



Your technology partner for cost-effective machining

UNIQ® – The new generation of hydraulic expansion technology

INDUSTRIAL DESIGN WITH ADDED VALUE – UNIQ® CHUCK

The newly-developed hydraulic clamping system enables high machining parameters through excellent stability and accuracy. It minimises self-excited vibration so that clamped tools are not exposed to micro-vibration. This in turn leads to a reduced spindle load of up to 5 percent, enables a significantly longer tool life and guarantees optimal surface quality.

In addition, the brilliant surface which MAPAL creates using a specially developed polishing process ensures that the chucks are more resistant to dirt and corrosion. Users can safely clamp the tool in the holder with little force requirement. This is ensured by "foolproof handling", i.e. simple and self-explanatory handling of the chucks. This saves a considerable amount of time compared to other clamping mechanisms, especially with the Hydro DReaM Chuck 4.5°.



Design features in detail:

Design philosophy

FEM supported contours for maximum rigidity with minimum use of resources

Blue actuator screw

- Optical control element foolproof
- Reduced risk of errors and accidents

Polished surface Maximum resistance to corrosion and dirt

Reduced tightening torque

- Reduction of non-productive time
- Ergonomic handling

Signature elements

Information on function and product





Formal language - Bionic contours

- Higher stability and accuracy of the overall system
- Less displacement of the tool
- The tool cutting edge is constantly in intervention
- Less weight due to minimal use of resources
- Fits well in the hand when setting up the tool magazine
- Self-excited vibrations are minimized
- The tools are not exposed to micro vibrations



Polished surfaces

- Dirt resistance (corrosion resistance) increased
- Highest balancing qualities due to compacted



Blue actuation screw | Signature Elements

- Clear assignment of the operating screw and easier actuation by reducing the up to 70 % reduced tightening torque of the operating screw
- Clarity of the product created, important functional and product information immediately available







Advantages of the DirectCool system



Decentralised cooling

For longer tool life and stable processes.



Maximum tool life

Wear is reduced thanks to cooled tools and chucks.



Cost-efficient and flexible

No expensive shank grooves necessary. Standard an other tools without internal cooling can be used.



Effective chip removal

Flushing effect improves process reliability and surface quality.



Compatibility with no restrictions

No change to tool restriction with simple integration into existing systems.

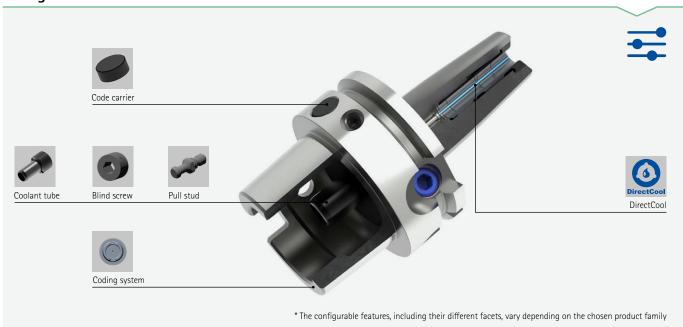
CONFIGURATION

Configurator for clamping technology – quick, simple and productive

How does the configuration work?

- Individual configurability: All series can be flexibly adapted to your requirements e.g. through the use of configurable features such as coolant tubes, blind screws, pull studs, coding systems and code carriers.
- **UNIQ** series with **DirectCool**: For hydraulic chucks of the UNIQ series UNIQ Mill Chuck, HA and UNIQ DReaM Chuck, 4.5°, you have the option of configuring decentralised cooling via the DirectCool system.
- **Rapid availability:** Our configurable products can also be delivered in next to no time. This is because we always keep a large number of products from our preferred series in stock.

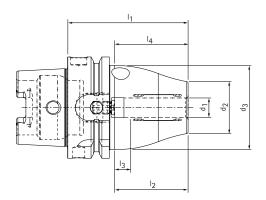
Configurable features*



Configuration for UNIQ series

Technology		Design			Fe	atures		
			Code carrier	Pull stud	Coolant tube	Coding system	Blind screw	DirectCool DirectCool
Hydraulic clamping technology	LINIO	UNIQ Mill Chuck, HA	HSK, SK	SK, BT, BT-FC, CAT	HSK	HSK	HSK	HSK, SK, BT, BT-FC, CAT
	UNIQ	UNIQ DReaM Chuck, 4.5°	HSK, SK	SK, BT, CAT	HSK	HSK	HSK	HSK, SK, BT, CAT

With axial tool length adjustment
Shank hollow shank taper A according to DIN 69893-1





