

Ultra



**Highest metal
removal rate.
Adaptive cooling
ring 10-30°.
Safety of processing
with Pin-Lock.**

Ultra metal removal rate.
Ultra-Gripping.
Ultra-Dampening.
Ultra-Safe due to Pin-Lock.
In addition peripheral cooling
which adapts perfectly to
every task.

Up to 33.000 rpm.
Runout $\leq 3 \mu\text{m}$.
Cooling-Ring 10-30°.

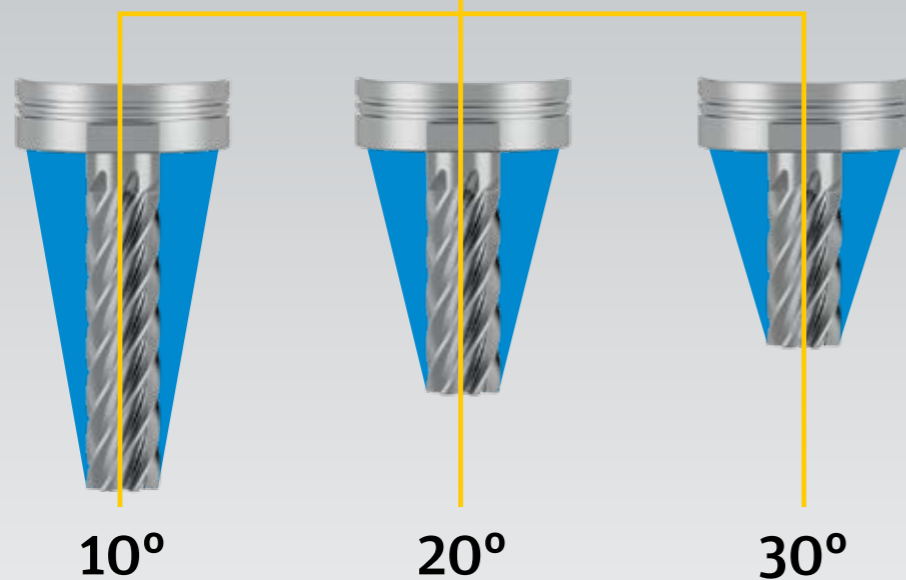
Albrecht Ultra – The basis
for record-setting.

Adaptive Cooling



Delivery state: For cutting tools with internal coolant supply

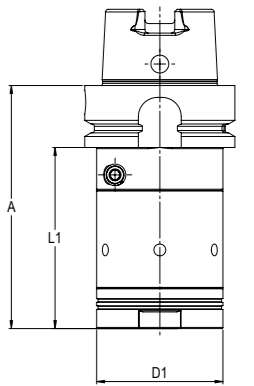
Exchangeable Cooling-Rings:



HSK

Ultra Chuck, DIN 69893 (ISO 12164) with fine balancing holes 6xM6

Easy exchange of tools by using a hex-key (see page 55). Maintenance-free. Sealed against coolant and particles. Slow collet taper angle. Collet with special coating (see page 55). System-Runout-Accuracy $3 \mu\text{m}$ at $2,5 \times D$. Clamping of tool shanks according to DIN 1835 A, B and DIN 6535 HB, HA. Delivery state for cutting tools with internal coolant supply. Changeable cooling ring for peripheral coolant (see page 55)



Application examples: Ultra in operation

Material	Tensile strength [N/mm ²]	Milling-Ø [mm]	Speed [r.p.m.]	vf [mm/min]	ae [mm]	ap [mm]	MRR [cm ³ /min]
Titanium Ti 6-4		20	2.800	896	20	25	448
1.2892	1500	20	2.389	1.194	1	40	48
Aluminium 7075		25	30.000	13.500	25	40	13.500
Toolox 33	1080	20	2.800	1.758	2,5	35	154

Ultra Chuck 20

HKS63 A							16 – 20 mm
A	Part.No.	Form	L1	D1	Balanced	kg	
102	360 020A 663 0	A	76	53	20.000 G=2,5	1,5	
HKS80 A							
108	360 020A 680 0	A	82	53	20.000 G=2,5	2,0	
HKS100 A							
110	360 020A 610 0	A	81	53	20.000 G=2,5	2,9	



Ultra Chuck 25

HKS63 A							20 – 25 mm
A	Part.No.	Form	L1	D1	Balanced	kg	
110	360 025A 663 0	A	84	53	20.000 G=2,5	1,4	
HKS80 A							
116	360 025A 680 0	A	90	53	20.000 G=2,5	2,0	
HKS100 A							
118	360 025A 610 0	A	89	53	20.000 G=2,5	2,9	



Collets with Pin-Lock

Ultra collet with mechanical pull stop Pin-Lock

Easy mechanical pull stop solution in combination with side lock (Weldon) shanks corresponding to DIN 6535 HB and DIN 1835 B.

