010

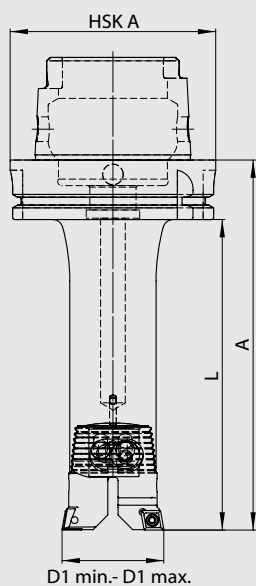


Zweischneidekopf mit Wendeplattenhalter ø 23.5 -115

- für höchste Effizienz beim Schrappen von Bohrungen
- hohe Stabilität und Dämpfung durch Plattenhalternervspannung
- innere Kühlmittelzufuhr auf zwei Düsen zur optimalen Späneabfuhr
- Wendeplattenhalter einzeln einstellbar

Twin cutter boring head with insert holder ø 23.5 -115

- to rough borings in most efficiency
- high stability and optimal absorption by insert holder pretention
- inner coolant supply with two nozzles for best chip removal
- insert holders can be adjusted separately

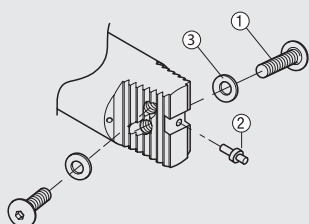


Bestell-Nr. / Order number	HSK A	øD1 min.	øD1 max.	A	L	Wendeplatte / Insert
HA6.Z20.K22.090	63	23.5	30.5	90	64	CC .. 06 02 ..
HA6.Z20.K22.130	63	23.5	30.5	130	104	CC .. 06 02 ..
HA6.Z20.K22.170	63	23.5	30.5	170	144	CC .. 06 02 ..
HA6.Z25.K22.105	63	29.5	40.1	105	79	CC .. 06 02 ..
HA6.Z25.K22.150	63	29.5	40.1	150	124	CC .. 06 02 ..
HA6.Z25.K22.195	63	29.5	40.1	195	169	CC .. 06 02 ..
HA6.Z32.K22.110	63	39.5	50.5	110	84	CC .. 09 T3 ..
HA6.Z32.K22.165	63	39.5	50.5	165	139	CC .. 09 T3 ..
HA6.Z32.K22.220	63	39.5	50.5	220	194	CC .. 09 T3 ..
HA6.Z42.K22.120	63	49.5	66.5	120	94	CC .. 09 T3 ..
HA6.Z42.K22.180	63	49.5	66.5	180	154	CC .. 09 T3 ..
HA6.Z42.K22.240	63	49.5	66.5	240	214	CC .. 09 T3 ..
HA6.Z55.K22.125	63	65.5	87.5	125	–	CC .. 12 04 ..
HA6.Z72.K22.145	63	86.5	115	145	–	CC .. 12 04 ..
HA0.Z20.K22.120	100	23.5	30.5	120	91	CC .. 06 02 ..
HA0.Z20.K22.150	100	23.5	30.5	150	121	CC .. 06 02 ..
HA0.Z20.K22.180	100	23.5	30.5	180	151	CC .. 06 02 ..
HA0.Z25.K22.120	100	29.5	40.1	120	91	CC .. 06 02 ..
HA0.Z25.K22.160	100	29.5	40.1	160	131	CC .. 06 02 ..
HA0.Z25.K22.200	100	29.5	40.1	200	171	CC .. 06 02 ..
HA0.Z32.K22.120	100	39.5	50.5	120	91	CC .. 09 T3 ..
HA0.Z32.K22.170	100	39.5	50.5	170	141	CC .. 09 T3 ..
HA0.Z32.K22.220	100	39.5	50.5	220	191	CC .. 09 T3 ..
HA0.Z42.K22.120	100	49.5	66.5	120	91	CC .. 09 T3 ..
HA0.Z42.K22.180	100	49.5	66.5	180	151	CC .. 09 T3 ..
HA0.Z42.K22.240	100	49.5	66.5	240	211	CC .. 09 T3 ..
HA0.Z55.K22.130	100	65.5	87.5	130	101	CC .. 12 04 ..
HA0.Z55.K22.200	100	65.5	87.5	200	171	CC .. 12 04 ..
HA0.Z55.K22.270	100	65.5	87.5	270	241	CC .. 12 04 ..
HA0.Z72.K22.140	100	86.5	115	140	111	CC .. 12 04 ..
HA0.Z72.K22.220	100	86.5	115	220	191	CC .. 12 04 ..
HA0.Z72.K22.300	100	86.5	115	300	271	CC .. 12 04 ..
HA0.Z94.K22.170	100	114.4	153	170	–	CC .. 12 04 ..



Ersatzteile / Zubehör

Spare parts / Accessories



Für zweischneiderkopf/ for twin cutter boring head	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Wendeplattenhalter Paar/ Pair of Insert holder	Befestigungsschraube/ Fastening screw ①	Anschlag/ Stopper ②	Federring/ Spring washer ③
xxx.Z20.xxx.xxx	Z20.WCA.001.015	Z20.ER1.002.008	Z20.ER2.001.013	Z20.ER1.003.008
xxx.Z25.xxx.xxx	Z25.WCA.001.016	Z25.ER1.002.012	Z20.ER2.001.013	Z25.ER1.003.012
xxx.Z32.xxx.xxx	Z32.WCB.001.021	Z32.ER1.002.016	Z20.ER2.001.013	Z32.ER1.003.016
xxx.Z42.xxx.xxx	Z42.WCB.001.028	Z42.ER1.002.020	Z42.ER2.001.019	Z42.ER1.003.020
xxx.Z55.xxx.xxx	Z55.WCC.001.037	Z55.ER1.002.025	Z42.ER2.001.019	Z55.ER1.003.025
xxx.Z72.xxx.xxx	Z72.WCC.001.050	Z72.ER1.002.025	Z42.ER2.001.019	Z72.ER1.003.025
xxx.Z94.xxx.xxx	Z94.WCC.001.067	Z94.ER1.002.035	Z42.ER2.001.019	Z94.ER1.003.035

Modulare Ausdrehwerkzeuge von Swisstools

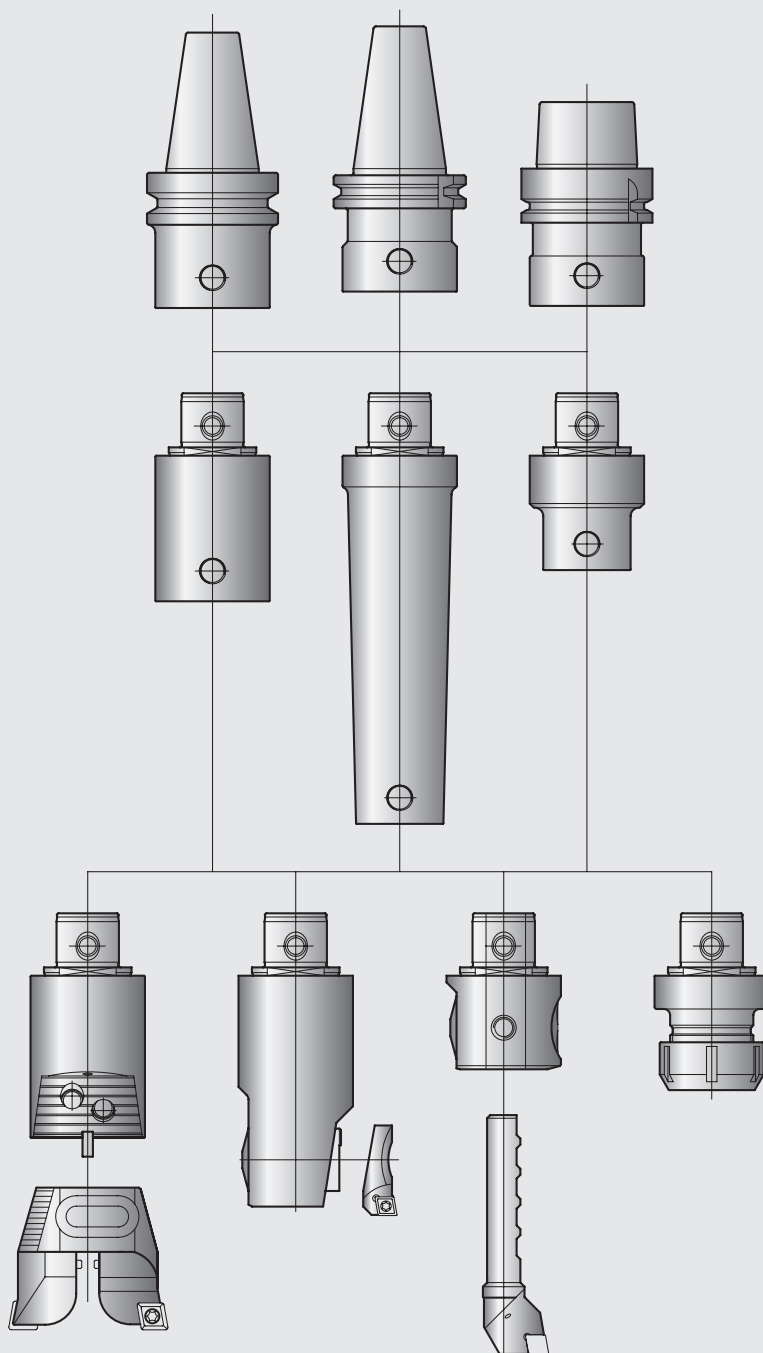
Neben den im Katalog vorgestellten Ausdrehwerkzeugen fertigt und vermarktet die Firma Swisstools verschiedene modulare Ausspindelsysteme.

Modulare Ausspindelsysteme zielen auf Fertigungskonzepte in der zerspanenden Industrie ab, die durch ein hohes Mass an Flexibilität und Variabilität gekennzeichnet sind, ohne in punkto Steifigkeit, Hochgeschwindigkeitstauglichkeit und Präzision Kompromisse eingehen zu müssen.

Modular boring tools by Swisstools

In addition to in this catalogue presented boring tools Swisstools company provides various modular boring systems manufactured in our Switzerland based premises.

Modular boring systems support strategies of companies in the metal cutting industry with a strong commitment to flexibility and variability. Companies like these do not accept any compromise in terms of high speed machining, high precision of radial run-out and accuracy.



Setzen Sie sich mit uns für ein beratendes Gespräch in Verbindung!

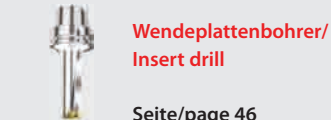
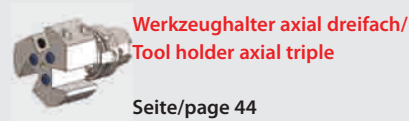
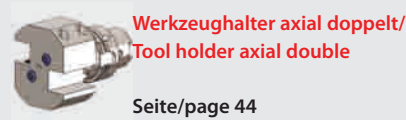
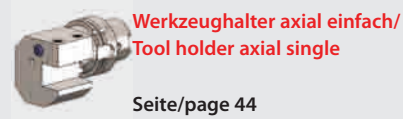
Do not hesitate to get in touch with us in case of any doubts!

Dreh - werkzeuge Turning tools

Die Dreh- Fräs- Komplettbearbeitung mit immer mehr Maschinenachsen verlangt nach optimalen Standardwerkzeugen. Um schnellstmögliche Umrüstzeit zu erreichen und eine komplette Austauschbarkeit zu gewährleisten, sollte die Trennstelle der stehenden und rotierenden Werkzeuge identisch sein.

The newest generation of mill turn machines is getting more and more sophisticated. To provide the most efficient and effective solutions on these requirements we recommend the HSK for driven and stationary tools.





Kühlung und Klemmsysteme

Cooling and clamping systems



- Spannsystem: Die Wendeplatte wird mittels Schraubenklammerung Typ S gespannt.
- Kühlsystem: Klemmhalter für positive Wendeplatten besitzen eine ausgerichtete Kühlmitteldüse.