LICK A				Dimensions	,			G	Torque *	Specification	Order No.
HSK-A	d ₁	d ₂	d ₃	I ₁	l ₂	l ₃	I ₄		[Nm]		
63	6,0	26,0	50,0	65,0	37,0	10,0	35,2	M5	22	MHC-HSK-A063-06-065-1-0-A	31270591
63	8,0	28,0	50,0	65,0	37,0	10,0	35,2	M6	47	MHC-HSK-A063-08-065-1-0-A	31270593
63	10,0	30,0	50,0	75,0	41,0	10,0	45,2	M8x1	85	MHC-HSK-A063-10-075-1-0-A	31270595
63	12,0	32,0	52,5	75,0	46,0	10,0	45,2	M8x1	130	MHC-HSK-A063-12-075-1-0-A	31229418
63	14,0	34,0	52,5	75,0	46,0	10,0	45,2	M8x1	240	MHC-HSK-A063-14-075-1-0-A	31374670
63	16,0	38,0	52,5	79,0	49,0	10,0	49,2	M8x1	350	MHC-HSK-A063-16-079-1-0-A	31270598
63	18,0	38,0	52,5	79,0	49,0	10,0	49,2	M8x1	430	MHC-HSK-A063-18-079-1-0-A	31374671
63	20,0	38,0	52,5	79,0	51,0	10,0	49,2	M8x1	520	MHC-HSK-A063-20-079-1-0-A	31229438
63	25,0	48,0	57,0	95,0	57,0	10,0	45,0	M10x1	700	MHC-HSK-A063-25-095-1-0-A	31396170
63	32,0	58,5	62,5	110,0	61,0	10,0	56,6	M10x1	900	MHC-HSK-A063-32-110-1-0-A	31396171
100	6,0	26,0	50,0	73,0	37,0	10,0	40,2	M5	22	MHC-HSK-A100-06-073-1-0-A	31345192
100	8,0	28,0	50,0	73,0	37,0	10,0	40,2	M6	47	MHC-HSK-A100-08-073-1-0-A	31345193
100	10,0	30,0	50,0	83,0	41,0	10,0	50,2	M8x1	85	MHC-HSK-A100-10-083-1-0-A	31345194
100	12,0	32,0	52,5	83,0	46,0	10,0	50,2	M8x1	130	MHC-HSK-A100-12-083-1-0-A	31345195
100	14,0	34,0	52,5	83,0	46,0	10,0	50,2	M8x1	240	MHC-HSK-A100-14-083-1-0-A	31345196
100	16,0	38,0	52,5	87,0	49,0	10,0	54,2	M8x1	350	MHC-HSK-A100-16-087-1-0-A	31345197
100	18,0	38,0	52,5	87,0	49,0	10,0	54,2	M8x1	430	MHC-HSK-A100-18-087-1-0-A	31345198
100	20,0	38,0	52,5	87,0	51,0	10,0	54,2	M8x1	520	MHC-HSK-A100-20-087-1-0-A	31345199
100	25,0	56,0	70,0	95,0	57,0	10,0	62,2	M10x1	700	MHC-HSK-A100-25-095-1-0-A	31345200
100	32,0	60,0	75,0	100,0	61,0	10,0	67,2	M10x1	900	MHC-HSK-A100-32-100-1-0-A	31345201

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

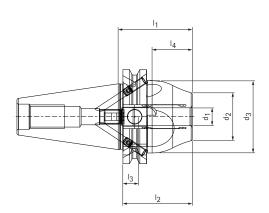
Scope of delivery: With length adjustment screw, without coolant tube.

Design: Highest tool life and production quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA.

With a length of 2.5xD (max. 50 mm) concentricity 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Coolant tubes, code carriers, reducing sleeves for reducing the clamping diameter (when using the reducing sleeve, an impairment of the accuracy is possible) see category accessories, spare parts and measuring equipment. Length adjustment screws available on request.

With axial tool length adjustment
Shank hollow shank taper A according to ISO 7388-1 form AD/AF





SK				Dime	nsions				G	Torque *	Specification	Order No.
3K	d ₁	d ₂	d ₃	d ₄	I ₁	l ₂	l ₃	14		[INM]		
40	6,0	26,0	42,0	-	50,0	37,0	10,0	27,1	M5	22	MHC-SK040-06-050-3-0-A	31345212
40	8,0	28,0	42,0	-	50,0	37,0	10,0	27,1	M6	47	MHC-SK040-08-050-3-0-A	31345213
40	10,0	30,0	42,0	-	50,0	41,0	10,0	27,1	M8x1	85	MHC-SK040-10-050-3-0-A	31345214
40	12,0	32,0	49,0	-	50,0	46,0	10,0	27,1	M10x1	130	MHC-SK040-12-050-3-0-A	31345215
40	14,0	34,0	49,0	-	50,0	46,0	10,0	27,1	M10x1	240	MHC-SK040-14-050-3-0-A	31374686
40	16,0	38,0	49,0	-	64,5	49,0	10,0	41,6	M12x1	350	MHC-SK040-16-065-3-0-A	31345216
40	18,0	38,0	49,0	-	64,5	49,0	10,0	41,6	M12x1	430	MHC-SK040-18-065-3-0-A	31374687
40	20,0	38,0	49,0	-	64,5	51,0	10,0	41,6	M16x1	520	MHC-SK040-20-065-3-0-A	31345217
40	25,0	48,0	57,0	49,5	110,0	57,0	10,0	65,3	M10x1	700	MHC-SK040-25-110-3-0-A	31396178
40	32,0	58,5	62,5	49,5	115,0	61,0	10,0	65,5	M12x1	900	MHC-SK040-32-115-3-0-A	31396179

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

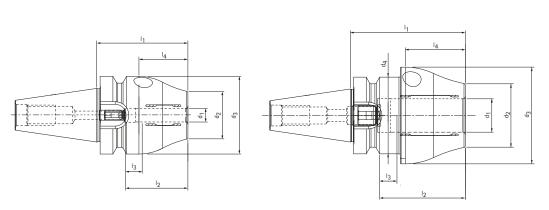
Scope of delivery: With length adjustment screw, without coolant tube.

