

GUHRING

GM 300

TOOLHOLDERS AND CLAMPING DEVICES



EDITION GM01

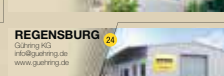
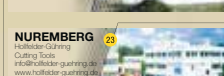
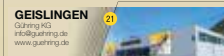
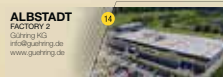
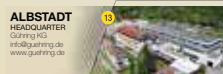
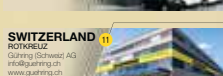
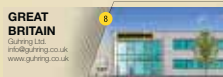
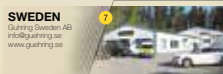
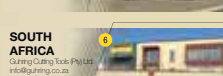
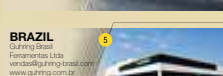
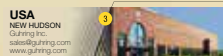
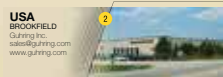
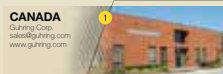
GM 300

Everything from one supplier – comprehensive and global

With a global network of manufacturing sites Guhring develops and produces precision tools for every major market. Customers from various industries rely on our innovative cutting tools, manufactured to the highest level of uniform quality standards across the globe.

48
SUBSIDIARIES

MORE
THAN 70
PRODUCTION AND
SERVICE CENTRES



GUHRING

With innovative technologies Guhring meets specific customer requirements from process proposal to production application of precision tools – flexibly, promptly, globally. To aide in this experience, field experts across the world are available to offer on-site support at customer locations. Production, service and contact persons are available from one supplier world-wide.

Internal carbide production

Internal machine construction

Internal coating plants

Highest quality standards world-wide



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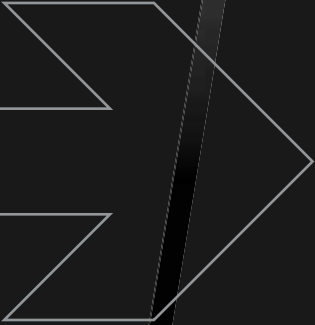


GUHRING

GM 300



GÜHRING



WE SET THE STANDARDS FOR THE FUTURE

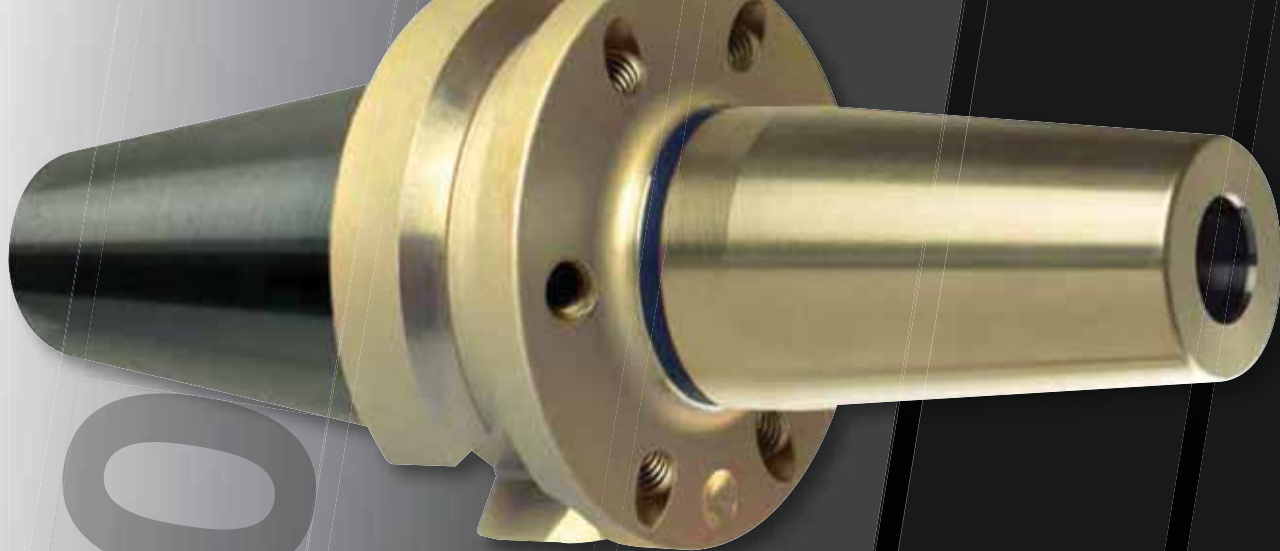


*DEVELOPMENT OF THE
HSK INTERFACE, PIONEER
OF FINE MACHINING*



*MQL TECHNOLOGY
“FROM THE SPINDLE
TO THE CUTTING EDGE”*

HSK



*HIGH OPERATING SAFETY
THANKS TO TEMPERATURE
INDICATOR*



*PVD-COATING FOR LONG
TOOL LIFE*

DEVELOPMENTS
NEVER
SEEN BEFORE.



TOOLS FROM Ø 3MM
DIRECT HYDRAULIC
CLAMPING



THE ADVANTAGES OF
HYDRAULIC CHUCK &
SYNCHRO CHUCK IN
ONE TOOL HOLDER



GUHRING

MQL

GUHRING MQL SYSTEMS

DELIVERING
ONLY THE
REQUIRED AMOUNT



GUHRING

As one of the pioneers of MQL technology we have an extensive knowledge of minimal quantity lubrication. Gühring standard MQL chucks have been supplied a thousand fold throughout the world and are recognized by the automotive industry as ideal MQL solutions as either the one or two channel systems.

Higher cutting speeds and longer tool life are possible thanks to adapted cooling as well as highest surface qualities thanks to the pure lubricant. Workpieces and chips remain dry! Save the cost of de-greasing your workpieces as well as disposal of chips and soluble oil.

1 MQL BY GÜHRING

Our products for the MQL 1-channel technology are identified by this symbol.

**Visual feature
of the 1-channel system**
is the gold colored MQL
length setting screw.



2 MQL BY GÜHRING

Our products for the MQL 2-channel technology are identified by this symbol.

**Visual feature
of the 2-channel system**
is the black colored MQL
length setting screw.



HYDRAULIC CHUCKS



SHRINK FIT TECHNOLOGY



TAPPING CHUCKS



MQL-TECHNOLOGY



HPC CLAMPING CHUCKS



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TOOL HOLDERS

HOLDERS FOR FINE MACHINING

HSK CLAMPING TECHNOLOGY

MEASURING TOOLS AND GENERAL ACCESSORIES

TECHNICAL INFORMATION



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HMC 3000 MICRO-PRECISION DRILLS HR 500

PERFECT CLAMPING

HMC 3000 HYDRAULIC CHUCKS
TOGETHER WITH SOLID CARBIDE
MICRO-PRECISION DRILLS OR HR
500 HIGH-PERFORMANCE REAMERS



- ⇒ direct hydraulic clamping of shanks from Ø 3 mm
- ⇒ quick, simple and accurate length setting
- ⇒ perfect concentricity $R < 3 \mu\text{m}$ with $10 \times d1$

HMC 3000

HYDRAULIC CHUCKS



Hydraulic chucks

HMC 3000

EXTREMELY FAST

EXTREMELY ACCURATE

EXTREMELY SMALL





*DIRECT HYDRAULIC
CLAMPING OF TOOLS
FROM Ø 3 MM*



*HIGH-SPEED
MACHINING*



*PERFECT
CONCENTRICITY
 $R < 3 \mu\text{M}$
WITH $10 \times D1$*



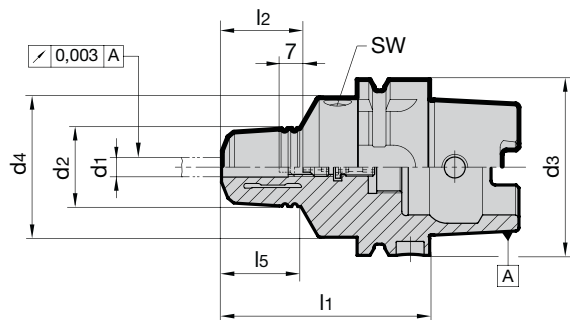
HSK-A hydraulic chucks HMC 3000 for clamping small diameters

Product information

- perfect concentricity: $< 3 \mu\text{m}$ at $10 \times d_1$
- balancing quality: G2.5 / 25.000 rev./min or $U < 1 \text{ gmm}$
- HSK-A to ISO 12164-1/DIN 69893-1
- high clamping force
- quick, simple handling and accurate length setting (only from the front)
- IC and GÜHROJET peripheral cooling ensure optimal chip evacuation and tool lubrication

Scope of delivery

- incl. length adjustment screw
- incl. hexagon chuck key, Series no. 4912
- order coolant supply set, Series no. 4949, separately
- sealed version available as special option


GÜHROJET

Series no. 4618

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	SW	Code no.	EDP Number
32	3	28	40.0	84	34	33	4	3.032	9046180030320
32	4	28	40.0	84	34	33	4	4.032	9046180040320
32	5	28	40.0	84	34	33	4	5.032	9046180050320
40	3	28	33.5	74	34	40	4	3.040	9046180030400
40	4	28	33.5	74	34	40	4	4.040	9046180040400
40	5	28	33.5	74	34	40	4	5.040	9046180050400
50	3	28	40	74	34	32	4	3.050	9046180030500
50	4	28	40	74	34	32	4	4.050	9046180040500
50	5	28	40	74	34	32	4	5.050	9046180050500
63	3	28	50	74	34	29.5	5	3.063	9046180030630
63	4	28	50	74	34	29.5	5	4.063	9046180040630
63	5	28	50	74	34	29.5	5	5.063	9046180050630
100	3	28	50	79	34	30	5	3.100	9046180031000
100	4	28	50	79	34	30	5	4.100	9046180041000
100	5	28	50	79	34	30	5	5.100	9046180051000

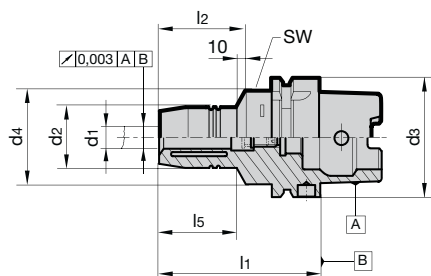
HSK-A hydraulic chucks with increased clamping force

Product information

- balancing quality: G2.5 / 25,000 rev./min or U< 1 gmm
- axial length setting
- max. deviation f. concentricity 3 µm
- for tool shank tolerance h6
- to DIN 69882-7
- also available in extra-long lengths
l₁ = 150 / 160 mm (concentricity 5 µm)
and 200 mm (concentricity 7 µm)
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. adjustment screw, Series no. 4900
- incl. hexagon chuck key, Series no. 4912
- order coolant supply set, Series no. 4949, separately



										Series no.	4299
HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	incl. setting screw 4900	SW	kg	Code no.	EDP Number
32	6	26	40.0	80	37	29	6.014	4	0.44	6.032	9042990060320
32	8	28	40.0	80	37	29	8.014	4	0.40	8.032	9042990080320
32	10	30	40.0	85	41	35	8.014	4	0.40	10.032	9042990100320
32	12	32	40.0	90	46	40	8.014	4	0.40	12.032	9042990120320
40	6	26	33.5	70	37	36	6.014	4	0.60	6.040	9042990060400
40	8	28	33.5	70	37	36	8.014	4	0.60	8.040	9042990080400
40	10	30	33.5	75	41	42	8.014	4	0.60	10.040	9042990100400
40	12	32	33.5	80	46	48	8.014	4	0.60	12.040	9042990120400
50	6	26	40.0	70	37	28	6.014	4	0.80	6.050	9042990060500
50	8	28	40.0	70	37	28	8.014	4	0.80	8.050	9042990080500
50	10	30	40.0	75	41	34	10.014	4	0.80	10.050	9042990100500
50	12	32	40.0	85	46	44	12.014	4	0.80	12.050	9042990120500
50	14	34	40.0	85	46	44	12.014	4	0.80	14.050	9042990140500
50	16	38	53.0	90	49	30	16.014	5	1.10	16.050	9042990160500
50	18	40	57.0	90	49	30	16.014	5	1.10	18.050	9042990180500
50	20	42	60.0	90	51	29	20.114	5	1.10	20.050	9042990200500
63	6	26	50.0	70	37	24.5	6.014	5	1.00	6.063	9042990060630
63	8	28	50.0	70	37	24.5	8.014	5	1.00	8.063	9042990080630
63	10	30	50.0	80	41	35.5	10.014	5	1.00	10.063	9042990100630
63	12	32	50.0	85	46	41.5	12.014	5	1.10	12.063	9042990120630
63	14	34	50.0	85	46	41.5	12.014	5	1.10	14.063	9042990140630
63	16	38	50.0	90	49	45.5	16.014	5	1.20	16.063	9042990160630
63	18	40	50.0	90	49	48.5	16.014	5	1.20	18.063	9042990180630
63	20	42	50.0	90	51	47.5	20.114	5	1.20	20.063	9042990200630
63	25	57	63.0	120	57	55.3	20.114	6	2.10	25.063	9042990250630
63	32	64	75.0	125	61	63	20.114	6	2.40	32.063	9042990320630
63	6	26	50.0	150	37	103	6.014	5	1.50	6.163	9042990061630
63	8	28	50.0	150	37	104	8.014	5	1.50	8.163	9042990081630
63	10	30	50.0	150	41	104	10.014	5	1.50	10.163	9042990101630
63	12	32	50.0	150	46	105	12.014	5	1.50	12.163	9042990121630
63	14	34	50.0	150	46	105	12.014	5	1.70	14.163	9042990141630
63	16	38	50.0	150	49	106	16.014	5	1.80	16.163	9042990161630
63	18	40	50.0	150	49	107	16.014	5	1.90	18.163	9042990181630
63	20	42	50.0	150	51	108	20.114	5	1.90	20.163	9042990201630

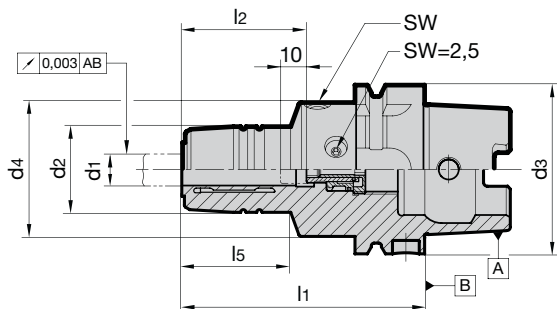
Series no.											4299
HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	incl. setting screw 4900	SW	kg	Code no.	EDP Number
63	6	26	50.0	200	37	153	6.014	5	1.70	6.263	9042990062630
63	8	28	50.0	200	37	154	8.014	5	1.70	8.263	9042990082630
63	10	30	50.0	200	41	154	10.014	5	1.80	10.263	9042990102630
63	12	32	50.0	200	46	155	12.014	5	1.80	12.263	9042990122630
63	14	34	50.0	200	46	155	12.014	5	2.00	14.263	9042990142630
63	16	38	50.0	200	49	156	16.014	5	2.20	16.263	9042990162630
63	18	40	50.0	200	49	157	16.014	5	2.30	18.263	9042990182630
63	20	42	50.0	200	51	158	20.114	5	2.50	20.263	9042990202630
80	6	26	50.0	70	37	24	6.014	5	1.50	6.080	9042990060800
80	8	28	50.0	70	37	24	8.014	5	1.50	8.080	9042990080800
80	10	30	50.0	80	41	35	10.014	5	1.50	10.080	9042990100800
80	12	32	50.0	85	46	40	12.014	5	1.60	12.080	9042990120800
80	14	34	50.0	85	46	40	12.014	5	1.60	14.080	9042990140800
80	16	38	50.0	95	49	51	16.014	5	1.70	16.080	9042990160800
80	18	40	50.0	95	49	51	16.014	5	1.80	18.080	9042990180800
80	20	42	50.0	95	51	52	20.114	5	1.80	20.080	9042990200800
80	25	57	63.0	110	57	65	20.114	6	2.60	25.080	9042990250800
80	32	64	75.0	125	61	63	20.114	6	3.20	32.080	9042990320800
100	6	26	50.0	75	37	26	6.014	5	2.40	6.100	9042990061000
100	8	28	50.0	75	37	26	8.014	5	2.40	8.100	9042990081000
100	10	30	50.0	90	41	42	10.014	5	2.50	10.100	9042990101000
100	12	32	50.0	95	46	47	12.014	5	2.50	12.100	9042990121000
100	14	34	50.0	95	46	47	12.014	5	2.50	14.100	9042990141000
100	16	38	50.0	100	49	53	16.014	5	2.70	16.100	9042990161000
100	18	40	50.0	100	49	53	16.014	5	2.70	18.100	9042990181000
100	20	42	50.0	105	51	59	20.114	5	3.20	20.100	9042990201000
100	25	57	63.0	110	57	62	20.114	6	3.30	25.100	9042990251000
100	32	64	75.0	110	61	62	20.114	6	3.80	32.100	9042990321000
100	6	26	50.0	160	37	104	6.014	5	2.80	106.100	9042991061000
100	8	28	50.0	160	37	104	8.014	5	2.80	108.100	9042991081000
100	10	30	50.0	160	41	105	10.014	5	2.90	110.100	9042991101000
100	12	32	50.0	160	46	105	12.014	5	2.90	112.100	9042991121000
100	14	34	50.0	160	46	107	12.014	5	2.90	114.100	9042991141000
100	16	38	50.0	160	49	107	16.014	5	3.20	116.100	9042991161000
100	18	40	50.0	160	49	108	16.014	5	3.20	118.100	9042991181000
10											

Product information

- balancing quality: G2.5 / 25,000 rev./min or U< 1 gmm
- robust, radially operated length setting
- max. deviation f. concentricity 3 µm
- for tool shank tolerance h6
- to DIN 69882-7
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. hexagon chuck key, Series no. 4912
- incl. hexagon key inserts for radial length setting
- order coolant supply set, Series no. 4949, separately
- MQL design available as an option



Series no.										4296
HSK-A d3	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	l5 mm	SW	kg	Code no.	EDP Number
50	6	26	40	80	37	35	4	0.80	6.050	9042960060500
50	8	28	40	80	37	36	4	0.80	8.050	9042960080500
50	10	30	40	85	41	38	4	0.90	10.050	9042960100500
50	12	32	40	90	46	43	4	0.90	12.050	9042960120500
50	14	34	40	90	46	46	4	1.00	14.050	9042960140500
50	16	38	53	95	49	36.5	5	1.20	16.050	9042960160500
50	18	40	57	95	49	36.5	5	1.20	18.050	9042960180500
50	20	42	60	100	51	39	5	1.30	20.050	9042960200500
63	6	26	50	80	37	33	5	1.00	6.063	9042960060630
63	8	28	50	80	37	33	5	1.10	8.063	9042960080630
63	10	30	50	85	41	38	5	1.10	10.063	9042960100630
63	12	32	50	90	46	40	5	1.20	12.063	9042960120630
63	14	34	50	90	46	46	5	1.20	14.063	9042960140630
63	16	38	50	95	49	51	5	1.30	16.063	9042960160630
63	18	40	50	95	49	52	5	1.30	18.063	9042960180630
63	20	42	50	100	51	58	5	1.40	20.063	9042960200630
63	25	57	63	120	57	59.5	6	2.30	25.063	9042960250630
63	32	64	75	125	61	62.5	6	2.30	32.063	9042960320630
80	6	26	50	85	37	35	5	1.50	6.080	9042960060800
80	8	28	50	85	37	36	5	1.50	8.080	9042960080800
80	10	30	50	90	41	38	5	1.50	10.080	9042960100800
80	12	32	50	95	46	46	5	1.60	12.080	9042960120800
80	14	34	50	95	46	47	5	1.60	14.080	9042960140800
80	16	38	50	100	49	53	5	1.60	16.080	9042960160800
80	18	40	50	100	49	54	5	1.80	18.080	9042960180800
80	20	42	50	105	51	58	5	1.80	20.080	9042960200800
80	25	57	63	115	57	66	6	2.60	25.080	9042960250800
80	32	64	75	125	61	63	6	2.60	32.080	9042960320800
100	6	26	50	85	37	33	5	2.50	6.100	9042960061000
100	8	28	50	85	37	33	5	2.70	8.100	9042960081000
100	10	30	50	90	41	36	5	2.80	10.100	9042960101000
100	12	32	50	95	46	40	5	2.80	12.100	9042960121000
100	14	34	50	95	46	46	5	2.70	14.100	9042960141000
100	16	38	50	100	49	51	5	2.90	16.100	9042960161000
100	18	40	50	100	49	52	5	2.80	18.100	9042960181000
100	20	42	50	105	51	58	5	3.20	20.100	9042960201000
100	25	57	63	115	57	60	6	3.40	25.100	9042960251000
100	32	64	75	120	61	68	6	3.40	32.100	9042960321000

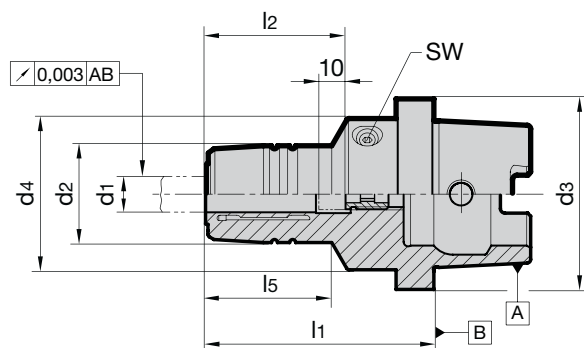
HSK-C hydraulic chucks with increased clamping force

Product information

- balancing quality: G2.5 / 25,000 rev./min or U < 1 gmm
- axial length setting
- for tool shank tolerance h6
- HSK-C to ISO 12164-1/DIN 69893-1
- HSK-C32: with gripper groove, tapped hole for coolant supply set and bore for data chip

Scope of delivery

- incl. adjustment screw, Series no. 4900
- incl. hexagon chuck key, Series no. 4912



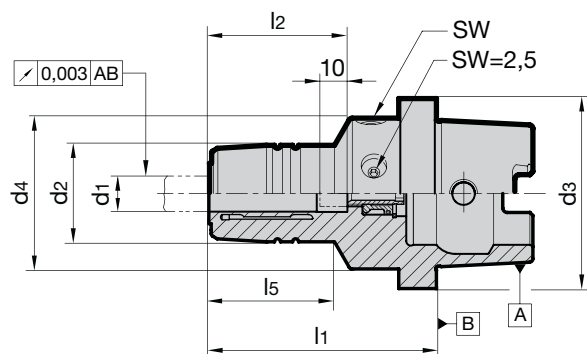
Series no.

4267

HSK-C d ₃	for shank Ø d ₁ h6 mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	incl. setting screw 4900 ...	SW	kg	Code no.	EDP Number
32	6	26	32	65	37.5	33	6.014	4	0.4	6.032	9042670060320
32	8	28	32	67	37.5	34	8.014	4	0.4	8.032	9042670080320
32	10	30	32	72.7	42.5	39	8.014	4	0.4	10.032	9042670100320
32	12	31.5	32	76	46	45	8.014	4	0.4	12.032	9042670120320
40	6	26	40	60	37	35	6.014	4	0.4	6.040	9042670060400
40	8	28	40	60	37	36	8.014	4	0.4	8.040	9042670080400
40	10	30	40	65	41	41	8.014	4	0.5	10.040	9042670100400
40	12	32	40	70	46	47	8.014	4	0.6	12.040	9042670120400
50	6	26	50	60	37	30	6.014	5	0.7	6.050	9042670060500
50	8	28	50	60	37	30	8.014	5	0.7	8.050	9042670080500
50	10	30	50	65	41	35	10.014	5	0.7	10.050	9042670100500
50	12	32	50	75	46	44	12.014	5	0.8	12.050	9042670120500
50	14	34	50	75	46	46	12.014	5	0.7	14.050	9042670140500
50	16	38	50	80	49	51	16.014	5	0.8	16.050	9042670160500
50	18	40	50	80	49	51	16.014	5	1.5	18.050	9042670180500
50	20	42	50	80	51	52	20.114	5	1.2	20.050	9042670200500
63	6	26	50	60	37	25	6.014	5	1.0	6.063	9042670060630
63	8	28	50	60	37	26	8.014	5	1.0	8.063	9042670080630
63	10	30	50	65	41	31	10.014	5	1.0	10.063	9042670100630
63	12	32	50	75	46	41	12.014	5	1.1	12.063	9042670120630
63	14	34	50	75	46	42	12.014	5	1.0	14.063	9042670140630
63	16	38	50	80	49	48	16.014	5	1.1	16.063	9042670160630
63	18	40	50	80	49	48	16.014	5	1.2	18.063	9042670180630
63	20	42	50	80	51	49	20.114	5	1.2	20.063	9042670200630
63	25	57	63	95	57	63	20.114	6	2.0	25.063	9042670250630
63	32	62.5	75	100	61	60.3	20.114	6	2.0	32.063	9042670320630

Scope of delivery

- incl. hexagon chuck key, Series no. 4912
- incl. hexagon key inserts for radial length setting

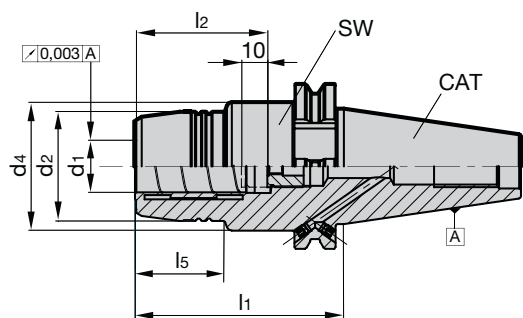


GM 300 **GUHRING**

CAT taper hydraulic chucks

Product information

- balancing quality: G2.5 / 25,000 rev./min or $U < 1\text{ mm}$
- Taper according to ANSI/ASME B 5.50
- Coolant through center and also through flange (plugged with set screws when supplied)
- Axial length setting
- CAT 40 - 5/8 x 11 retention knob thread
- CAT 50 - 1" x 8 retention knob thread



Scope of delivery

- Including setting screw, Guhring no. 4900
- Including hex wrench, Guhring no. 4912
- Special dimensions on request



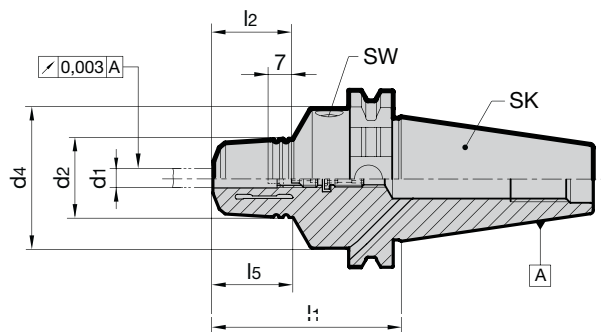
									Series no.	4216
CAT	for clamping dia. d1 in h6 inch	d2 mm	d4 mm	l1 mm	l2 mm	l5 mm	SW	incl. setting screw 4900 ...	Code no.	EDP Number
40	1/4	26	44.5	64	37	29.5	5	9049000060140	106.040	9042161060400
40	3/8	30	44.5	64	41	31	5	9049000080140	109.040	9042161090400
40	1/2	32	44.5	64	46	31.5	5	9049000120140	112.040	9042161120400
40	5/8	38	44.5	64	49	33	5	9049000160140	115.040	9042161150400
40	3/4	40	44.5	64	49	33	5	9049000160140	119.040	9042161190400
40	1	49.5	44.5	81	57	40	6	9049000201140	125.040	9042161250400
40	1 1/4	63	80	81	61	25.5	6	9049000201140	131.040	9042161310400
50	1/4	26	69.9	81	37	29.5	5	9049000060140	106.050	9042161060500
50	3/8	30	69.9	81	41	31	5	9049000080140	109.050	9042161090500
50	1/2	32	69.9	81	46	31.5	5	9049000120140	112.050	9042161120500
50	5/8	38	69.9	81	49	33	5	9049000160140	115.050	9042161150500
50	3/4	40	69.9	81	49	33	5	9049000201140	119.050	9042161190500
50	1	57	69.9	81	57	40	6	9049000201140	125.050	9042161250500
50	1 1/4	63	69.9	81	61	45	6	9049000201140	131.050	9042161310500
40	6	26	44.5	64	37	29.5	5	9049000060140	6.040	9042160060400
40	8	28	44.5	64	37	30	5	9049000080140	8.040	9042160080400
40	10	30	44.5	64	41	31	5	9049000100140	10.040	9042160100400
40	12	32	44.5	64	46	31.5	5	9049000120140	12.040	9042160120400
40	14	34	44.5	64	46	31.5	5	9049000120140	14.040	9042160140400
40	16	38	44.5	64	49	33	5	9049000160140	16.040	9042160160400
40	18	40	44.5	64	49	33	5	9049000160140	18.040	9042160180400
40	20	42	44.5	64	51	34	5	9049000201140	20.040	9042160200400
40	25	49.5	44.5	81	57	40	6	9049000201140	25.040	9042160250400
40	32	63	80	81	61	25.5	6	9049000201140	32.040	9042160320400
50	6	26	69.9	81	37	29.5	5	9049000060140	6.050	9042160060500
50	8	28	69.9	81	37	30	5	9049000080140	8.050	9042160080500
50	10	30	69.9	81	41	31	5	9049000100140	10.050	9042160100500
50	12	32	69.9	81	46	31.5	5	9049000120140	12.050	9042160120500
50	14	34	69.9	81	46	31.5	5	9049000120140	14.050	9042160140500
50	16	38	69.9	81	49	33	5	9049000160140	16.050	9042160160500
50	18	40	69.9	81	49	33	5	9049000160140	18.050	9042160180500
50	20	42	69.9	81	51	34	5	9049000201140	20.050	9042160200500
50	25	57	69.9	81	57	40	6	9049000201140	25.050	9042160250500
50	32	63	69.9	81	61	45	6	9049000201140	32.050	9042160320500

Scope of delivery

- incl. length adjustment screw
- incl. hexagon chuck key, Series no. 4912
- sealed version available as special option



GÜHROJET

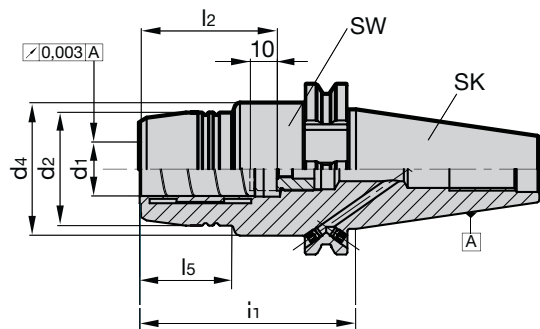
Series no.