- Clamping system: The insert is tightened via screw clamping Type S.
- Cooling system: Turning tools for positive inserts feature an adjusted coolant nozzle.



- Spannsystem: Die Wendeplatte wird mittels Doppelklammerung Typ D gespannt.
- Kühlsystem: Klemmhalter mit Doppelklammerung verfügen über eine ausrichtbare Hochdruckkühldüse.

- Clamping system: The insert is tightened via double-clamping Type D.
- Cooling system: Turning tools with double-clamping feature an adjustable high-pressure coolant nozzle.



- Spannsystem: Die Wendeplatte wird mittels Kniehebelspannung Typ P gespannt.
- Kühlsystem: Klemmhalter mit Kniehebelspannung besitzen eine ausgerichtete Kühlmitteldüse.

- Clamping system: The insert is tightened via knuckle joint Type P.
- Cooling system: Turning tools with knuckle joint-clamping feature an adjusted coolant nozzle.

HSK T = HSK A + ICTM

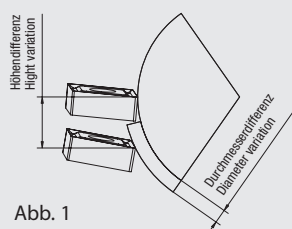


Abb. 1
pic. 1

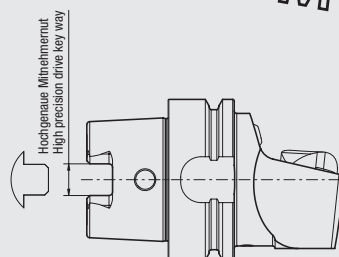


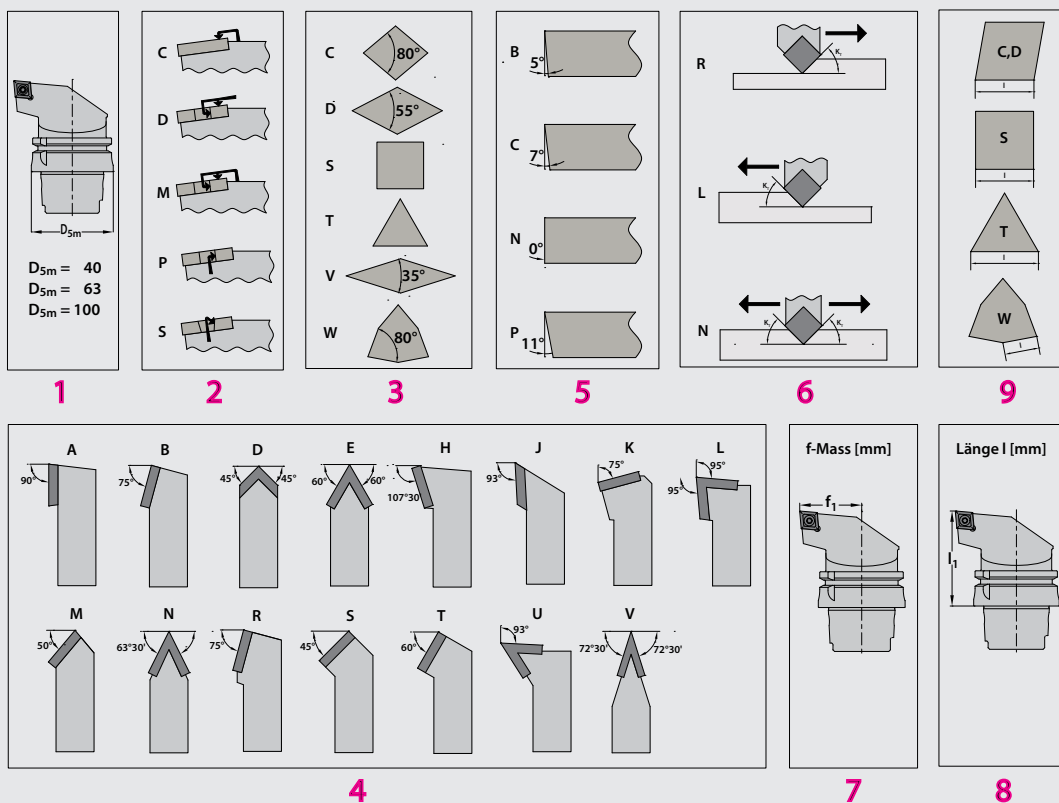
Abb. 2
pic. 2

Aufgrund des notwendigen Passungsspiels an der Mitnehmnut des HSK kann die Spitzenhöhe des Werkzeugs variieren. Eine Höhendifferenz in der Spitzenhöhe bewirkt aber auch eine Durchmesserdifferenz (Abbildung 1). Um diese Differenz zu eliminieren, besitzen alle mit HSK T bezeichneten Werkzeuge eine hochgenaue Mitnehmnut (Abbildung 2). Diese Werkzeuge können in gewöhnliche HSK A Spindeln eingesetzt werden.

Because of the necessary clearance in drive key way of HSK the tip height vary. A height variation in tip height result in diameter variation (picture 1). To eliminate these variations, all tools marked with HSK T have got a high precision drive key way (picture 2). These tools can be used in normally HSK A spindles.

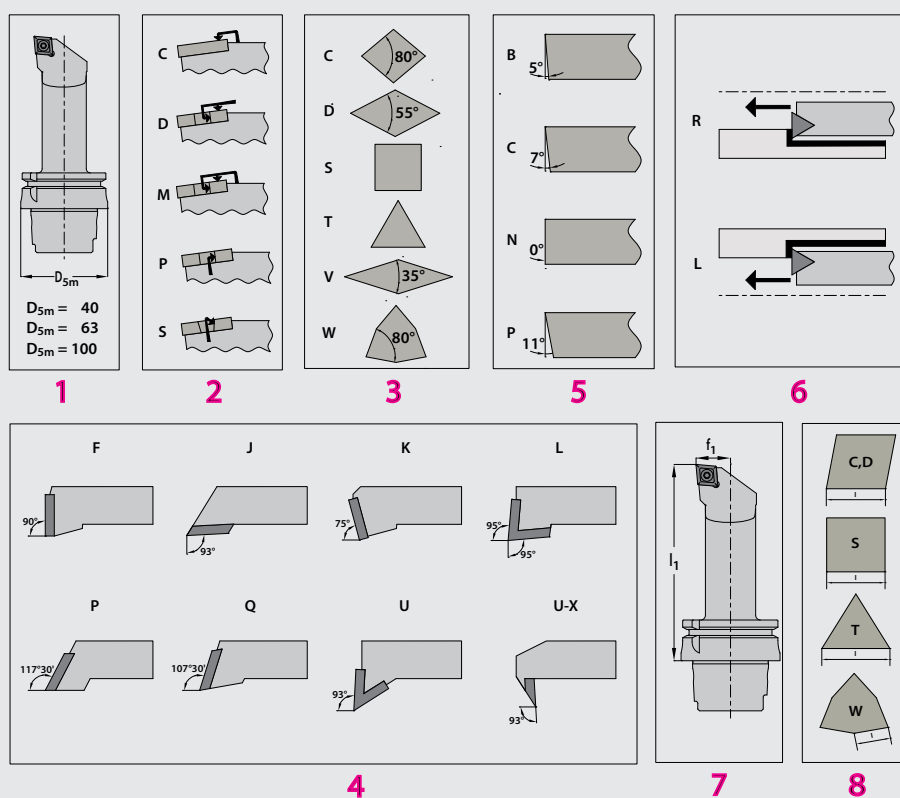
Bezeichnung von HSK Klemmhalter für Aussenbearbeitung Identification of external HSK turning tool holder

HSK-T63 D C L N R 45 070 12
1 2 3 4 5 6 7 8 9



Bezeichnung von HSK Klemmhalter für Innenbearbeitung Identification of external HSK turning tool holder

HSK-T63 S C L C R - 27180 - 09
1 2 3 4 5 6 7 8

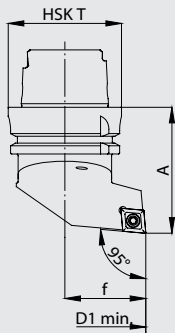


Klemmhalter

- für effiziente Drehbearbeitung
- optimale Kühlung durch ausgerichtete Kühldüse und Hochdruckkühldüse
- Mitnehmernuten am HSK nach ICTM-Standard
- Klemmhalter für Aussenbearbeitung können auch für die Innenbearbeitung verwendet werden unter Berücksichtigung des D1 min.

Turning tool

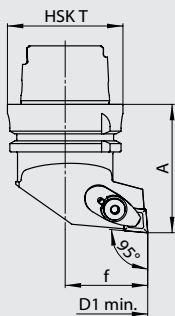
- to turn efficiently
- optimal cooling by adjusted cooling nozzle and high pressure cooling nozzle
- drive key way of HSK shank according to ICTM standard
- Turning tools for exterior machining may also be used for interior machining, in consideration of D1 min.



SCLC R/L 95°/80°



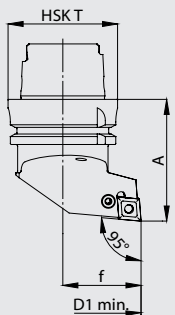
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KCC.RLA.055	40	27	50	55	R	CC .. 12 04 ..	S01
HA4.KCC.LLA.055	40	27	50	55	L	CC .. 12 04 ..	S01
HA6.KCC.RLA.070	63	45	80	70	R	CC .. 12 04 ..	S01
HA6.KCC.LLA.070	63	45	80	70	L	CC .. 12 04 ..	S01
HA0.KCC.RLA.100	100	63	120	100	R	CC .. 12 04 ..	S01
HA0.KCC.LLA.100	100	63	120	100	L	CC .. 12 04 ..	S01



DCLN R/L 95°/80°



Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KCD.RLA.055	40	27	50	55	R	CN .. 12 04 ..	D01
HA4.KCD.LLA.055	40	27	50	55	L	CN .. 12 04 ..	D01
HA6.KCD.RLA.070	63	45	80	70	R	CN .. 12 04 ..	D01
HA6.KCD.LLA.070	63	45	80	70	L	CN .. 12 04 ..	D01
HA6.KCE.RLA.070	63	45	80	70	R	CN .. 16 06 ..	D02
HA6.KCE.LLA.070	63	45	80	70	L	CN .. 16 06 ..	D02
HA0.KCD.RLA.100	100	63	120	100	R	CN .. 12 04 ..	D01
HA0.KCD.LLA.100	100	63	120	100	L	CN .. 12 04 ..	D01
HA0.KCE.RLA.100	100	63	120	100	R	CN .. 16 06 ..	D02
HA0.KCE.LLA.100	100	63	120	100	L	CN .. 16 06 ..	D02



PCLN R/L 95°/80°

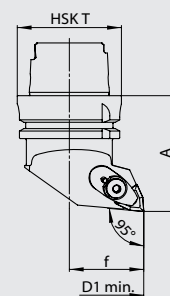


Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PCD.RLA.055	40	27	50	55	R	CN .. 12 04 ..	P01
HA4.PCD.LLA.055	40	27	50	55	L	CN .. 12 04 ..	P01
HA6.PCD.RLA.070	63	45	80	70	R	CN .. 12 04 ..	P01
HA6.PCD.LLA.070	63	45	80	70	L	CN .. 12 04 ..	P01
HA6.PCE.RLA.070	63	45	80	70	R	CN .. 16 06 ..	P02
HA6.PCE.LLA.070	63	45	80	70	L	CN .. 16 06 ..	P02
HA0.PCD.RLA.100	100	63	120	100	R	CN .. 12 04 ..	P01
HA0.PCD.LLA.100	100	63	120	100	L	CN .. 12 04 ..	P01
HA0.PCE.RLA.100	100	63	120	100	R	CN .. 16 06 ..	P02
HA0.PCE.LLA.100	100	63	120	100	L	CN .. 16 06 ..	P02