Design: Highest tool life and production quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA.

With a length of 2.5xD (max. 50 mm) concentricity 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Coolant tubes, code carriers, reducing sleeves for reducing the clamping diameter (when using the reducing sleeve, an impairment of the accuracy is possible) see category accessories, spare parts and measuring equipment. Length adjustment screws available on request.

With axial tool length adjustment Shank BT according to ISO 7388-2 form JD/JF (JIS B 6339)





ВТ				Dime	nsions				G	Torque *	Specification	Order No.
ы	d ₁	d ₂	d ₃	d ₄	I ₁	l ₂	l ₃	l ₄		[Nm]		
30**	6,0	26,0	46,0	-	54,0	37,0	10,0	29	M5	22	MHC-BT030-06-054-1-0-A	31280342
30**	8,0	28,0	46,0	-	54,0	37,0	10,0	29	M6	47	MHC-BT030-08-054-1-0-A	31280343
30**	10,0	30,0	50,0	46,0	54,0	41,0	10,0	23,5	M8x1	85	MHC-BT030-10-054-1-0-A	31280344
30**	12,0	32,0	50,0	46,0	54,0	46,0	10,0	23,5	M10x1	130	MHC-BT030-12-054-1-0-A	31280345
30**	14,0	38,0	52,0	46,0	54,0	46,0	10,0	21,0	M10x1	240	MHC-BT030-14-054-1-0-A	31374678
30**	16,0	38,0	55,0	46,0	69,0	49,0	10,0	38,5	M12x1	350	MHC-BT030-16-069-1-0-A	31280346
30**	18,0	38,0	55,0	46,0	69,0	49,0	10,0	36,0	M12x1	430	MHC-BT030-18-069-1-0-A	31374679
30**	20,0	38,0	58,0	46,0	69,0	51,0	10,0	38,5	M12x1	520	MHC-BT030-20-069-1-0-A	31280347
40	6,0	26,0	42,0	-	58,0	37,0	10,0	27,2	M5	22	MHC-BT040-06-058-3-0-A	31345236
40	8,0	28,0	42,0	-	58,0	37,0	10,0	27,2	M6	47	MHC-BT040-08-058-3-0-A	31345237
40	10,0	30,0	42,0	-	58,0	41,0	10,0	27,2	M8x1	85	MHC-BT040-10-058-3-0-A	31345238
40	12,0	32,0	49,0	-	58,0	46,0	10,0	27,2	M10x1	130	MHC-BT040-12-058-3-0-A	31345239
40	14,0	34,0	49,0	-	58,0	46,0	10,0	27,2	M10x1	240	MHC-BT040-14-058-3-0-A	31396154
40	16,0	38,0	49,0	-	72,5	49,0	10,0	41,7	M12x1	350	MHC-BT040-16-073-3-0-A	31345240
40	18,0	38,0	49,0	-	72,5	49,0	10,0	41,7	M12x1	430	MHC-BT040-18-073-3-0-A	31396155
40	20,0	38,0	49,0	-	72,5	51,0	10,0	41,7	M16x1	520	MHC-BT040-20-073-3-0-A	31345241
40	25,0	48,0	57,0	-	100,0	57,0	10,0	44,6	M16x1	700	MHC-BT040-25-100-3-0-A	31396156
40	32,0	58,5	62,0	-	105,0	61,0	10,0	50,0	M16x1	900	MHC-BT040-32-105-3-0-A	31396157

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

Scope of delivery: With length adjustment screw, without tightening bolt.

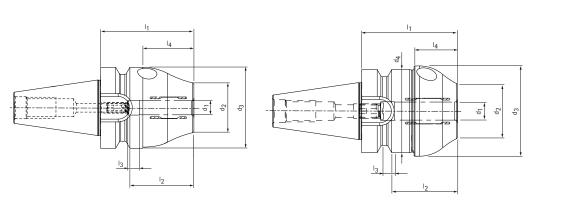
Design: Highest tool life and manufacturing quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA. With an overhang length of 2.5xD (max. 50 mm)

concentricity accuracy 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Tightening bolts, reducing sleeves for reducing the clamping diameter. (When using the reducing sleeve, accuracy may be impaired) see category accessories and spare parts. Length adjustment screws available on request. Balance quality: G 2.5 at 25,000 min⁻¹ as delivered.

 $[\]ensuremath{^{**}}$ Design: Steep taper size is not available in combined JD/JF version.