4619

[illegible]

- SK taper form AD/B
- Supplied with set screws in bores
- balancing quality: G2.5 / 25,000 rev./min
or U< 1 gmm
- axial length setting
- for tool shank tolerance h6
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

- incl. adjustment screw, Series no. 4900
- incl. hexagon chuck key, Series no. 4912

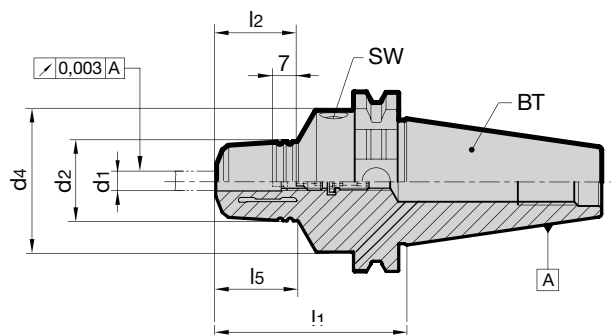
24 **GUHRING** GM 300

Scope of delivery

- incl. length adjustment screw
- incl. hexagon chuck key, Series no. 4912
- sealed version available as special option



GÜHROJET

GM 300 **GUHRING** 25

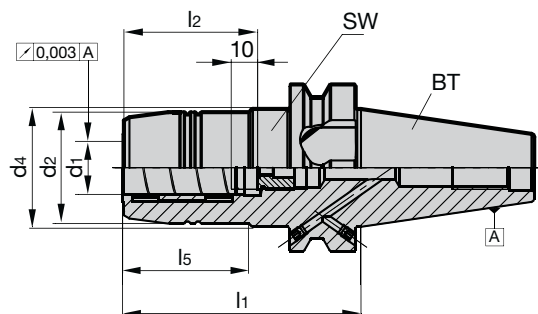
MAS/BT hydraulic chucks with increased clamping force

Product information

- balancing quality: G2.5 / 25,000 rev./min or U < 1 gmm
- axial length setting
- max. deviation f. concentricity 3 µm
- for tool shank tolerance h6
- BT taper form AD/B
- (* Form AD without coolant supply via flange)
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. adjustment screw, Series no. 4900
- incl. hexagon chuck key, Series no. 4912



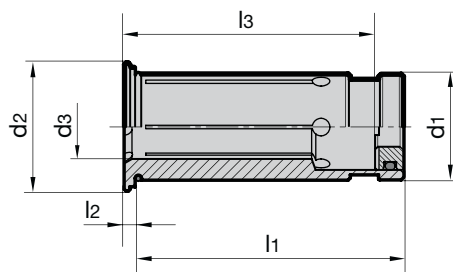
Series no.											4221
BT	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	l5 mm	incl. setting screw 4900 ...	SW	kg	Code no.	EDP Number
30*	6	26.0	26.0	51.0	37	-	9049000060140	4	0.6	6.030	9042210060300
30*	8	28.0	28.0	51.0	37	-	9049000080140	4	0.6	8.030	9042210080300
30*	10	30.0	30.0	51.0	41	-	9049000100140	4	0.6	10.030	9042210100300
30*	12	32.0	32.0	51.0	46	19.5	9049000120140	4	0.6	12.030	9042210120300
30*	16	38.0	38.0	90.0	49	50	9049000160140	4	1.0	16.030	9042210160300
30*	20	42.0	42.0	90.0	51	50	9049000201140	5	1.0	20.030	9042210200300
30*	1/4	26	-	75	37	52	9049000060140	4	1.00	106.030	9042211060300
30*	3/8	30	-	80	41	57	9049000080140	4	1.00	109.030	9042211090300
30*	1/2	32	-	90	46	50	9049000120140	4	1.00	112.030	9042211120300
30*	5/8	38	-	90	49	50	9049000160140	4	1.00	115.030	9042211150300
30*	3/4	40	-	90	49	50	9049000201140	5	1.00	119.030	9042211190300
40	6	26.0	44.5	90.0	37	43.0	9049000060140	5	1.5	6.040	9042210060400
40	8	28.0	44.5	90.0	37	44.5	9049000080140	5	1.5	8.040	9042210080400
40	10	30.0	44.5	90.0	41	44.5	9049000100140	5	1.5	10.040	9042210100400
40	12	32.0	44.5	90.0	46	44.5	9049000120140	5	1.5	12.040	9042210120400
40	14	34.0	44.5	90.0	46	44.5	9049000120140	5	1.5	14.040	9042210140400
40	16	38.0	44.5	90.0	49	47.5	9049000160140	5	1.5	16.040	9042210160400
40	18	40.0	44.5	90.0	49	47.5	9049000160140	5	1.5	18.040	9042210180400
40	20	49.5	49.5	72.5	51	-	9049000201140	5	1.5	20.040	9042210200400
40	20	42.0	44.5	90.0	51	47.5	9049000201140	5	1.5	20.140	9042210201400
40	25	49.5	49.5	83.0	57	-	9049000201140	6	1.8	25.040	9042210250400
40	32	63.0	80.0	83.0	61	25.5	9049000201140	6	2.0	32.040	9042210320400
50	12	32.0	44.5	90.0	46	34.0	9049000120140	5	4.0	12.050	9042210120500
50	20	42.0	44.5	90.0	51	34.0	9049000201140	5	4.0	20.050	9042210200500
50	32	72.0	72.0	90.0	61	-	9049000201140	6	4.0	32.050	9042210320500

Product information

- for clamping smaller shank-Ø in hydraulic chucks
- clamping-Ø for tool shank tolerance h6
- concentricity $\leq 2 \mu\text{m}$
- with adjustable limit stop
- the application of reduction sleeves makes it possible to increase the permissible transferable torque by approx. 25% in comparsion to direct clamping

Scope of delivery

- incl. stop element

Series no. **4368**

d1 inch/mm	for shank Ø d3 h6 inch/mm	d2 mm	l1 mm	l2 mm	l3 mm	Code no.	EDP Number
1/2	1/8	16.5	45	2	26.5	3.013	9043680030130
1/2	3/16	16.5	45	2	26.5	4.013	9043680040130
1/2	1/4	16.5	45	2	26.5	6.013	9043680060130
1/2	5/16	16.5	45	2	26.5	8.013	9043680080130
1/2	3/8	16.5	45	2	26.5	9.013	9043680090130
1/2	3	16.5	45	2	26.5	103.013	9043681030130
1/2	4	16.5	45	2	26.5	104.013	9043681040130
1/2	5	16.5	45	2	26.5	105.013	9043681050130
1/2	6	16.5	45	2	26.5	106.013	9043681060130
1/2	8	16.5	45	2	34.5	108.013	9043681080130
3/4	1/8	24	50.5	2	28.5	3.019	9043680030190
3/4	3/16	24	50.5	2	28.5	4.019	9043680040190
3/4	1/4	24	50.5	2	37.5	6.019	9043680060190
3/4	5/16	24	50.5	2	37.5	8.019	9043680080190
3/4	3/8	24	50.5	2	42.5	9.019	9043680090190
3/4	7/16	24	50.5	2	47.5	11.019	9043680110190
3/4	1/2	24	50.5	2	47.5	13.019	9043680130190
3/4	9/16	24	50.5	2	47.5	14.019	9043680140190
3/4	5/8	24	50.5	2	47.5	15.019	9043680150190
3/4	3	24	50.5	2	28.5	103.019	9043681030190
3/4	4	24	50.5	2	28.5	104.019	9043681040190
3/4	5	24	50.5	2	28.5	105.019	9043681050190
3/4	6	24	50.5	2	37.5	106.019	9043681060190
3/4	8	24	50.5	2	37.5	108.019	9043681080190
3/4	10	24	50.5	2	42.5	110.019	9043681100190
3/4	12	24	50.5	2	47.5	112.019	9043681120190
3/4	14	24	50.5	2	47.5	114.019	9043681140190
1 1/4	1/4	35.5	60.5	2	37.5	6.031	9043680060310
1 1/4	5/16	35.5	60.5	2	37.5	8.031	9043680080310
1 1/4	3/8	35.5	60.5	2	37.5	9.031	9043680090310
1 1/4	7/16	35.5	60.5	2	40.5	11.031	9043680110310
1 1/4	1/2	35.5	60.5	2	44.5	13.031	9043680130310
1 1/4	9/16	35.5	60.5	2	44.5	14.031	9043680140310
1 1/4	5/8	35.5	60.5	2	50.5	15.031	9043680150310
1 1/4	11/16	35.5	60.5	2	50.5	17.031	9043680170310
1 1/4	3/4	35.5	60.5	2	50.5	19.031	9043680190310
1 1/4	13/16	35.5	60.5	2	50.5	20.031	9043680200310
1 1/4	7/8	35.5	60.5	2	50.5	22.031	9043680220310
1 1/4	15/16	35.5	60.5	2	58.5	24.031	9043680240310
1 1/4	1	35.5	60.5	2	58.5	25.031	9043680250310
1 1/4	8	35.5	60.5	2	37.5	108.031	9043681080310
1 1/4	10	35.5	60.5	2	40.5	110.031	9043681100310
1 1/4	12	35.5	60.5	2	44.5	112.031	9043681120310
1 1/4	14	35.5	60.5	2	44.5	114.031	9043681140310
1 1/4	16	35.5	60.5	2	50.5	116.031	9043681160310
1 1/4	18	35.5	60.5	2	50.5	118.031	9043681180310

Reduction sleeves for hydraulic chucks, sealed

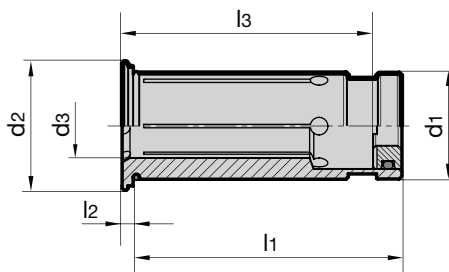
						Series no.	4368
d ₁ inch/mm	for shank Ø d ₃ h ₆ inch/mm	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	Code no.	EDP Number
1 1/4	20	35.5	60.5	2	50.5	120.031	9043681200310
1 1/4	25	35.5	60.5	2	58.5	125.031	9043681250310
12	1/8	16.5	45	2	26.5	103.012	9043681030120
12	3/16	16.5	45	2	26.5	104.012	9043681040120
12	1/4	16.5	45	2	34.5	106.012	9043681060120
12	5/16	16.5	45	2	34.5	108.012	9043681080120
12	3/8	16.5	45	2	34.5	109.012	9043681090120
12	3	16.5	45	2	26.5	3.012	9043680030120
12	4	16.5	45	2	26.5	4.012	9043680040120
12	5	16.5	45	2	26.5	5.012	9043680050120
12	6	16.5	45	2	34.5	6.012	9043680060120
12	8	16.5	45	2	34.5	8.012	9043680080120
20	1/8	24	50.5	2	28.5	103.020	9043681030200
20	3/16	24	50.5	2	28.5	104.020	9043681040200
20	1/4	24	50.5	2	37.5	106.020	9043681060200
20	5/16	24	50.5	2	37.5	108.020	9043681080200
20	3/8	24	50.5	2	42.5	109.020	9043681090200
20	7/16	24	50.5	2	42.5	111.020	9043681110200
20	1/2	24	50.5	2	47.5	113.020	9043681130200
20	9/16	24	50.5	2	47.5	114.020	9043681140200
20	5/8	24	50.5	2	47.5	115.020	9043681150200
20	3	24	50.5	2	28.5	3.020	9043680030200
20	4	24	50.5	2	28.5	4.020	9043680040200
20	5	24	50.5	2	28.5	5.020	9043680050200
20	6	24	50.5	2	37.5	6.020	9043680060200
20	7	24	50.5	2	37.5	7.020	9043680070200
20	8	24	50.5	2	37.5	8.020	9043680080200
20	9	24	50.5	2	42.5	9.020	9043680090200
20	10	24	50.5	2	42.5	10.020	9043680100200
20	11	24	50.5	2	42.5	11.020	9043680110200
20	12	24	50.5	2	47.5	12.020	9043680120200
20	13	24	50.5	2	47.5	13.020	9043680130200
20	14	24	50.5	2	47.5	14.020	9043680140200
20	15	24	50.5	2	47.5	15.020	9043680150200
20	16	24	50.5	2	47.5	16.020	9043680160200
32	1/4	35.5	60.5	2	37.5	106.032	9043681060320
32	5/16	35.5	60.5	2	37.5	108.032	9043681080320
32	3/8	35.5	60.5	2	37.5	109.032	9043681090320
32	7/16	35.5	60.5	2	40.5	111.032	9043681110320
32	1/2	35.5	60.5	2	44.5	113.032	9043681130320
32	9/16	35.5	60.5	2	50.5	114.032	9043681140320
32	5/8	35.5	60.5	2	50.5	115.032	9043681150320
32	11/16	35.5	60.5	2	50.5	117.032	9043681170320
32	3/4	35.5	60.5	2	50.5	119.032	9043681190320
32	13/16	35.5	60.5	2	50.5	120.032	9043681200320
32	7/8	35.5	60.5	2	50.5	122.032	9043681220320
32	15/16	35.5	60.5	2	50.5	124.032	9043681240320
32	1	35.5	60.5	2	58.5	125.032	9043681250320
32	6	35.5	60.5	2	37.5	6.032	9043680060320
32	8	35.5	60.5	2	37.5	8.032	9043680080320
32	10	35.5	60.5	2	40.5	10.032	9043680100320
32	12	35.5	60.5	2	44.5	12.032	9043680120320
32	14	35.5	60.5	2	44.5	14.032	9043680140320
32	16	35.5	60.5	2	50.5	16.032	9043680160320
32	18	35.5	60.5	2	50.5	18.032	9043680180320
32	20	35.5	60.5	2	50.5	20.032	9043680200320
32	25	35.5	60.5	2	58.5	25.032	9043680250320

Product information

- for clamping smaller shank-Ø in hydraulic chucks
- clamping-Ø for tool shank tolerance h6
- with coolant slots for peripheral cooling, therefore process and tool life improvement
- concentricity $\leq 2 \mu\text{m}$
- with adjustable limit stop
- the application of reduction sleeves makes it possible to increase the permissible transferable torque by approx. 25% in comparsion to direct clamping

Scope of delivery

- incl. stop element



Series no.

4369

d ₁ inch/mm	for shank Ø d ₃ h6 inch/mm	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	Code no.	EDP Number
1/2	1/8	16.5	45	2	26.5	3.013	9043690030130
1/2	3/16	16.5	45	2	26.5	4.013	9043690040130
1/2	1/4	16.5	45	2	26.5	6.013	9043690060130
1/2	5/16	16.5	45	2	26.5	8.013	9043690080130
1/2	3/8	16.5	45	2	26.5	9.013	9043690090130
1/2	5	16.5	45	2	26.5	105.013	9043691050130
1/2	6	16.5	45	2	26.5	106.013	9043691060130
3/4	1/8	24	50.5	2	28.5	3.019	9043690030190
3/4	3/16	24	50.5	2	28.5	4.019	9043690040190
3/4	1/4	24	50.5	2	37.5	6.019	9043690060190
3/4	5/16	24	50.5	2	37.5	8.019	9043690080190
3/4	3/8	24	50.5	2	42.5	9.019	9043690090190
3/4	7/16	24	50.5	2	42.5	11.019	9043690110190
3/4	1/2	24	50.5	2	47.5	13.019	9043690130190
3/4	9/16	24	50.5	2	47.5	14.019	9043690140190
3/4	5/8	24	50.5	2	47.5	15.019	9043690150190
3/4	3	24	50.5	2	28.5	103.019	9043691030190
3/4	4	24	50.5	2	28.5	104.019	9043691040190
3/4	6	24	50.5	2	37.5	106.019	9043691060190
3/4	8	24	50.5	2	37.5	108.019	9043691080190
3/4	10	24	50.5	2	42.5	110.019	9043691100190
3/4	12	24	50.5	2	47.5	112.019	9043691120190
3/4	14	24	50.5	2	47.5	114.019	9043691140190
1 1/4	1/4	35.5	60.5	2	37.5	6.031	9043690060310
1 1/4	5/16	35.5	60.5	2	37.5	8.031	9043690080310
1 1/4	3/8	35.5	60.5	2	37.5	9.031	9043690090310
1 1/4	1/2	35.5	60.5	2	44.5	13.031	9043690130310
1 1/4	9/16	35.5	60.5	2	44.5	14.031	9043690140310
1 1/4	5/8	35.5	60.5	2	50.5	15.031	9043690150310
1 1/4	11/16	35.5	60.5	2	50.5	17.031	9043690170310
1 1/4	3/4	35.5	60.5	2	50.5	19.031	9043690190310
1 1/4	7/8	35.5	60.5	2	50.5	22.031	9043690220310
1 1/4	1	35.5	60.5	2	58.5	25.031	9043690250310
1 1/4	20	35.5	60.5	2	50.5	120.031	9043691200310
1 1/4	25	35.5	60.5	2	58.5	125.031	9043691250310
12	1/8	16.5	45	2	26.5	103.012	9043691030120
12	3/16	16.5	45	2	26.5	104.012	9043691040120
12	1/4	16.5	45	2	34.5	106.012	9043691060120
12	5/16	16.5	45	2	34.5	108.012	9043691080120
12	3/8	16.5	45	2	34.5	109.012	9043691090120
12	3	16.5	45	2	26.5	3.012	9043690030120
12	4	16.5	45	2	26.5	4.012	9043690040120
12	5	16.5	45	2	26.5	5.012	9043690050120
12	6	16.5	45	2	34.5	6.012	9043690060120
12	8	16.5	45	2	34.5	8.012	9043690080120

Series no.

4369

d ₁ inch/mm	for shank Ø d ₃ h ₆ inch/mm	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	Code no.	EDP Number
20	1/8	24	50.5	2	28.5	103.020	9043691030200
20	3/16	24	50.5	2	28.5	104.020	9043691040200
20	1/4	24	50.5	2	37.5	106.020	9043691060200
20	5/16	24	50.5	2	37.5	108.020	9043691080200
20	3/8	24	50.5	2	42.5	109.020	9043691090200
20	7/16	24	50.5	2	42.5	111.020	9043691110200
20	1/2	24	50.5	2	47.5	113.020	9043691130200
20	9/16	24	50.5	2	47.5	114.020	9043691140200
20	5/8	24	50.5	2	47.5	115.020	9043691150200
20	3	24	50.5	2	28.5	3.020	9043690030200
20	4	24	50.5	2	28.5	4.020	9043690040200
20	5	24	50.5	2	28.5	5.020	9043690050200
20	6	24	50.5	2	37.5	6.020	9043690060200
20	7	24	50.5	2	37.5	7.020	9043690070200
20	8	24	50.5	2	37.5	8.020	9043690080200
20	9	24	50.5	2	42.5	9.020	9043690090200
20	10	24	50.5	2	42.5	10.020	9043690100200
20	11	24	50.5	2	42.5	11.020	9043690110200
20	12	24	50.5	2	47.5	12.020	9043690120200
20	13	24	50.5	2	47.5	13.020	9043690130200
20	14	24	50.5	2	47.5	14.020	9043690140200
20	15	24	50.5	2	47.5	15.020	9043690150200
20	16	24	50.5	2	47.5	16.020	9043690160200
32	1/2	35.5	60.5	2	44.5	113.032	9043691130320
32	5/8	35.5	60.5	2	50.5	115.032	9043691150320
32	3/4	35.5	60.5	2	50.5	119.032	9043691190320
32	7/8	35.5	60.5	2	50.5	122.032	9043691220320
32	1	35.5	60.5	2	58.5	125.032	9043691250320
32	6	35.5	60.5	2	37.5	6.032	9043690060320
32	8	35.5	60.5	2	37.5	8.032	9043690080320
32	10	35.5	60.5	2	40.5	10.032	9043690100320
32	12	35.5	60.5	2	44.5	12.032	9043690120320
32	14	35.5	60.5	2	44.5	14.032	9043690140320
32	16	35.5	60.5	2	50.5	16.032	9043690160320
32	18	35.5	60.5	2	50.5	18.032	9043690180320
32	20	35.5	60.5	2	50.5	20.032	9043690200320
32	25	35.5	60.5	2	58.5	25.032	9043690250320

Product information

- for Series no. 4368 and 4369
- for the simple removal of reduction bushes



Series no.		4099
for reduction bushes d ₁		EDP Number
12 to 32		9040990010000

Senso 3000

Product information

- accurate, quick and simple measuring of the clamping force of hydraulic chucks
- mobility allows measuring within machines and fixtures
- determines clamping force via a pressure sensitive plug gauge
- display of absolute measuring value or percentage clamping force in relation to reference value

Scope of delivery

- incl. type CR 2430 battery
- incl. sturdy case
- Inch dimensions upon request



Series no.		4038
clamping diameter mm	kg	EDP Number
6.0	1.1	9040380060000
8.0	1.1	9040380080000
10.0	1.3	9040380100000
12.0	1.3	9040380120000
14.0	1.3	9040380140000
16.0	1.3	9040380160000
18.0	1.5	9040380180000
20.0	1.5	9040380200000
25.0	2.0	9040380250000
32.0	2.5	9040380320000

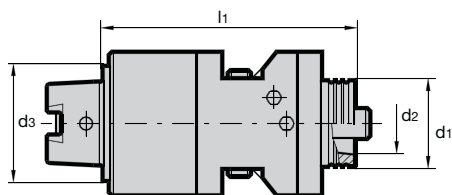
Universal HSK length pre-setting adaptors

Product information

- for application with pre-setting facilities for the accurate length pre-setting of axially adjustable chucks.
- thanks to precise clamping also suitable for measuring and setting the diameter.
- HSK to ISO 12164-1/DIN 69893-1

Scope of delivery

- order plug insert, Series no. 4993, separately



Series no. 4316

HSK-C d ₃	for HSK-A/C/E d ₁	d ₂ mm	l ₁ mm	EDP Number
63	50	38	104.6	9043160630500
63	63	48	111.6	9043160630630

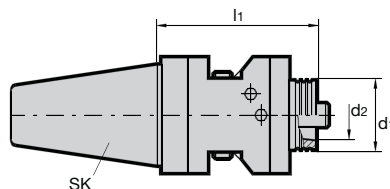
Universal SK taper length pre-setting adaptors

Product information

- for application with pre-setting facilities for the accurate length pre-setting of axially adjustable chucks.
- thanks to precise clamping also suitable for measuring and setting the diameter.