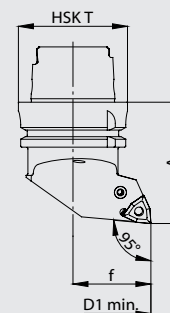



DWLN R/L 95°/80°

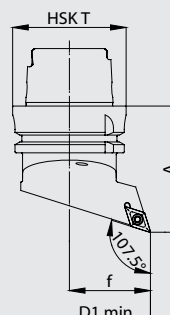

Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KWE.RLA.055	40	27	50	55	R	WN .. 08 04 ..	D04
HA4.KWE.LLA.055	40	27	50	55	L	WN .. 08 04 ..	D04
HA6.KWE.RLA.070	63	45	80	70	R	WN .. 08 04 ..	D04
HA6.KWE.LLA.070	63	45	80	70	L	WN .. 08 04 ..	D04
HA0.KWE.RLA.100	100	63	120	100	R	WN .. 08 04 ..	D04
HA0.KWE.LLA.100	100	63	120	100	L	WN .. 08 04 ..	D04


PWLN R/L 95°/80°

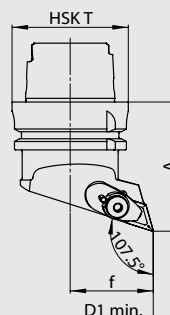

Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PWE.RLA.055	40	27	50	55	R	WN .. 08 04 ..	P04
HA4.PWE.LLA.055	40	27	50	55	L	WN .. 08 04 ..	P04
HA6.PWE.RLA.070	63	45	80	70	R	WN .. 08 04 ..	P04
HA6.PWE.LLA.070	63	45	80	70	L	WN .. 08 04 ..	P04
HA0.PWE.RLA.100	100	63	120	100	R	WN .. 08 04 ..	P04
HA0.PWE.LLA.100	100	63	120	100	L	WN .. 08 04 ..	P04


SDHC R/L 107.5°/55°

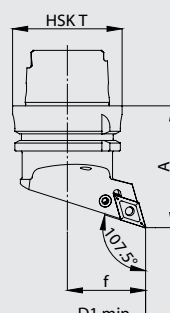

Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDB.RHA.055	40	27	50	55	R	DC .. 11 T3 ..	S05
HA4.KDB.LHA.055	40	27	50	55	L	DC .. 11 T3 ..	S05
HA6.KDB.RHA.070	63	45	80	70	R	DC .. 11 T3 ..	S05
HA6.KDB.LHA.070	63	45	80	70	L	DC .. 11 T3 ..	S05
HA0.KDB.RHA.100	100	63	120	100	R	DC .. 11 T3 ..	S05
HA0.KDB.LHA.100	100	63	120	100	L	DC .. 11 T3 ..	S05


DDHN R/L 107.5°/55°


Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDF.RHA.055	40	27	50	55	R	DN .. 15 06 .. *	D05
HA4.KDF.LHA.055	40	27	50	55	L	DN .. 15 06 .. *	D05
HA6.KDF.RHA.070	63	45	80	70	R	DN .. 15 06 .. *	D05
HA6.KDF.LHA.070	63	45	80	70	L	DN .. 15 06 .. *	D05
HA0.KDF.RHA.100	100	63	120	100	R	DN .. 15 06 .. *	D05
HA0.KDF.LHA.100	100	63	120	100	L	DN .. 15 06 .. *	D05

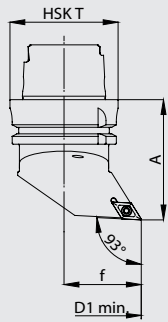

PDHN R/L 107.5°/55°


Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PDF.RHA.055	40	27	50	55	R	DN .. 15 06 .. *	P05
HA4.PDF.LHA.055	40	27	50	55	L	DN .. 15 06 .. *	P05
HA6.PDF.RHA.070	63	45	80	70	R	DN .. 15 06 .. *	P05
HA6.PDF.LHA.070	63	45	80	70	L	DN .. 15 06 .. *	P05
HA0.PDF.RHA.100	100	63	120	100	R	DN .. 15 06 .. *	P05
HA0.PDF.LHA.100	100	63	120	100	L	DN .. 15 06 .. *	P05



* DN .. 15 04 .. möglich mit
Unterlegplatte WDF.ER2.101.004

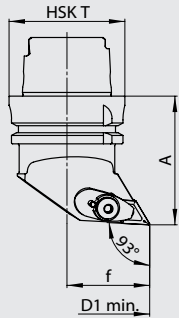
* DN .. 15 04 .. possible with tip pad
WDF.ER2.101.004



SDUC R/L 93°/55°



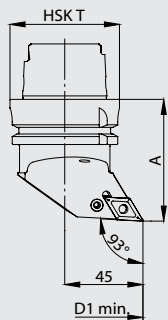
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDB.RUA.055	40	27	50	55	R	DC .. 11 T3 ..	S05
HA4.KDB.LUA.055	40	27	50	55	L	DC .. 11 T3 ..	S05
HA6.KDB.RUA.070	63	45	80	70	R	DC .. 11 T3 ..	S05
HA6.KDB.LUA.070	63	45	80	70	L	DC .. 11 T3 ..	S05
HA0.KDB.RUA.100	100	63	120	100	R	DC .. 11 T3 ..	S05
HA0.KDB.LUA.100	100	63	120	100	L	DC .. 11 T3 ..	S05



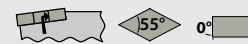
DDUN R/L 93°/55°



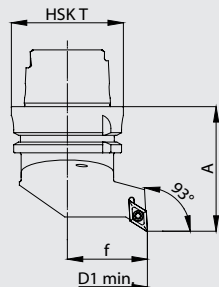
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDF.RUA.055	40	27	50	55	R	DN .. 15 06 .. *	D05
HA4.KDF.LUA.055	40	27	50	55	L	DN .. 15 06 .. *	D05
HA6.KDF.RUA.070	63	45	80	70	R	DN .. 15 06 .. *	D05
HA6.KDF.LUA.070	63	45	80	70	L	DN .. 15 06 .. *	D05
HA0.KDF.RUA.100	100	63	120	100	R	DN .. 15 06 .. *	D05
HA0.KDF.LUA.100	100	63	120	100	L	DN .. 15 06 .. *	D05



PDUN R/L 93°/55°



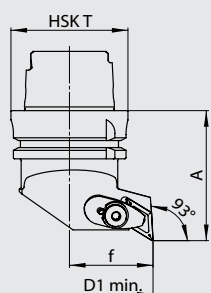
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PDF.RUA.055	40	27	50	55	R	DN .. 15 06 .. *	P05
HA4.PDF.LUA.055	40	27	50	55	L	DN .. 15 06 .. *	P05
HA6.PDF.RUA.070	63	45	80	70	R	DN .. 15 06 .. *	P05
HA6.PDF.LUA.070	63	45	80	70	L	DN .. 15 06 .. *	P05
HA0.PDF.RUA.100	100	63	120	100	R	DN .. 15 06 .. *	P05
HA0.PDF.LUA.100	100	63	120	100	L	DN .. 15 06 .. *	P05



SDJC R/L 55°/93°



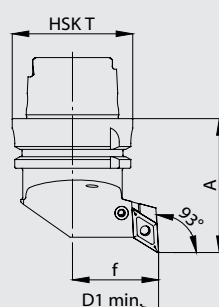
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDB.RJA.055	40	27	50	55	R	DC .. 11 T3 ..	S05
HA4.KDB.LJA.055	40	27	50	55	L	DC .. 11 T3 ..	S05
HA6.KDB.RJA.070	63	45	80	70	R	DC .. 11 T3 ..	S05
HA6.KDB.LJA.070	63	45	80	70	L	DC .. 11 T3 ..	S05
HA0.KDB.RJA.100	100	63	120	100	R	DC .. 11 T3 ..	S05
HA0.KDB.LJA.100	100	63	120	100	L	DC .. 11 T3 ..	S05



DDJN R/L 55°/93°



Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDF.RJA.055	40	27	-	55	R	DN .. 15 06 .. *	D05
HA4.KDF.LJA.055	40	27	-	55	L	DN .. 15 06 .. *	D05
HA6.KDF.RJA.070	63	45	-	70	R	DN .. 15 06 .. *	D05
HA6.KDF.LJA.070	63	45	-	70	L	DN .. 15 06 .. *	D05
HA0.KDF.RJA.100	100	63	-	100	R	DN .. 15 06 .. *	D05
HA0.KDF.LJA.100	100	63	-	100	L	DN .. 15 06 .. *	D05



PDJN R/L 55°/93°



Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PDF.RJA.055	40	27	-	55	R	DN .. 15 06 .. *	P05
HA4.PDF.LJA.055	40	27	-	55	L	DN .. 15 06 .. *	P05
HA6.PDF.RJA.070	63	45	-	70	R	DN .. 15 06 .. *	P05
HA6.PDF.LJA.070	63	45	-	70	L	DN .. 15 06 .. *	P05
HA0.PDF.RJA.100	100	63	-	100	R	DN .. 15 06 .. *	P05
HA0.PDF.LJA.100	100	63	-	100	L	DN .. 15 06 .. *	P05

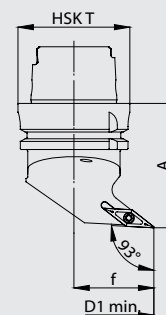


* DN .. 15 04 .. möglich mit
Unterlegplatte WDF.ER2.101.004

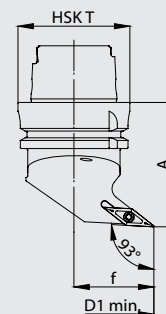
* DN .. 15 04 .. possible with tip pad
WDF.ER2.101.004


SVUB R/L 93°/35°

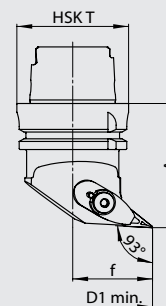
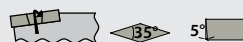

Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVF.RUA.055	40	27	50	55	R	VB .. 16 04 ..	S07
HA4.KVF.LUA.055	40	27	50	55	L	VB .. 16 04 ..	S07
HA6.KVF.RUA.070	63	45	80	70	R	VB .. 16 04 ..	S07
HA6.KVF.LUA.070	63	45	80	70	L	VB .. 16 04 ..	S07
HA0.KVF.RUA.100	100	63	120	100	R	VB .. 16 04 ..	S07
HA0.KVF.LUA.100	100	63	120	100	L	VB .. 16 04 ..	S07


SVUC R/L 93°/35°

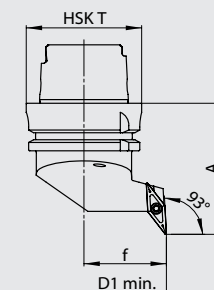
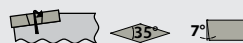

Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVB.RUA.055	40	27	50	55	R	VC .. 16 04 ..	S07
HA4.KVB.LUA.055	40	27	50	55	L	VC .. 16 04 ..	S07
HA6.KVB.RUA.070	63	45	80	70	R	VC .. 16 04 ..	S07
HA6.KVB.LUA.070	63	45	80	70	L	VC .. 16 04 ..	S07
HA0.KVB.RUA.100	100	63	120	100	R	VC .. 16 04 ..	S07
HA0.KVB.LUA.100	100	63	120	100	L	VC .. 16 04 ..	S07


DVUN R/L 93°/35°

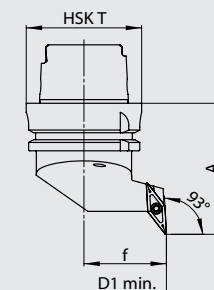
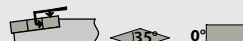

Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVD.RUA.055	40	27	-	55	R	VN .. 16 04 ..	D07
HA4.KVD.LUA.055	40	27	-	55	L	VN .. 16 04 ..	D07
HA6.KVD.RUA.070	63	45	80	70	R	VN .. 16 04 ..	D07
HA6.KVD.LUA.070	63	45	80	70	L	VN .. 16 04 ..	D07
HA0.KVD.RUA.100	100	63	120	100	R	VN .. 16 04 ..	D07
HA0.KVD.LUA.100	100	63	120	100	L	VN .. 16 04 ..	D07