With axial tool length adjustment Shank BT according to ISO 7388-2 form JD/JF (JIS B 6339)





DT 50				Dimer	nsions				G	Torque *	Specification	Order No.
BT-FC	d ₁	d ₂	d_3	d ₄	I ₁	l ₂	13	l ₄		[Nm]		
30	6,0	26,0	46,0	-	53,0	37,0	10,0	29,0	M5	22	MHC-JD-FC030-06-53-1-0-A	31571493
30	8,0	28,0	46,0	-	53,0	37,0	10,0	29,0	M6	47	MHC-JD-FC030-08-53-1-0-A	31571494
30	10,0	30,0	50,0	46,0	53,0	41,0	10,0	23,5	M8x1	85	MHC-JD-FC030-10-53-1-0-A	31571495
30	12,0	32,0	50,0	46,0	53,0	46,0	10,0	23,5	M10x1	130	MHC-JD-FC030-12-53-1-0-A	31571496
30	14,0	38,0	52,0	46,0	53,0	46,0	10,0	23,5	M10x1	240	MHC-JD-FC030-14-53-1-0-A	31571497
30	16,0	38,0	55,0	46,0	68,0	49,0	10,0	38,5	M12x1	350	MHC-JD-FC030-16-68-1-0-A	31571498
30	18,0	38,0	55,0	46,0	68,0	49,0	10,0	38,5	M12x1	430	MHC-JD-FC030-18-68-1-0-A	31571499
30	20,0	38,0	58,0	46,0	68,0	51,0	10,0	38,5	M12x1	520	MHC-JD-FC030-20-68-1-0-A	31571540

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

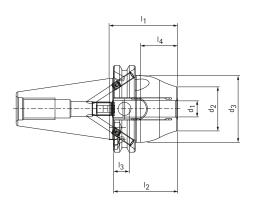
Scope of delivery: With length adjustment screw, without tightening bolt.

Design: Highest tool life and manufacturing quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA. With an overhang length of 2.5xD (max. 50 mm)

concentricity accuracy 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Tightening bolts, reducing sleeves for reducing the clamping diameter. (When using the reducing sleeve, accuracy may be impaired) see category accessories and spare parts. Length adjustment screws available on request. Balance quality: G 2.5 at 25,000 min⁻¹ as delivered.

With axial tool length adjustment Shank "CAT" according to ASME B5.50-1994





CAT				Dimensions	5			G	Torque *	Specification	Order No.
CAT	d ₁	d ₂	d_3	I ₁	l ₂	l ₃	l ₄		[Nm]		
40	6,0	26,0	42,0	50,0	37,0	10,0	27,1	M5	22	MHC-CAT040-06-050-3-0-A	31345224
40	8,0	28,0	42,0	50,0	37,0	10,0	27,1	M6	47	MHC-CAT040-08-050-3-0-A	31345225
40	10,0	30,0	42,0	50,0	41,0	10,0	27,1	M8x1	85	MHC-CAT040-10-050-3-0-A	31345226
40	12,0	32,0	49,0	50,0	46,0	10,0	27,1	M10x1	130	MHC-CAT040-12-050-3-0-A	31345227
40	14,0	32,0	49,0	50,0	46,0	10,0	27,1	M10x1	240	MHC-CAT040-14-050-3-0-A	31374694
40	16,0	38,0	49,0	64,5	49,0	10,0	41,6	M12x1	350	MHC-CAT040-16-065-3-0-A	31345228
40	18,0	38,0	49,0	64,5	49,0	10,0	41,6	M12x1	430	MHC-CAT040-18-065-3-0-A	31374695
40	20,0	38,0	49,0	64,5	51,0	10,0	41,6	M16x1	520	MHC-CAT040-20-065-3-0-A	31345229

^{*} Permissible transmittable torque.

Dimensions in mm.

DIN 1835 form A and DIN 6535 form HA.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

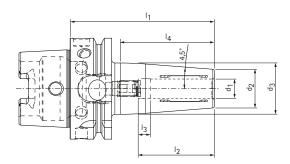
Scope of delivery: With length adjustment screw, without coolant tube.

Design: Highest tool life and production quality when using smooth shanks according to

With a length of 2.5xD (max. 50 mm) concentricity 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Coolant tubes, code carriers, reducing sleeves for reducing the clamping diameter (when using the reducing sleeve, an impairment of the accuracy is possible) see category accessories, spare parts and measuring equipment. Length adjustment screws available on request.

With axial tool length adjustment, clamping insertion in the collar Shank HSK-A according to DIN 69893-1 $\,$