Scope of delivery

- order plug insert, Series no. 4993, separately



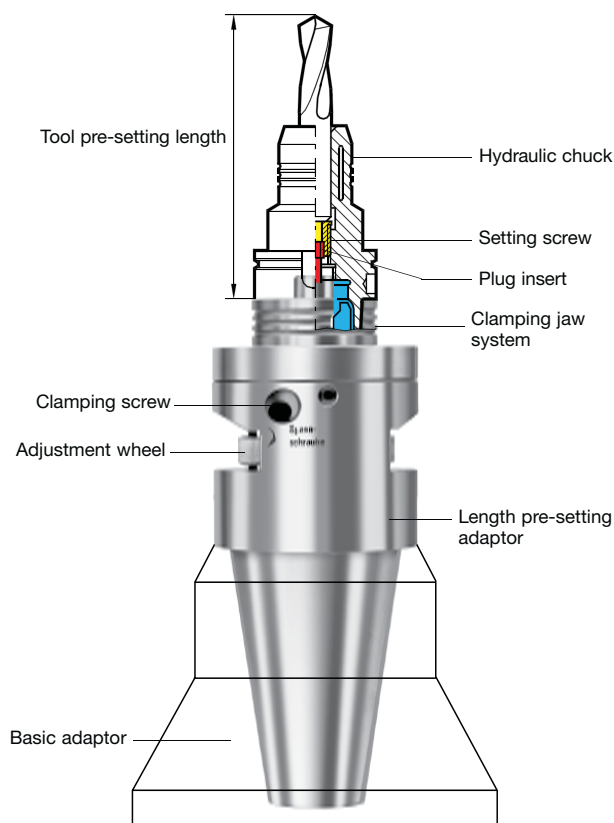
Series no. 4319

SK	for HSK-A/C/E d ₁	d ₂ mm	l ₁ mm	EDP Number
40	50	38	99.3	9043190400500
40	63	48	106.3	9043190400630
50	32	24	90.5	9043190500320
50	40	30	93.8	9043190500400
50	50	38	99.3	9043190500500
50	63	48	106.3	9043190500630
50	100	75	128.3	9043190501000

Design features

of the universal length pre-setting adaptor

- tool length pre-setting via an external adjustment wheel
- tool length optimally pre-set in the universal length pre-setting adaptor via HSK clamping system similar to a tool spindle.
- controlling concentricity of cutting edges and simultaneous axial length pre-setting possible on pre-setting adaptor.
- applicable are tool holders such as hydraulic chucks, collet holders, side lock holders DIN 1835 E
- access hole in taper not required, all HSK forms from HSK-A to HSK-F can be applied.
- axial length pre-setting via plug insert set, Series no. 4993.
- if a radial rotation of your pre-setting equipment is not possible, a rotatable version of the universal length pre-setting adaptor is available (on request).
- cannot be applied for cutting operations.
- not necessary to remove coolant supply.

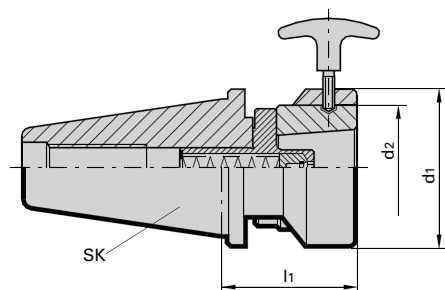


Product information

- application without removal of coolant supply
- simple design with radial clamping for measuring tool length
- for the application on pre-setting equipment for precise length pre-setting of axially adjustable chucks

Scope of delivery

- incl. taper insert, Series no. 4992
- order separately:
plug inserts, Series no. 4993

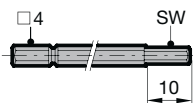


Series no.					4315
SK taper	for HSK-A/C/E	d ₁ mm	d ₂ mm	l ₁ mm	EDP Number
40	32	80	63	68.2	9043150400320
40	40	80	63	68.2	9043150400400
40	50	80	63	68.2	9043150400500
40	63	80	63	68.2	9043150400630
50	25	80	63	68.2	9043150500250
50	32	80	63	68.2	9043150500320
50	40	80	63	68.2	9043150500400
50	50	80	63	68.2	9043150500500
50	63	80	63	68.2	9043150500630
50	80	120	100	88.2	9043150500800
50	100	120	100	88.2	9043150501000

Plug inserts

Product information

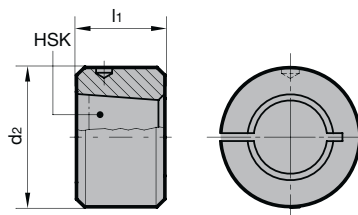
- for length pre-setting adaptors, art. no. 4316, 4319 and 4315



Taper inserts

Product information

- for length pre-setting adaptor, Series no. 4315



Series no.			4993
for HSK	Set with key sizes	EDP Number	
C	2.5/3/4/5/6	9049931000000	
A/E	2.5/3/4/5/6	9049932000000	
A (for MQL)	3/4/5	9049933000000	

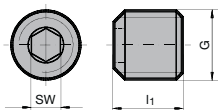
Series no.				4992
for HSK-A/C/E	d ₂ mm	l ₁ mm	EDP Number	
25	63	40	9049920250000	
32	63	40	9049920320000	
40	63	40	9049920400000	
50	63	40	9049920500000	
63	63	40	9049920630000	
80	100	55	9049920800000	
100	100	55	9049921000000	

Clamping screws for hydraulic chucks and hydraulic synchro tapping chucks

Product information

- replacement clamping screws for hydraulic chucks and hydraulic synchro tapping chucks

- activation screw spec. for hydraulic chucks to suit hex. key size
- torque max. 10 Nm



Series no.

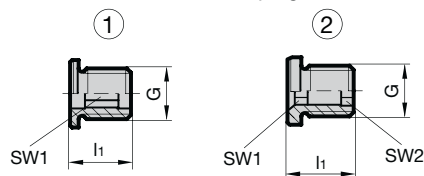
4241

G	l ₁ mm	SW	EDP Number
M8	8.5	4.0	9042410080010
M8	10.0	4.0	9042410080000
M10	9.0	5.0	9042410100030
M10	10.5	5.0	9042410100010
M10	12.0	5.0	9042410100020
M12	12.0	6.0	9042410120000

Adjustment screws

Product information

- for hydraulic chucks
- for conventional internal cooling
- with facing stop for standard shank ends
- for HSK 32/40 with clamping-Ø 10.0 and 12.0 mm use EDP # 8.014



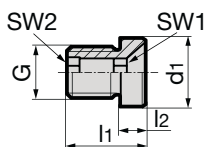
Series no.

4900

for clamping-Ø	l ₁ mm	G	SW1	SW2	figure	EDP Number
6	14	M5	2.5	-	1	9049000060140
8	14	M6	3.0	-	1	9049000080140
10	14	M8x1	4.0	-	1	9049000100140
12/14	14	M10x1	5.0	-	1	9049000120140
16/18	14	M12x1	6.0	-	1	9049000160140
20/25/32	14	M16x1	6.0	-	1	9049000200140
20/25/32	14	M16x1	8.0	6.0	2	9049000201140

Product information

- for hydraulic chucks and shrink fit chucks
- optimised for MQL with special geometry
- with tapered stop for MQL conical shank ends



Series no. 4919

d1 mm	l1 mm	l2 mm	G	SW1	SW2	EDP Number
6	14.8	2.3	M5	2.5	2.5	9049190060000
8	15.6	3.0	M6	3.0	3.0	9049190080000
10	16.1	3.5	M8x1	4.0	4.0	9049190100000
10	16.6	4.1	M8x1	3.0	3.0	9049190100400
10	16.6	4.1	M6	3.0	3.0	9049190100320
12	16.6	4.1	M10x1	5.0	5.0	9049190120000
12	17.6	5.1	M6	3.0	3.0	9049190120320
14	17.6	5.1	M10x1	5.0	5.0	9049190140000
14	18.6	6.1	M6	3.0	3.0	9049190140400
16	18.6	6.1	M12x1	5.0	5.0	9049190160000
16	19.6	7.1	M6	3.0	3.0	9049190160400
18	19.6	7.1	M12x1	5.0	5.0	9049190180000
20	20.6	8.1	M16x1	5.0	5.0	9049190200000
25	22.6	10.1	M16x1	8.0	6.0	9049190250000
32	26.1	13.6	M16x1	8.0	6.0	9049190320000

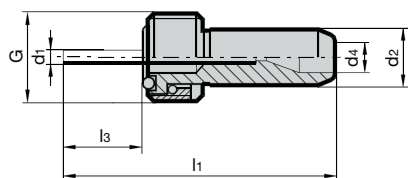
MQL coolant supply units HSK-A for the conversion

Product information

- replace conventional coolant supply sets, art. no. 4949, when applying MQL
- for hydraulic chucks to DIN 69882-7
- Attention: not suitable for application on machines with supply collar to DIN 69090-2

Scope of delivery

- complete MQL coolant supply set consisting of :
coolant pipe, cap nut
MQL tube and O-rings



Series no. 4924

for HSK-A	clamping-Ø mm	d1 mm	d2 mm	d4 mm	l1 mm	l3 mm	G	EDP Number
32	6	2.5	6	3.5	54.2	28.0	M10x1	9049240320100
32	8	3.0	6	3.5	54.3	28.1	M10x1	9049240320300
32	10	3.0	6	3.5	55.8	29.6	M10x1	9049240320500
32	12	3.0	6	3.5	56.6	30.4	M10x1	9049240320700
40	6	2.5	8	4.0	45.1	16.0	M12x1	9049240400100
40	8	3.0	8	4.0	56.2	15.8	M12x1	9049240400300
40	10	3.0	8	4.0	46.3	17.1	M12x1	9049240400500
40	12	3.0	8	4.0	46.7	17.5	M12x1	9049240400700
50	6	2.5	10	4.0	44.6	11.9	M16x1	9049240500100
50	8	3.0	10	4.0	46.1	13.4	M16x1	9049240500300
50	10	4.0	10	4.0	45.7	13.0	M16x1	9049240500500
50	12	5.0	10	4.0	46.1	13.4	M16x1	9049240500700
50	14	5.0	10	4.0	51.5	18.8	M16x1	9049240500900
50	16	5.0	10	4.0	52.8	20.1	M16x1	9049240501100
50	18	5.0	10	4.0	53.2	20.5	M16x1	9049240501300
50	20	5.0	10	4.0	51.5	18.8	M16x1	9049240501500

Series no.								4924
for HSK-A	clamping-Ø mm	d ₁ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₃ mm	G	EDP Number
63	6	2.5	12	4.0	45.7	9.5	M18x1	9049240630100
63	6	2.5	12	4.0	126.9	90.6	M18x1	9049240630110
63	6	2.5	12	4.0	176.9	140.6	M18x1	9049240630120
63	8	3.0	12	4.0	46.0	9.8	M18x1	9049240630300
63	8	3.0	12	4.0	126.1	89.9	M18x1	9049240630310
63	8	3.0	12	4.0	176.2	139.9	M18x1	9049240630320
63	10	4.0	12	4.0	51.7	15.5	M18x1	9049240630500
63	10	4.0	12	4.0	122.2	86.0	M18x1	9049240630510
63	10	4.0	12	4.0	172.2	135.9	M18x1	9049240630520
63	12/14/20	5.0	12	4.0	52.1	15.9	M18x1	9049240630700
63	16/18	5.0	12	4.0	53.8	17.6	M18x1	9049240630900
63	12/14	5.0	12	4.0	117.6	81.4	M18x1	9049240630910
63	12/14	5.0	12	4.0	167.6	131.3	M18x1	9049240630920
63	16	5.0	12	4.0	114.3	78.0	M18x1	9049240631110
63	25/32	6.0	12	4.0	77.0	40.8	M18x1	9049240631200
63	18	5.0	12	4.0	114.6	78.3	M18x1	9049240631310
63	16/18	5.0	12	4.0	164.6	128.3	M18x1	9049240631320
63	20	5.0	12	4.0	112.9	76.6	M18x1	9049240631510
63	20	5.0	12	4.0	162.9	126.6	M18x1	9049240631520
80	6	2.5	14	4.0	44.8	5.5	M20x1.5	9049240800100
80	8	3.0	14	4.0	44.9	5.6	M20x1.5	9049240800300
80	10	4.0	14	4.0	50.9	11.6	M20x1.5	9049240800500
80	12	5.0	14	4.0	51.3	12.0	M20x1.5	9049240800700
80	14	5.0	14	4.0	51.6	12.3	M20x1.5	9049240800900
80	16	5.0	14	4.0	57.9	18.6	M20x1.5	9049240801100
80	18	5.0	14	4.0	58.3	19.0	M20x1.5	9049240801300
80	20	5.0	14	4.0	56.6	17.3	M20x1.5	9049240801500
80	25	6.0	14	4.0	53.1	13.8	M20x1.5	9049240801700
80	32	6.0	14	4.0	77.2	37.9	M20x1.5	9049240801900
100	6	2.5	16	4.0	53.0	9.2	M24x1.5	9049241000100
100	8	3.0	16	4.0	53.7	9.9	M24x1.5	9049241000300
100	10	4.0	16	4.0	63.3	19.5	M24x1.5	9049241000500
100	12	5.0	16	4.0	63.8	20.0	M24x1.5	9049241000700
100	14	5.0	16	4.0	64.2	20.4	M24x1.5	9049241000900
100	16	5.0	16	4.0	65.4	21.6	M24x1.5	9049241001100
100	18	5.0	16	4.0	65.8	22.0	M24x1.5	9049241001300
100	20	5.0	16	4.0	69.2	25.4	M24x1.5	9049241001500
100	25	6.0	16	4.0	68.6	24.8	M24x1.5	9049241001700
100	32	6.0	16	4.0	64.6	20.8	M24x1.5	9049241001900

TSG 3000



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TSG 3000

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SAFETY THANKS
TO TEMPERATURE
INDICATOR**



**PVD-COATING FOR
LONG TOOL LIFE**



**LENGTH SETTING
SCREW WITH AXIAL
DAMPING**

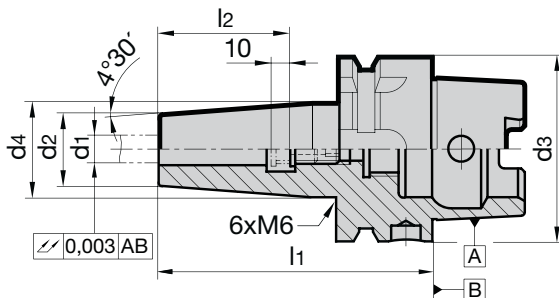


Product information

- coating for protection against oxidation, cleanliness and longevity
- safety colour ring for maximum operator safety
- with axial damping screw for optimal concentricity
- max. deviation f. concentricity 3 µm
- for tool shank tolerance h6
- to DIN 69882-8
- balancing quality: G2.5 / 25,000 rev./min or U< 1 gmm
- designed with 6xM6 balancing screws for the highest accuracy
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. length setting screw with axial force damping Series no. 4941 for conventional cooling
- for conventional cooling order coolant supply set, Series no. 4949, separately
- for MQL application order as special tool holder
- special dimensions and extra lengths on request



Series no.

4726

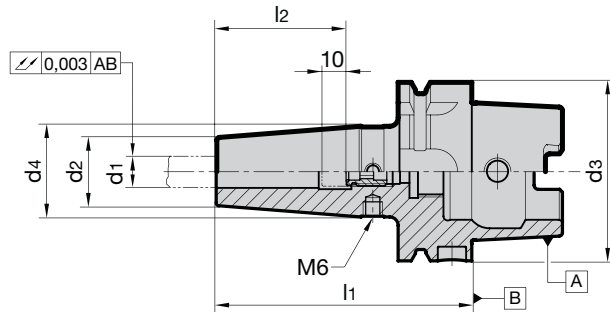
HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw art. no. 4941 ...	kg	Code no.	EDP Number
63	6	21	27	80	36	6.100	1.00	6.063	9047260060630
63	8	21	27	80	36	8.100	1.00	8.063	9047260080630
63	10	24	32	85	41	10.100	1.00	10.063	9047260100630
63	12	24	32	90	46	12.100	1.00	12.063	9047260120630
63	14	27	34	90	46	14.100	1.00	14.063	9047260140630
63	16	27	34	95	49	16.100	1.00	16.063	9047260160630
63	18	33	42	95	49	18.100	1.00	18.063	9047260180630
63	20	33	42	100	51	20.100	1.00	20.063	9047260200630
63	25	44	53	115	57	25.100	2.00	25.063	9047260250630
63	32	44	53	120	61	32.100	2.00	32.063	9047260320630
100	6	21	27	85	36	6.100	2.00	6.100	9047260061000
100	8	21	27	85	36	8.100	2.00	8.100	9047260081000
100	10	24	32	90	41	10.100	2.00	10.100	9047260101000
100	12	24	32	95	46	12.100	2.00	12.100	9047260121000
100	14	27	34	95	46	14.100	2.00	14.100	9047260141000
100	16	27	34	100	49	16.100	2.00	16.100	9047260161000
100	18	33	42	100	49	18.100	2.50	18.100	9047260181000
100	20	33	42	105	51	20.100	2.50	20.100	9047260201000
100	25	44	53	115	57	25.100	3.00	25.100	9047260251000
100	32	44	53	120	61	32.100	3.00	32.100	9047260321000

Product information

- balancing quality: G2.5 / 25,000 rev./min or U < 1 gmm
- incl. balancing thread 4xM6/6xM6
- to DIN 69882-8
- for tool shank tolerance h6
- also available in the lengths
l1 = 120 mm (concentricity 4 µm),
160 mm (concentricity 5 µm)
and 200 mm (concentricity 7 µm)
- HSK-A to ISO12164-1 / DIN 69893-1

Scope of delivery

- incl. setting screw, Series no. 4977 or 4904
- for conventional cooling order coolant supply set, Series no. 4949, separately
- special dimensions on request



Series no.									4736
HSK-A d3	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw art. no. 4941 ...	kg	Code no.	EDP Number
32	6	21	26	70	36	9049770060140	0.30	6.032	9047360060320
32	8	21	26	70	36	9049770080140	0.30	8.032	9047360080320
32	10	24	30	75	41	9049770100140	0.30	10.032	9047360100320
32	12	24	30	80	46	9049770120140	0.30	12.032	9047360120320
40	6	21	27	80	36	9049770060140	0.40	6.040	9047360060400
40	8	21	27	80	36	9049770080140	0.40	8.040	9047360080400
40	10	24	32	80	41	9049770100140	0.50	10.040	9047360100400
40	12	24	32	90	46	9049770120140	0.50	12.040	9047360120400
40	14	27	34	90	46	9049770120140	0.60	14.040	9047360140400
40	16	27	34	90	49	9049770160140	0.50	16.040	9047360160400
40	18	33	42	95	49	9049770160140	0.90	18.040	9047360180400
40	20	33	42	100	51	9049770201140	0.90	20.040	9047360200400
50	6	21	27	80	36	9049770060140	0.60	6.050	9047360060500
50	8	21	27	80	36	9049770080140	0.60	8.050	9047360080500
50	10	24	32	85	41	9049770100140	0.70	10.050	9047360100500
50	12	24	32	90	46	9049770120140	0.70	12.050	9047360120500
50	14	27	34	90	46	9049770120140	0.70	14.050	9047360140500
50	16	27	34	95	49	9049770160140	1.00	16.050	9047360160500
50	18	33	42	95	49	9049770160140	0.90	18.050	9047360180500
50	20	33	42	100	51	9049770201140	0.90	20.050	9047360200500
63	1/8	10	18	80	36	9049040050160	0.70	903.063	9047369030630
63	3/16	10	18	80	40	9049040080180	0.70	904.063	9047369040630
63	1/4	20	27	80	36	9049770060140	0.80	906.063	9047369060630
63	5/16	21	27	80	36	9049770080140	0.80	907.063	9047369070630
63	3/8	24	32	85	41	9049770080140	0.80	909.063	9047369090630
63	1/2	24	32	90	46	9049770120140	0.90	912.063	9047369120630
63	5/8	27	34	95	49	9049770120140	1.00	915.063	9047369150630
63	3/4	33	42	100	49	9049770160140	1.20	919.063	9047369190630
63	1	44	53	115	57	9049770201140	1.80	925.063	9047369250630
63	3	10	18	80	30	9049040050160	0.70	3.063	9047360030630
63	4	10	18	80	35	9049040060160	0.70	4.063	9047360040630
63	5	10	18	80	40	9049040080180	0.70	5.063	9047360050630
63	6	21	27	80	36	9049770060140	0.80	6.063	9047360060630
63	8	21	27	80	36	9049770080140	0.80	8.063	9047360080630
63	10	24	32	85	41	9049770100140	0.90	10.063	9047360100630

Series no.

4736

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw art. no. 4941 ...	kg	Code no.	EDP Number
63	12	24	32	90	46	9049770120140	0.90	12.063	9047360120630
63	14	27	34	90	46	9049770120140	1.00	14.063	9047360140630
63	16	27	34	95	49	9049770160140	1.00	16.063	9047360160630
63	18	33	42	95	49	9049770160140	1.20	18.063	9047360180630
63	20	33	42	100	51	9049770201140	1.20	20.063	9047360200630
63	25	44	53	115	57	9049770201140	1.80	25.063	9047360250630
63	32	44	53	120	61	9049770201140	1.70	32.063	9047360320630
63	3	10	25	120	30	9049040050160	0.80	203.063	9047362030630
63	4	10	25	120	35	9049040060160	0.80	204.063	9047362040630
63	5	10	25	120	40	9049040080180	0.80	205.063	9047362050630
63	6	21	27	120	36	9049770060140	0.90	206.063	9047362060630
63	8	21	27	120	36	9049770080140	1.00	208.063	9047362080630
63	10	24	32	120	41	9049770100140	1.10	210.063	9047362100630
63	12	24	32	120	46	9049770120140	1.20	212.063	9047362120630
63	14	27	34	120	46	9049770120140	1.20	214.063	9047362140630
63	16	27	34	120	49	9049770160140	1.20	216.063	9047362160630
63	18	33	42	120	49	9049770160140	1.40	218.063	9047362180630
63	20	33	42	120	51	9049770200140	1.40	220.063	9047362200630
63	3	10	31	160	30	9049040050160	0.90	103.063	9047361030630
63	4	10	31	160	35	9049040060160	0.90	104.063	9047361040630
63	5	10	31	160	40	9049040080180	0.90	105.063	9047361050630
63	6	21	27	160	36	9049770060140	1.10	106.063	9047361060630
63	8	21	27	160	36	9049770080140	1.10	108.063	9047361080630
63	10	24	32	160	41	9049770100140	1.30	110.063	9047361100630
63	12	24	32	160	46	9049770120140	1.30	112.063	9047361120630
63	14	27	34	160	46	9049770120140	1.40	114.063	9047361140630
63	16	27	34	160	49	9049770160140	1.40	116.063	9047361160630
63	18	33	42	160	49	9049770160140	1.60	118.063	9047361180630
63	20	33	42	160	51	9049770201140	1.60	120.063	9047361200630
63	25	44	53	160	57	9049770201140	1.80	125.063	9047361250630
63	32	44	53	160	61	9049770201140	1.70	132.063	9047361320630
63	6	21	27	200	36	9049770060140	1.30	306.063	9047363060630
63	8	21	27	200	36	9049770080140	1.30	308.063	9047363080630
63	10	24	32	200	41	9049770100140	1.50	310.063	9047363100630
63	12	24	32	200	46	9049770120140	1.50	312.063	9047363120630
63	14	27	34	200	46	9049770120140	1.70	314.063	9047363140630
63	16	27	34	200	49	9049770160140	1.70	316.063	9047363160630
63	18	33	42	200	49	9049770160140	1.80	318.063	9047363180630
63	20	33	42	200	51	9049770201140	1.80	320.063	9047363200630
63	25	44	53	200	57	9049770201140	2.00	325.063	9047363250630
63	32	44	53	200	61	9049770201140	1.90	332.063	9047363320630
80	6	21	27	85	36	9049770060140	1.30	6.080	9047360060800
80	8	21	27	85	36	9049770080140	1.30	8.080	9047360080800
80	10	24	32	90	41	9049770100140	1.40	10.080	9047360100800
80	12	24	32	95	46	9049770120140	1.40	12.080	9047360120800
80	14	27	34	95	46	9049770120140	1.50	14.080	9047360140800
80	16	27	34	100	49	9049770160140	1.50	16.080	9047360160800
80	18	33	42	100	49	9049770160140	1.70	18.080	9047360180800
80	20	33	42	105	51	9049770201140	1.70	20.080	9047360200800
80	25	44	53	115	57	9049770201140	2.20	25.080	9047360250800
80	32	44	53	120	61	9049770201140	2.10	32.080	9047360320800
80	6	21	27	160	36	9049770060140	1.60	106.080	9047361060800
80	8	21	27	160	36	9049770080140	1.60	108.080	9047361080800
80	10	24	32	160	41	9049770100140	1.80	110.080	9047361100800
80	12	24	32	160	46	9049770120140	1.80	112.080	9047361120800
80	14	27	34	160	46	9049770120140	1.90	114.080	9047361140800
80	16	27	34	160	49	9049770160140	1.90	116.080	9047361160800
80	18	33	42	160	49	9049770160140	2.30	118.080	9047361180800
80	20	33	42	160	51	9049770201140	2.30	120.080	9047361200800
80	25	44	53	160	57	9049770201140	3.00	125.080	9047361250800
80	32	44	53	160	61	9049770201140	2.80	132.080	9047361320800

Series no.									4736
HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw art. no. 4941 ...	kg	Code no.	EDP Number
100	1/4	21	27	85	36	9049770060140	2.20	906.100	9047369061000
100	3/8	24	32	90	41	9049770080140	2.20	909.100	9047369091000
100	1/2	24	32	95	46	9049770120140	2.30	912.100	9047369121000
100	5/8	27	34	100	49	9049770120140	2.30	915.100	9047369151000
100	3/4	33	42	105	49	9049770160140	2.30	919.100	9047369191000
100	1	44	53	115	75	9049770201140	3.00	925.100	9047369251000
100	6	21	27	85	36	9049770060140	2.20	6.100	9047360061000
100	8	21	27	85	36	9049770080140	2.20	8.100	9047360081000
100	10	24	32	90	41	9049770100140	2.30	10.100	9047360101000
100	12	24	32	95	46	9049770120140	2.30	12.100	9047360121000
100	14	27	34	95	46	9049770120140	2.30	14.100	9047360141000
100	16	27	34	100	49	9049770160140	2.30	16.100	9047360161000
100	18	33	42	100	49	9049770160140	2.50	18.100	9047360181000
100	20	33	42	105	51	9049770201140	2.50	20.100	9047360201000
100	25	44	53	115	57	9049770201140	3.00	25.100	9047360251000
100	32	44	53	120	61	9049770201140	3.00	32.100	9047360321000
100	6	21	27	160	36	9049770060140	2.60	106.100	9047361061000
100	8	21	27	160	36	9049770080140	2.50	108.100	9047361081000
100	10	24	32	160	41	9049770100140	2.70	110.100	9047361101000
100	12	24	32	160	46	9049770120140	2.70	112.100	9047361121000
100	14	27	34	160	46	9049770120140	2.80	114.100	9047361141000
100	16	27	34	160	49	9049770160140	2.80	116.100	9047361161000
100	18	33	42	160	49	9049770160140	3.20	118.100	9047361181000
100	20	33	42	160	51	9049770201140	3.10	120.100	9047361201000
100	25	44	53	160	57	9049770201140	3.90	125.100	9047361251000
100	32	44	53	160	61	9049770201140	3.70	132.100	9047361321000
100	6	21	27	200	36	9049770060140	2.80	306.100	9047363061000
100	8	21	27	200	36	9049770080140	2.80	308.100	9047363081000
100	10	24	32	200	41	9049770100140	2.90	310.100	9047363101000
100	12	24	32	200	46	9049770120140	2.90	312.100	9047363121000
100	14	27	34	200	46	9049770120140	3.00	314.100	9047363141000
100	16	27	34	200	49	9049770160140	3.00	316.100	9047363161000
100	18	33	42	200	49	9049770160140	3.40	318.100	9047363181000
100	20	33	42	200	51	9049770201140	3.30	320.100	9047363201000
100	25	44	53	200	57	9049770201140	4.00	325.100	9047363251000
100	32	44	53	200	61	9049770201140	3.90	332.100	9047363321000