SVJB R/L 35°/93°


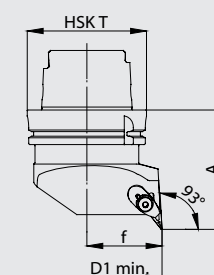
Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA6.KVF.RJA.070	63	45	80	71.5	R	VB .. 16 04 ..	S07
HA6.KVF.LJA.070	63	45	80	71.5	L	VB .. 16 04 ..	S07
HA0.KVF.RJA.100	100	63	120	100	R	VB .. 16 04 ..	S07
HA0.KVF.LJA.100	100	63	120	100	L	VB .. 16 04 ..	S07

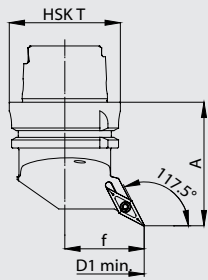

SVJC R/L 35°/93°


Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA6.KVB.RJA.070	63	45	80	71.5	R	VC .. 16 04 ..	S07
HA6.KVB.LJA.070	63	45	80	71.5	L	VC .. 16 04 ..	S07
HA0.KVB.RJA.100	100	63	120	100	R	VC .. 16 04 ..	S07
HA0.KVB.LJA.100	100	63	120	100	L	VC .. 16 04 ..	S07


DVJN R/L 93°/35°


Bestell-Nr. / Order number	HSKT	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA0.KVD.RJA.100	100	63	-	100	R	VN .. 16 04 ..	D07
HA0.KVD.LJA.100	100	63	-	100	L	VN .. 16 04 ..	D07

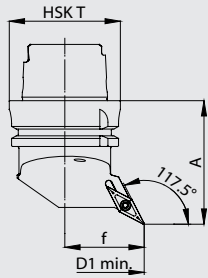




SVPB R/L 117.5°/35°



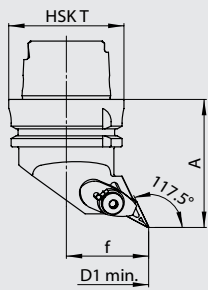
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVF.RPA.055	40	27	50	55	R	VB .. 16 04 ..	S07
HA4.KVF.LPA.055	40	27	50	55	L	VB .. 16 04 ..	S07
HA6.KVF.RPA.070	63	45	80	70	R	VB .. 16 04 ..	S07
HA6.KVF.LPA.070	63	45	80	70	L	VB .. 16 04 ..	S07
HA0.KVF.RPA.100	100	63	120	100	R	VB .. 16 04 ..	S07
HA0.KVF.LPA.100	100	63	120	100	L	VB .. 16 04 ..	S07



SVPC R/L 117.5°/35°



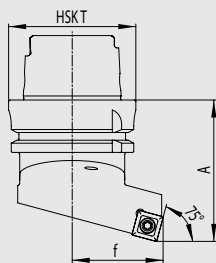
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVB.RPA.055	40	27	50	55	R	VC .. 16 04 ..	S07
HA4.KVB.LPA.055	40	27	50	55	L	VC .. 16 04 ..	S07
HA6.KVB.RPA.070	63	45	80	70	R	VC .. 16 04 ..	S07
HA6.KVB.LPA.070	63	45	80	70	L	VC .. 16 04 ..	S07
HA0.KVB.RPA.100	100	63	120	100	R	VC .. 16 04 ..	S07
HA0.KVB.LPA.100	100	63	120	100	L	VC .. 16 04 ..	S07



DVPN R/L 117.5°/35°



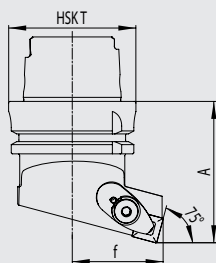
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVD.RPA.055	40	27	-	55	R	VN .. 16 04 ..	D07
HA4.KVD.LPA.055	40	27	-	55	L	VN .. 16 04 ..	D07
HA6.KVD.RPA.070	63	45	80	70	R	VN .. 16 04 ..	D07
HA6.KVD.LPA.070	63	45	80	70	L	VN .. 16 04 ..	D07
HA0.KVD.RPA.100	100	63	120	100	R	VN .. 16 04 ..	D07
HA0.KVD.LPA.100	100	63	120	100	L	VN .. 16 04 ..	D07



SSBC R/L 90°/75°



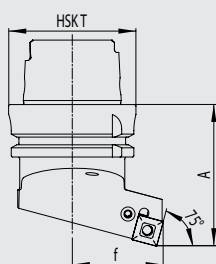
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KSB.RBA.055	40	27	-	55	R	SC .. 12 04 ..	S09
HA4.KSB.LBA.055	40	27	-	55	L	SC .. 12 04 ..	S09
HA6.KSB.RBA.070	63	45	-	70	R	SC .. 12 04 ..	S09
HA6.KSB.LBA.070	63	45	-	70	L	SC .. 12 04 ..	S09
HA0.KSB.RBA.100	100	63	-	100	R	SC .. 12 04 ..	S09
HA0.KSB.LBA.100	100	63	-	100	L	SC .. 12 04 ..	S09



DSBN R/L 90°/75°



Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KSD.RBA.055	40	27	-	55	R	SN .. 12 04 ..	D09
HA4.KSD.LBA.055	40	27	-	55	L	SN .. 12 04 ..	D09
HA6.KSD.RBA.070	63	45	-	70	R	SN .. 12 04 ..	D09
HA6.KSD.LBA.070	63	45	-	70	L	SN .. 12 04 ..	D09
HA0.KSD.RBA.100	100	63	-	100	R	SN .. 12 04 ..	D09
HA0.KSD.LBA.100	100	63	-	100	L	SN .. 12 04 ..	D09



PSBN R/L 90°/75°

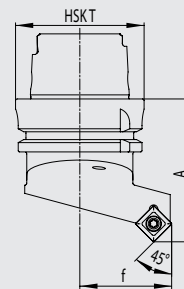
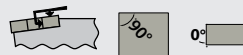


Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PSD.RBA.055	40	27	-	55	R	SN .. 12 04 ..	P07
HA4.PSD.LBA.055	40	27	-	55	L	SN .. 12 04 ..	P07
HA6.PSD.RBA.070	63	45	-	70	R	SN .. 12 04 ..	P07
HA6.PSD.LBA.070	63	45	-	70	L	SN .. 12 04 ..	P07
HA0.PSD.RBA.100	100	63	-	100	R	SN .. 12 04 ..	P07
HA0.PSD.LBA.100	100	63	-	100	L	SN .. 12 04 ..	P07

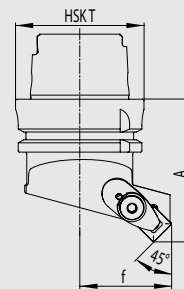



SSSC R/L 90°/45°

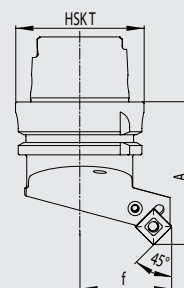

Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KSB.RSA.055	40	27	-	55	R	SC .. 12 04 ..	S09
HA4.KSB.LSA.055	40	27	-	55	L	SC .. 12 04 ..	S09
HA6.KSB.RSA.070	63	45	-	70	R	SC .. 12 04 ..	S09
HA6.KSB.LSA.070	63	45	-	70	L	SC .. 12 04 ..	S09
HA0.KSB.RSA.100	100	63	-	100	R	SC .. 12 04 ..	S09
HA0.KSB.LSA.100	100	63	-	100	L	SC .. 12 04 ..	S09


DSSN R/L 90°/45°


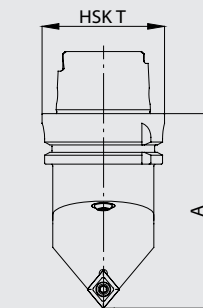
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KSD.RSA.055	40	27	-	55	R	SN .. 12 04 ..	D09
HA4.KSD.LSA.055	40	27	-	55	L	SN .. 12 04 ..	D09
HA6.KSD.RSA.070	63	45	-	70	R	SN .. 12 04 ..	D09
HA6.KSD.LSA.070	63	45	-	70	L	SN .. 12 04 ..	D09
HA0.KSD.RSA.100	100	63	-	100	R	SN .. 12 04 ..	D09
HA0.KSD.LSA.100	100	63	-	100	L	SN .. 12 04 ..	D09


PSSN R/L 90°/45°

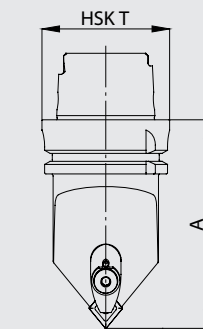

Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PSD.RSA.055	40	27	-	55	R	SN .. 12 04 ..	P07
HA4.PSD.LSA.055	40	27	-	55	L	SN .. 12 04 ..	P07
HA6.PSD.RSA.070	63	45	-	70	R	SN .. 12 04 ..	P07
HA6.PSD.LSA.070	63	45	-	70	L	SN .. 12 04 ..	P07
HA0.PSD.RSA.100	100	63	-	100	R	SN .. 12 04 ..	P07
HA0.PSD.LSA.100	100	63	-	100	L	SN .. 12 04 ..	P07


SCMC N 50°/80°/50°

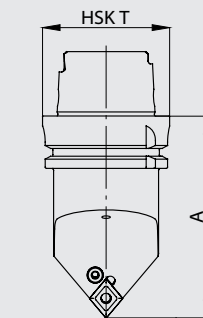

Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KCC.NMA.080	40	80	CC .. 12 04 ..	S01
HA6.KCC.NMA.100	63	100	CC .. 12 04 ..	S01
HA6.KCC.NMA.130	63	130	CC .. 12 04 ..	S01
HA0.KCC.NMA.125	100	125	CC .. 12 04 ..	S01

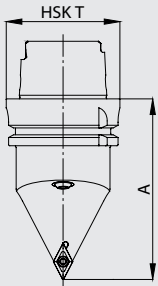
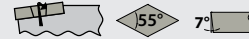

DCMN N 50°/80°/50°


Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KCD.NMA.080	40	80	CN .. 12 04 ..	D01
HA6.KCD.NMA.100	63	100	CN .. 12 04 ..	D01
HA6.KCD.NMA.130	63	130	CN .. 12 04 ..	D01
HA6.KCE.NMA.100	63	100	CN .. 16 06 ..	D03
HA6.KCE.NMA.130	63	130	CN .. 16 06 ..	D03
HA0.KCD.NMA.125	100	125	CN .. 12 04 ..	D01
HA0.KCE.NMA.125	100	125	CN .. 16 06 ..	D03

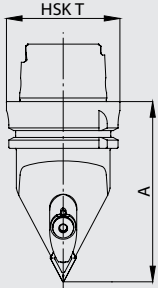
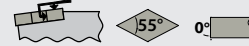

PCMN N 50°/80°/50°


Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PCD.NMA.080	40	80	CN .. 12 04 ..	P01
HA6.PCD.NMA.100	63	100	CN .. 12 04 ..	P01
HA6.PCD.NMA.130	63	130	CN .. 12 04 ..	P01
HA6.PCE.NMA.100	63	100	CN .. 16 06 ..	P02
HA6.PCE.NMA.130	63	130	CN .. 16 06 ..	P02
HA0.PCD.NMA.125	100	125	CN .. 12 04 ..	P01
HA0.PCE.NMA.125	100	125	CN .. 16 06 ..	P02

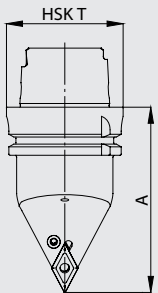



SDNC N 62.5°/55°/62.5°


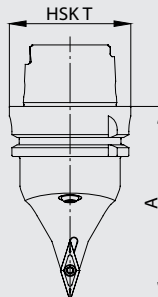
Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDB.NNA.080	40	80	DC .. 11 T3 ..	S05
HA6.KDB.NNA.100	63	100	DC .. 11 T3 ..	S05
HA6.KDB.NNA.130	63	130	DC .. 11 T3 ..	S05
HA0.KDB.NNA.125	100	125	DC .. 11 T3 ..	S05