HSK-A				Dimensions	5			G	Torque *	Specification	Order No.
пэк-А	d ₁	d ₂	d_3	I ₁	l ₂	l ₃	I ₄		[INM]		
63	6,0	21,0	27,0	0,08	37,0	10,0	48,9	M5	18	MHC-HSK-A063-06-080-1-0-A	31270515
63	6,0	21,0	27,0	120,0	37,0	10,0	48,9	M5	18	MHC-HSK-A063-06-120-1-0-A	31441122
63	6,0	21,0	27,0	160,0	37,0	10,0	48,9	M5	18	MHC-HSK-A063-06-160-1-0-A	31499983
63	8,0	21,0	27,0	80,0	37,0	10,0	48,9	M6	35	MHC-HSK-A063-08-080-1-0-A	31270525
63	8,0	21,0	27,0	120,0	37,0	10,0	48,9	M6	35	MHC-HSK-A063-08-120-1-0-A	31441123
63	8,0	21,0	27,0	160,0	37,0	10,0	48,9	M8x1	35	MHC-HSK-A063-08-160-1-0-A	31499984
63	10,0	24,0	32,0	85,0	41,0	10,0	53,7	M8x1	60	MHC-HSK-A063-10-085-1-0-A	31270550
63	10,0	24,0	32,0	120,0	41,0	10,0	61,6	M8x1	60	MHC-HSK-A063-10-120-1-0-A	31441124
63	10,0	24,0	32,0	160,0	41,0	10,0	61,6	M8x1	60	MHC-HSK-A063-10-160-1-0-A	31499985
63	12,0	24,0	32,0	90,0	46,0	10,0	58,6	M10x1	90	MHC-HSK-A063-12-090-1-0-A	31229439
63	12,0	24,0	32,0	120,0	46,0	10,0	61,6	M10x1	90	MHC-HSK-A063-12-120-1-0-A	31441125
63	12,0	24,0	32,0	160,0	46,0	10,0	61,6	M10x1	90	MHC-HSK-A063-12-160-1-0-A	31499986
63	14,0	27,0	34,0	90,0	46,0	10,0	57,2	M10x1	130	MHC-HSK-A063-14-090-1-0-A	31375071
63	14,0	27,0	34,0	120,0	46,0	10,0	56,2	M10x1	130	MHC-HSK-A063-14-120-1-0-A	31441126
63	14,0	27,0	34,0	160,0	46,0	10,0	56,2	M10x1	130	MHC-HSK-A063-14-160-1-0-A	31499987
63	16,0	27,0	34,0	95,0	49,0	10,0	63,1	M12x1	200	MHC-HSK-A063-16-095-1-0-A	31270555
63	16,0	27,0	34,0	120,0	49,0	10,0	56,2	M12x1	200	MHC-HSK-A063-16-120-1-0-A	31441127
63	16,0	27,0	34,0	160,0	49,0	10,0	56,2	M12x1	200	MHC-HSK-A063-16-160-1-0-A	31499988
63	18,0	33,0	42,0	95,0	49,0	10,0	63,0	M12x1	250	MHC-HSK-A063-18-095-1-0-A	31375072
63	18,0	33,0	42,0	120,0	49,0	10,0	68,9	M12x1	250	MHC-HSK-A063-18-120-1-0-A	31441128
63	18,0	33,0	42,0	160,0	49,0	10,0	68,9	M12x1	250	MHC-HSK-A063-18-160-1-0-A	31499989
63	20,0	33,0	42,0	100,0	51,0	10,0	68,9	M16x1	330	MHC-HSK-A063-20-100-1-0-A	31229440
63	20,0	33,0	42,0	120,0	51,0	10,0	68,9	M16x1	330	MHC-HSK-A063-20-120-1-0-A	31441129
63	20,0	33,0	42,0	160,0	51,0	10,0	68,9	M16x1	330	MHC-HSK-A063-20-160-1-0-A	31500040
63	25,0	44,0	52,5	115,0	57,0	10,0	85,4	M16x1	500	MHC-HSK-A063-25-115-1-0-A	31396186
63	25,0	44,0	52,5	160,0	57,0	10,0	85,4	M16x1	500	MHC-HSK-A063-25-160-1-0-A	31504685
63	32,0	44,0	52,5	120,0	61,0	10,0	90,1	M16x1	650	MHC-HSK-A063-32-120-1-0-A	31396187
63	32,0	44,0	52,5	160,0	61,0	10,0	90,1	M16x1	650	MHC-HSK-A063-32-160-1-0-A	31504687

Continued on next page.

UNIQ DReaM Chuck, 4.5° | With axial tool length adjustment, clamping insertion in the collar, shank HSK-A according to DIN 69893-1