Product information

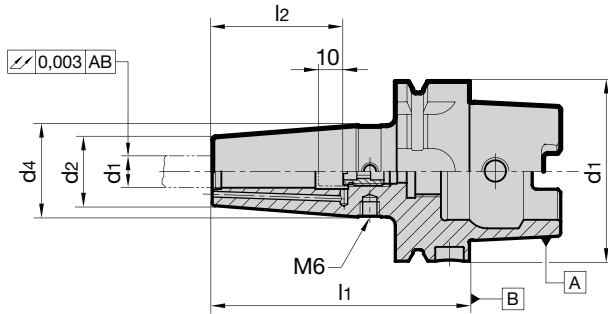
- balancing quality: G2.5 / 25,000 rev./min or U< 1gmm
- incl. balancing thread 4xM6/6xM6
- for tool shank tolerance h6
- to DIN 69882-8
- optimized cooling for tools without internal coolant ducts
- good chip evacuation and increased process reliability

Scope of delivery

- incl. setting screw Guhring no. 4938
- for conventional cooling order coolant delivery set, Guhring no. 4949, separately
- special dimensions on request



GÜHROJET



Series no. **4755**

HSK-A d3	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw Guh. no. 4938 ...	kg	Code no.	EDP Number
40	6	21	27	80	36	9049380060000	0.50	6.040	9047550060400
40	8	21	27	80	36	9049380080000	0.50	8.040	9047550080400
40	10	24	32	80	41	9049380100000	0.50	10.040	9047550100400
40	12	24	32	90	46	9049380120000	0.50	12.040	9047550120400
40	14	27	33.5	90	46	9049380120000	0.50	14.040	9047550140400
40	16	27	33.5	90	49	9049380160000	0.50	16.040	9047550160400
50	6	21	27	80	36	9049380060000	0.60	6.050	9047550060500
50	8	21	27	80	36	9049380080000	0.60	8.050	9047550080500
50	10	24	32	85	41	9049380100000	0.60	10.050	9047550100500
50	12	24	32	90	46	9049380120000	0.70	12.050	9047550120500
50	14	27	34	90	46	9049380120000	0.70	14.050	9047550140500
50	16	27	34	95	49	9049380160000	0.70	16.050	9047550160500
50	18	33	41.5	95	49	9049380160000	0.90	18.050	9047550180500
50	20	33	41.5	100	51	9049380200000	0.90	20.050	9047550200500
63	6	21	27	80	36	9049380060000	0.80	6.063	9047550060630
63	8	21	27	80	36	9049380080000	0.80	8.063	9047550080630
63	10	24	32	85	41	9049380100000	0.90	10.063	9047550100630
63	12	24	32	90	46	9049380120000	0.90	12.063	9047550120630
63	14	27	34	90	46	9049380120000	1.00	14.063	9047550140630
63	16	27	34	95	49	9049380160000	1.00	16.063	9047550160630
63	18	33	42	95	49	9049380160000	1.20	18.063	9047550180630
63	20	33	42	100	51	9049380200000	1.20	20.063	9047550200630
63	6	21	27	120	36	9049380060000	0.90	206.063	9047552060630
63	8	21	27	120	36	9049380080000	0.90	208.063	9047552080630
63	10	24	32	120	41	9049380100000	1.10	210.063	9047552100630
63	12	24	32	120	46	9049380120000	1.20	212.063	9047552120630
63	14	27	34	120	46	9049380120000	1.20	214.063	9047552140630
63	16	27	34	120	49	9049380160000	1.20	216.063	9047552160630
63	18	33	42	120	49	9049380160000	1.20	218.063	9047552180630
63	20	33	42	120	51	9049380200000	1.40	220.063	9047552200630
100	6	21	27	85	36	9049380060000	2.20	6.100	9047550061000
100	8	21	27	85	36	9049380080000	2.20	8.100	9047550081000
100	10	24	32	90	41	9049380100000	2.30	10.100	9047550101000
100	12	24	32	95	46	9049380120000	2.30	12.100	9047550121000
100	14	27	34	95	46	9049380120000	2.30	14.100	9047550141000
100	16	27	34	100	49	9049380160000	2.30	16.100	9047550161000
100	18	33	42	100	49	9049380160000	2.50	18.100	9047550181000
100	20	33	42	105	51	9049380200000	2.50	20.100	9047550201000
100	25	44	53	115	57	9049380200000	3.00	25.100	9047550251000
100	32	44	53	120	61	9049380200000	3.00	32.100	9047550321000

Product information

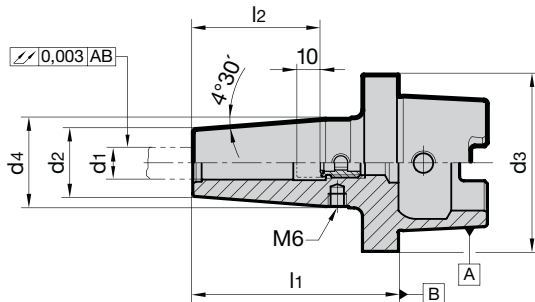
- balancing quality: G2.5 / 25,000 rev./min or U< 1 gmm
- incl. balancing thread 4xM6/6xM6
- for tool shank tolerance h6
- to DIN 69882-8
- HSK-C to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. setting screw, Series no. 4977
- special dimensions on request



Shrink fit technology



Series no. 4758

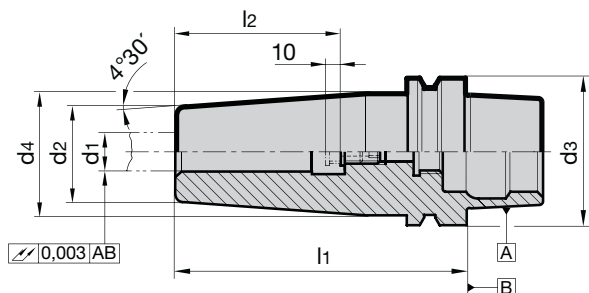
HSK-C d ₃	for clamping-Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw Guhring no. 4977	kg	Code no.	EDP Number
32	6	21	26	65	36	9049770060140	0.30	6.032	9047580060320
32	8	21	26	65	36	9049770080140	0.30	8.032	9047580080320
32	10	24	30	65	41	9049770100140	0.30	10.032	9047580100320
32	12	24	32	75	46	9049770120140	0.40	12.032	9047580120320
40	6	21	30	70	36	9049770060140	0.50	6.040	9047580060400
40	8	21	30	70	36	9049770080140	0.30	8.040	9047580080400
40	10	24	34	70	41	9049770100140	0.40	10.040	9047580100400
40	12	24	35	80	46	9049770120140	0.40	12.040	9047580120400
40	14	27	38	80	46	9049770120140	0.50	14.040	9047580140400
40	16	27	38	80	49	9049770160140	0.50	16.040	9047580160400
50	6	21	30	70	36	9049770060140	0.50	6.050	9047580060500
50	8	21	30	70	36	9049770080140	0.40	8.050	9047580080500
50	10	24	33	75	41	9049770100140	0.50	10.050	9047580100500
50	12	24	34	80	46	9049770120140	0.50	12.050	9047580120500
50	14	27	37	80	46	9049770120140	0.60	14.050	9047580140500
50	16	27	39	85	49	9049770160140	0.60	16.050	9047580160500
50	18	33	45	85	49	9049770160140	0.80	18.050	9047580180500
50	20	33	45	90	51	9049770201140	0.80	20.050	9047580200500
63	6	21	30	70	36	9049770060140	0.60	6.063	9047580060630
63	8	21	30	70	36	9049770080140	0.60	8.063	9047580080630
63	10	24	34	75	41	9049770100140	0.70	10.063	9047580100630
63	12	24	34	80	46	9049770120140	0.70	12.063	9047580120630
63	14	27	36	80	46	9049770120140	0.80	14.063	9047580140630
63	16	27	36	85	49	9049770160140	0.80	16.063	9047580160630
63	18	33	44	85	49	9049770160140	1.00	18.063	9047580180630
63	20	33	45	90	51	9049770201140	1.00	20.063	9047580200630
63	25	44	53	100	57	9049770201140	1.50	25.063	9047580250630
63	32	44	53	110	61	9049770201140	3.90	32.063	9047580320630

Product information

- balancing quality G2.5 / 25,000 rev./min or U < 1 gmm
- for tool shank tolerance h6
- HSK-E to ISO 12164-1 / DIN 69893-5 with access hole

Scope of delivery

- incl. setting screw, Series no. 4977 or 4904
- for conventional cooling order coolant supply set, Series no. 4949, separately
- special dimensions on request



Series no.

4737

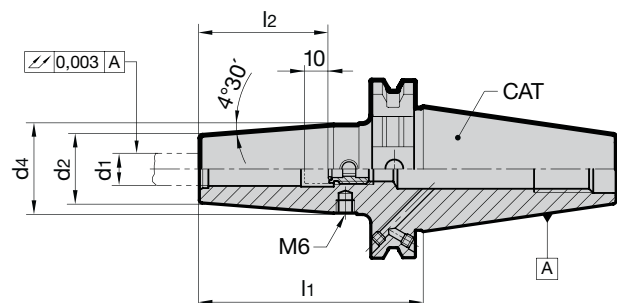
HSK-E d ₃	for shank Ø d ₁ h6 mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw Guh. no. Code no.	kg	Code no.	EDP Number
32	3	10	16	60	–	–	0.16	3.032	9047370030320
32	4	10	16	60	–	–	0.16	4.032	9047370040320
32	5	10	16	60	–	–	0.16	5.032	9047370050320
32	6	21	26	70	36	9049770060140	0.18	6.032	9047370060320
32	8	21	26	70	36	9049770080140	0.20	8.032	9047370080320
32	10	24	29	75	41	9049770100140	0.25	10.032	9047370100320
32	12	24	29	80	46	9049770120140	0.25	12.032	9047370120320
40	3	10	19	80	–	–	0.28	3.040	9047370030400
40	4	10	19	80	–	–	0.28	4.040	9047370040400
40	5	10	19	80	–	–	0.27	5.040	9047370050400
40	6	21	27	80	36	9049770060140	0.41	6.040	9047370060400
40	8	21	27	80	36	9049770080140	0.41	8.040	9047370080400
40	10	24	32	80	41	9049770100140	0.48	10.040	9047370100400
40	12	24	32	90	46	9049770120140	0.52	12.040	9047370120400
40	14	27	34	90	46	9049770120140	0.57	14.040	9047370140400
40	16	27	34	90	49	9049770160140	0.55	16.040	9047370160400
50	3	10	18	80	30	9049040050160	0.49	3.050	9047370030500
50	4	10	18	80	35	9049040060160	0.49	4.050	9047370040500
50	5	10	18	80	–	–	0.49	5.050	9047370050500
50	6	21	27	80	36	9049770060140	0.59	6.050	9047370060500
50	8	21	27	80	36	9049770080140	0.58	8.050	9047370080500
50	10	24	32	85	41	9049770100140	0.57	10.050	9047370100500
50	12	24	32	90	46	9049770120140	0.69	12.050	9047370120500
50	14	27	34	90	46	9049770120140	0.74	14.050	9047370140500
50	16	27	34	95	49	9049770160140	0.75	16.050	9047370160500
50	18	33	42	95	49	9049770160140	0.92	18.050	9047370180500
50	20	33	42	100	51	9049770201140	0.94	20.050	9047370200500
63	6	21	27	80	36	9049770060140	0.86	6.063	9047370060630
63	8	21	27	80	36	9049770080140	0.85	8.063	9047370080630
63	10	24	32	85	41	9049770100140	0.94	10.063	9047370100630
63	12	24	32	90	46	9049770120140	0.96	12.063	9047370120630
63	14	27	34	90	46	9049770120140	1.01	14.063	9047370140630
63	16	27	34	95	49	9049770160140	1.02	16.063	9047370160630
63	18	33	42	95	49	9049770160140	1.19	18.063	9047370180630
63	20	33	42	100	51	9049770201140	1.21	20.063	9047370200630
63	25	44	53	115	57	9049770201140	1.80	25.063	9047370250630
63	32	44	53	120	61	9049770201140	1.73	32.063	9047370320630

Product information

- balancing quality: G2.5 / 25,000 rev./min or U< 1gmm
- Including balancing threads 4x M6 / 6xM6
- CAT taper form AD/B
- Coolant through center and also through flange (plugged with set screws when supplied)
- CAT 40 - 5/8 x 11 retention knob thread
- CAT 50 - 1" x 8 retention knob thread

Scope of delivery

- Including setting screw, Guhring no. 4977 with axial force dampening for perfect runout accuracy
- Special dimensions on request



Shrink fit technology

Series no.

4764

CAT	clamping dia. d1 in h6 inch/mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw Guh. no. Code no.	Code no.	EDP Number
40	1/4	21	27	80	36	9049770060140	106.040	9047641060400
40	3/8	24	32	80	41	9049770080140	109.040	9047641090400
40	1/2	24	32	80	46	9049770120140	112.040	9047641120400
40	5/8	27	34	80	49	9049770160140	115.040	9047641150400
40	3/4	33	42	80	49	9049770160140	119.040	9047641190400
40	1	44	53	100	57	9049770201140	125.040	9047641250400
40	1 1/4	44	53	100	61	9049770201140	131.040	9047641310400
40	6	21	27	80	36	9049770060140	6.040	9047640060400
40	8	21	27	80	36	9049770080140	8.040	9047640080400
40	10	24	32	80	41	9049770100140	10.040	9047640100400
40	12	24	32	80	46	9049770120140	12.040	9047640120400
40	14	27	34	80	46	9049770120140	14.040	9047640140400
40	16	27	34	80	49	9049770160140	16.040	9047640160400
40	18	33	42	80	49	9049770160140	18.040	9047640180400
40	20	33	42	80	51	9049770201140	20.040	9047640200400
40	25	44	53	100	57	9049770201140	25.040	9047640250400
40	32	44	53	100	61	9049770201140	32.040	9047640320400
50	1/4	21	27	80	36	9049770060140	106.050	9047641060500
50	3/8	24	32	80	41	9049770080140	109.050	9047641090500
50	1/2	24	32	80	46	9049770120140	112.050	9047641120500
50	5/8	27	34	80	49	9049770160140	115.050	9047641150500
50	3/4	33	42	80	49	9049770160140	119.050	9047641190500
50	1	44	53	100	57	9049770201140	125.050	9047641250500
50	1 1/4	44	53	100	61	9049770201140	131.050	9047641310500
50	6	21	27	80	36	9049770060140	6.050	9047640060500
50	8	21	27	80	36	9049770080140	8.050	9047640080500
50	10	24	32	80	41	9049770100140	10.050	9047640100500
50	12	24	32	80	46	9049770120140	12.050	9047640120500
50	14	27	34	80	46	9049770120140	14.050	9047640140500
50	16	27	34	80	49	9049770160140	16.050	9047640160500
50	18	33	42	80	49	9049770160140	18.050	9047640180500
50	20	33	42	80	51	9049770201140	20.050	9047640200500
50	25	44	53	100	57	9049770201140	25.050	9047640250500
50	32	44	53	100	61	9049770201140	32.050	9047640320500

Product information

- Optimized cooling for tools without internal coolant ducts
- Good chip evacuation and increased process reliability
- balancing quality: G2.5 / 25,000 rev./min or U< 1gmm
- Including balancing threads 4x M6 / 6xM6
- CAT taper form AD/B
- Coolant through center and also through flange (plugged with set screws when supplied)
- CAT 40 - 5/8 x 11 retention knob thread
- CAT 50 - 1" x 8 retention knob thread

Scope of delivery

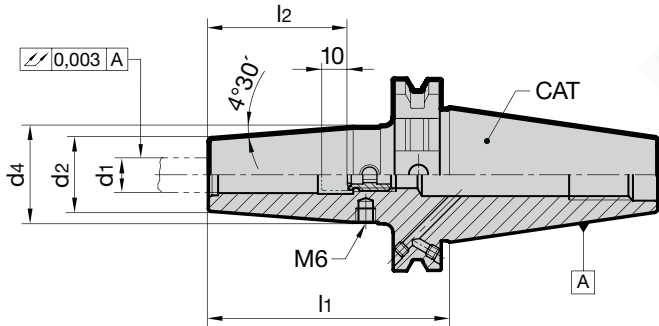
- Including setting screw, Guhring no. 4938 with slots for coolant supply
- Special dimensions on request



GUHROJET

Series no.

4765

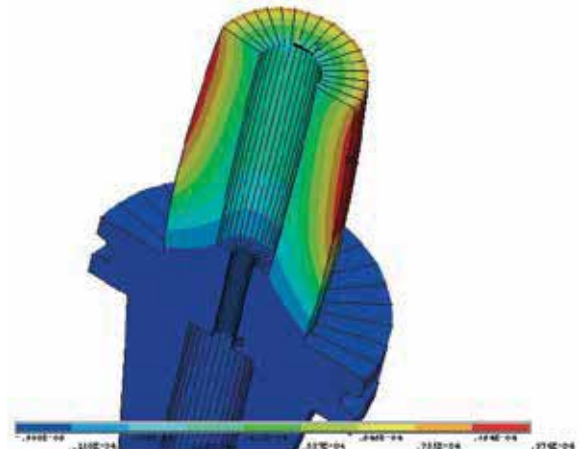


CAT	clamping dia. d1 in h6 inch	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw Guh. no. Code no.	Code no.	EDP Number
40	1/4	21	27	80	36	9049770060140	106.040	9047651060400
40	3/8	24	32	80	41	9049770080140	109.040	9047651090400
40	1/2	24	32	80	46	9049770120140	112.040	9047651120400
40	5/8	27	34	80	49	9049770160140	115.040	9047651150400
40	3/4	33	42	80	49	9049770160140	119.040	9047651190400
50	3/8	24	32	80	41	9049770080140	109.050	9047651090500
50	1/2	24	32	80	46	9049770120140	112.050	9047651120500
50	3/4	33	42	80	49	9049770160140	119.050	9047651190500
50	1	44	53	100	57	9049770201140	125.050	9047651250500

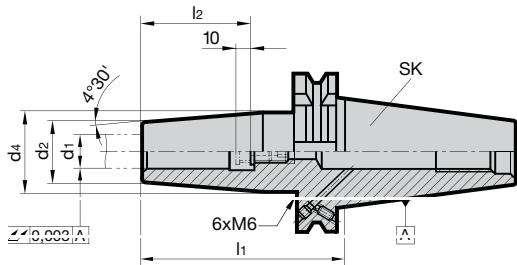
A gripping principle

When shrink fitting tools into shrink fit chucks, the decisive factors for ensuring the safe clamping of the tool in the tool holder are solely the heating and cooling of the tool holder. The heating process expands the shrink fit chuck enabling a tool to be inserted or withdrawn respectively. During the cooling process it contracts again and clamps the inserted tool with maximum clamping force.

Because the shrink fit chucks can become extremely hot in localized areas during the heating process and the tools shrink fitted for insertion or withdrawal respectively possess very sharp cutting edges, it is important that the operator wears Kevlar® gloves during the shrink fit operation to prevent burns and cuts to the hands.



tool holder

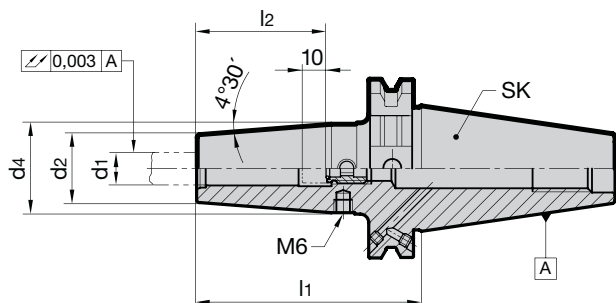
A close-up photograph of a metal tool holder, likely a lathe tool holder. It features a cylindrical body with a flange that has several mounting holes. The tool holder is shown against a white background.GM 300 **GUHRING** 49

Product information

- balancing quality G2.5 / 25,000 rev./min or U < 1 gmm
- incl. balancing thread 4xM6/6xM6
- SK taper form AD/B
- for tool shank tolerance h6
- also available in the lengths
l₁ = 120 mm (concentricity 4 µm),
160 mm (concentricity 5 µm) and 200 mm (concentricity 7 µm)
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. setting screw, Series no. 4977 or 4904
- special dimensions on request



Series no.

4738

SK taper	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw art. no. EDP #	kg	Code no.	EDP Number
40	3	10	18	80	30	9049040050160	0.90	3.040	9047380030400
40	4	10	18	80	35	9049040060160	0.90	4.040	9047380040400
40	5	10	18	80	40	9049040080180	0.90	5.040	9047380050400
40	6	21	27	80	36	9049770060140	1.00	6.040	9047380060400
40	8	21	27	80	36	9049770080140	1.00	8.040	9047380080400
40	10	24	32	80	41	9049770100140	1.10	10.040	9047380100400
40	12	24	32	80	46	9049770120140	1.00	12.040	9047380120400
40	14	27	34	80	46	9049770120140	1.10	14.040	9047380140400
40	16	27	34	80	49	9049770160140	1.10	16.040	9047380160400
40	18	33	42	80	49	9049770160140	1.20	18.040	9047380180400
40	20	33	42	80	51	9049770201140	1.50	20.040	9047380200400
40	25	44	53	100	57	9049770201140	1.50	25.040	9047380250400
40	32	44	53	100	61	9049770201140	1.50	32.040	9047380320400
40	3	10	24	120	30	9049040050160	1.00	203.040	9047382030400
40	4	10	24	120	35	9049040060160	1.00	204.040	9047382040400
40	5	10	24	120	40	9049040080180	1.00	205.040	9047382050400
40	6	21	27	120	36	9049770060140	1.10	206.040	9047382060400
40	8	21	27	120	36	9049770080140	1.10	208.040	9047382080400
40	10	24	32	120	41	9049770100140	1.20	210.040	9047382100400
40	12	24	32	120	46	9049770120140	1.20	212.040	9047382120400
40	14	27	34	120	46	9049770120140	1.40	214.040	9047382140400
40	16	27	34	120	49	9049770160140	1.40	216.040	9047382160400
40	18	33	42	120	49	9049770160140	1.50	218.040	9047382180400
40	20	33	42	120	51	9049770201140	1.50	220.040	9047382200400
40	3	10	31	160	30	9049040050160	1.10	103.040	9047381030400
40	4	10	31	160	35	9049040060160	1.10	104.040	9047381040400
40	5	10	31	160	40	9049040080180	1.10	105.040	9047381050400
40	6	21	27	160	36	9049770060140	1.30	106.040	9047381060400
40	8	21	27	160	36	9049770080140	1.30	108.040	9047381080400
40	10	24	32	160	41	9049770100140	1.50	110.040	9047381100400
40	12	24	32	160	46	9049770120140	1.50	112.040	9047381120400
40	14	27	34	160	46	9049770120140	1.70	114.040	9047381140400
40	16	27	34	160	49	9049770160140	1.70	116.040	9047381160400
40	18	33	42	160	49	9049770160140	1.90	118.040	9047381180400
40	20	33	42	160	51	9049770201140	1.90	120.040	9047381200400
40	25	44	53	160	57	9049770201140	2.20	125.040	9047381250400

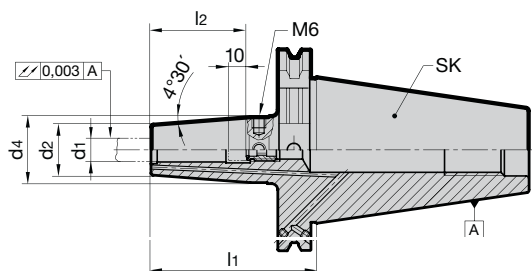
Shrink fit technology

- balancing quality G2.5 / 25,000 rev./min or U < 1 gmm
- incl. balancing thread 4xM6/6xM6
- SK taper form AD/B
- for tool shank tolerance h6
- optimised cooling for tools without internal coolant ducts
- good chip evacuation and increased process reliability
- Coolant ducts:
 - $d_1 = 6 - 10$ mm with two coolant ducts
 - $d_1 = 12 - 32$ mm with four coolant ducts
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

- incl. setting screw, Series no. 4977
- special dimensions on request



GÜHROJET

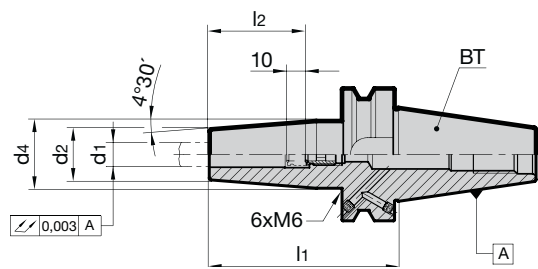
Series no. 4729

Product information

- balancing quality: G2.5 / 25,000 rev./min or U < 1 gmm
- Design for 6xM6 balancing screws for maximum accuracy
- Coating for oxidation protection, cleanliness and longevity
- Safety colour ring for maximum operator safety
- with axial dampening screw for optimal concentricity
- max. 3 µm deviation from concentricity
- for tool shank tolerance h6
- BT taper form AD/B
- BT40 - M16 x 2.0 retention knob

Scope of delivery

- incl. length setting screw with axial force damping, Series no. 4941, for conventional cooling
- special dimensions on request
- MAS/BT 50 on request
- for MQL application order as special tool holder



Series no. 4728

MAS/BT	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw art. no. 4941 ...	kg	Code no.	EDP Number
40	6	21	27	90	36	6.041	1.00	6.040	9047280060400
40	8	21	27	90	36	8.040	1.00	8.040	9047280080400
40	10	24	32	90	41	10.050	1.00	10.040	9047280100400
40	12	24	32	90	46	12.100	1.00	12.040	9047280120400
40	14	27	34	90	46	14.100	1.50	14.040	9047280140400
40	16	27	34	90	49	16.100	1.50	16.040	9047280160400
40	18	33	42	90	49	18.100	2.00	18.040	9047280180400
40	20	33	42	90	51	20.100	2.00	20.040	9047280200400
40	25	44	53	100	57	25.100	2.00	25.040	9047280250400
40	32	44	53	100	57	32.100	2.00	32.040	9047280320400

GUHRING

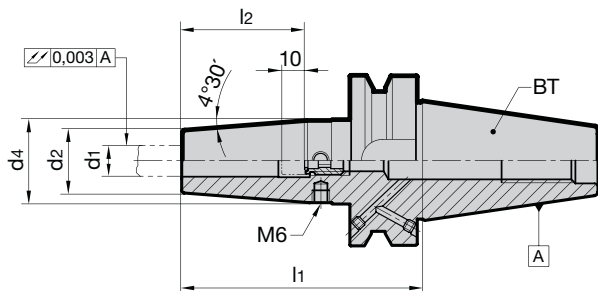
The perfect combination
from one reliable
supplier:
high performance milling
cutters
and GÜHROJET shrink fit
chucks
made by Gühring