DDNN N 62.5°/55°/62.5°


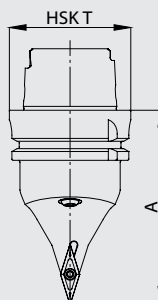
Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KDF.NNA.080	40	80	DN .. 15 06 .. *	D06
HA6.KDF.NNA.100	63	100	DN .. 15 06 .. *	D06
HA6.KDF.NNA.130	63	130	DN .. 15 06 .. *	D06
HA0.KDF.NNA.125	100	125	DN .. 15 06 .. *	D06


PDNN N 62.5°/55°/62.5°

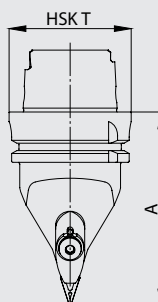

Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.PDF.NNA.080	40	80	DN .. 15 06 .. *	P06
HA6.PDF.NNA.100	63	100	DN .. 15 06 .. *	P06
HA6.PDF.NNA.130	63	130	DN .. 15 06 .. *	P06
HA0.PDF.NNA.125	100	125	DN .. 15 06 .. *	P06


SVVB N 72.5°/35°/72.5°


Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVF.NVA.080	40	80	VB .. 16 04 ..	S07
HA6.KVF.NVA.100	63	100	VB .. 16 04 ..	S07
HA6.KVF.NVA.130	63	130	VB .. 16 04 ..	S07
HA0.KVF.NVA.125	100	125	VB .. 16 04 ..	S07


SVVC N 72.5°/35°/72.5°


Bestell-Nr. / Order number	HSK T	A	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KVB.NVA.080	40	80	VC .. 16 04 ..	S07
HA6.KVB.NVA.100	63	100	VC .. 16 04 ..	S07
HA6.KVB.NVA.130	63	130	VC .. 16 04 ..	S07
HA0.KVB.NVA.125	100	125	VC .. 16 04 ..	S07


DVVN N 72.5°/35°/72.5°


Bestell-Nr. / Order number	HSK T	A	Wendeplatten/ Inserts	Ersatzteile/ Spareparts
HA4.KVD.NVA.080	40	80	VN .. 16 04 ..	D08
HA6.KVD.NVA.100	63	100	VN .. 16 04 ..	D08
HA6.KVD.NVA.130	63	130	VN .. 16 04 ..	D08
HA0.KVD.NVA.125	100	125	VN .. 16 04 ..	D08



* DN .. 15 04 .. möglich mit
Unterlegplatte WDF.ER2.101.004

* DN .. 15 04 .. possible with tip pad
WDF.ER2.101.004

Bohrstange

Boring bar

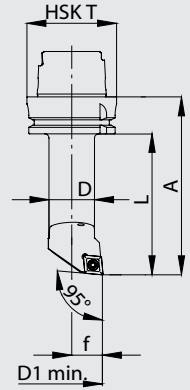
- für effiziente Drehbearbeitung
- optimale Kühlung durch ausgerichtete Kühldüse und Hochdruckkühldüse
- Mitnehmernuten am HSK nach ICTM-Standard

- to turn efficiently
- optimal cooling by adjustment cooling nozzle and high pressure cooling nozzle
- drive key way of HSK shank according to ICTM standard

SCLC R/L 95°/80°



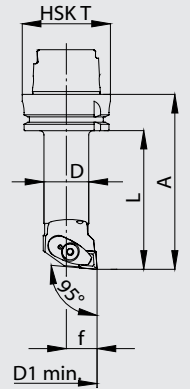
Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA4.BCC.RLA.110	40	17	25	32	110	90	CC..12 04..	S01
HA4.BCC.LLA.110	40	17	25	32	110	90	CC..12 04..	S01
HA4.BCC.RLA.140	40	17	25	32	140	120	CC..12 04..	S01
HA4.BCC.LLA.140	40	17	25	32	140	120	CC..12 04..	S01
HA6.BCC.RLB.125	63	22	32	40	125	99	CC..12 04..	S01
HA6.BCC.LLB.125	63	22	32	40	125	99	CC..12 04..	S01
HA6.BCC.RLB.160	63	22	32	40	160	134	CC..12 04..	S01
HA6.BCC.LLB.160	63	22	32	40	160	134	CC..12 04..	S01
HA6.BCC.RLC.140	63	27	40	50	140	114	CC..12 04..	S01
HA6.BCC.LLC.140	63	27	40	50	140	114	CC..12 04..	S01
HA6.BCC.RLC.180	63	27	40	50	180	154	CC..12 04..	S01
HA6.BCC.LLC.180	63	27	40	50	180	154	CC..12 04..	S01



DCLN R/L 95°/80°



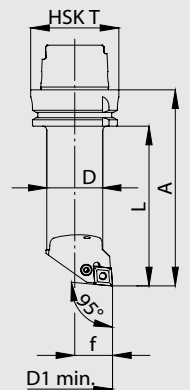
Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA6.BCD.RLC.140	63	27	40	50	140	114	CN..12 04..	D01
HA6.BCD.LLC.140	63	27	40	50	140	114	CN..12 04..	D01
HA6.BCD.RLC.180	63	27	40	50	180	154	CN..12 04..	D01
HA6.BCD.LLC.180	63	27	40	50	180	154	CN..12 04..	D01
HA0.BCD.RLC.150	100	27	40	50	150	121	CN..12 04..	D01
HA0.BCD.LLC.150	100	27	40	50	150	121	CN..12 04..	D01
HA0.BCD.RLC.200	100	27	40	50	200	171	CN..12 04..	D01
HA0.BCD.LLC.200	100	27	40	50	200	171	CN..12 04..	D01
HA0.BCD.RLD.150	100	35	50	63	150	121	CN..12 04..	D01
HA0.BCD.LLD.150	100	35	50	63	150	121	CN..12 04..	D01
HA0.BCD.RLD.200	100	35	50	63	200	171	CN..12 04..	D01
HA0.BCD.LLD.200	100	35	50	63	200	171	CN..12 04..	D01



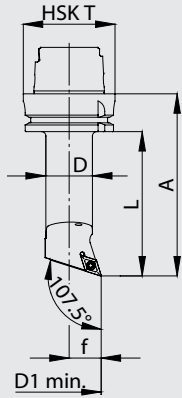
PCLN R/L 95°/80°



Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA6.PCD.RLC.140	63	27	40	50	140	114	CN..12 04..	P01
HA6.PCD.LLC.140	63	27	40	50	140	114	CN..12 04..	P01
HA6.PCD.RLC.180	63	27	40	50	180	154	CN..12 04..	P01
HA6.PCD.LLC.180	63	27	40	50	180	154	CN..12 04..	P01
HA0.PCD.RLC.150	100	27	40	50	150	121	CN..12 04..	P01
HA0.PCD.LLC.150	100	27	40	50	150	121	CN..12 04..	P01
HA0.PCD.RLC.200	100	27	40	50	200	171	CN..12 04..	P01
HA0.PCD.LLC.200	100	27	40	50	200	171	CN..12 04..	P01
HA0.PCD.RLD.150	100	35	50	63	150	121	CN..12 04..	P01
HA0.PCD.LLD.150	100	35	50	63	150	121	CN..12 04..	P01
HA0.PCD.RLD.200	100	35	50	63	200	171	CN..12 04..	P01
HA0.PCD.LLD.200	100	35	50	63	200	171	CN..12 04..	P01



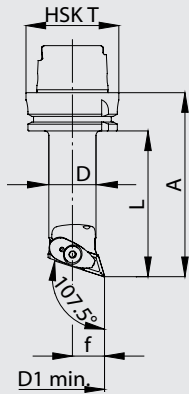
SDQC R/L 107.5°/55°



Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA4.BDB.RLA.110	40	17	25	32	110	90	DC..11 T3..	S05
HA4.BDB.LLA.110	40	17	25	32	110	90	DC..11 T3..	S05
HA4.BDB.RLA.140	40	17	25	32	140	120	DC..11 T3..	S05
HA4.BDB.LLA.140	40	17	25	32	140	120	DC..11 T3..	S05
HA6.BDB.RQB.125	63	22	32	40	125	99	DC..11 T3..	S05
HA6.BDB.LQB.125	63	22	32	40	125	99	DC..11 T3..	S05
HA6.BDB.RQB.160	63	22	32	40	160	134	DC..11 T3..	S05
HA6.BDB.LQB.160	63	22	32	40	160	134	DC..11 T3..	S05
HA6.BDB.RQC.140	63	27	40	50	140	114	DC..11 T3..	S05
HA6.BDB.LQC.140	63	27	40	50	140	114	DC..11 T3..	S05
HA6.BDB.RQC.180	63	27	40	50	180	154	DC..11 T3..	S05
HA6.BDB.LQC.180	63	27	40	50	180	154	DC..11 T3..	S05



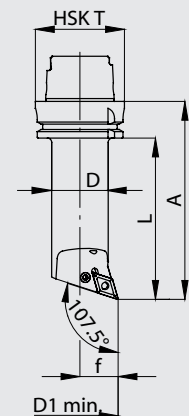
DDQN R/L 107.5°/55°



Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA6.BDF.RQC.140	63	27	40	50	140	114	DN..15 06..*	D05
HA6.BDF.LQC.140	63	27	40	50	140	114	DN..15 06..*	D05
HA6.BDF.RQC.180	63	27	40	50	180	154	DN..15 06..*	D05
HA6.BDF.LQC.180	63	27	40	50	180	154	DN..15 06..*	D05
HA0.BDF.RQC.150	100	27	40	50	150	121	DN..15 06..*	D05
HA0.BDF.LQC.150	100	27	40	50	150	121	DN..15 06..*	D05
HA0.BDF.RQC.200	100	27	40	50	200	171	DN..15 06..*	D05
HA0.BDF.LQC.200	100	27	40	50	200	171	DN..15 06..*	D05
HA0.BDF.RQD.150	100	35	50	63	150	121	DN..15 06..*	D05
HA0.BDF.LQD.150	100	35	50	63	150	121	DN..15 06..*	D05
HA0.BDF.RQD.200	100	35	50	63	200	171	DN..15 06..*	D05
HA0.BDF.LQD.200	100	35	50	63	200	171	DN..15 06..*	D05



PDQN R/L 107.5°/55°



Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA6.PDF.RQC.140	63	27	40	50	140	114	DN..15 06..*	P05
HA6.PDF.LQC.140	63	27	40	50	140	114	DN..15 06..*	P05
HA6.PDF.RQC.180	63	27	40	50	180	154	DN..15 06..*	P05
HA6.PDF.LQC.180	63	27	40	50	180	154	DN..15 06..*	P05
HA0.PDF.RQC.150	100	27	40	50	150	121	DN..15 06..*	P05
HA0.PDF.LQC.150	100	27	40	50	150	121	DN..15 06..*	P05
HA0.PDF.RQC.200	100	27	40	50	200	171	DN..15 06..*	P05
HA0.PDF.LQC.200	100	27	40	50	200	171	DN..15 06..*	P05
HA0.PDF.RQD.150	100	35	50	63	150	121	DN..15 06..*	P05
HA0.PDF.LQD.150	100	35	50	63	150	121	DN..15 06..*	P05
HA0.PDF.RQD.200	100	35	50	63	200	171	DN..15 06..*	P05
HA0.PDF.LQD.200	100	35	50	63	200	171	DN..15 06..*	P05