All positive features of Ultra are kept like runout accuracy and dampening. Special coating. Maintenance free. Collet is supplied with 3 pins, pin punch, assembly tool. Balanced by design in combination with Weldon shank and pin.



Positioning tool

Remove the length setting screw, than position the Weldon-clamping surface on the side of the bore. Now insert the tool into the collet until the Weldon-clamping surface lies in the range of the bore.



Positioning pin

The locking-pin has to be inserted with the help of the pin punch into the bore of the collet up to the block. Caution: The pin must not stick out of the collet.



Free from backlash

With the assembly tool the length stop screw has to be screwed, so that the cutting tool is free of backlash. Caution: Mounting without axial pressure. The collet with the secured tool can now be placed into the Ultra-chuck.

Ultra Chuck Collets. Special coating. Maintenance free. Pin-Lock for Weldon shanks.

Delivered with length stop, 3 pins and assembly tool.

Clamping of tool shanks according to DIN 1835 A, B and DIN 6535 HB, HA.

Ultra 20

Internal Coolant



Coolant 2.0



D	Part.No.	Part.No.
16,0	166 2016 OLO T	166 2016 OLO P
20,0	166 2020 OLO T	166 2020 OLO P
25,0		

Ultra 25

Internal Coolant



Coolant 2.0



D	Part.No.	Part.No.
16,0		
20,0	166 2520 OLO T	166 2520 OLO P
25,0	166 2525 OLO T	166 2525 OLO P

Standard Key

With marking approx. 14 Nm

Part.No.

139 0000 906 0

Torque Key

corresponding ISO 6789 at 12 Nm

Part.No.

139 0012 900 0

corresponding ISO 6789 at 14 Nm

139 0014 900 0

Spare bit ¼"

139 0000 901 4

Cooling-Ring

no. of holes and angle

AF

Part.No.

4 x 10°

50

161 2025 000 1

6 x 20°

50

161 2025 000 2

6 x 30°

50

161 2025 000 3

Set consisting of 4 x 10° / 6 x 20° / 6 x 30°

161 2025 S00 0

Spare part

Part.No.

Spare Pins for Pin-Lock

DxL

for

Part.No.

Ø3x14 (3 pieces)

Ultra20 Ø16 und Ø20

139 3020 314 0

Ø4x20 (3 pieces)

Ultra25 Ø20

139 3025 420 0

Ø4x16 (3 pieces)

Ultra25 Ø25

139 3025 416 0



Balancing Screws

Balancing Screws- Set, inclusive case, key, difference-table and 180 pieces of fine-balancing-screws

Universal use, suitable for all brands. 9 different screws in fine graduation. 20 screws of each size and Torx key. Different colours for visual identification. Precise balancing together with the clamped tool. Easy handling with Torx. Supplied with Torx ISR15 screwdriver. No need for screw locking. The balancing machine calculates automatically position and weight. Suitable for multiple uses.

Fine balancing of toolholders:

- > together with the clamped tool
- > added Chip
- > operating conditions, especially with high rpm



Typ	Part.No.
M6x4,0-8,0	139 4006 000 0

Balancing Screws

Typ	Gram	Part.No.	Amount	Colour
M6x4,0	0,43	139 4006 040 0	20	black
M6x4,5	0,52	139 4006 045 0	20	silver
M6x5,0	0,60	139 4006 050 0	20	rot
M6x5,2	0,67	139 4006 052 0	20	yellow
M6x6,0	0,77	139 4006 060 0	20	black
M6x6,5	0,86	139 4006 065 0	20	silver
M6x7,0	0,93	139 4006 070 0	20	red
M6x7,2	1,03	139 4006 072 0	20	yellow
M6x8,0	1,09	139 4006 080 0	20	black

Accessories HSK

Coolant tubes

DIN 69893 (HSK)	Part.No.
Coolant tubes HSK-A50	139 0002 650 0
Coolant tubes HSK-A63	139 0002 663 0
Coolant tubes HSK-A80	139 0002 680 0
Coolant tubes HSK-A100	139 0002 610 0



Key with T-handle

	Part.No.
for coolant tubes HSK-A50	139 0020 650 0
for coolant tubes HSK-A63	139 0020 663 0
for coolant tubes HSK-A80	139 0020 680 0
for coolant tubes HSK-A100	139 0020 610 0