Product information

- balancing quality G2.5 / 25,000 rev./min or U < 1 gmm
- incl. balancing thread 4xM6/6xM6
- BT taper form AD/B
- BT30 design JD without coolant supply via collar
(*: version AD without coolant supply over collar)
- for tool shank tolerance h6
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. setting screw, Series no. 4977 or 4904
- special dimensions on request



Series no. 4739

MAS/BT	for shank Ø d ₁ h ₆ mm/inch	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw Guh. no. Code no.	kg	Code no.	EDP Number
30*	1/8	10	18	80	34	9049040050160	0.60	103.030	9047391030300
30*	3/16	10	18	80	34	9049040080180	0.60	104.030	9047391040300
30*	1/4	21	27	80	36	9049770060140	0.60	106.030	9047391060300
30*	5/16	21	27	80	36	9049770080140	0.70	107.030	9047391070300
30*	3/8	24	32	80	41	9049770080140		109.030	9047391090300
30*	1/2	24	34	80	46	9049770120140	0.70	112.030	9047391120300
30*	5/8	27	34	80	49	9049770160140	0.80	115.030	9047391150300
30*	3/4	33	42	90	51	9049770160140	0.90	119.030	9047391190300
30*	3	10	18	80	30	9049040050160	0.60	3.030	9047390030300
30*	4	10	18	80	35	9049040060160	0.60	4.030	9047390040300
30*	5	10	18	80	40	9049040080180	0.6	5.030	9047390050300
30*	6	21	27	80	36	9049770060140	0.70	6.030	9047390060300
30*	8	21	27	80	36	9049770080140	0.70	8.030	9047390080300
30*	10	24	32	80	41	9049770100140	0.80	10.030	9047390100300
30*	12	24	32	80	46	9049770120140	0.80	12.030	9047390120300
30*	14	27	34	80	46	9049770120140	0.80	14.030	9047390140300
30*	16	27	34	80	49	9049770160140	0.80	16.030	9047390160300
30*	18	33	42	90	49	9049770160140	0.90	18.030	9047390180300
30*	20	33	42	90	51	9049770201140	0.90	20.030	9047390200300
40	3	10	18	85	30	9049040050160	1.00	3.040	9047390030400
40	4	10	18	85	35	9049040060160	1.00	4.040	9047390040400
40	5	10	18	85	40	9049040080180	1.00	5.040	9047390050400
40	6	21	27	90	36	9049770060140	1.20	6.040	9047390060400
40	8	21	27	90	36	9049770080140	1.20	8.040	9047390080400
40	10	24	32	90	41	9049770100140	1.30	10.040	9047390100400
40	12	24	32	90	46	9049770120140	1.30	12.040	9047390120400
40	14	27	34	90	46	9049770120140	1.40	14.040	9047390140400
40	16	27	34	90	49	9049770160140	1.40	16.040	9047390160400
40	18	33	42	90	49	9049770160140	1.40	18.040	9047390180400
40	20	33	42	90	51	9049770201140	1.70	20.040	9047390200400
40	25	44	53	100	57	9049770201140	1.80	25.040	9047390250400
40	32	44	53	100	61	9049770201140	1.70	32.040	9047390320400
40	6	21	27	130	36	9049770060140	1.30	6.140	9047390061400
40	8	24	32	130	41	9049770080140	1.30	8.140	9047390081400
40	10	24	32	130	46	9049770100140	1.40	10.140	9047390101400
40	12	27	34	130	46	9049770120140	1.40	12.140	9047390121400
40	14	27	34	130	49	9049770120140	1.40	14.140	9047390141400
40	16	33	42	130	49	9049770160140	1.50	16.140	9047390161400

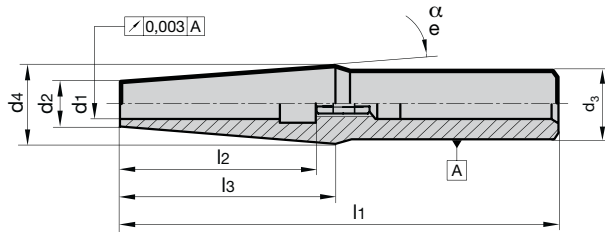
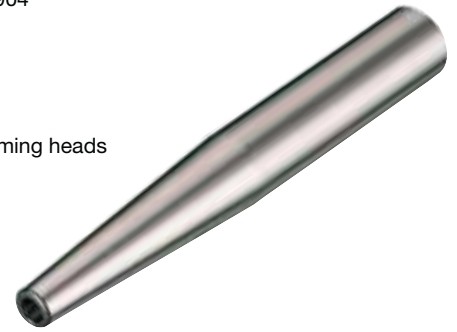
Series no.									4739
MAS/BT	for shank Ø d ₁ h ₆ mm/inch	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw Guh. no. Code no.	kg	Code no.	EDP Number
40	18	33	42	130	51	9049770160140	1.50	18.140	9047390181400
40	20	44	53	130	57	9049770201140	1.80	20.140	9047390201400
40	25	44	53	130	58	9049770201140	2.00	25.140	9047390251400
40	32	44	53	130	61	9049770201140	1.90	32.140	9047390321400
50	6	21	27	100	36	9049770060140	2.90	6.050	9047390060500
50	8	21	27	100	36	9049770080140	2.90	8.050	9047390080500
50	10	24	32	100	41	9049770100140	2.90	10.050	9047390100500
50	12	24	32	100	46	9049770120140	2.90	12.050	9047390120500
50	14	27	34	100	46	9049770120140	3.00	14.050	9047390140500
50	16	27	34	100	49	9049770160140	3.00	16.050	9047390160500
50	18	33	42	100	49	9049770160140	1.90	18.050	9047390180500
50	20	33	42	100	51	9049770201140	1.90	20.050	9047390200500
50	25	44	53	110	57	9049770201140	2.20	25.050	9047390250500
50	32	44	53	110	61	9049770201140	2.20	32.050	9047390320500

Product information

- for clamping in hydraulic chucks or shrink fit chucks
- suitable for internal cooling
- we recommend the use of special cooling adaptors Series no. 4419
- for carbide tool shanks in tolerance h6 (from d1 14 mm also HSS possible)
- concentricity
up to l1 125 mm < 0,003 mm
up to l1 200 mm < 0,005 mm
up to l1 250 mm < 0,007 mm

Scope of delivery

- incl. setting screw, Series no. 4977 or 4904
- special dimensions on request
- * Type „HR“ designed for HR 500 T Reaming heads



Series no.

4719

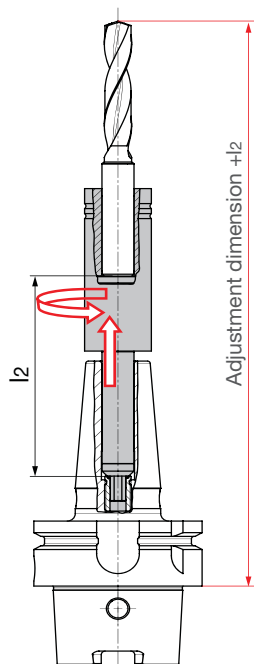
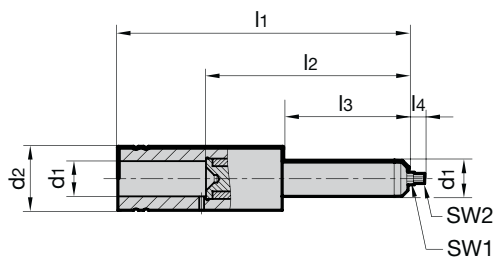
for shank Ø d1 h6 mm	d2 h6 mm	d3 mm	d4 mm	l1 mm	l2 mm	l3 mm	incl. setting screw art. no. EDP #	kg	β	type	Code no.	EDP Number
3	16	7	16	115	30	—	9049040050160	4	—	—	3.016	9047190030160
4	16	7	16	115	35	—	9049040060160	4	—	—	4.016	9047190040160
5	16	8	16	115	40	—	9049040080180	4	—	—	5.016	9047190050160
6	16	10	16	115	36	—	9049770060140	4	—	—	6.016	9047190060160
8	16	12	16	115	36	—	9049770080140	4	—	—	8.016	9047190080160
10	16	14	16	115	41	—	9049770100140	4	—	—	10.016	9047190100160
12	16	16	23.2	115	46	—	9049770120140	4	—	—	12.016	9047190120160
3	20	7	16.1	115	30	—	9049040050160	4	—	—	3.020	9047190030200
4	20	8	17.1	115	35	—	9049040060160	4	—	—	4.020	9047190040200
5	20	9	18.1	115	40	—	9049040080180	4	—	—	5.020	9047190050200
6	20	10	19.1	115	36	—	9049770060140	4	—	—	6.020	9047190060200
8	20	12	20	115	36	—	9049770080140	4	—	—	8.020	9047190080200
10	20	14	20	115	41	—	9049770100140	4	—	—	10.020	9047190100200
12	20	16	20	115	46	—	9049770120140	4	—	—	12.020	9047190120200
14	20	20	28.8	150	46	—	9049770120140	4	—	—	14.020	9047190140200
3	20	10	20	160	30	—	9049040050160	4	—	—	3.120	9047190031200
4	20	10	20	160	35	—	9049040060160	4	—	—	4.120	9047190041200
5	20	10	20	160	40	—	9049040080180	4	—	—	5.120	9047190051200
6	20	14	20	160	36	—	9049770060140	4	—	—	6.120	9047190061200
8	20	14	20	160	36	—	9049770080140	4	—	—	8.120	9047190081200
10	25	20	25	160	41	—	9049770100140	4	—	—	10.125	9047190101250
12	25	20	25	160	46	—	9049770120140	4	—	—	12.125	9047190121250
14	25	20	28.8	150	46	—	9049770120140	4	—	—	14.025	9047190140250
14	25	20	29	160	46	—	9049770120140	4	—	—	14.125	9047190141250
16	25	24	33	160	49	—	9049770160140	4	—	—	16.125	9047190161250
16	25	22	33	150	49	—	9049770160140	4	—	—	16.125	9047190160250
18	32	27	32	160	49	—	9049770160140	4	—	—	18.132	9047190181320
20	32	27	32	160	51	—	9049770201140	4	—	—	20.132	9047190201320

Continued on next page

Series no.												4719
for shank Ø d ₁ h ₆ mm	d ₂ h ₆ mm	d ₃ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₃ mm	incl. setting screw art. no. EDP #	kg	β	type	Code no.	EDP Number
3	20	10	20	200	30	–	9049040050160	4	–	–	3.220	9047190032200
4	20	10	20	200	35	–	9049040060160	4	–	–	4.220	9047190042200
5	20	10	20	200	40	–	9049040080180	4	–	–	5.220	9047190052200
6	20	14	20	200	36	–	9049770060140	4	–	–	6.220	9047190062200
8	20	14	20	200	36	–	9049770080140	4	–	–	8.220	9047190082200
10	25	20	25	200	41	–	9049770100140	4	–	–	10.225	9047190102250
12	25	20	25	200	46	–	9049770120140	4	–	–	12.225	9047190122250
14	32	20	32	200	46	–	9049770160140	4	–	–	14.232	9047190142320
16	32	24	32	200	49	–	9049770160140	4	–	–	16.232	9047190162320
18	32	27	32	200	49	–	9049770200140	4	–	–	18.232	9047190182320
20	32	27	32	200	51	–	9049770201140	4	–	–	20.232	9047190202320
6	12	10	12	125	38	–	–	3	HR	HR	6.012	9047190060120
8	14	12	14	125	38	–	–	3	HR	HR	8.014	9047190080140
10	16	14	16	160	42	–	–	3	HR	HR	10.116	9047190101160
12	20	16	20	160	47	–	–	3	HR	HR	12.120	9047190121200
16	25	22	25	160	50	–	–	3	HR	HR	16.225	9047190162250
20	32	27	32	160	52	–	–	3	HR	HR	20.332	9047190203320
6	12	10	12.2	200	38	47	–	3	HR	HR	6.312	9047190063120
8	14	12	14.2	200	38	47	–	3	HR	HR	8.314	9047190083140
10	16	14	16.2	250	42	50	–	3	HR	HR	10.316	9047190103160
12	20	16	20.2	250	47	52	–	3	HR	HR	12.320	9047190123200
16	25	22	25.2	250	50	58	–	3	HR	HR	16.325	9047190163250
20	32	27	32.2	250	52	62	–	3	HR	HR	20.342	9047190203420

Type “HR” designed for HR 500 T Reaming heads

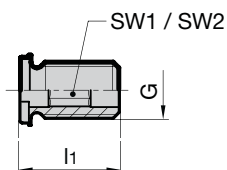
- for shrink fit and hydraulic chucks
- for length pre-setting of the setting screw with the cutting tool
(less difference dimension l_2 , see sketch)
- flexibly mounted hexagonal key SW1/SW2
- with standard screws suitable for wet application Series no. 4900, 4941, 4977
- suitable with MQL setting screws Series no. 4621, 4919, 4937

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Setting screws for GÜHROJET shrink fit chucks

Product information

- setting screws for GÜHROJET-shrink fit chucks
Series no. 4755
- slotted for reliable coolant supply for conventional internal cooling



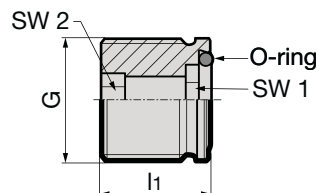
Shrink fit technology

Series no.					4938
for clamping-Ø	l ₁ mm	G	SW1	SW2	EDP Number
6	14	M5	2.5	2.5	9049380060000
8	14	M6	3.0	3.0	9049380080000
10	14	M8x1	4.0	4.0	9049380100000
12/14	14	M10x1	5.0	5.0	9049380120000
16/18	14	M12x1	6.0	6.0	9049380160000
20/25/32	14	M16x1	8.0	6.0	9049380200000

Shrink fit chuck length setting screw with axial force damping

Product information

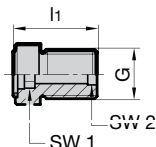
- for shrink fit chucks
- for conventional internal cooling
- with facing stop for standard shank ends
- with patented axial force damping.
O-ring reduces the concentricity error when shrink fitting on the setting screw



Series no.						4977
for clamping-Ø	l ₁ mm	G	SW1	SW2	O-ring	EDP Number
6	14	M5	2.5	2.5	3x1	9049770060140
8	14	M6	3.0	3.0	3.5x1	9049770080140
10	14	M8x1	4.0	4.0	6x1	9049770100140
12/14	14	M10x1	5.0	5.0	6x1	9049770120140
16/18	14	M12x1	6.0	6.0	7.5x1.5	9049770160140
20/25/32	14	M16x1	8.0	6.0	10x1.5	9049770201140
20/25	14	M16x1	6.0	6.0	12x1.5	9049770200140

Product information

- To adapt MQL tool holders to meet the requirements of conventional wet machining. For plain end shanks. The height of screw head compensates the height of MQL taper.



- for MQL HSK-A shrink fit chucks hydraulic chucks
- for use with shank according to DIN 6535 with plain shank end for conventional cooling
- The patented face orientated o-ring provides axial force clamping which eliminates concentricity errors



Series no.

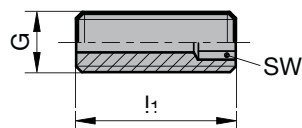
4941

for HSK-A	per clamping- Ø	G	l ₁ mm	SW1	SW2	EDP Number
32 / 40	6	M5	14.9	2.5	2.5	9049410060410
40	6	M7x1	15.0	2.5	2.5	9049410060400
32 / 40	8	M7x1	16.2	3	3	9049410080400
50	6	M8x1	14.0	2.5	2.5	9049410060500
50	8	M8x1	18.0	3	3	9049410080500
32 / 40 / 50	10	M8x1	16.2	4	4	9049410100500
63 / 80 / 100	6	M10x1	17.0	2.5	2.5	9049410061000
63 / 80 / 100	8	M10x1	17.0	3	3	9049410081000
63 / 80 / 100	10	M10x1	16.2	4	4	9049410101000
32 / 40 / 50 / 63 / 80 / 100	12	M10x1	16.0	5	5	9049410121000
40 / 50 / 63 / 80 / 100	14	M10x1	17.2	5	5	9049410141000
50 / 63 / 80 / 100	16	M12x1	18.2	6	6	9049410161000
50 / 63 / 80 / 100	18	M12x1	19.2	6	6	9049410181000
50 / 63 / 80 / 100	20	M16x1	19.2	6	8	9049410201000
63 / 80 / 100	25	M16x1	22.7	6	8	9049410251000
63 / 80 / 100	32	M16x1	26.7	6	8	9049410321000

Setting screws

Product information

- for HSK-A side lock holders with bore to DIN 1835-2, form E, shrink fit chuck and shrink fit extensions



Scope of delivery

- minimum order quantity 5



Series no.

4904

G	l ₁ mm	SW1	EDP Number
M5	16	2.5	9049040050160
M5	20	2.5	9049040050200
M6	16	3.0	9049040060160
M6	20	3.0	9049040060200
M8	12	3.0	9049040080120
M8	18	4.0	9049040080180
M10	17	3.0	9049040100170
M10	20	5.0	9049040100200
M12	14	3.0	9049040120140
M12	20	5.0	9049040120200
M16	25	5.0	9049040160250
M20	25	6.0	9049040200250

SHRINK FIT TECHNOLOGY
RF 100

MILLING AT THE HIGHEST LEVEL

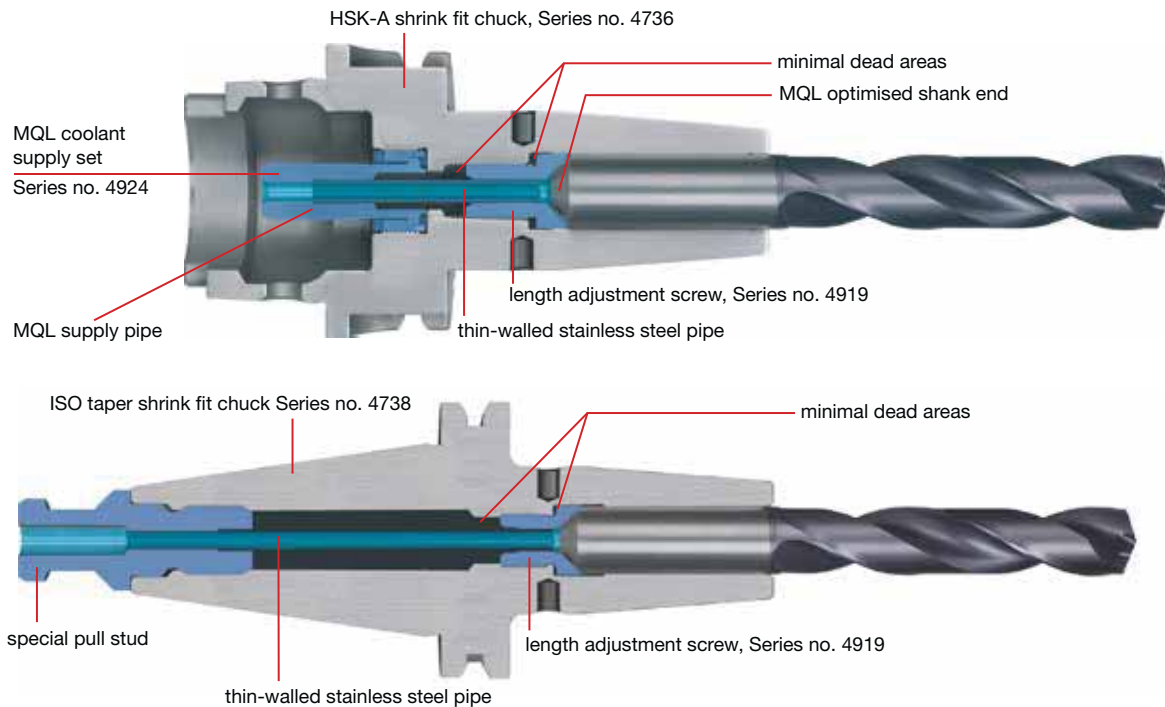
TSG 3000 shrink fit chucks and
Ratio end mills RF 100



- ➞ secure tool clamping
- ➞ perfect concentricity
- ➞ vibration-free operation
- ➞ optimal surface finish
- ➞ long tool life

Please request
our catalog
"Milling Tools".

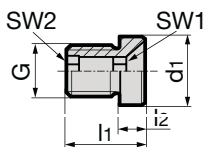
With the assistance of Guhring's MQL length adjustment screw, Series no. 4919, and MQL coolant supply set, Series no. 4924, tool holders such as shrink fit chucks, Series no. 4736, from Guhring's GM 300 program can be converted for application under MQL conditions and automatic tool clamping. This combination is suitable for 2-channel MQL systems (not suitable for application on machines with supply collar to DIN 69090-2). The insertion depth is reduced by the length of the cone on the MQL shank and does not correspond with our Guhring standard. Special solutions for SK/BT are available on request.



MQL length setting screws to convert

Product information

- for hydraulic chucks and shrink fit chucks
- with special geometry optimised for MQL
- with conical end for tapered MQL shank ends



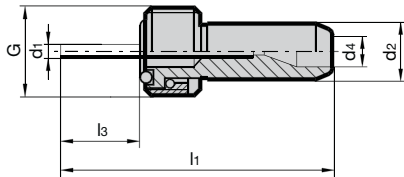
Series no.					4919
d ₁ mm	l ₁ mm	G	SW1	SW2	EDP #
6	14.8	M5	2.5	2.5	9049190060000
8	15.6	M6	3.0	3.0	9049190080000
10	16.1	M8x1	4.0	4.0	9049190100000
10	16.6	M8x1	3.0	3.0	9049190100400
10	16.6	M6	3.0	3.0	9049190100320
12	16.6	M10x1	5.0	5.0	9049190120000
12	17.6	M6	3.0	3.0	9049190120320
14	17.6	M10x1	5.0	5.0	9049190140000
14	18.6	M6	3.0	3.0	9049190140400
16	18.6	M12x1	5.0	5.0	9049190160000
16	19.6	M6	3.0	3.0	9049190160400
18	19.6	M12x1	5.0	5.0	9049190180000
20	20.6	M16x1	5.0	5.0	9049190200000
25	22.6	M16x1	8.0	6.0	9049190250000
32	26.1	M16x1	8.0	6.0	9049190320000

Product information

- replace conventional coolant supply sets, Series no. 4949, when applying MQL
- for shrink fit chucks to DIN 69882-8
- Attention:
Not suitable for application on machines with supply collar to DIN 69090-2

Scope of delivery

- complete MQL coolant supply sets



Series no.

4924

for HSK-A	clamping-Ø mm	d ₁ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₃ mm	G	EDP Number
32	6	2.5	6	3.5	45.1	18.9	M10x1	9049240320200
32	10	3.0	6	3.5	45.7	19.5	M10x1	9049240320600
32	8/12	3.0	6	3.5	45.2	19.0	M10x1	9049240320800
40	6	2.5	8	4.0	56.0	26.9	M12x1	9049240400200
40	8	3.0	8	4.0	56.2	27.0	M12x1	9049240400400
40	10	3.0	8	4.0	51.7	22.5	M12x1	9049240400600
40	12/14	3.0	8	4.0	57.2	28.0	M12x1	9049240401000
40	16	3.0	8	4.0	54.2	25.0	M12x1	9049240401200
50	6	2.5	10	4.0	55.4	22.7	M16x1	9049240500200
50	8	3.0	10	4.0	46.5	13.8	M16x1	9049240500400
50	10	4.0	10	4.0	46.1	13.4	M16x1	9049240500600
50	12	5.0	10	4.0	55.7	23.0	M16x1	9049240500800
50	14	5.0	10	4.0	55.7	22.9	M16x1	9049240501000
50	16/18	5.0	10	4.0	57.7	25.0	M16x1	9049240501400
50	20	5.0	10	4.0	60.7	28.0	M16x1	9049240501600
63	6	2.5	12	4.0	56.7	20.5	M18x1	9049240630200
63	6	2.5	12	4.0	137.7	101.4	M18x1	9049240630210
63	8	3.0	12	4.0	57.0	20.8	M18x1	9049240630400
63	8	3.0	12	4.0	137.0	100.7	M18x1	9049240630410
63	10	4.0	12	4.0	55.7	19.5	M18x1	9049240630600
63	10	4.0	12	4.0	132.2	95.9	M18x1	9049240630610
63	12/14	5.0	12	4.0	55.7	19.5	M18x1	9049240630800
63	12/14	5.0	12	4.0	127.1	90.8	M18x1	9049240630810
63	16/18	5.0	12	4.0	57.5	21.3	M18x1	9049240631000
63	16/18	5.0	12	4.0	124.3	88.0	M18x1	9049240631410
63	20	5.0	12	4.0	60.7	24.5	M18x1	9049240631100
63	20	5.0	12	4.0	122.1	85.8	M18x1	9049240631610
63	25	6.0	12	4.0	69.0	32.8	M18x1	9049240631300
63	25	6.0	12	4.0	116.2	79.9	M18x1	9049240631810
63	32	6.0	12	4.0	70.7	34.5	M18x1	9049240631400
63	32	6.0	12	4.0	112.2	75.9	M18x1	9049240632010
80	6	2.5	14	4.0	61.2	21.9	M20x1.5	9049240800200
80	8	3.0	14	4.0	61.3	22.0	M20x1.5	9049240800400
80	10	4.0	14	4.0	61.3	22.0	M20x1.5	9049240800600
80	12/14	5.0	14	4.0	61.3	22.0	M20x1.5	9049240801000
80	16/18	5.0	14	4.0	63.3	24.0	M20x1.5	9049240801400
80	20	5.0	14	4.0	66.3	27.0	M20x1.5	9049240801600
80	25	6.0	14	4.0	70.3	31.0	M20x1.5	9049240801800
80	32	6.0	14	4.0	71.3	32.0	M20x1.5	9049240802000
100	6	2.5	16	4.0	63.9	20.1	M24x1.5	9049241000200
100	8	3.0	16	4.0	64.6	20.8	M24x1.5	9049241000400
100	10	4.0	16	4.0	63.3	19.5	M24x1.5	9049241000600
100	12/14	5.0	16	4.0	63.3	19.5	M24x1.5	9049241001000
100	16/18	5.0	16	4.0	65.3	21.5	M24x1.5	9049241001400
100	20	5.0	16	4.0	68.3	24.5	M24x1.5	9049241001600
100	25	6.0	16	4.0	72.3	28.5	M24x1.5	9049241001800
100	32	6.0	16	4.0	73.3	29.5	M24x1.5	9049241002000

GSS

2000

Simple operation

The movement of the spindle and its heating is a single handed operation.

Tool clamping cannot be simpler and quicker!

Quick cooling

The water-cooled cooling elements cool down the shrink fit chuck quickly and safely. The shrink fit chuck remains clean and dry, **so that it can be applied again without drying and without rusting.** Hot spots remain safely screened during the cooling process in order to prevent burns.