* DN..15 04.. möglich mit
Unterlegplatte WDF.ER2.101.004

* DN..15 04.. possible with tip pad
WDF.ER2.101.004

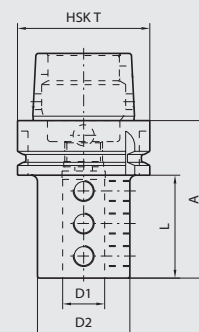
Bohrstangenhalter

Boring bar holder

- zum Halten von Bohrstangen
- Mitnehmernuten am HSK nach ICTM-Standard

- to clamp boring bars
- drive key way of HSK shank according to ICTM standard

Bestell-Nr. / Order number	HSK T	D1	D2	A	L
HA4.B06.K01.055	40	6	34	55	35
HA4.B08.K01.055	40	8	34	55	35
HA4.B10.K01.055	40	10	34	55	35
HA4.B12.K01.055	40	12	36	55	35
HA4.B16.K01.070	40	16	40	70	50
HA6.B06.K01.060	63	6	34	60	34
HA6.B08.K01.060	63	8	34	60	34
HA6.B10.K01.060	63	10	34	60	34
HA6.B12.K01.060	63	12	36	60	34
HA6.B16.K01.075	63	16	40	75	49
HA6.B20.K01.075	63	20	44	75	49
HA6.B25.K01.075	63	25	50	75	49
HA6.B32.K01.090	63	32	56	90	64
HA6.B40.K01.090	63	40	63	90	64
HA0.B06.K01.070	100	6	34	70	41
HA0.B08.K01.070	100	8	34	70	41
HA0.B10.K01.070	100	10	34	70	41
HA0.B12.K01.070	100	12	36	70	41
HA0.B16.K01.085	100	16	40	85	56
HA0.B20.K01.085	100	20	44	85	56
HA0.B25.K01.085	100	25	50	85	56
HA0.B32.K01.100	100	32	56	100	71
HA0.B40.K01.100	100	40	63	100	71



Abstechhalter radial

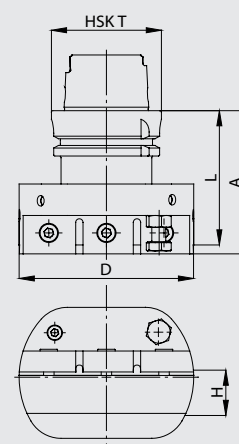
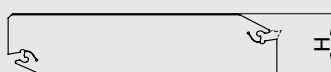
Cut-off block radial

Bestell-Nr. / Order number	HSK T	H	A	L	ØD
HA4.AM2.K11.075	40	26	75	70	100
HA6.AM3.K11.080	63	32	80	75	100
HA0.AM3.K11.085	100	32	85	80	100

- Kühldüse beidseitig Montierbar

- the coolant nozzle is mountable double sided

Stechschwert / cut-off blade

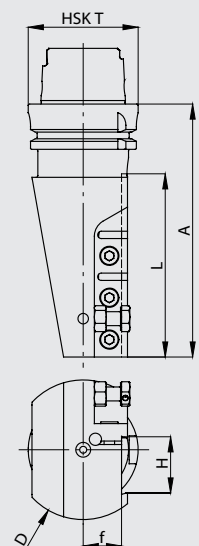
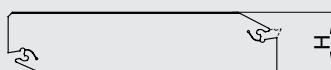


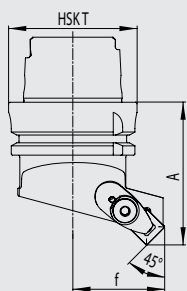
Abstechhalter axial

Cut-off block axial

Bestell-Nr. / Order number	HSK T	f	A	H	L	ØD	rechts/links right/left
HA6.AM3.K11.145	63	22	145	32	105	80	R
HA6.AM3.K12.145	63	22	145	32	105	80	L
HA0.AM3.K11.150	100	30	150	32	105	90	R
HA0.AM3.K12.150	100	30	150	32	105	90	L

Stechschwert / cut-off blade

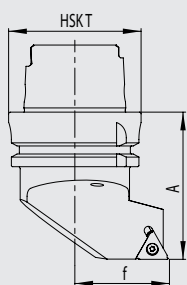




Aussengewinde radial

External thread radial

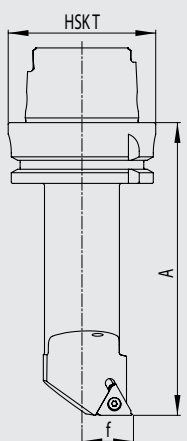
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KGB.RGR.055	40	27	-	55	R	16 ER	G01
HA4.KGB.LGR.055	40	27	-	55	L	16 EL	G02
HA6.KGB.RGR.070	63	45	-	70	R	16 ER	G01
HA6.KGB.LGR.070	63	45	-	70	L	16 EL	G02
HA0.KGB.RGR.100	100	63	-	100	R	16 ER	G01
HA0.KGB.LGR.100	100	63	-	100	L	16 EL	G02



Aussengewinde axial

External thread axial

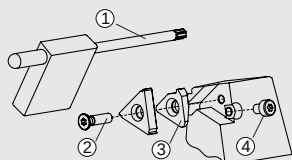
Bestell-Nr. / Order number	HSK T	f	D1 min.	A	R/L	Wendeplatte/ Insert	Ersatzteile/ Spareparts
HA4.KGB.RGA.055	40	27	-	55	R	16 ER	G03
HA4.KGB.LGA.055	40	27	-	55	L	16 EL	G04
HA6.KGB.RGA.070	63	45	-	70	R	16 ER	G03
HA6.KGB.LGA.070	63	45	-	70	L	16 EL	G04
HA0.KGB.RGA.100	100	63	-	100	R	16 ER	G03
HA0.KGB.LGA.100	100	63	-	100	L	16 EL	G04



Innengewinde

Internal thread

Bestell-Nr. / Order number	HSK T	f	D	D1 min.	A	L	Wendeplatte / Insert	Ersatzteile/ Spareparts
HA4.BGB.RGA.110	40	17	25	32	110	90	16 IR	G03
HA4.BGB.LGA.110	40	17	25	32	110	90	16 IL	G04
HA6.BGB.RGA.125	63	22	32	40	125	99	16 IR	G03
HA6.BGB.LGA.125	63	22	32	40	125	99	16 IL	G04
HA6.BGB.RGA.140	63	27	40	50	140	114	16 IR	G03
HA6.BGB.LGA.140	63	27	40	50	140	114	16 IL	G04
HA0.BGB.RGA.150	100	27	40	50	150	121	16 IR	G03
HA0.BGB.LGA.150	100	27	40	50	150	121	16 IL	G04
HA0.BGB.RGA.150	100	35	50	63	150	121	16 IR	G03
HA0.BGB.LGA.150	100	35	50	63	150	121	16 IL	G04



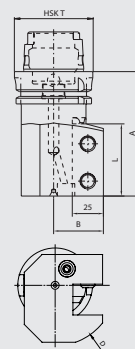
Für Gewindehalter For thread tool	Typ/ Type	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
		Torx-Schlüssel/ Torx driver	Torx-Schraube Torx screw	Zwischenlage/ Tip pad	Schraube/ Screw
xxx.KGB.RGR.xxx	G01	WGB.ER1.001.000	WGB.ER2.001.012	WGB.ER2.102.003	WGB.ER3.001.007
xxx.KGB.LGR.xxx	G02	WGB.ER1.001.000	WGB.ER2.001.012	WGB.ER2.101.003	WGB.ER3.001.007
xxx.xGB.RGA.xxx	G03	WGB.ER1.001.000	WGB.ER2.001.012	WGB.ER2.101.003	WGB.ER3.001.007
xxx.xGB.LGA.xxx	G04	WGB.ER1.001.000	WGB.ER2.001.012	WGB.ER2.102.003	WGB.ER3.001.007



Werkzeughalter axial

Tool holder axial

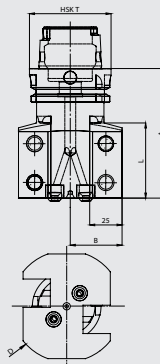
Bestell-Nr. / Order number	HSK T	B	Vierkant Square	A	L	ØD	rechts/links right/left
HA4.V20.R11.080	40	30	20x20	80	45	80	R
HA4.V20.L11.080	40	30	20x20	80	45	80	L
HA6.V20.R11.090	63	30	20x20	90	45	80	R
HA6.V20.L11.090	63	30	20x20	90	45	80	L
HA6.V25.R11.100	63	40	25x25	100	58	102	R
HA6.V25.L11.100	63	40	25x25	100	58	102	L
HA0.V25.R11.125	100	50	25x25	125	80	122	R
HA0.V25.L11.125	100	50	25x25	125	80	122	L



Werkzeughalter axial doppelt

Tool holder axial double

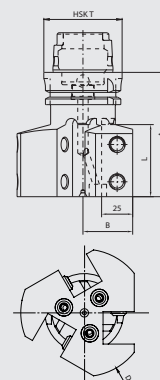
Bestell-Nr. / Order number	HSK T	B	Vierkant Square	A	L	ØD	rechts/links right/left
HA4.V20.R21.080	40	30	20x20	80	45	80	R
HA6.V20.R21.090	63	30	20x20	90	45	80	R
HA6.V25.R21.100	63	40	25x25	100	58	102	R
HA0.V25.R21.125	100	50	25x25	125	80	122	R



Werkzeughalter axial dreifach

Tool holder axial triple

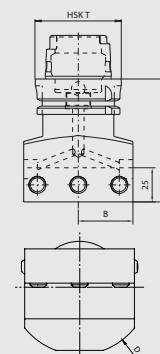
Bestell-Nr. / Order number	HSK T	B	Vierkant Square	A	L	ØD	rechts/links right/left
HA6.V20.R31.090	63	30	20x20	90	45	90	R
HA6.V25.R31.100	63	40	25x25	100	58	102	R
HA0.V25.R31.125	100	50	25x25	125	80	122	R



Werkzeughalter radial

Tool holder radial

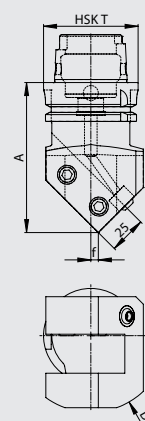
Bestell-Nr. / Order number	HSK T	B	Vierkant Square	A	ØD
HA4.V20.N11.075	40	30	20x20	75	80
HA6.V20.N11.090	63	30	20x20	90	80
HA6.V25.N11.090	63	40	25x25	90	102
HA0.V25.N11.100	100	50	25x25	100	122



Werkzeughalter diagonal 45°

Tool holder diagonal 45°

Bestell-Nr. / Order number	HSK T	f	Vierkant Square	A	ØD	rechts/links right/left
HA6.V20.R12.100	63	5	20x20	100	80	R
HA6.V20.L12.100	63	5	20x20	100	80	L
HA6.V25.R12.100	63	5	25x25	100	102	R
HA6.V25.L12.100	63	5	25x25	100	102	L



HSK-Verlängerung

HSK-Extension

- Mitnehmernuten am HSK nach ICTM-Standard

- drive key way of HSK shank according to ICTM standard

Bestell-Nr. / Order number	HSK T	HSK A/C	A
HA4.HA4.K01.060	40	40	60
HA4.HA4.K01.080	40	40	80
HA6.HA6.K01.080	63	63	80
HA6.HA6.K01.120	63	63	120
HA0.HA0.K01.125	100	100	125
HA0.HA0.K01.160	100	100	160
HA0.HA0.K01.200	100	100	200

HSK-Reduktion

HSK-Reduction

- Mitnehmernuten am HSK nach ICTM-Standard

- drive key way of HSK shank according to ICTM standard

Bestell-Nr. / Order number	HSK T	HSK A/C	A	L
HA6.HA4.K01.070	63	40	70	44
HA0.HA4.K01.080	100	40	80	51
HA0.HA6.K01.100	100	63	100	71

Spanneinheit HSK

Clamping unit HSK

- zur Montage in Revolver oder Revolveraufbauten
- Spitzenhöhe einstellbar über Excenter
- innere Kühlmitteldurchführung

- for use in turret or clamping unit holder
- center height adjustable with an excenter
- inner coolant supply

Bestell-Nr. / Order number	HSK A/C	D1	D2	A	L
U40.HA4.001.025	40	40	68	25	17
U63.HA6.001.040	63	63	102	40	20
U10.HA0.001.060	100	100	165	60	30

Rohling

Blank

- Mitnehmernuten am HSK nach ICTM-Standard
- Einsatzgehärtet 48HRC / 0.8mm tief

- drive key way of HSK shank according to ICTM standard
- case-hardened 48HRC depth 0.8