LICK A				Dimensions	,			G	Torque *	Specification	Order No.
HSK-A	d ₁	d ₂	d ₃	I ₁	l ₂	l ₃	I ₄		[Nm]		
100	6,0	21,0	27,0	85,0	37,0	10,0	38,7	M5	18	MHC-HSK-A100-06-085-1-0-A	31344789
100	6,0	21,0	27,0	120,0	37,0	10,0	48,9	M5	18	MHC-HSK-A100-06-120-1-0-A	31496256
100	6,0	21,0	27,0	160,0	37,0	10,0	48,9	M5	18	MHC-HSK-A100-06-160-1-0-A	31500057
100	8,0	21,0	27,0	85,0	37,0	10,0	38,7	M6	35	MHC-HSK-A100-08-085-1-0-A	31344860
100	8,0	21,0	27,0	120,0	37,0	10,0	48,9	M6	35	MHC-HSK-A100-08-120-1-0-A	31496257
100	8,0	21,0	27,0	160,0	37,0	10,0	48,9	M6	35	MHC-HSK-A100-08-160-1-0-A	31500058
100	10,0	24,0	32,0	90,0	41,0	10,0	53,7	M8x1	60	MHC-HSK-A100-10-090-1-0-A	31344862
100	10,0	24,0	32,0	120,0	41,0	10,0	61,6	M8x1	60	MHC-HSK-A100-10-120-1-0-A	31496258
100	10,0	24,0	32,0	160,0	41,0	10,0	61,6	M8x1	60	MHC-HSK-A100-10-160-1-0-A	31500059
100	12,0	24,0	32,0	95,0	46,0	10,0	58,6	M10x1	90	MHC-HSK-A100-12-095-1-0-A	31344863
100	12,0	24,0	32,0	120,0	46,0	10,0	61,6	M10x1	90	MHC-HSK-A100-12-120-1-0-A	31496259
100	12,0	24,0	32,0	160,0	46,0	10,0	61,6	M10x1	90	MHC-HSK-A100-12-160-1-0-A	31500060
100	14,0	27,0	34,0	95,0	46,0	10,0	57,2	M10x1	130	MHC-HSK-A100-14-095-1-0-A	31344864
100	14,0	27,0	34,0	120,0	46,0	10,0	56,2	M10x1	130	MHC-HSK-A100-14-120-1-0-A	31496300
100	14,0	27,0	34,0	160,0	46,0	10,0	56,2	M10x1	130	MHC-HSK-A100-14-160-1-0-A	31500061
100	16,0	27,0	34,0	100,0	49,0	10,0	63,1	M12x1	200	MHC-HSK-A100-16-100-1-0-A	31344865
100	16,0	27,0	34,0	120,0	49,0	10,0	56,2	M12X1	200	MHC-HSK-A100-16-120-1-0-A	31496301
100	16,0	27,0	34,0	160,0	49,0	10,0	56,2	M12x1	200	MHC-HSK-A100-16-160-1-0-A	31500062
100	18,0	33,0	42,0	100,0	49,0	10,0	63,0	M12x1	250	MHC-HSK-A100-18-100-1-0-A	31344866
100	18,0	33,0	42,0	120,0	49,0	10,0	68,9	M12X1	250	MHC-HSK-A100-18-120-1-0-A	31496302
100	18,0	33,0	42,0	160,0	49,0	10,0	68,9	M12x1	250	MHC-HSK-A100-18-160-1-0-A	31500063
100	20,0	33,0	42,0	105,0	51,0	10,0	68,9	M16x1	330	MHC-HSK-A100-20-105-1-0-A	31344867
100	20,0	33,0	42,0	120,0	51,0	10,0	68,9	M16X1	330	MHC-HSK-A100-20-120-1-0-A	31496303
100	20,0	33,0	42,0	160,0	51,0	10,0	68,9	M16x1	330	MHC-HSK-A100-20-160-1-0-A	31500064
100	25,0	44,0	53,0	115,0	57,0	10,0	80,7	M16x1	500	MHC-HSK-A100-25-115-1-0-A	31344868
100	25,0	44,0	53,0	160,0	57,0	10,0	88,6	M16x1	500	MHC-HSK-A100-25-160-1-0-A	31505294
100	32,0	44,0	53,0	120,0	61,0	10,0	84,6	M16x1	650	MHC-HSK-A100-32-120-1-0-A	31344869
100	32,0	44,0	53,0	160,0	61,0	10,0	93,3	M16x1	650	MHC-HSK-A100-32-160-1-0-A	31505295

 $^{^{\}star}$ Permissible transmittable torque.

Dimensions in mm.

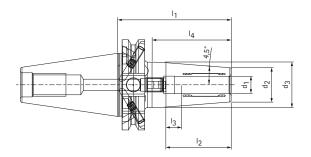
Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

Scope of delivery: With length adjustment screw, without coolant tube. Design: Highest tool life and production quality when using plain shanks according to DIN 1835 form A and DIN 6535 form HA. With a cantilever length of 2.5xD (max. 50 mm) concentricity 3 μ m. When using cylindrical shanks with inclined clamping surface (form E

and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Coolant tubes, code carriers, reducing sleeves for reducing the clamping diameter (when using the reducing sleeve, an impairment of the accuracy is possible) see category accessories, spare parts and measuring equipment. Length adjustment screws available on request.

With axial tool length adjustment, clamping insertion in the collar Shank hollow shank taper A according to ISO 7388-1 form AD/AF