Safe shrink fitting

The minimal heating of the shrink fit chuck ensures **maximum operating safety** on the one hand, on the other the controlled heating ensures the **long life** of the shrink fit chuck.



The control panel

The clear control panel with display makes the operation of the GSS 2000 **very user-friendly.**



Benefit from the advantages of GSS 2000

GSS
2000

Efficient operation

The turntable allows simultaneous preparation, heating and cooling of the shrink fit chucks. **Subsequently, there is no waiting time, tool clamping is seamless and with maximum efficiency.**



All under control

Practical locations and compartments provide room for accessories such as stop discs or gloves in close proximity to the equipment. **Thus all the necessary components are always at hand.**

- > **high-performance spindle**, hence quick change time
- > **overheating protection** for holder
- > **automatic mode** possible (equipment automatically selects the correct heating program)
- > **error detection** choosing wrong chuck/program
- > **heating programs** for standard/reinforced and very small holder/shrink fit extensions
- > **maximum rigidity**
- > **highest cutting rates**

Product information

- 3-station system with turntable

Scope of delivery

- incl. base system with turntable
- incl. induction coil Series no. 4743 / version 2008
- incl. 1 limit stop collar set Series no. 4769 / version 2008
- incl. SpeedCooler Series no. 4747
- incl. 1 pair of gloves Series no. 4750
- with integrated SpeedCooler-Manager
- order HSK-/ISO-holders article nos. 4745, 4744 separately!

Series no. **4742**

EDP Number

US version 50/60 Hz / 400-480 V, SpeedCooler 115 V

9047420200000

GSS 2000 HSK holders

Product information

- for GSS 2000 Comfort Plus Series no. 4742
- holder (spider) for turn-table to hold max. 3 shrink fit chucks



GSS 2000 SK taper holders

Product information

- for GSS 2000 Comfort Plus Series no. 4742
- also suitable for MAS-BT
- holder (spider) for turn-table to hold max. 3 shrink fit chucks

Series no. **4745**

for HSK-A/C/E	EDP Number
32	9047450320000
40	9047450400000
50	9047450500000
63	9047450630000
80	9047450800000
100	9047451000000

Series no. **4744**

for SK taper and BT	EDP Number
30	9047440300000
40	9047440400000
50	9047440500000

System cart

Product information

- for GSS 2000
- for mobile and stationary application
- systematic storage of cooler and accessories



Shrink fit technology

	Series no.	4748
	EDP Number	
System cart		9047480010000

Swivel compartments for GSS 2000

Product information

- for the clean storage of GSS shrink fit system accessories, i.e. limit stop washers, gloves, measuring instruments etc.
-
- suitable for GSS 2000 Comfort Plus and ECO Plus
Series no. 4742 and 4752

Scope of delivery

- swivel compartment does not include accessories shown



	Series no.	4763
	EDP Number	
Swivel compartments for GSS 2000 accessories		9047630010000

Tongs

Product information

- for the safe handling of hot tools



	Series no.	4749
	EDP Number	
Tongs		9047490010000

Cooling adaptor set, complete

Product information

- cooling adaptor set for shrink fit system GSS 2000 Comfort Plus and ECO Plus Series no. 4742 and 4752
- for inserting in the cooling adaptor Ø 14-16, in order to effectively and safely cool the small shrink fit holders with clamping diameter Ø 3-5



Series no. 4419

for cooling adaptor	for shank Ø	EDP Number
Ø14-16	Ø 3-5	9044190050000

Protective gloves

Product information

- Kevlar gloves providing protection against sharp cutting edges and high temperatures
- as specified for all shrink fit applications



Series no. 4750

	EDP Number
Protective gloves	9047500010000

GSS 2000 Basic

Product information

- 1-place system

Scope of delivery

- incl. base system
- incl. 1 limit stop collar set Series no. 4769 / version 2008
- incl. 1 pair of gloves Series no. 4750
- order HSK-/ISO-holders article nos. 4761, 4762 separately!



Series no. 4730

	EDP Number
Version 50/60 Hz / 400-480 V	9047300100000

Product information

- 1-place system

Scope of delivery

- incl. base system
- incl. induction coil Series no. 4743 / version 2008
- incl. 1 limit stop collar set Series no. 4769 / version 2008
- incl. SpeedCooler Series no. 4747
- incl. 1 pair of gloves Series no. 4750
- with integrated SpeedCooler-Manager
- order HSK-/ISO-holders article nos. 4761, 4762 separately!



Series no.

4752

EDP Number

US version 50/60 Hz / 400-480 V, SpeedCooler 115 V

9047520200000

HSK holder carriers GSS 2000

Product information

- for GSS 2000 Basic and ECO Plus
Series no. 4730 and 4752
- holder carriers for HSK
shrink fit chucks



SK taper holder carriers GSS 2000

Product information

- for GSS 2000 Basic and ECO Plus
Series no. 4730 and 4752
- also suitable for MAS-BT
- holder carriers for SK or
MAS/BT shrink fit chucks



Series no.

4761

for
HSK- A/C/E

EDP Number

32

9047610320000

40

9047610400000

50

9047610500000

63

9047610630000

80

9047610800000

100

9047611000000

Series no.

4762

for
SK taper and BT

EDP Number

30

9047620300000

40

9047620400000

50

9047620500000

SpeedCooler Cooling system

Product information

- for GSS 2000 Comfort Version and Eco-Plus



Series no.	4747
	EDP Number
US version 50/60 Hz, 115 V	9047470020000

SpeedCooler Manager

Product information

- for automatic switch on and off of the SpeedCooler
- preserves the cooling system and reduce the service intervals



Series no.	4759
	EDP Number
US version 50/60 Hz, 115 V	9047590020000

Induction coil

Product information

- for GSS 2000 / version 2008
- HSS for Ø 6...32 mm, carbide for Ø 3...32 mm



Series no.	4743
	EDP Number
Ø range mm	
3...32	9047430320000

Limit stop collars

Product information

- for induction coil
- suitable for all GSS systems
- for extra short standard shrink fit chucks with EDP #,100



Series no.	4769
	EDP Number
for tool shank diameter	
3 - 5 mm	9047690050000
6 - 12 mm	9047690120000
14 - 16 mm	9047690160000
18 - 20 mm	9047690200000
25 - 32 mm	9047690320000
6 - 12 mm	9047690121000
14 - 20 mm	9047690201000
25 - 32 mm	9047690321000

Work easily, quickly and
efficiently ...

GSS
3001

The advantages of shrink fit technology:

- **Perfect 360° tool clamping provides extreme clamping force and rigidity**
- **High repeatability**
- **Minimal imbalance thanks to rotational symmetry**
- **Excellent concentricity for symmetrical cutting edge loading – therefore longer tool life**
- **Reduced components, therefore lower costs for purchasing, storage and administration**

You benefit from:

- **High economic efficiency thanks to effective mode of operation**
- **Full transparency due to process analysis**
- **Absolutely user-friendly**

User-friendly software

Intuitive menu navigation similar to the well-established Gühring TM-Software GTMS via touch-screen monitor (for details see page 67).

... with each
application!



Safe shrink fitting

The minimal heating of the shrink fit chuck ensures **maximum operating safety** on the one hand, on the other the controlled heating ensures the **long life** of the shrink fit chuck.

Fume extraction

Vapours produced during the shrink fit process are **removed and filtered under controlled conditions** by the fume extraction system.

Length setting

During the shrink fit process the tool is pre-set to the **required length** with the assistance of an adjustment rod.

Quick cooling

The water-cooled cooling elements cool down the shrink fit chuck quickly and safely. The shrink fit chuck remains clean and dry, **so that it can be applied again without drying and without rusting**. Hot spots remain safely screened during the cooling process in order to prevent burns.

Tool identification Codier-Chip

The read and write function of the Codier-Chip art. no. 4955 simplifies **tool identification**. Tool life can be managed.

Label printer

Print data such as Series no., current setting dimension, date, operator etc. on an **adhesive label** for your pre-set tool.



GSS

3001

Important features:

- > Setting, shrink fitting and measuring with one system
- > Operating system WIN 7
- > Stable Beckhoff control system with touch-screen and foil keyboard
- > Compact, workshop suited and robust design
- > Ergonomic arrangement of all operating elements for comfortable handling
- > Label printer for providing pre-set tools with information such as Series no., setting dimension, barcode, and much more...
- > Setting and measuring accuracy 0.02 mm

“Everything has its place”

Stop plates for every diameter are accessibly stored directly on the guide column.

“Good accessibility”

Good accessibility to all machine components provides excellent conditions for cleaning and maintenance purposes, i.e. re-filling coolant by simple opening of drawer. Economic: the Speedcooler switches off automatically when not in use for a longer period of time.



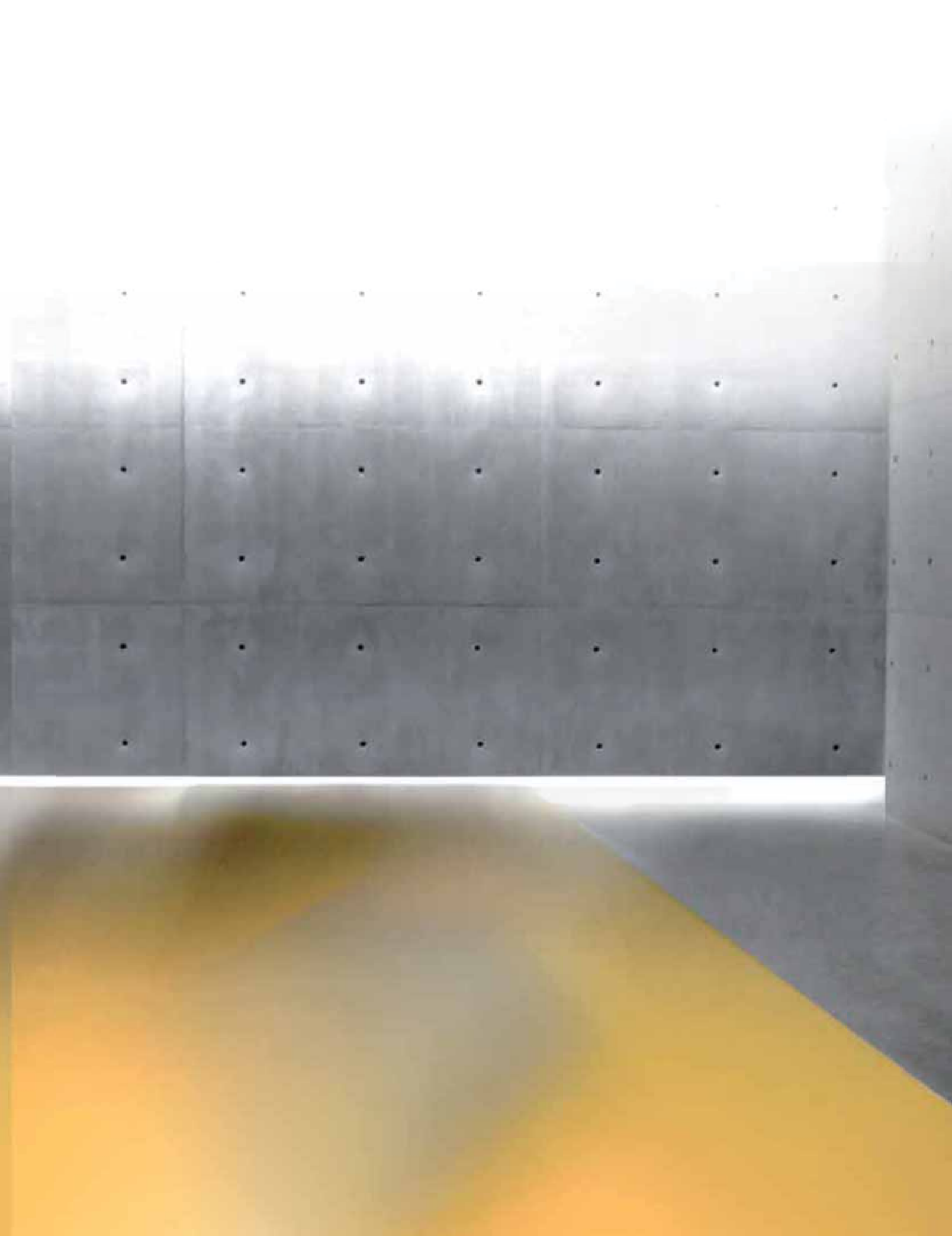


GSS 5000

You can't get more into a system!

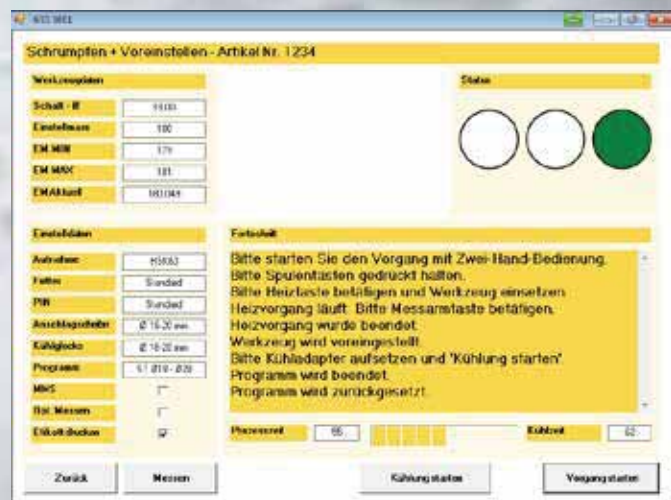
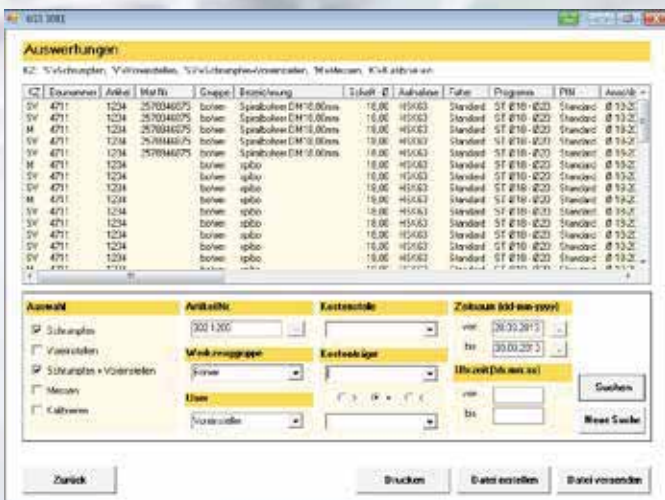
In addition to the functions pre-setting, shrink fitting and measuring GSS 5000 also offers the possibility of a fully automatic cutting edge form recognition and length pre-setting. Depending on the configuration a measuring range up to 800 mm and a measuring diameter up to 600 mm can be covered.

GSS 5000 can be adapted to customer requirements.



GSS Software performance features:

- > Intuitive and user-friendly operation thanks to 12" touch-screen and Barcode scanner
- > Comprehensive management possibilities for your tool, holder and shrink fit data as well as the associated parameters
- > Analysis of all processes carried out by system (component, cost centre or user related; setting up to 5 cost centres possible) to optimise your production and for maximum transparency possible
- > Software available in different languages



GÜHRO Sync



TAPPING CHUCKS

GÜHROSYNC

THE EASY WAY
TO THE PERFECT THREAD

Metalic spring for axial suspension

Torsional damper

Hydraulic chuck

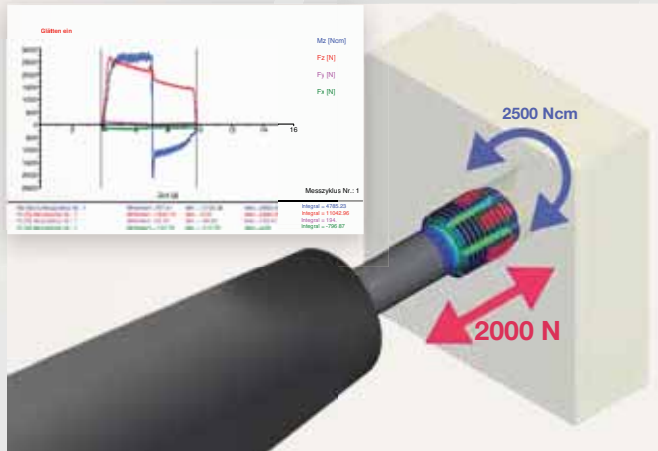
Polymer ring for axial damping

Reduction sleeve

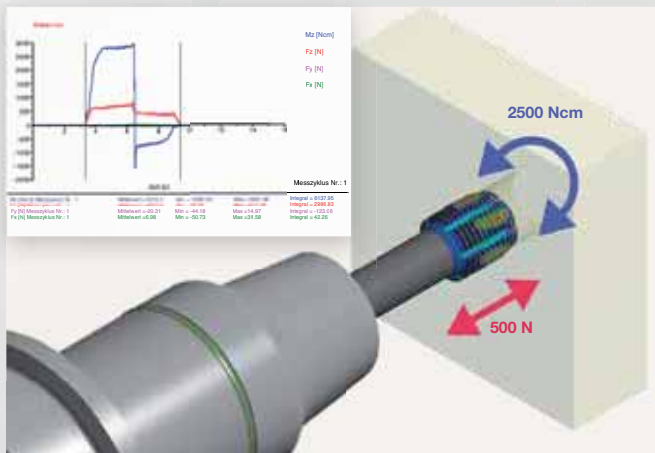
Intelligent design:

as well as the suspension and damping elements in the slender GÜHROSync chucks (for the reduction of axial and radial forces during the tapping process) there is also room for the supply set for MQL or conventional cooling lubrication and the length setting screw.

The optimal combination of long-life metal spring and polymer damping elements considerably reduces axial and radial forces



Rigid chuck

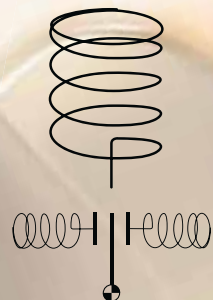


GÜHROSynC

➔ **IMPROVED
TOOL LIFE**

➔ **IMPROVED THREAD
QUALITY**

➔ **GREATER PROCESS
RELIABILITY**



GÜHRING

Made visible:
The spring symbol on the GÜHROSynC displays the effect of axial and radial force.

GÜHROSynch

Shrink fit chucks

4736 HSK-A

4726 TSG 3000 HSK-A

4758 HSK-C

4738 SK taper

Hydraulic synchro tapping chucks with increased clamping force

4221 MAS-BT

4299 HSK-A

4267 HSK-C

4213 SK taper

4949 Coolant supply set HSK-A for conventional cooling



Hydraulic synchro tapping chucks

4601 HSK-A

Hydraulic synchro tapping chucks

4576 SK taper

Hydraulic synchro tapping chucks

4577 MAS-BT



4525

Hydro-Ø 12/Ø 20
Cylindrical hydraulic synchro tapping chucks Ø 20 with internal cooling



4364

Setting screws "face" synchro tapping chucks, with conventional int. cooling



4605

Reduction bush sealed

4606

GÜHROJET reduction bush



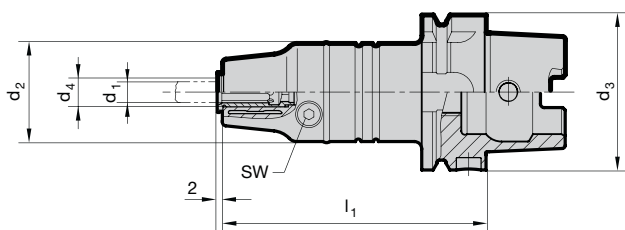
Threading tool:
shank diameter x square

Configuration of synchro tapping chucks for conventional cooling



- HSK-A to ISO 12164-1/DIN 69893-1
- compensates synchronisation errors
- guarantees high thread quality and optimal tool life
- minimal length compensation $\pm 0,3$ mm in tension and compression direction balances very small pitch differences between synchro spindle and tap
- reduces an increase in axial forces during the cutting cycle to a minimum
- convenient hydraulic clamping using reduction sleeves with active drive
- length-setting screw allows 3 mm readjustment
- suitable for internal cooling identifiable by black colored ring
- coolant pressure up to max. 80 bar
- balancing quality: G6,3 / 15,000 rev./min

- incl. hexagon clamping key Series no. 4912
- incl. adjustment key for adjustment screws
- order setting screw “face”
Series no. 4364 separately
- order reduction sleeves
Series no. 4605 or 4606 separately
- for conventional cooling order coolant supply
set Series no. 4949 separately



GÜHROSync

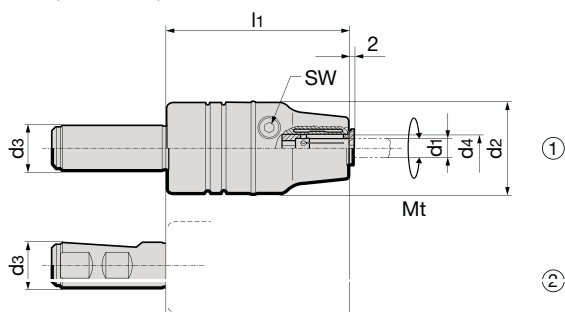
Series no. 4601[illegible]

- compensates synchronisation errors
- guarantees best thread quality and optimal life
- minimal length compensation $\pm 0,3$ mm in tension and compression direction balances very small pitch differences between synchro spindle and tap
- reduces an increase in axial forces during the cutting cycle to a minimum
- convenient hydraulic clamping using reduction sleeves with active drive
- length-setting screw allows 3 mm readjustment
- Type 1: straight shank for precision clamping chucks (hydraulic chucks or precision power chucks, shrink fit chucks for single application)
Type 2: combination shank similar to DIN 1835 for side lock holders
- suitable for internal cooling identifiable by black colored ring
- coolant pressure up to max. 80 bar

- incl. hexagon clamping key Series no. 4912
- incl. adjustment key for adjustment screws
- order setting screw “face”
Series no. 4364 separately
- order reduction sleeves
Series no. 4605 or 4606 separately



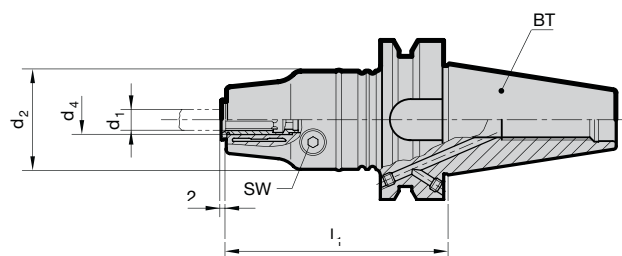
GÜHROSync

[illegible]

- BT30 to DIN ISO 7388-1 form AD without coolant supply over collar
- MAS/BT40 to DIN ISO 7388-2 form AD/B
- form B supplied with set screws in bores
- compensates synchronisation errors
- guarantees high thread quality and optimal tool life
- minimal length compensation $\pm 0,3$ mm in tension and compression
- direction balances tiny pitch differences between synchro spindle and tap
- reduces an increase in axial forces during the cutting cycle to a minimum
- convenient hydraulic clamping using reduction sleeves with active drive
- length-setting screw allows 3 mm readjustment
- suitable for internal cooling identifiable by black colored ring
- coolant pressure up to max. 80 bar
- balancing quality: G6,3 / 15.000 rev./min
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob

- incl. hexagon clamping key Series no. 4912
- incl. adjustment key for adjustment screws

- order setting screw “face”
Series no. 4364 separately
- order reduction sleeves
Series no. 4605 or 4606 separately



GÜHROSync

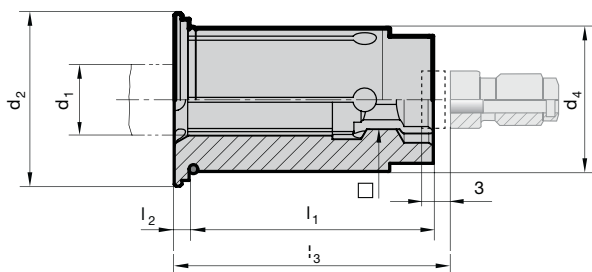
Series no. 4577

Product information

- for clamping taps with square shank in GÜHROSync synchro tapping chucks
- clamping-Ø for tool shank tolerance h6-h9
- face side closed, therefore coolant leak-proof for threading tools with IC
- positive drive
- position setting screw on tap shank
- length-setting screw allows 3 mm readjustment

Scope of delivery

- order setting screw "face" Series no. 4364 separately
- order MQL setting screws Series no. 4305 separately



Tapping chucks

Series no. 4605

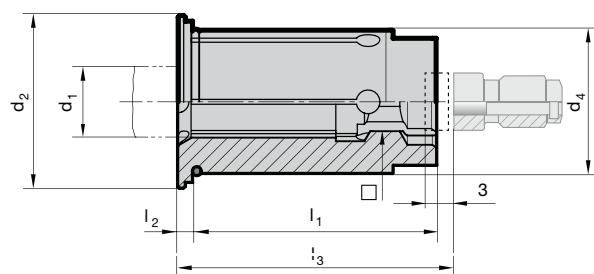
d ₃ mm	d ₁ mm	□ mm	Standard	d ₁ inch	□ inch	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	for adjustment screw	for thread	Code no.	EDP Number
12.00	2.800	2.100	DIN	-	-	16.50	29.00	2.00	-	-	M2/M2.2/M2.5 / M4	2.812	9046050028120
12.00	3.500	2.700	DIN	-	-	16.50	29.00	2.00	-	-	M3 / M4.5 / M5	3.512	9046050035120
12.00	4.000	3.200	JIS	-	-	16.50	29.00	2.00	-	-	M3 / M3.5	4.012	9046050040120
12.00	4.500	3.400	DIN	-	-	16.50	29.00	2.00	26.00	4364 5.020	M4 / M6	4.512	9046050045120
12.00	4.928	3.861	ANSI	0.194	0.152	16.50	29.00	2.00	26.00	4364 5.020	10-24 & 10-32	4.912	9046050049120
12.00	5.000	4.000	JIS	-	-	16.50	29.00	2.00	26.00	4364 5.020	M4 / M4.5 / M5	5.012	9046050050120
12.00	5.500	4.500	JIS	-	-	16.50	29.00	2.00	26.00	4364 5.020	M5	5.512	9046050055120
12.00	5.588	4.191	ANSI	0.220	0.165	16.50	29.00	2.00	26.00	4364 5.020	12-24 & 12-28	15.512	9046050155120
12.00	6.000	4.500	JIS	-	-	16.50	29.00	2.00	26.00	4364 6.020	M6	16.012	9046050160120
12.00	6.000	4.900	DIN	-	-	16.50	29.00	2.00	26.00	4364 6.020	M4.5/M5/M6/M7/M8	6.012	9046050060120
12.00	6.200	5.000	JIS	-	-	16.50	29.00	2.00	26.00	4364 6.020	M7 / M8	6.212	9046050062120
12.00	6.477	4.851	ANSI	0.255	0.191	16.50	29.00	2.00	26.00	4364 6.020	1/4-20 & 1/4-28	6.412	9046050064120
12.00	7.000	5.500	DIN / JIS	-	-	16.50	29.00	2.00	26.00	4364 7.020	M7 / M9 / M10	7.012	9046050070120
12.00	7.938	5.944	ANSI	0.3125	0.234	16.50	29.00	2.00	31.00	4364 8.020	1/16-27 / 1/8-27	7.912	9046050079120
12.00	8.000	6.200	DIN	-	-	16.50	29.00	2.00	31.00	4364 8.020	M8 / M11	8.012	9046050080120
12.00	8.000	6.500	JIS	-	-	16.50	29.00	2.00	31.00	4364 8.020	M11	18.012	9046050180120
12.00	8.077	6.045	ANSI	0.318	0.238	16.50	29.00	2.00	31.00	4364 8.020	5/16-18 & 5/16-24	28.012	9046050280120
12.00	8.204	6.147	ANSI	0.323	0.242	16.50	29.00	2.00	31.00	4364 8.020	7/16-14 & 7/16-20	8.212	9046050082120
12.00	8.500	6.500	JIS	-	-	16.50	29.00	2.00	31.00	4364 8.020	M12	8.512	9046050085120
12.00	9.000	7.000	DIN	-	-	16.50	29.00	2.00	32.00	4364 9.020	M9 / M12	9.012	9046050090120
12.00	9.322	6.985	ANSI	0.367	0.275	16.50	29.00	2.00	32.00	4364 9.020	1/2-13 & 1/2-20	9.312	9046050093120
12.00	9.677	7.264	ANSI	0.381	0.286	16.50	29.00	2.00	33.00	4364 9.020	3/8-16 & 3/8-24	9.612	9046050096120
12.00	10.000	8.000	DIN	-	-	16.50	29.00	2.00	36.00	4364 10.020	M10	10.012	9046050100120