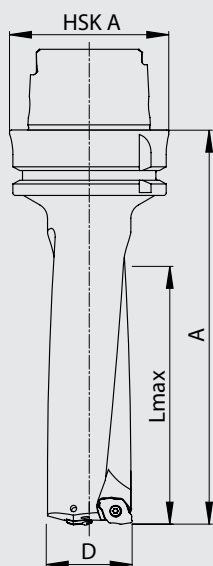
Bestell-Nr. / Order number	HSK T	D1	A	L	L1
HA4.Ro4.001.055	40	54	55	35	20
HA6.Ro5.001.100	63	52	100	–	58
HA6.Ro9.001.070	63	90	70	44	28
HA6.Ro6.001.200	63	63	200	174	158
HA0.Ro8.001.125	100	87	125	–	80
HA0.Ro0.001.090	100	130	90	61	45
HA0.Ro0.001.250	100	100	250	221	205

Trennstellenverschluss

Blanking plug

Bestell-Nr. / Order number	HSK A	D1	L
HA4.000.001.015	40	40	15
HA6.000.001.015	63	63	15
HA0.000.001.020	100	100	20





Wendepaltenbohrer 3xD

Insert drills 3xD

Bestell-Nr. / Order number	HSK A	D	L max.	A	Wendepalte/ Insert	Torx	Spannschraube/ Clamping screw
HA6.X19.K01.096	63	19	57	96	WXC...007.004	T8	WXC.ER2.001.007
HA6.X20.K01.100	63	20	60	100	WXC...007.004	T8	WXC.ER2.001.007
HA6.X21.K01.104	63	21	63	104	WXC...007.004	T8	WXC.ER2.001.007
HA6.X22.K01.108	63	22	66	108	WXC...007.004	T8	WXC.ER2.001.007
HA6.X23.K01.112	63	23	69	112	WXC...007.004	T8	WXC.ER2.001.007
HA6.X24.K01.116	63	24	72	116	WXC...007.004	T8	WXC.ER2.001.007
HA6.X25.K01.120	63	25	75	120	WXD...009.006	T8	WXD.ER2.001.007
HA6.X26.K01.124	63	26	78	124	WXD...009.006	T8	WXD.ER2.001.007
HA6.X27.K01.128	63	27	81	128	WXD...009.006	T8	WXD.ER2.001.007
HA6.X28.K01.132	63	28	84	132	WXD...009.006	T8	WXD.ER2.001.007
HA6.X29.K01.136	63	29	87	136	WXD...009.006	T8	WXD.ER2.001.007
HA6.X30.K01.140	63	30	90	140	WXD...009.006	T8	WXD.ER2.001.007
HA6.X31.K01.144	63	31	93	144	WXD...009.006	T8	WXD.ER2.001.007
HA6.X32.K01.148	63	32	96	148	WXD...009.006	T8	WXD.ER2.001.007
HA6.X33.K01.152	63	33	99	152	WXD...009.006	T8	WXD.ER2.001.007
HA6.X34.K01.156	63	34	102	156	WXD...009.006	T8	WXD.ER2.001.007
HA6.X35.K01.160	63	35	105	160	WXE...012.008	T15	WXE.ER2.001.011
HA6.X36.K01.163	63	36	108	163	WXE...012.008	T15	WXE.ER2.001.011
HA6.X37.K01.167	63	37	111	167	WXE...012.008	T15	WXE.ER2.001.011
HA6.X38.K01.171	63	38	114	171	WXE...012.008	T15	WXE.ER2.001.011
HA6.X39.K01.175	63	39	117	175	WXE...012.008	T15	WXE.ER2.001.011
HA6.X40.K01.178	63	40	120	178	WXE...012.008	T15	WXE.ER2.001.011
HA6.X41.K01.182	63	41	123	182	WXE...012.008	T15	WXE.ER2.001.011
HA6.X42.K01.186	63	42	126	186	WXE...012.008	T15	WXE.ER2.001.011
HA6.X43.K01.190	63	43	129	190	WXE...012.008	T15	WXE.ER2.001.011
HA6.X44.K01.196	63	44	132	196	WXE...012.008	T15	WXE.ER2.001.011
HA6.X45.K01.197	63	45	135	197	WXE...012.008	T15	WXE.ER2.001.011
HA6.X46.K01.201	63	46	138	201	WXF...016.008	T20	WXF.ER2.001.011
HA6.X47.K01.205	63	47	141	205	WXF...016.008	T20	WXF.ER2.001.011
HA6.X48.K01.208	63	48	144	208	WXF...016.008	T20	WXF.ER2.001.011
HA6.X49.K01.212	63	49	147	212	WXF...016.008	T20	WXF.ER2.001.011
HA6.X50.K01.216	63	50	150	216	WXF...016.008	T20	WXF.ER2.001.011

Wendepalten

Insert

Bestell-Nr. / Order number	Schneidstoff/ Cutting material	Material	V m/min	f mm/Z
WXC.HUB.007.004	HUB	Aluminium	300-500	0.08-0.18
WXD.HUB.009.006	HUB	Aluminium	300-500	0.10-0.22
WXE.HUB.012.008	HUB	Aluminium	300-500	0.14-0.25
WXF.HUB.016.008	HUB	Aluminium	300-500	0.20-0.30
WXC.HBP.007.004	HBP	Unlegierter Stahl / Unalloyed steel	180-240	0.08-0.18
		Legierter Stahl / Alloyed Steel	160-220	
		Hochlegierter Stahl / High alloyed steel	140-200	
WXD.HBP.009.006	HBP	Unlegierter Stahl / Unalloyed steel	180-240	0.10-0.20
		Legierter Stahl / Alloyed Steel	160-220	
		Hochlegierter Stahl / High alloyed steel	140-200	
WXE.HBP.012.008	HBP	Unlegierter Stahl / Unalloyed steel	180-240	0.13-0.22
		Legierter Stahl / Alloyed Steel	160-220	
		Hochlegierter Stahl / High alloyed steel	140-200	
WXF.HBP.016.008	HBP	Unlegierter Stahl / Unalloyed steel	180-240	0.17-0.26
		Legierter Stahl / Alloyed Steel	160-220	
		Hochlegierter Stahl / High alloyed steel	140-200	
WXC.HBM.007.004	HBM	Rostfreier Stahl / Stainless Steel	80-140	0.06-0.16
WXD.HBM.009.006	HBM	Rostfreier Stahl / Stainless Steel	80-140	0.08-0.18
WXE.HBM.012.008	HBM	Rostfreier Stahl / Stainless Steel	80-140	0.10-0.20
WXF.HBM.016.008	HBM	Rostfreier Stahl / Stainless Steel	80-140	0.14-0.22
WXC.HBK.007.004	HBK	Grauguss / Grey cast iron	190-260	0.08-0.18
		Sphäroguss / Spheroidal graphite cast iron	180-240	
WXD.HBK.009.006	HBK	Grauguss / Grey cast iron	190-260	0.10-0.22
		Sphäroguss / Spheroidal graphite cast iron	180-240	
WXE.HBK.012.008	HBK	Grauguss / Grey cast iron	190-260	0.14-0.25
		Sphäroguss / Spheroidal graphite cast iron	180-240	
WXF.HBK.016.008	HBK	Grauguss / Grey cast iron	190-260	0.20-0.30
		Sphäroguss / Spheroidal graphite cast iron	180-240	

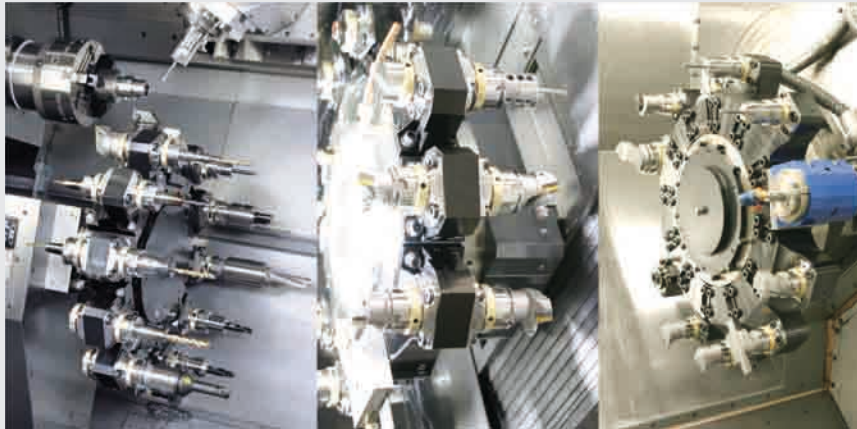


Spanneinheit HSK

- zum Aufbau auf Revolverscheiben
- innere Kühlmittelzufuhr

Clamping unit HSK

- for mounting clamping units on turrets
- with inner coolant supply



Setzen Sie sich mit uns für ein entsprechendes Angebot in Verbindung. Gerne senden wir Ihnen auch Massskizzen von bestehenden Haltern.

Do not hesitate to send us your enquiry. Gladly we send you drawings of existing holders.

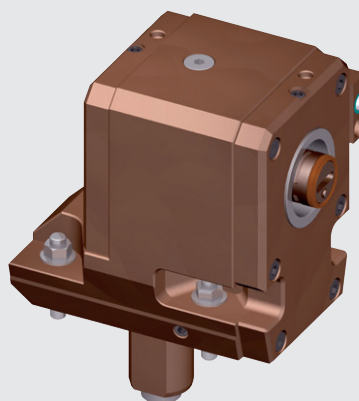


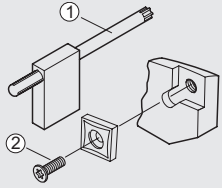
Angetriebene Werkzeuge mit HSK-Trennstelle

- zum Aufbau von Revolverscheiben

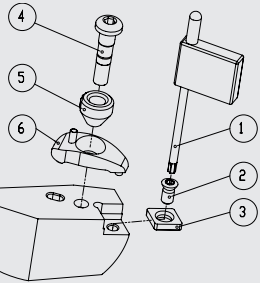
Driven tools with HSK interface

- for mounting on turrets

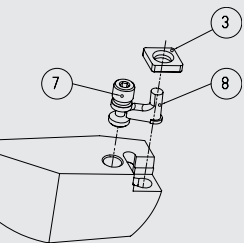


Ersatzteile / Zubehör
Spare parts / Accessories


Für Klemmhalter/ Bohrstange For turning tool/ boring bar	Typ/ Type	Bestell-Nr. / Order number ^①	Bestell-Nr. / Order number ^②
		Torx-Schlüssel/ Torx driver	Torx-Schraube Torx screw
xxx.xCC.xxx.xxx	S01	WCC.ER1.001.000	WCC.ER2.001.010
xxx.xCD.xxx.xxx	S02	WCC.ER1.001.000	WCC.ER2.001.010
xxx.xCE.xxx.xxx	S03	WCE.ER1.001.000	WCE.ER2.001.012
xxx.xWE.xxx.xxx	S04	WCC.ER1.001.000	WCC.ER2.001.010
xxx.xDB.xxx.xxx	S05	WCB.ER1.001.000	WCB.ER2.001.009
xxx.xDF.xxx.xxx	S06	WCC.ER1.001.000	WCC.ER2.001.010
xxx.xVF/VB.xxx.xxx	S07	WCB.ER1.001.000	WCB.ER2.001.009
xxx.xVD.xxx.xxx	S08	WCB.ER1.001.000	WCB.ER2.001.009
xxx.xSB.xxx.xxx	S09	WCC.ER1.001.000	WCC.ER2.001.010