CV				Dime	nsions				G	Torque *	Specification	Order No.
SK	d ₁	d ₂	d ₃	d ₄	I ₁	l ₂	l ₃	I ₄		[Nm]		
40	6,0	21,0	27,0	-	80,0	37,0	10,0	55,7	M5	18	MHC-SK040-06-080-3-0-A	31344880
40	6,0	21,0	27,0	-	120,0	37,0	10,0	48,9	M5	18	MHC-SK040-06-120-3-0-A	31441418
40	6,0	21,0	27,0	-	160,0	37,0	10,0	48,9	M5	18	MHC-SK040-06-160-3-0-A	31561428
40	8,0	21,0	27,0	-	80,0	37,0	10,0	55,7	M6	35	MHC-SK040-08-080-3-0-A	31344881
40	8,0	21,0	27,0	-	120,0	37,0	10,0	48,9	M6	35	MHC-SK040-08-120-3-0-A	31441419
40	8,0	21,0	27,0	-	160,0	37,0	10,0	48,9	M6	35	MHC-SK040-08-160-3-0-A	31561429
40	10,0	24,0	32,0	-	80,0	41,0	10,0	55,7	M8x1	60	MHC-SK040-10-080-3-0-A	31344882
40	10,0	24,0	32,0	-	120,0	41,0	10,0	61,6	M8x1	60	MHC-SK040-10-120-3-0-A	31441490
40	10,0	24,0	32,0	-	160,0	41,0	10,0	61,6	M8x1	60	MHC-SK040-10-160-3-0-A	31561500
40	12,0	24,0	32,0	-	80,0	46,0	10,0	55,7	M10x1	90	MHC-SK040-12-080-3-0-A	31344883
40	12,0	24,0	32,0	-	120,0	46,0	10,0	61,6	M10x1	90	MHC-SK040-12-120-3-0-A	31441491
40	12,0	24,0	32,0	-	160,0	46,0	10,0	61,6	M10x1	90	MHC-SK040-12-160-3-0-A	31561501
40	14,0	27,0	34,0	-	80,0	46,0	10,0	55,8	M10x1	130	MHC-SK040-14-080-3-0-A	31375087
40	14,0	27,0	34,0	-	120,0	46,0	10,0	56,2	M10x1	130	MHC-SK040-14-120-3-0-A	31441492
40	14,0	27,0	34,0	-	160,0	46,0	10,0	56,2	M10x1	130	MHC-SK040-14-160-3-0-A	31561502
40	16,0	27,0	34,0	-	80,0	49,0	10,0	55,8	M12x1	200	MHC-SK040-16-080-3-0-A	31344884
40	16,0	27,0	34,0	-	120,0	49,0	10,0	56,2	M12x1	200	MHC-SK040-16-120-3-0-A	31441493
40	16,0	27,0	34,0	-	160,0	49,0	10,0	56,2	M12x1	200	MHC-SK040-16-160-3-0-A	31561503
40	18,0	33,0	42,0	-	80,0	49,0	10,0	57,2	M12x1	250	MHC-SK040-18-080-3-0-A	31375088
40	18,0	33,0	42,0	-	120,0	49,0	10,0	68,9	M12x1	250	MHC-SK040-18-120-3-0-A	31441494
40	18,0	33,0	42,0	-	160,0	49,0	10,0	68,9	M12x1	250	MHC-SK040-18-160-3-0-A	31561504
40	20,0	33,0	42,0	-	80,0	51,0	10,0	57,2	M16x1	330	MHC-SK040-20-080-3-0-A	31344885
40	20,0	33,0	42,0	-	120,0	51,0	10,0	68,9	M16x1	330	MHC-SK040-20-120-3-0-A	31441495
40	20,0	33,0	42,0	-	160,0	51,0	10,0	68,9	M16x1	330	MHC-SK040-20-160-3-0-A	31561505
40	25,0	44,0	53,0	49,0	100,0	57,0	10,0	58,7	M10x1	500	MHC-SK040-25-100-3-0-A	31396194
40	25,0	44,0	53,0	49,0	160,0	57,0	10,0	60,0	M10x1	500	MHC-SK040-25-160-3-0-A	31561506
40	32,0	44,0	53,0	-	100,0	61,0	10,0	58,3	M10x1	650	MHC-SK040-32-100-3-0-A	31396195
40	32,0	44,0	53,0	49,0	160,0	61,0	10,0	60,0	M10x1	650	MHC-SK040-32-160-3-0-A	31561507

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

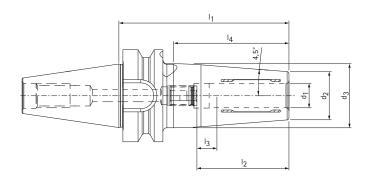
Scope of delivery: With length adjustment screw, without coolant tube.

Design: Highest tool life and production quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA.

With a length of 2.5xD (max. 50 mm) concentricity 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Coolant tubes, code carriers, reducing sleeves for reducing the clamping diameter (when using the reducing sleeve, an impairment of the accuracy is possible) see category accessories, spare parts and measuring equipment. Length adjustment screws available on request.

With axial tool length adjustment, clamping insertion in the collar Shank BT according to ISO 7388-2 form JD/JF (JIS B 6339)