Product information

- for clamping taps with square shank in GÜHROSynch synchro tapping chucks
- clamping-Ø for tool shank tolerance h6-h9
- face side closed, therefore coolant leak-proof for threading tools with IC
- positive drive
- position setting screw on tap shank
- length-setting screw allows 3 mm readjustment

Scope of delivery

- order setting screw "face" Series no. 4364 separately
- order MQL setting screws Series no. 4305 separately



Series no. **4605**

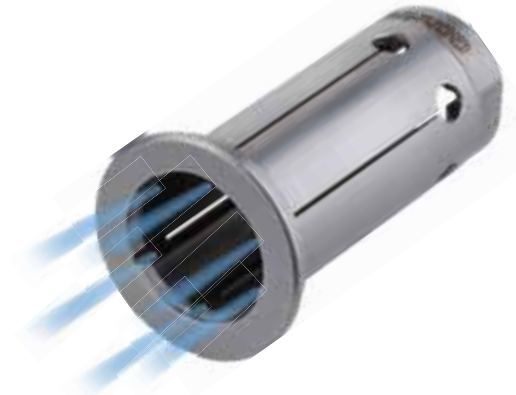
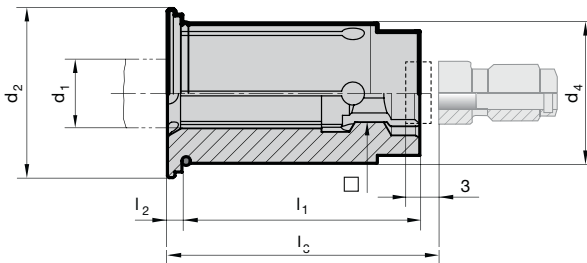
d ₃ mm	d ₁ mm	□ mm	Standard	d ₁ inch	□ inch	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	for adjustment screw	for thread	Code no.	EDP Number
20.00	6.000	4.500	JIS	-	-	24.10	34.00	2.00	26.00	4364 6.032	M6	26.020	9046050260200
20.00	6.000	4.900	DIN	-	-	24.10	34.00	2.00	26.00	4364 6.032	M4.5/M5/M6/M7/M8	6.020	9046050060200
20.00	6.200	5.000	JIS	-	-	24.10	34.00	2.00	26.00	4364 6.032	M7 / M8	6.220	9046050062200
20.00	6.477	4.851	ANSI	0.255	0.191	24.10	34.00	2.00	26.00	4364 6.032	1/4-20 & 1/4-28	6.420	9046050064200
20.00	7.000	5.500	DIN / JIS	-	-	24.10	34.00	2.00	26.00	4364 7.032	M7 / M9 / M10	7.020	9046050070200
20.00	7.938	5.944	ANSI	0.3125	0.234	24.10	34.00	2.00	31.00	4364 8.032	1/16-27 / 1/8-27	7.920	9046050079200
20.00	8.000	6.200	DIN	-	-	24.10	34.00	2.00	31.00	4364 8.032	M8 / M11	8.020	9046050080200
20.00	8.000	6.500	JIS	-	-	24.10	34.00	2.00	31.00	4364 8.032	M11	18.020	9046050180200
20.00	8.077	6.045	ANSI	0.318	0.238	24.10	34.00	2.00	31.00	4364 8.032	5/16-18 & 5/16-24	28.020	9046050280200
20.00	8.204	6.147	ANSI	0.323	0.242	24.10	34.00	2.00	31.00	4364 8.032	7/16-14 & 7/16-20	8.220	9046050082200
20.00	8.500	6.500	JIS	-	-	24.10	34.00	2.00	31.00	4364 8.032	M12	8.520	9046050085200
20.00	9.000	7.000	DIN	-	-	24.10	34.00	2.00	32.00	4364 9.032	M9 / M12	9.020	9046050090200
20.00	9.322	6.985	ANSI	0.367	0.275	24.10	34.00	2.00	32.00	4364 9.032	1/2-13 & 1/2-20	9.320	9046050093200
20.00	9.677	7.264	ANSI	0.381	0.286	24.10	34.00	2.00	33.00	4364 9.032	3/8-16 & 3/8-24	9.620	9046050096200
20.00	10.000	8.000	DIN	-	-	24.10	34.00	2.00	36.00	4364 10.032	M10	10.020	9046050100200
20.00	10.500	8.000	JIS	-	-	24.10	34.00	2.00	36.00	4364 10.032	M14	10.520	9046050105200
20.00	10.897	8.179	ANSI	0.429	0.322	24.10	34.00	2.00	35.00	4364 10.032	9/16-12 & 9/16-18	10.820	9046050108200
20.00	11.000	9.000	DIN	-	-	24.10	34.00	2.00	37.00	4364 11.032	M14	11.020	9046050110200
20.00	12.000	9.000	DIN	-	-	24.10	34.00	2.00	37.00	4364 11.032	M16	12.020	9046050120200
20.00	12.192	9.144	ANSI	0.480	0.360	24.10	34.00	2.00	36.00	4364 11.032	5/8-11 & 5/8-18	12.120	9046050121200
20.00	12.500	10.000	JIS	-	-	24.10	34.00	2.00	38.00	4364 11.032	M16	12.520	9046050125200
20.00	13.000	10.000	JIS	-	-	24.10	34.00	2.00	38.00	4364 11.032	M17	13.020	9046050130200
20.00	14.000	11.000	DIN / JIS	-	-	24.10	34.00	2.00	39.00	4364 14.032	M18	14.020	9046050140200
20.00	14.288	10.693	ANSI	0.5625	0.421	24.10	34.00	2.00	38.00	4364 14.032	1/4-18	14.220	9046050142200
20.00	14.986	11.227	ANSI	0.590	0.442	24.10	34.00	2.00	39.00	4364 14.032	3/4-10 & 3/4-16	14.920	9046050149200
20.00	15.000	12.000	JIS	-	-	24.10	34.00	2.00	40.00	4364 16.032	M20	15.020	9046050150200
20.00	16.000	12.000	DIN	-	-	24.10	34.00	2.00	41.00	4364 16.032	M20	16.020	9046050160200

Product information

- for clamping taps with square shank in GÜHROSync synchro tapping chucks
- clamping-Ø for tool shank tolerance h6-h9
- positive drive of reduction bush in GühroSync synchro chuck
- with coolant slots for peripheral cooling, therefore process and tool life improvement
- coiled swarf is consistently washed away
- position setting screw on tap shank
- length-setting screw allows 3 mm readjustment

Scope of delivery

- order MQL setting screws Series no. 4305 separately
- order setting screw "face" Series no. 4364 separately



GÜHROJET

Tapping chucks

Series no.

4606

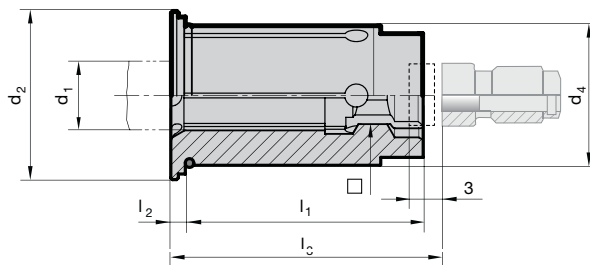
d ₃ mm	d ₁ mm	□ mm	Standard	d ₁ inch	□ inch	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	for adjustment screw	for thread	Code no.	EDP Number
12.00	2.800	2.100	DIN	-	-	16.50	29.00	2.00	-	-	M2/M2.2/M2.5/M4	2.812	9046060028120
12.00	3.500	2.700	DIN	-	-	16.50	29.00	2.00	-	-	M3 / M4.5 / M5	3.512	9046060035120
12.00	3.581	2.794	ANSI	0.141	0.110	16.50	29.00	2.00	-	-	2-56, 4-40, & 6-32	3.612	9046060036120
12.00	4.000	3.200	JIS	-	-	16.50	29.00	2.00	-	-	M3 / M3.5	4.012	9046060040120
12.00	4.267	3.327	ANSI	0.168	0.131	16.50	29.00	2.00	-	-	8-32 & 8-36	4.312	9046060043120
12.00	4.500	3.400	DIN	-	-	16.50	29.00	2.00	26.00	4364 5.020	M4 / M6	4.512	9046060045120
12.00	4.928	3.861	ANSI	0.194	0.152	16.50	29.00	2.00	26.00	4364 5.020	10-24 & 10-32	4.912	9046060049120
12.00	5.000	4.000	JIS	-	-	16.50	29.00	2.00	26.00	4364 5.020	M4 / M4.5 / M5	5.012	9046060050120
12.00	5.500	4.500	JIS	-	-	16.50	29.00	2.00	26.00	4364 5.020	M5	5.512	9046060055120
12.00	5.588	4.191	ANSI	0.220	0.165	16.50	29.00	2.00	26.00	4364 5.020	12-24 & 12-28	15.512	9046060155120
12.00	6.000	4.500	JIS	-	-	16.50	29.00	2.00	26.00	4364 6.020	M6	16.012	9046060160120
12.00	6.000	4.900	DIN	-	-	16.50	29.00	2.00	26.00	4364 6.020	M4.5/M5/M6/M7/M8	6.012	9046060060120
12.00	6.200	5.000	JIS	-	-	16.50	29.00	2.00	26.00	4364 6.020	M7 / M8	6.212	9046060062120
12.00	6.477	4.851	ANSI	0.255	0.191	16.50	29.00	2.00	26.00	4364 6.020	1/4-20 & 1/4-28	6.412	9046060064120
12.00	7.000	5.500	DIN / JIS	-	-	16.50	29.00	2.00	26.00	4364 7.020	M7 / M9 / M10	7.012	9046060070120
12.00	7.938	5.944	ANSI	0.3125	0.234	16.50	29.00	2.00	31.00	4364 8.020	1/16-27 / 1/8-27	7.912	9046060079120
12.00	8.000	6.200	DIN	-	-	16.50	29.00	2.00	31.00	4364 8.020	M8 / M11	8.012	9046060080120
12.00	8.000	6.500	JIS	-	-	16.50	29.00	2.00	31.00	4364 8.020	M11	18.012	9046060180120
12.00	8.077	6.045	ANSI	0.318	0.238	16.50	29.00	2.00	31.00	4364 8.020	5/16-18 & 5/16-24	28.012	9046060280120
12.00	8.204	6.147	ANSI	0.323	0.242	16.50	29.00	2.00	31.00	4364 8.020	7/16-14 & 7/16-20	8.212	9046060082120
12.00	8.500	6.500	JIS	-	-	16.50	29.00	2.00	31.00	4364 8.020	M12	8.512	9046060085120
12.00	9.000	7.000	DIN	-	-	16.50	29.00	2.00	32.00	4364 9.020	M9 / M12	9.012	9046060090120
12.00	9.322	6.985	ANSI	0.367	0.275	16.50	29.00	2.00	32.00	4364 9.020	1/2-13 & 1/2-20	9.312	9046060093120
12.00	9.677	7.264	ANSI	0.381	0.286	16.50	29.00	2.00	33.00	4364 9.020	3/8-16 & 3/8-24	9.612	9046060096120
12.00	10.000	8.000	DIN	-	-	16.50	29.00	2.00	36.00	4364 10.020	M10	10.012	9046060100120

Product information

- for clamping taps with square shank in GÜHROSynch synchro tapping chucks
- clamping-Ø for tool shank tolerance h6-h9
- positive drive of reduction bush in Gührosynch synchro chuck
- with coolant slots for peripheral cooling, therefore process and tool life improvement
- coiled swarf is consistently washed away
- position setting screw on tap shank
- length-setting screw allows 3 mm readjustment

Scope of delivery

- order MQL setting screws Series no. 4305 separately
- order setting screw "face" Series no. 4364 separately



GÜHROJET

Series no.

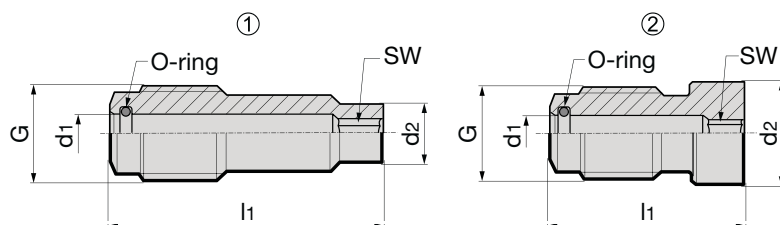
4606

d ₃ mm	d ₁ mm	□ mm	Standard	d ₁ inch	□ inch	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	for adjustment screw	for thread	Code no.	EDP Number
20.00	6.000	4.500	JIS	-	-	24.10	34.00	2.00	26.00	4364 6.032	M6	26.020	9046060260200
20.00	6.000	4.900	DIN	-	-	24.10	34.00	2.00	26.00	4364 6.032	M4.5/M5/M6/M7/M8	6.020	9046060060200
20.00	6.200	5.000	JIS	-	-	24.10	34.00	2.00	26.00	4364 6.032	M7 / M8	6.220	9046060062200
20.00	6.477	4.851	ANSI	0.255	0.191	24.10	34.00	2.00	26.00	4364 6.032	1/4-20 & 1/4-28	6.420	9046060064200
20.00	7.000	5.500	DIN / JIS	-	-	24.10	34.00	2.00	26.00	4364 7.032	M7 / M9 / M10	7.020	9046060070200
20.00	7.938	5.944	ANSI	0.3125	0.234	24.10	34.00	2.00	31.00	4364 8.032	1/16-27/ 1/8-27	7.920	9046060079200
20.00	8.000	6.200	DIN	-	-	24.10	34.00	2.00	31.00	4364 8.032	M8 / M11	8.020	9046060080200
20.00	8.000	6.500	JIS	-	-	24.10	34.00	2.00	31.00	4364 8.032	M11	18.020	9046060180200
20.00	8.077	6.045	ANSI	0.318	0.238	24.10	34.00	2.00	31.00	4364 8.032	5/16-18 & 5/16-24	28.020	9046060280200
20.00	8.204	6.147	ANSI	0.323	0.242	24.10	34.00	2.00	31.00	4364 8.032	7/16-14 & 7/16-20	8.220	9046060082200
20.00	8.500	6.500	JIS	-	-	24.10	34.00	2.00	31.00	4364 8.032	M12	8.520	9046060085200
20.00	9.000	7.000	DIN	-	-	24.10	34.00	2.00	32.00	4364 9.032	M9 / M12	9.020	9046060090200
20.00	9.322	6.985	ANSI	0.367	0.275	24.10	34.00	2.00	32.00	4364 9.032	1/2-13 & 1/2-20	9.320	9046060093200
20.00	9.677	7.264	ANSI	0.381	0.286	24.10	34.00	2.00	33.00	4364 9.032	3/8-16 & 3/8-24	9.620	9046060096200
20.00	10.000	8.000	DIN	-	-	24.10	34.00	2.00	36.00	4364 10.032	M10	10.020	9046060100200
20.00	10.500	8.000	JIS	-	-	24.10	34.00	2.00	36.00	4364 10.032	M14	10.520	9046060105200
20.00	10.897	8.179	ANSI	0.429	0.322	24.10	34.00	2.00	35.00	4364 10.032	9/16-12 & 9/16-18	10.820	9046060108200
20.00	11.000	9.000	DIN	-	-	24.10	34.00	2.00	37.00	4364 11.032	M14	11.020	9046060110200
20.00	12.000	9.000	DIN	-	-	24.10	34.00	2.00	37.00	4364 11.032	M16	12.020	9046060120200
20.00	12.192	9.144	ANSI	0.480	0.360	24.10	34.00	2.00	36.00	4364 11.032	5/8-11 & 5/8-18	12.120	9046060121200
20.00	12.500	10.000	JIS	-	-	24.10	34.00	2.00	38.00	4364 11.032	M16	12.520	9046060125200
20.00	13.000	10.000	JIS	-	-	24.10	34.00	2.00	38.00	4364 11.032	M17	13.020	9046060130200
20.00	14.000	11.000	DIN / JIS	-	-	24.10	34.00	2.00	39.00	4364 14.032	M18	14.020	9046060140200
20.00	14.288	10.693	ANSI	0.5625	0.421	24.10	34.00	2.00	38.00	4364 14.032	1/4-18	14.220	9046060142200
20.00	14.986	11.227	ANSI	0.590	0.442	24.10	34.00	2.00	39.00	4364 14.032	3/4-10 & 3/4-16	14.920	9046060149200
20.00	15.000	12.000	JIS	-	-	24.10	34.00	2.00	40.00	4364 16.032	M20	15.020	9046060150200
20.00	16.000	12.000	DIN	-	-	24.10	34.00	2.00	41.00	4364 16.032	M20	16.020	9046060160200

Scope of delivery

- for hydro-synchro tapping chucks
Series no. 4601, 4576, 4577 and 4525
- for synchro tapping chucks
Series no. 4326 and 4327
- for conventional internal cooling
- with facing stop for standard shank ends
- position setting screw on tap shank
- length-setting screw allows 3 mm readjustment
with hexagonal spanner Series no. 4912, type „B“

- with O-ring for secure seal

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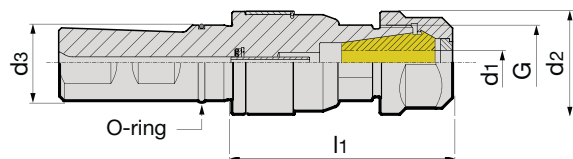
Synchro tapping chucks with straight shank

Product information

- compensate synchronisation errors
- minimal length compensation $\pm 0,15$ mm in tension and compression direction balances very small pitch differences between synchro spindle and tap, which can cause high frictional forces on the thread flanks
- length-setting screw allows 2 to 3 mm readjustment
- suitable for internal cooling
- max. coolant pressure up to 50 bar
- combination shank similar to DIN 1835 for side lock holders

Scope of delivery

- incl. sealed IC/ER clamping nut
Series no. 4306 (*see torque)
- incl. adjustment key for adjustment screws
- order adjustment screws „plan“
Series no. 4364, tapping collet,
Series no. 4308, sealing washer,
Series no. 4335 and clamping key,
Series no. 4913 separately



Series no. 4326

d ₃ ~DIN 1835 mm	nom. size	for thread	d ₁ mm	d ₂ mm	l ₁ mm	torque* Nm	G	kg	Code no.	EDP Number
25	ER20	M4-M14	4-11.0	34	73	35	M25x1.5	0.50	20.025	9043260200250
25	ER32	M4-M30	4-20.0	50	87.5	136	M40x1.5	1.30	32.025	9043260320250

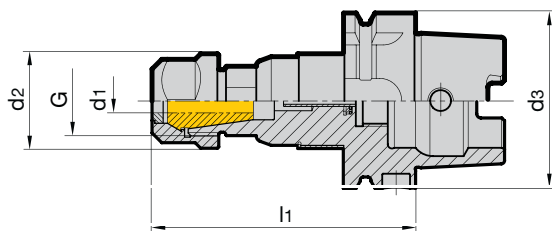
HSK-A synchro tapping chucks

Product information

- compensate synchronisation errors
- guarantee high thread quality and optimal tool life with conventional taps
- minimal length compensation $\pm 0,15$ mm in tension and compression direction between synchronous spindle and tap reduces excessive thread flank friction
- reduces a possible increase in axial forces during the cutting cycle to a minimum
- length-setting screw allows 2 to 3 mm readjustment
- suitable for internal cooling
- max. coolant pressure up to 50 bar
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. sealed IC/ER clamping nut
Series no. 4306 (*see torque)
- incl. adjustment key for adjustment screws
- order adjustment screws „plan“
Series no. 4364, tapping collet,
Series no. 4308, sealing washer,
Series no. 4325 and clamping key,
Series no. 4913 separately
- for conventional cooling order coolant supply set
Series no. 4949 separately



Series no. 4327

d ₃ ~DIN 1835 mm	nom. size	for thread	d ₁ mm	d ₂ mm	l ₁ mm	torque* Nm	G	kg	Code no.	EDP Number
63	ER20	M4-M14	4.5-11.2	34	95.5	35	M25x1.5	1.00	20.063	9043270200630
63	ER20	M4-M14	4.5-11.2	34	160.0	35	M25x1.5	1.50	20.163	9043270201630
63	ER32	M4-M30	4.5-18.0	50	109.0	136	M40x1.5	1.70	32.063	9043270320630
100	ER20	M4-M14	4.5-11.2	34	102.0	35	M25x1.5	2.50	20.100	9043270201000
100	ER32	M4-M30	4.5-18.0	50	115.5	136	M40x1.5	2.70	32.100	9043270321000

Product information

- for clamping taps with square shank in synchro tapping chucks or collet holders
- smaller Ø4mm are clamped with collet, Series no. 4307 without sq. drive
- tightening torque see clamping nuts Series no. 4306

Clamping range:

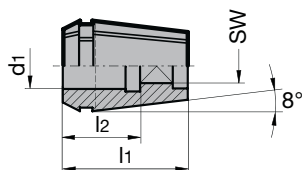
ER16: Ø 4.5 - Ø 8.0

ER20: Ø 4.0 - Ø 11.0

ER25: Ø 4.5 - Ø 12.0

ER32: Ø 4.0 - Ø 20.0

ER40: Ø 7.0 - Ø 22.0



Series no. 4308

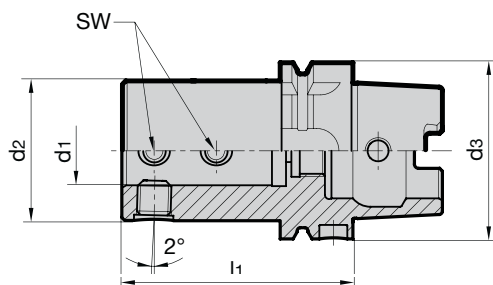
nominal size	for shank Ø d ₁ mm	square SW	l ₁ mm	l ₂ mm	Code no.	EDP Number
ER16	4.5	3.4	27.5	15	4.516	9043080045160
ER16	5.5	4.3	27.5	18	5.516	9043080055160
ER16	6.0	4.9	27.5	18	6.016	9043080060160
ER16	7.0	5.5	27.5	18	7.016	9043080070160
ER16	8.0	6.2/6.3	27.5	22	8.016	9043080080160
ER20	4.0	3.2	31.5	15	4.020	9043080040200
ER20	4.5	3.4	31.5	15	4.520	9043080045200
ER20	5.5	4.3	31.5	18	5.520	9043080055200
ER20	6.0	4.9	31.5	18	6.020	9043080060200
ER20	7.0	5.5	31.5	18	7.020	9043080070200
ER20	8.0	6.2/6.3	31.5	22	8.020	9043080080200
ER20	9.0	7.0/7.1	31.5	22	9.020	9043080090200
ER20	10.0	8.0	31.5	25	10.020	9043080100200
ER20	11.0	9.0	31.5	25	11.020	9043080110200
ER25	4.5	3.4	34.0	15	4.525	9043080045250
ER25	5.5	4.3	34.0	18	5.525	9043080055250
ER25	6.0	4.9	34.0	18	6.025	9043080060250
ER25	7.0	5.5	34.0	18	7.025	9043080070250
ER25	8.0	6.2/6.3	34.0	22	8.025	9043080080250
ER25	9.0	7.0/7.1	34.0	22	9.025	9043080090250
ER25	10.0	8.0	34.0	25	10.025	9043080100250
ER25	11.0	9.0	34.0	25	11.025	9043080110250
ER25	12.0	9.0	34.0	25	12.025	9043080120250
ER32	4.0	3.15/3.2	40.0	15	4.032	9043080040320
ER32	4.5	3.4	40.0	15	4.532	9043080045320
ER32	5.5	4.3	40.0	18	5.532	9043080055320
ER32	6.0	4.9	40.0	18	6.032	9043080060320
ER32	7.0	5.5	40.0	18	7.032	9043080070320
ER32	8.0	6.2/6.3	40.0	22	8.032	9043080080320
ER32	9.0	7.0/7.1	40.0	22	9.032	9043080090320
ER32	10.0	8.0	40.0	25	10.032	9043080100320
ER32	11.0	9.0	40.0	25	11.032	9043080110320
ER32	12.0	9.0	40.0	25	12.032	9043080120320
ER32	14.0	11.0/11.2	40.0	25	14.032	9043080140320
ER32	16.0	12.0/12.5	40.0	25	16.032	9043080160320
ER32	18.0	14.5	40.0	25	18.032	9043080180320
ER32	20.0	16.0	40.0	28	20.032	9043080200320
ER40	7.0	5.5	46.0	18	7.040	9043080070400
ER40	8.0	6.2/6.3	46.0	22	8.040	9043080080400
ER40	9.0	7.0/7.1	46.0	22	9.040	9043080090400
ER40	10.0	8.0	46.0	25	10.040	9043080100400
ER40	11.0	9.0	46.0	25	11.040	9043080110400
ER40	12.0	9.0	46.0	25	12.040	9043080120400
ER40	14.0	11.0/11.2	46.0	25	14.040	9043080140400
ER40	16.0	12.0/12.5	46.0	25	16.040	9043080160400
ER40	18.0	14.5	46.0	25	18.040	9043080180400
ER40	20.0	16.0	46.0	28	20.040	9043080200400
ER40	22.0	18.0	46.0	28	22.040	9043080220400

Product information

- for quick change chucks and synchro tapping chucks with straight shank
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. clamping screws Series no. 4903, EDP # 16,001
- order coolant supply set Series no. 4949 separately



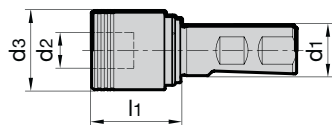
Series no. 4343

HSK-A d ₃	d ₁ mm	d ₂ mm	l ₁ mm	SW	kg	Code no.	EDP Number
50	25	50	80	6	0.89	25.050	9043430250500
63	25	50	82	6	1.26	25.063	9043430250630
80	25	50	87	6	3.10	25.080	9043430250800
100	25	50	89	6	4.08	25.100	9043430251000

Quick change tapping chucks without internal cooling

Product information

- quick change tapping chucks are provided with a ball guided length compensator that compensates any length difference between spindle feed and pitch of tap thread
- combination shank similar to DIN 1835 for side lock holders



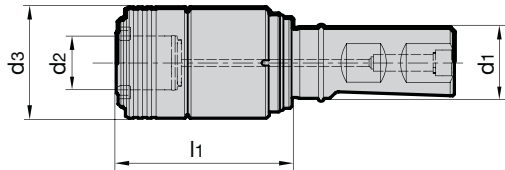
Series no. 4340

for thread	d ₁ mm	d ₂ mm	d ₃ mm	l ₁ mm	tension/ compression ± mm	kg	Code no.	EDP Number
M3-M12	25	19	39	45	7.5	0.45	19.025	9043400190250
M8-M20	25	31	60	68	10.0	1.10	31.025	9043400310250

Quick change tapping chucks with internal cooling

Product information

- quick change tapping chucks are provided with a ball guided length compensator that compensates any length difference between spindle feed and pitch of tap thread
 - provided with internal coolant supply feeding the coolant through the chuck and adaptor into the shank of the tap.
- All functional elements are sealed
- max. coolant pressure up to 50 bar
 - combination shank similar to DIN 1835 for side lock holders



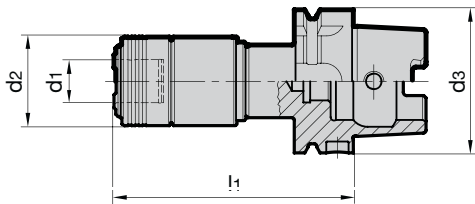
Tapping chucks

Series no. 4342										
for thread	d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	tension/ compression ± mm	kg	Code no.	EDP Number	
M3-M12	25	19	39	62	57	7.5	0.6	19.025	9043420190250	
M8-M20	25	31	60	98	57	10.0	1.6	31.025	9043420310250	

HSK-A quick change tapping chucks with internal cooling

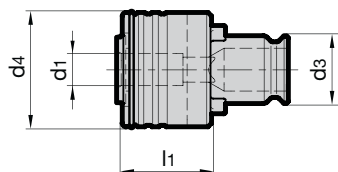
Product information

- quick change tapping chucks are provided with a ball guided length compensator that compensates any length difference between spindle feed and pitch of tap thread
- guarantee high thread quality and optimal tool life with conventional taps
- max. coolant pressure up to 50 bar.
- HSK-A to ISO 12164-1/DIN 69893-1



							Series no.	4328
HSK-A d3 mm	for thread	d1 mm	d2 mm	l1 mm	tension/ compression ± mm	kg	Code no.	EDP Number
63	M3-M12	19	39	105	7.5	1.13	19.063	9043280190630
63	M8-M20	31	60	140	10.0	2.28	31.063	9043280310630

- with safety clutch
- suitable for HSS taps
- for solid carbide taps a clamping groove is required on the shank to provide additional drive.
- suitable for central coolant supply max. 50 bar.