Für Klemmhalter/ Bohrstange For turning tool/ boring bar	Typ/ Type	Bestell-Nr. / Order number ^③	Bestell-Nr. / Order number ^④	Bestell-Nr. / Order number ^⑤	Bestell-Nr. / Order number ^⑥
		Zwischenlage/ Tip pad	Spannschraube/ Clamping screw	Düsenring/ Nozzle ring	Spannpratze/ Clamping short
xxx.xCD.xxx.xxx	D01	WCD.ER2.101.003	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.024
xxx.KCE.R/Lxx.xxx	D02	WCE.ER2.101.004	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.024
xxx.KCE.Nxx.xxx	D03	WCE.ER2.101.004	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.029
xxx.KWE.R/Lxx.xxx	D04	WWE.ER2.101.004	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.024
xxx.xDF.R/Lxx.xxx	D05	WDF.ER2.101.003	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.024
xxx.KDF.Nxx.xxx	D06	WDF.ER2.101.003	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.029
xxx.xVD.R/Lxx.xxx	D07	WVD.ER2.101.003	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.024
xxx.KVD.Nxx.xxx	D08	WVD.ER2.101.003	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.029
xxx.KSD.R/Lxx.xxx	D09	WSD.ER2.101.003	WCC.ER4.103.032	WCC.ER5.102.012	WCC.ER3.102.024



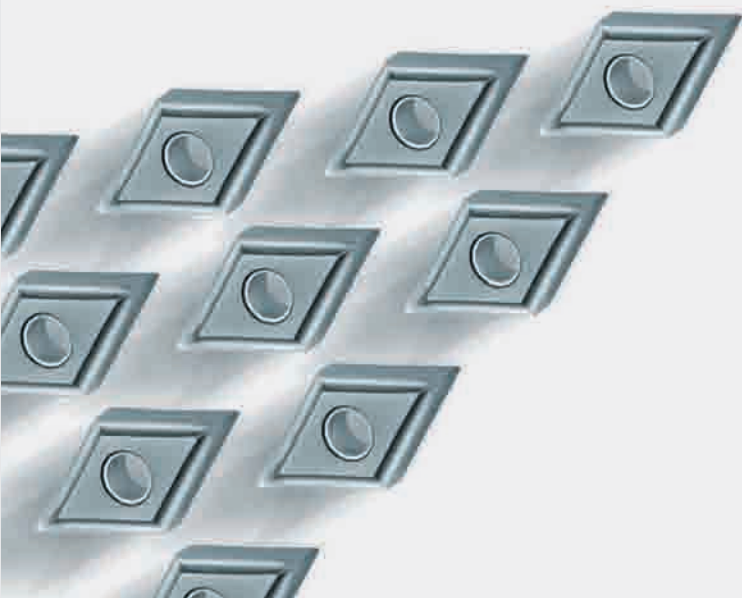
Für Klemmhalter/ Bohrstange For turning tool/ boring bar	Typ/ Type	Bestell-Nr. / Order number ^③	Bestell-Nr. / Order number ^⑦	Bestell-Nr. / Order number ^⑧
		Zwischenlage/ Tip pad	Spannschraube/ Clamping screw	Kniehebel/ Knuckle joint
xxx.PCD.xxx.xxx	P01	WCD.ER2.101.003	WCD.ER4.101.017	WCD.ER3.101.000
xxx.PCE.R/Lxx.xxx	P02	WCE.ER2.101.004	WCE.ER4.101.004	WCE.ER3.101.000
xxx.PCE.Nxx.xxx	P03	WCE.ER2.101.004	WCE.ER4.101.004	WCE.ER3.101.000
xxx.PWE.R/Lxx.xxx	P04	WWE.ER2.101.004	WCD.ER4.101.017	WDF.ER3.101.000
xxx.PDF.R/Lxx.xxx	P05	WDF.ER2.101.003	WCD.ER4.101.017	WDF.ER3.101.000
xxx.PDF.Nxx.xxx	P06	WDF.ER2.101.003	WCD.ER4.101.017	WDF.ER3.101.000
xxx.PSD.R/Lxx.xxx	P07	WSD.ER2.101.003	WCD.ER4.101.017	WCD.ER3.101.000

Für Werkzeughalter/ Für Bohrstangenhalter For tool holder/ For boring bar holder	Bestell-Nr. / Order number
	Klemmschraube/ Clamping screw
xxx.V20.xxx.xxx	ERU.GS6.001.018
xxx.V25.xxx.xxx	ERU.GS7.001.025
xxx.B06.xxx.xxx	ERU.GS4.001.010
xxx.B08...B12.xxx.xxx	ERU.GS5.001.010
xxx.B16...B40.xxx.xxx	ERU.GS6.001.012

Für HSK / For HSK	Bestell-Nr. / Order number	Bestell-Nr. / Order number	Bestell-Nr. / Order number
	Spannpatrone / Clamping cartridge	Verschlussschraube / Drive bolt	Dichtring / Sealing ring
xxx.HA4.xxx.xxx	HA4.ER1.001.000	HA4.ER2.001.005	HA4.ER4.004.006
xxx.HA6.xxx.xxx	HA6.ER1.001.000	HA6.ER2.001.007	HA6.ER4.004.008
xxx.HA0.xxx.xxx	HA0.ER1.001.000	HA0.ER2.001.000	HA0.ER4.004.010

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FLEX

Wende- platten Inserts



Wendeplatten/ Inserts

Bestell-Nummer/ Part Number	Wendeplatten/ Insert	Schneid- stoff/ Cutting Mat.	Technische Informationen über Wendeplatten/ Technical information	Material	V m/min.	f mm/Z
WWA.CTU.020.002	WCMT 020102	 CTU 	Cermet-Wendeplatte (Titan-Carbonnitrid) für Feinbohrarbeiten mit hoher Schnitt- geschwindigkeit und gleichmässigem Aufmass.	Stahl Gauguss Aluminium	50–300 50–300 bis 800	0.04 bis 0.10
			Titan Carbonitride (Cermet) for light bore machining with high cutting speed and regular cutting depth.	Steel Cast Iron Light metals	50–300 50–300 to 800	0.04 to 0.10
WWA.HUP.020.002	WCGT 020102	 HUP 	Unbeschichtete Hartmetall-Wendeplatte , allseitig geschliffen mit grossem Spanwinkel für Feinbohrarbeiten. Die Wendeplatte eignet sich insbesondere bei kleinem Aufmass und langen Bohrungen.	Stahl Stahl rostfrei Gauguss Aluminium	50–250 30–200 50–300 bis 800	0.04 bis 0.10
			Uncoated Carbide insert , ground all around with large rake angle for fine bore cutting. The insert is particularly good for small cutting depth in deep bores.	Steel Stainless steel Cast iron Light metals	50–250 30–200 50–300 to 800	0.04 to 0.10
WCA.CTU.060.002	CCMT 060202	 CTU	Cermet-Wendeplatte (Titan-Carbonnitrid)	Stahl	50–300	0.08
WCA.CTU.060.004	CCMT 060204	 	für niedrige bis hohe Schnittgeschwindigkeiten	Stahl rostfrei	30–250	bis
WCB.CTU.090.002	CCMT 09T302		beim Schlichten mit gleichbleibendem Aufmass.	Gauguss	50–300	0.15
WCB.CTU.090.004	CCMT 09T304		Auch für leichte Schrupperarbeiten einsetzbar.	Aluminium	bis 800	
WCB.CTU.090.008	CCMT 09T308		Bester Widerstand gegen Verschleiss und Schneidekantendeformation. Geeignet für	Buntmetall	bis 500	
WCC.CTU.120.004	CCMT 120408		Feinbohrarbeiten mit normalem Aufmass von 0.25 mm im Durchmesser.			
			Titanium carbon nitride (Cermet) for finishing with low to high cutting speeds with regular cutting depth. Also for light roughing. High resistance to wear and tip deformation. Suitable for fine boring with normal cutting depths from 0.25 mm in bored diameter.	Steel Stainless steel Cast iron Light metals Bronze etc.	50–300 30–250 50–300 to 800 to 500	0.08 to 0.15
WCA.CTG.060.002	CCGT 060202L	 CTG	Allseitig geschliffene, hochpositive Cermet- Wendeplatte (Titan-Carbonnitrid), für alle	Stahl	50–300	0.06
WCA.CTG.060.004	CCGT 060204L	 	Feinbohrarbeiten. Die Wendeplatte eignet sich	Stahl rostfrei	30–250	bis
WCB.CTG.090.002	CCGT 09T302L		insbesondere bei kleinem Aufmass und langen	Gauguss	50–250	0.12
WCB.CTG.090.004	CCGT 09T304L		Bohrungen. Durch den grossen Spanwinkel sind die Druck- und Schnittkräfte sehr gering.	Aluminium Buntmetall	bis 800 bis 500	
			All ground, Cermet insert with highly positive rake angle for all fine bore machining. Very suitable for deep bores with small cutting depth. Low cutting and pressing forces due to large rake angle.	Steel Stainless steel Cast iron Light metals Bronze etc.	50–300 30–250 50–250 to 800 to 500	0.06 to 0.12

HIT

Wendeplatten/Inserts

Bestell-Nummer/ Part Number	Wendeplatten/ Insert		Schneid- stoff/ Cutting Mat.	Technische Informationen über Wendeplatten/ Technical information	Material	V m/min.	f mm/Z
WCA.HBH.060.004	CCMT 060204		 	HBH Mehrfach beschichtete Hartmetall-Wendeplatte mit hoher Verschleissfestigkeit und grossem Widerstand gegen plastische Verformung. Generell geeignet für die Stahlbearbeitung mit mittleren bis hohen Schnittgeschwindigkeiten.	Stahl	20–280	0.10
WCB.HBH.090.004	CCMT 09T304				Stahl rostfrei	30–250	bis
WCB.HBH.090.008	CCMT 09T308				Grauguss	50–250	0.40
WCC.HBH.120.008	CCMT 120408				Späroguss	50–180	
WCD.HBH.120.004	CNMG 120404				Aluminium	bis 800	
WCD.HBH.120.008	CNMG 120408				Buntmetall	bis 500	
WCE.HBH.160.008	CNMG 160608						
WCE.HBH.160.012	CNMG 160612						
WCF.HBH.190.012	CNMG 190612						
WCF.HBH.190.016	CNMG 190616						
				Repeat coated carbide insert with high wear and plastic deformation resistance. Generally used for machining of ferrous steels with middle to high cutting speeds.	Steel	20–280	0.10
					Stainless steel	30–250	to
					Spherulitic /	50–250	0.40
					Spheroidal	50–180	
					graphite-cast iron	to 800	
					Cast iron	to 500	
					Light metals		
					Bronze etc.		
WCD.HBZ.120.008	CNMM 120408		 	HBZ Mehrfach beschichtete Hartmetall-Wendeplatte mit höchster Zähigkeit und Stabilität der Schneidekante. Geeignet für Stahlbearbeitung durch die positive Schneidegeometrie auch bei unterbrochenem Schnitt.	Stahl	50–300	
WCE.HBZ.160.007	CNMM 160608				Stahl rostfrei	30–250	0.10
WCE.HBZ.160.012	CNMM 160612				Grauguss	50–300	bis
WCF.HBZ.190.012	CNMM 190612				Späroguss	50–200	0.60
WCF.HBZ.190.016	CNMM 190616				Aluminium	bis 800	
					Buntmetall	bis 500	
				Repeat coated carbide insert, very tough with high stability cutting edge. Suitable for machining of ferrous steels also with interrupted cut due to its positive cutting geometry.	Steel	50–300	
					Stainless steel	30–250	0.10
					Spherulitic /	50–300	to
					Spheroidal	50–200	0.60
					Graphite-cast iron	to 800	
					Cast iron	to 500	
					Light metals		
					Bronze etc.		
WWA.SFH.020.002	WCGT 020102		 	SFH Mehrfach beschichtete superfeinstkorn Hartmetall-Wendeplatte zur Bearbeitung von harten und gehärteten Werkstoffen bis 62 HRc . Die Wendeplatte eignet sich hervorragend für Feinbohrarbeiten in gehärtetem Stahl als Alternative zum K-Schleifen.	Stahl weich	bis 300	0.04
WWA.SFH.020.004	WCGT 020104				Stahl HRc 45	80–250	bis
					Stahl HRc 50	80–200	0.2
WCA.SFH.060.002	CCGT 060202L				Stahl HRc 55	50–150	
WCA.SFH.060.004	CCGT 060204L				Stahl HRc 60	30–100	
WCB.SFH.060.002	CCGT 09T302L				Stahl HRc 62	20–	60
WCB.SFH.060.004	CCGT 09T304L						



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