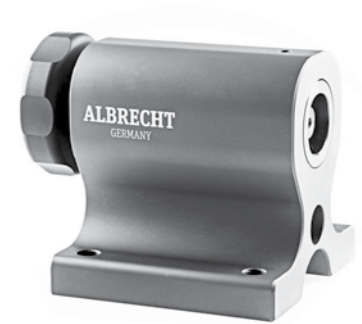


Mountingsystem

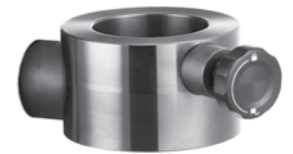
flexible, vertical/horizontal, locked



Mounting System Base Unit	Part.No.
	730 1000 000 0



Adaptor	Part.No.
ISO 7388-1 + ISO7388-2	
SK30 + BT30	730 1000 230 0
SK40 + BT40 + CAT40	730 1000 240 0
SK50 + BT50 + CAT50	730 1000 250 0
DIN 69893	
HSK50 Form A+C	730 1000 650 0
HSK63 Form A+C	730 1000 663 0
HSK80 Form A+C	730 1000 680 0
HSK100 Form A+C	730 1000 610 0
ISO 26623-1	
PSC50	730 1000 9C5 0
PSC63	730 1000 9C6 0
PSC80	730 1000 9C8 0



Handling APC and Ultra

The Albrecht chuck is high precision toolholder with clamping gear. Its unique design provides a very high clamping force, run-out accuracy as well as a positive dampening feature for machining (milling, drilling, reaming, tapping, heavy-duty cutting, finish milling, HSC operations). The Chuck uses a special collet to clamp the cutting tool and is operated by a hex key on the periphery.



Cleaning, insert the Collet

Before each use, clean the inner cone chuck free cloth and chuck cone cleaner. Attention, do not work with compressed air during the cleaning process, as otherwise dissolved dirt particles can get into parts of the gearbox.



For maximum clamping forces, the bore, the tool shank, the cone of the clamping sleeve and the inner cone chuck must be degreased each time the tool is changed.



Insert the cleaned and undamaged tool shank into the clamping sleeve, observing the minimum clamping depth, see page 83. Screw the clamping sleeve with tool into the chuck manually until the clamping sleeve touches the cone.



Clamping

The chucking procedure starts by engaging the screw on the side of the chuck and rotating the hex key clockwise. Max. clamping torque see product-marking. Put in the hex key as far as possible. Hex tool surface is to be inspected about damages!



Match the two arrowheads when clamping.



Releasing

Open the Chuck by turning the hex key counter-clockwise. Note: when opening the chuck you must overcome two resistance points. First, you will overcome the friction torque and then the collet is loosened. Then open until the tool can be taken out, respectively the collet can be unscrewed manually.



Length adjustment

A length stop screw is located in the collet and can be adjusted with a hex key. For operation from the back through the chuck with taper shank a bolt with a through hole is necessary (form AD). The range of the length adjustment is 11mm.

Technical Data Type	Clamping-Diameter, Ø mm / Ø Zoll		Min. Clamping Depth	Max. Clamping Depth
14/20	2 - 5	1/8" - 3/16"	17	66
	6	1/4"	22	40
	7 - 10	5/16" - 3/8"	30	50
	11 - 15	7/16" - 9/16"	38	50
20	16 - 20	5/8" - 3/4"	38	48,5
25	12,7	1/2"	47	54,5
	16 - 32	5/8" - 11/4"	47	60

Balancing grade

Each Albrecht Chuck is fine-balanced without collet and tool according to the laser marking. Higher balancing quality and rpm on request. The use of shanks with slots influences the balancing grade and run-out accuracy of the whole system.

Fine balancing with balancing-screws

Some of the APCs and all Ultra-Chucks are equipped with balancing threads and are thus capable of being balanced. By using fine balance screws, an even higher overall balancing quality can be achieved. The balancing screws must be tightened hand tight to the thread base according to the recommended weight and thread position of the balancing machine. Several screws can be screwed in one bore. An additional screw locking is not necessary. Make sure that the screws do not protrude beyond the interference contour.

The max. operating speed is not affected by the use of fine balance screws. Recommendation: Albrecht M6 Balancing-set, Art. No.: 139 4006 000 0 (see page 82).

Maintenance

The Chuck is maintenance free over his lifetime. Clean chuck (especially the inner cone) and collet including thread after usage with a solvent base cleaner. According to contamination the cleaning cycles have to be adjusted. After cleaning, apply a thin coat of anticorrosive.

Repairs

In order to guarantee the precision of the tool, any chuck in need of repair has to be sent to the manufacturer or to an authorized national agent only. We recommend checking the chuck and the collet for run-out deviations and gripping torque periodic, especially after a tool break or crash.