ВТ				Dimensions	;			G	Torque *	Specification	Order No.
ы	d ₁	d ₂	d_3	I ₁	l ₂	l ₃	I ₄		[Nm]		
30**	6,0	21,0	27,0	85,0	37,0	10,0	57,7	M5	18	MHC-BT030-06-085-1-0-A	31280360
30**	8,0	21,0	27,0	85,0	37,0	10,0	57,7	M6	35	MHC-BT030-08-085-1-0-A	31280361
30**	10,0	24,0	32,0	85,0	41,0	10,0	57,7	M8x1	60	MHC-BT030-10-085-1-0-A	31280362
30**	12,0	24,0	32,0	85,0	46,0	10,0	57,7	M10x1	90	MHC-BT030-12-085-1-0-A	31280365
30**	14,0	27,0	34,0	85,0	46,0	10,0	57,2	M10x1	130	MHC-BT030-14-085-1-0-A	31375079
30**	16,0	27,0	34,0	85,0	49,0	10,0	57,2	M10x1	200	MHC-BT030-16-085-1-0-A	31280366
30**	18,0	33,0	42,0	85,0	49,0	10,0	57,5	M12x1	250	MHC-BT030-18-085-1-0-A	31375080
30**	20,0	33,0	42,0	85,0	51,0	10,0	57,5	M10x1	330	MHC-BT030-20-085-1-0-A	31280367
40	6,0	21,0	27,0	90,0	37,0	10,0	57,7	M5	18	MHC-BT040-06-090-3-0-A	31344904
40	6,0	21,0	27,0	120,0	37,0	10,0	48,9	M5	18	MHC-BT040-06-120-3-0-A	31496324
40	8,0	21,0	27,0	90,0	37,0	10,0	57,7	M6	35	MHC-BT040-08-090-3-0-A	31344905
40	8,0	21,0	27,0	120,0	37,0	10,0	48,9	M6	35	MHC-BT040-08-120-3-0-A	31496325
40	10,0	24,0	32,0	90,0	41,0	10,0	57,7	M8x1	60	MHC-BT040-10-090-3-0-A	31344906
40	10,0	24,0	32,0	120,0	41,0	10,0	61,6	M8x1	60	MHC-BT040-10-120-3-0-A	31496326
40	12,0	24,0	32,0	90,0	46,0	10,0	57,7	M10x1	90	MHC-BT040-12-090-3-0-A	31344907
40	12,0	24,0	32,0	120,0	46,0	10,0	61,6	M10x1	90	MHC-BT040-12-120-3-0-A	31496327
40	14,0	27,0	34,0	90,0	46,0	10,0	57,2	M10x1	130	MHC-BT040-14-090-3-0-A	31396128
40	14,0	27,0	34,0	120,0	46,0	10,0	56,2	M10x1	130	MHC-BT040-14-120-3-0-A	31496328
40	16,0	27,0	34,0	90,0	49,0	10,0	57,2	M12x1	200	MHC-BT040-16-090-3-0-A	31344908
40	16,0	27,0	34,0	120,0	49,0	10,0	56,2	M12x1	200	MHC-BT040-16-120-3-0-A	31496329
40	18,0	33,0	42,0	90,0	49,0	10,0	57,5	M12x1	250	MHC-BT040-18-090-3-0-A	31396129
40	18,0	33,0	42,0	120,0	49,0	10,0	68,9	M12x1	250	MHC-BT040-18-120-3-0-A	31496330
40	20,0	33,0	42,0	90,0	51,0	10,0	57,5	M16x1	330	MHC-BT040-20-090-3-0-A	31344909
40	20,0	33,0	42,0	120,0	51,0	10,0	68,9	M16x1	330	MHC-BT040-20-120-3-0-A	31496331
40	25,0	44,0	53,0	100,0	57,0	10,0	67,9	M16x1	500	MHC-BT040-25-100-3-0-A	31396140
40	32,0	44,0	53,0	100,0	61,0	10,0	67,9	M16x1	650	MHC-BT040-32-100-3-0-A	31396141

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

Scope of delivery: With length adjustment screw, without tightening bolt.

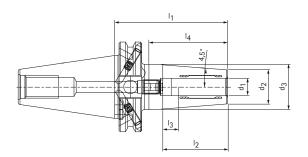
Design: Highest tool life and manufacturing quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA. With an overhang length of 2.5xD (max. 50 mm)

concentricity accuracy 3 μ m. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Tightening bolts, reducing sleeves for reducing the clamping diameter. (When using the reducing sleeve, accuracy may be impaired) see category accessories and spare parts. Length adjustment screws available on request. Balance quality: G 2.5 at 25,000 min⁻¹ as delivered.

^{**} Design: Steep taper size is not available in combination design JD/JF

With axial tool length adjustment, clamping insertion in the collar Shank "CAT" according to ASME B5.50-1994





CAT				Dimensions	5			G	Torque *	Specification	Order No.
CAT	d ₁	d ₂	d_3	I ₁	l ₂	l ₃	l ₄		[Nm]		
40	6,0	21,0	27,0	80,0	37,0	10,0	55,7	M5	18	MHC-CAT040-06-080-3-0-A	31344892
40	8,0	21,0	27,0	80,0	37,0	10,0	55,7	M6	35	MHC-CAT040-08-080-3-0-A	31344893
40	10,0	24,0	32,0	80,0	41,0	10,0	55,7	M8x1	60	MHC-CAT040-10-080-3-0-A	31344894
40	12,0	24,0	32,0	80,0	46,0	10,0	55,7	M10x1	90	MHC-CAT040-12-080-3-0-A	31344895
40	14,0	27,0	34,0	80,0	46,0	10,0	55,8	M10x1	130	MHC-CAT040-14-080-3-0-A	31375095
40	16,0	27,0	34,0	80,0	49,0	10,0	55,8	M12x1	200	MHC-CAT040-16-080-3-0-A	31344896
40	18,0	33,0	42,0	80,0	49,0	10,0	57,2	M12x1	250	MHC-CAT040-18-080-3-0-A	31375096
40	20,0	33,0	42,0	80,0	51,0	10,0	57,2	M16x1	330	MHC-CAT040-20-080-3-0-A	31344897

^{*} Permissible transmittable torque.

Dimensions in mm.

Application: For clamping tools with smooth cylindrical shanks to DIN 1835 Form A, DIN 6535 Form HA as well as with recesses to DIN 1835 Form B, E and DIN 6535 Form HB, HE directly and with reducing sleeve in the clamping diameter. The clamping diameter is designed for a shank tolerance h6.

Scope of delivery: With length adjustment screw, without coolant tube.
Design: Highest tool life and production quality when using smooth shanks according to DIN 1835 form A and DIN 6535 form HA.

With a length of 2.5xD (max. 50 mm) concentricity 3 µm. When using cylindrical shanks with inclined clamping surface (form E and form HE), the accuracy may be impaired. Torque transmission perfectly tailored to your application.

Note: Coolant supply via central through hole. Coolant tubes, code carriers, reducing sleeves for reducing the clamping diameter (when using the reducing sleeve, an impairment of the accuracy is possible) see category accessories, spare parts and measuring equipment. Length adjustment screws available on request.



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