96 **GUHRING** GM 300

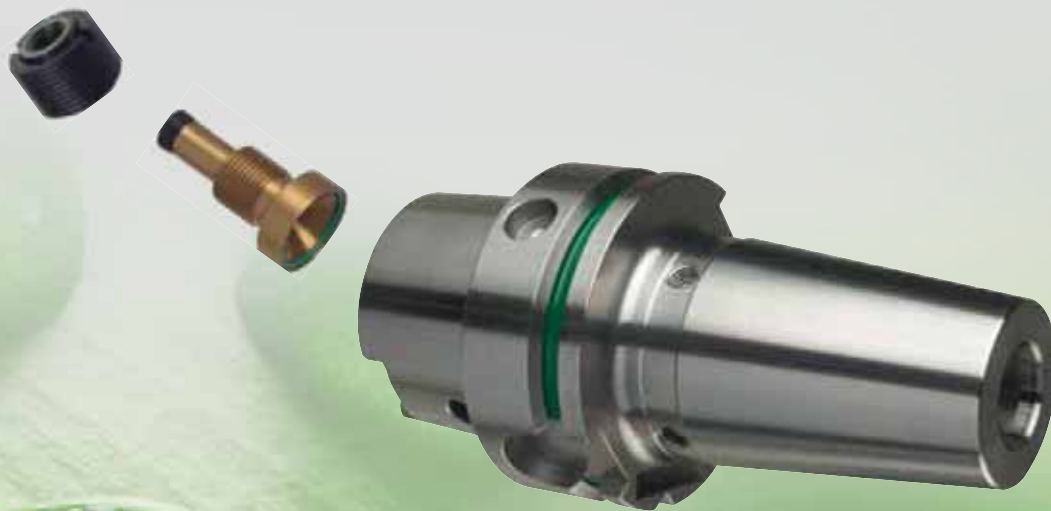
MQL



MQL-TECHNOLOGY

MQL

BY GÜHRING



1 MQL

BY GÜHRING

Our products for the MQL 1-channel technology are identified by this symbol.

**Visual feature
of the 1-channel system**
is the gold colored MQL
length setting screw.



2 MQL

BY GÜHRING

Our products for the MQL 2-channel technology are identified by this symbol.

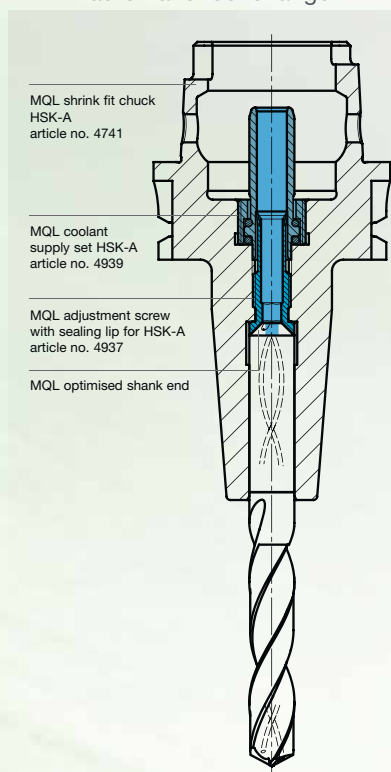
**Visual feature
of the 2-channel system**
is the black colored MQL
length setting screw.



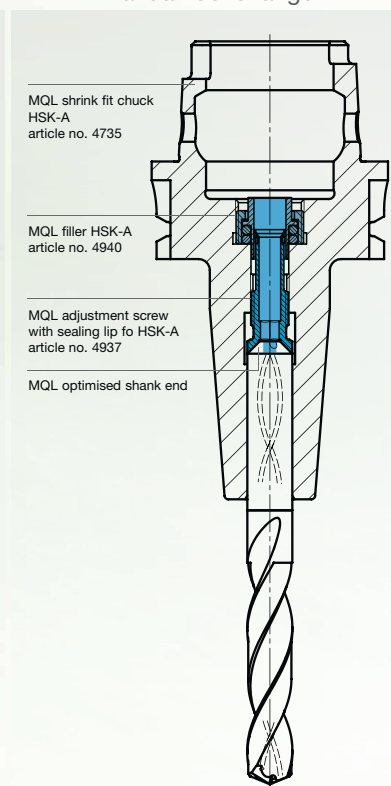
MQL SYSTEM FINDER

			HSK-A for automatic tool change	HSK-C for manual tool change
MQL 1 BY GÜHRING	Hydraulic chucks		4210, p. 105	4209, p. 104
	Shrink fit chucks		4741, p. 108	4735, p. 106
	Guhrosync synchro tapping chucks		4602, p. 116	4604, p. 115
	Synchro-chucks		4330, p. 118	4298, p. 118
MQL 2 BY GÜHRING	Hydraulic chucks		4612, p. 124	4611, p. 121
	Shrink fit chucks		4614, p. 131	4613, p. 127
	Guhrosync synchro tapping chucks		4603, p. 142	4604, p. 141
	Synchro-chucks		4341, p. 145	4298, p. 144

automatic tool change



manual tool change



MQL shrink fit chucks
HSK-A
auto. tool change

4741 

4614 

man. tool change

4735 

4613 

MQL hydraulic tapping chucks
HSK-A
auto. tool change

4210 

4612 

man. tool change

4209 

4611 

4508 
MQL coolant supply set
for single channel
HSK-A



4511 
MQL coolant supply set
for 2 channel systems
HSK-A



4513 
MQL coolant supply set
HSK-A (filler)



MQL HSK-A hydraulic
synchro tapping chucks for
single channel
auto. tool change

4602 

MQL HSK-A hydraulic
synchro tapping chucks for
2 channel systems
auto. tool change

4603 

MQL HSK-A hydraulic
synchro tapping chucks
man. tool change

4604 




4524 


MQL Hydro-Ø 12/Ø 20
synchro tapping chucks with internal cooling Ø 20

4305

MQL setting screws with internal cone
for MQL synchro tapping chucks



4605

Reduction bushes, sealed



4606

GÜHROJET reduction bushes



Threading tool with MQL shank:
shank diameter x square



4508



Coolant supply set
for automatic tool change

4511



MQL coolant supply set
for automatic tool change

4513



MQL coolant supply set
for manual tool change

4330

HSK-A synchro
tapping chucks
for MQL single
channel systems
for automatic tool
change

4341

HSK-A synchro
tapping chucks
for MQL double
channel systems
for automatic tool
change

4298

HSK-A synchro
tapping chucks
for manual tool change
for MQL single and
double channel
systems

4305

MQL setting screw with internal taper
for MQL synchro tapping chucks

4308

tap collet

4335

sealing washer
for retaining nuts

tap

MQL 1-channel



MQL

TECHNOLOGY AND ADVANTAGES

- ⇒ Cost reduction due to reduced cleaning
- ⇒ Environment & health protection
- ⇒ Less cooling lubrication requirement –
high coolant effect
- ⇒ Low process temperatures
- ⇒ Lower working temperature at tool point
- ⇒ Uninterrupted cooling lubricant supply
- ⇒ Direct response without losses
- ⇒ High compatibility

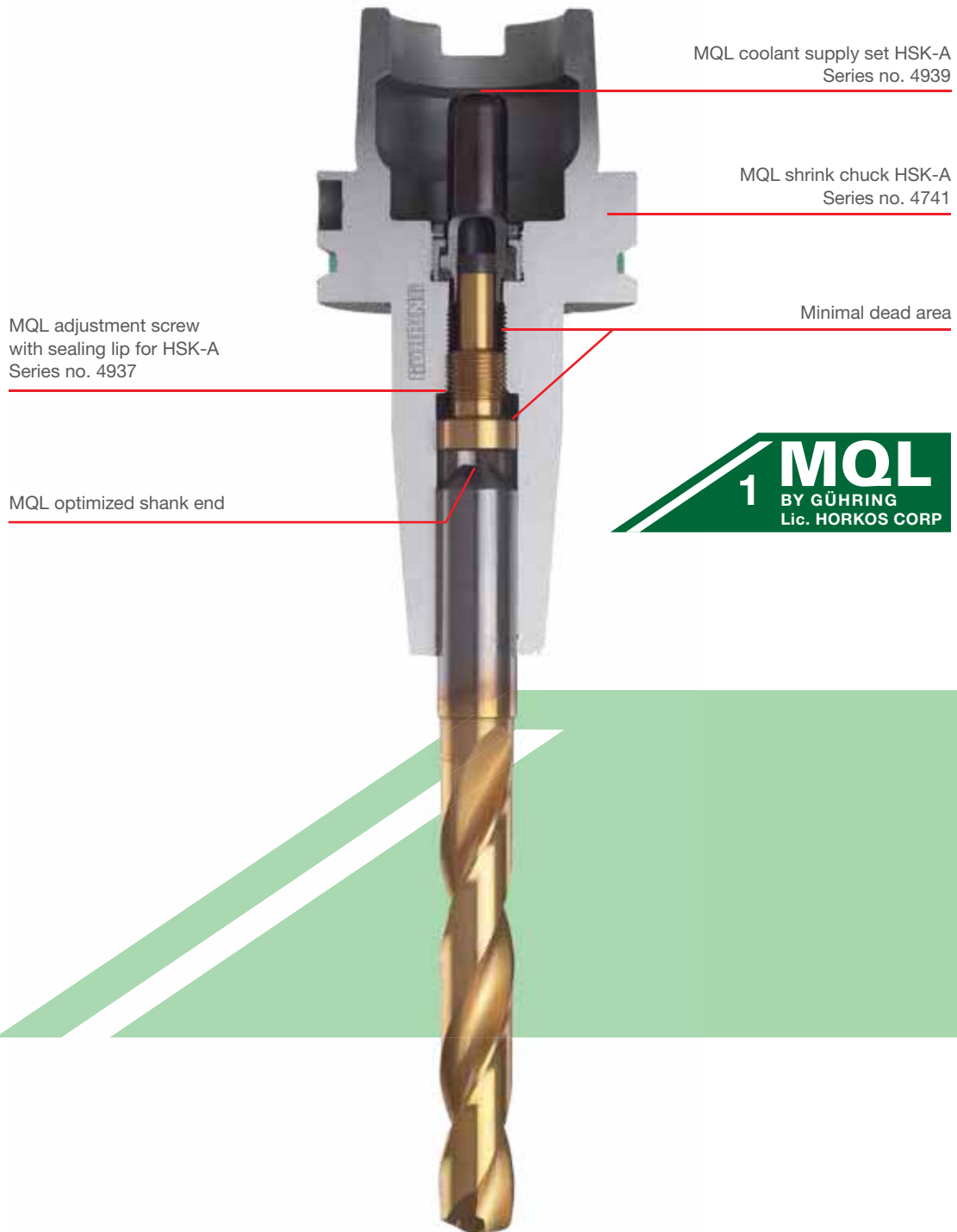
MQL

BY GUHRING



Our products for the MQL 1-channel technology are identified by this symbol.

Visual feature of the 1-channel system is the gold colored MQL length setting screw.



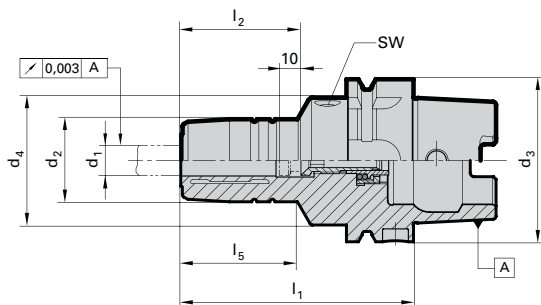
MQL 1-channel-hydraulic chucks HSK-A for manual tool change

Product information

- to Gühring MQL standard
- for 1-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- axial length setting

Scope of delivery

- incl. MQL adjustment screw with sealing lip
Series no. 4937 and MQL coolant supply set
Series no. 4940 (filler)
- incl. hexagon chuck key Series no. 4912
- special dimensions on request



Series no. 4209

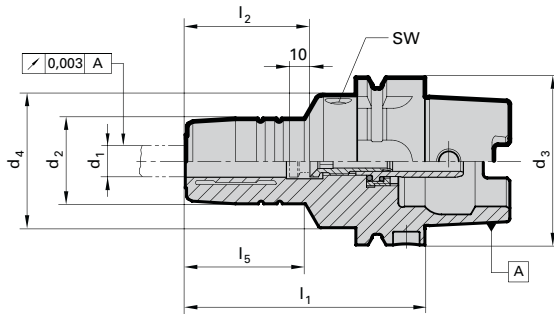
HSK-A d3	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	l5 mm	incl. setting screw no. 4937 ...	SW	kg	Code no.	EDP Number
32	6	26	40	80	36	29	6.032	4	0.40	6.032	9042090060320
32	8	28	40	80	36	29	8.032	4	0.42	8.032	9042090080320
32	10	30	40	85	40	35	10.032	4	0.45	10.032	9042090100320
32	12	32	40	90	45	40	12.032	4	0.49	12.032	9042090120320
40	6	26	33.5	80	36	46	6.040	4	0.44	6.040	9042090060400
40	8	28	33.5	80	36	46	8.040	4	0.47	8.040	9042090080400
40	10	30	33.5	80	40	46	10.040	4	0.49	10.040	9042090100400
40	12	32	33.5	90	45	56	12.040	4	0.46	12.040	9042090120400
50	6	26	40	80	36	38.0	6.050	4	0.95	6.050	9042090060500
50	8	28	40	80	36	38.0	8.050	4	0.95	8.050	9042090080500
50	10	30	40	85	40	44.0	10.050	4	0.95	10.050	9042090100500
50	12	32	40	90	45	49.0	12.050	4	0.95	12.050	9042090120500
50	14	34	40	90	45	49.0	14.050	4	0.95	14.050	9042090140500
50	16	38	53	95	48	36.0	16.050	5	1.25	16.050	9042090160500
50	18	40	57	95	48	36.0	18.050	5	1.25	18.050	9042090180500
50	20	42	60	100	50	39.0	20.050	5	1.25	20.050	9042090200500
63	6	26	50	80	36	34.5	6.100	5	1.25	6.063	9042090060630
63	8	28	50	80	36	35.5	8.100	5	1.25	8.063	9042090080630
63	10	30	50	85	40	39.0	10.100	5	1.25	10.063	9042090100630
63	12	32	50	90	45	45.0	12.100	5	1.35	12.063	9042090120630
63	14	34	50	90	45	46.0	14.100	5	1.35	14.063	9042090140630
63	16	38	50	95	48	51.0	16.100	5	1.45	16.063	9042090160630
63	18	40	50	95	48	52.0	18.100	5	1.45	18.063	9042090180630
63	20	42	50	100	50	58.0	20.100	5	1.45	20.063	9042090200630
63	25	57	63	115	56	50.0	25.100	6	2.45	25.063	9042090250630
63	32	64	75	120	60	58.0	32.100	6	3.10	32.063	9042090320630
80	6	26	50	85	36	39	6.100	5	1.50	6.080	9042090060800
80	8	28	50	85	36	39	8.100	5	1.52	8.080	9042090080800
80	10	30	50	90	40	45	10.100	5	1.56	10.080	9042090100800
80	12	32	50	95	45	50	12.100	5	1.61	12.080	9042090120800
80	14	34	50	95	45	50	14.100	5	1.64	14.080	9042090140800
80	16	38	50	100	48	56	16.100	5	1.72	16.080	9042090160800
80	18	40	50	100	48	56	18.100	5	1.76	18.080	9042090180800
80	20	42	50	105	50	62	20.100	5	1.82	20.080	9042090200800
80	25	57	63	115	56	70	25.100	6	2.60	25.080	9042090250800
80	32	64	75	120	60	58	32.100	6	3.11	32.080	9042090320800
100	6	26	50	85	36	36.0	6.100	5	2.60	6.100	9042090061000
100	8	28	50	85	36	36.0	8.100	5	2.60	8.100	9042090081000
100	10	30	50	90	40	42.0	10.100	5	2.60	10.100	9042090101000
100	12	32	50	95	45	47.0	12.100	5	2.65	12.100	9042090121000
100	14	34	50	95	45	47.0	14.100	5	2.65	14.100	9042090141000
100	16	38	50	100	48	53.0	16.100	5	2.85	16.100	9042090161000
100	18	40	50	100	48	53.0	18.100	5	2.85	18.100	9042090181000
100	20	42	50	105	50	59.0	20.100	5	3.35	20.100	9042090201000
100	25	57	63	115	56	67.0	25.100	6	3.50	25.100	9042090251000
100	32	64	75	120	60	72.0	32.100	6	3.95	32.100	9042090321000

Product information

- to Gühring MQL standard
- for 1-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- axial length setting

Scope of delivery

- incl. MQL adjustment screw with sealing lip
Series no. 4937 and MQL coolant supply set
Series no. 4939
- incl. hexagon chuck key Series no. 4912
- special dimensions on request



Series no. 4210

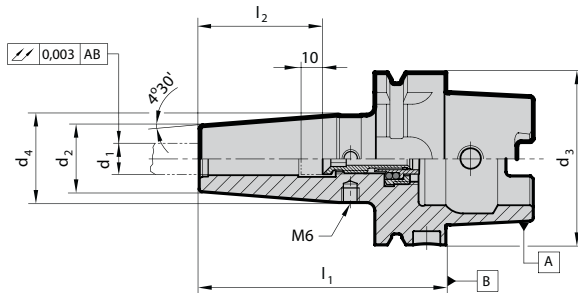
HSK-A d3	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	l5 mm	incl. setting screw no. 4937 ...	SW	kg	Code no.	EDP Number
32	6	26	40	80	36	29	6.032	4	0.40	6.032	9042100060320
32	8	28	40	80	36	29	8.032	4	0.42	8.032	9042100080320
32	10	30	40	85	40	35	10.032	4	0.45	10.032	9042100100320
32	12	32	40	90	45	40	12.032	4	0.49	12.032	9042100120320
40	6	26	33.5	80	36	46	6.040	4	0.44	6.04	9042100060400
40	8	28	33.5	80	36	46	8.040	4	0.47	8.04	9042100080400
40	10	30	33.5	80	40	46	10.040	4	0.49	10.04	9042100100400
40	12	32	33.5	90	45	56	12.040	4	0.56	12.04	9042100120400
50	6	26	40	80	36	38.0	6.050	4	0.95	6.05	9042100060500
50	8	28	40	80	36	38.0	8.050	4	0.95	8.05	9042100080500
50	10	30	40	85	40	44.0	10.050	4	0.95	10.05	9042100100500
50	12	32	40	90	45	49.0	12.050	4	0.95	12.05	9042100120500
50	14	34	40	90	45	49.0	14.050	4	0.95	14.05	9042100140500
50	16	38	53	95	48	36.0	16.050	5	1.25	16.05	9042100160500
50	18	40	57	95	48	36.0	18.050	5	1.25	18.05	9042100180500
50	20	42	60	100	50	39.0	20.050	5	1.25	20.05	9042100200500
63	6	26	50	80	36	34.5	6.100	5	1.25	6.063	9042100060630
63	8	28	50	80	36	35.5	8.100	5	1.25	8.063	9042100080630
63	10	30	50	85	40	39.0	10.100	5	1.25	10.063	9042100100630
63	12	32	50	90	45	45.0	12.100	5	1.35	12.063	9042100120630
63	14	34	50	90	45	46.0	14.100	5	1.35	14.063	9042100140630
63	16	38	50	95	48	51.0	16.100	5	1.45	16.063	9042100160630
63	18	40	50	95	48	52.0	18.100	5	1.45	18.063	9042100180630
63	20	42	50	100	50	58.0	20.100	5	1.45	20.063	9042100200630
63	25	57	63	115	56	50.0	25.100	6	2.45	25.063	9042100250630
63	32	64	75	120	60	58.0	32.100	6	3.10	32.063	9042100320630
80	6	26	50	85	36	39	6.100	5	1.50	6.08	9042100060800
80	8	28	50	85	36	39	8.100	5	1.52	8.08	9042100080800
80	10	30	50	90	40	45	10.100	5	1.56	10.08	9042100100800
80	12	32	50	95	45	50	12.100	5	1.61	12.08	9042100120800
80	14	34	50	95	45	50	14.100	5	1.64	14.08	9042100140800
80	16	38	50	100	48	56	16.100	5	1.72	16.08	9042100160800
80	18	40	50	100	48	56	18.100	5	1.76	18.08	9042100180800
80	20	42	50	105	50	62	20.100	5	1.82	20.08	9042100200800
80	25	57	63	115	56	70	25.100	6	2.60	25.08	9042100250800
80	32	64	75	120	60	58	32.100	6	3.11	32.08	9042100320800
100	6	26	50	85	36	36.0	6.100	5	2.60	6.100	9042100061000
100	8	28	50	85	36	36.0	8.100	5	2.60	8.100	9042100081000
100	10	30	50	90	40	42.0	10.100	5	2.60	10.100	9042100101000
100	12	32	50	95	45	47.0	12.100	5	2.65	12.100	9042100121000
100	14	34	50	95	45	47.0	14.100	5	2.65	14.100	9042100141000
100	16	38	50	100	48	53.0	16.100	5	2.85	16.100	9042100161000
100	18	40	50	100	48	53.0	18.100	5	2.85	18.100	9042100181000
100	20	42	50	105	50	59.0	20.100	5	3.35	20.100	9042100201000
100	25	57	63	115	56	67.0	25.100	6	3.50	25.100	9042100251000
100	32	64	75	120	60	72.0	32.100	6	3.95	32.100	9042100321000

Product information

- to Gühring MQL standard
- for 1-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- incl. balancing thread 4xM6/6xM6
- for tool shank tolerance h6
- also available in the lengths
l₁ = 120 mm (concentricity 4 µm)
and 160 mm (concentricity 5 µm)

Scope of delivery

- incl. MQL adjustment screw with sealing lip
Series no. 4937 and MQL coolant supply set
Series no. 4940
- special dimensions on request



Series no. 4735

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4937 ...	kg	Code no.	EDP Number
32	6	21	25.5	80	36	6.032	0.30	6.032	9047350060320
32	8	21	25.5	80	36	8.032	0.30	8.032	9047350080320
32	10	24	31.7	85	40	10.032	0.30	10.032	9047350100320
32	12	24	32.3	90	45	12.032	0.30	12.032	9047350120320
40	6	21	27	80	36	6.040	0.40	6.040	9047350060400
40	8	21	27	80	36	8.040	0.40	8.040	9047350080400
40	10	24	32	80	40	10.040	0.50	10.040	9047350100400
40	12	24	32	90	45	12.040	0.50	12.040	9047350120400
40	14	27	33.5	90	45	14.040	0.60	14.040	9047350140400
40	16	27	33.5	90	48	16.040	0.50	16.040	9047350160400
50	6	21	27	80	36	6.050	0.60	6.050	9047350060500
50	8	21	27	80	36	8.050	0.60	8.050	9047350080500
50	10	24	32	85	40	10.050	0.70	10.050	9047350100500
50	12	24	32	90	45	12.050	0.70	12.050	9047350120500
50	14	27	34	90	45	14.050	0.70	14.050	9047350140500
50	16	27	34	95	48	16.050	0.70	16.050	9047350160500
50	18	33	41.5	95	48	18.050	0.90	18.050	9047350180500
50	20	33	41.5	100	50	20.050	0.90	20.050	9047350200500
63	6	21	27	80	36	6.100	0.70	6.063	9047350060630
63	8	21	27	80	36	8.100	0.70	8.063	9047350080630
63	10	24	32	85	40	10.100	0.70	10.063	9047350100630
63	12	24	32	90	45	12.100	0.80	12.063	9047350120630
63	14	27	34	90	45	14.100	0.80	14.063	9047350140630
63	16	27	34	95	48	16.100	0.90	16.063	9047350160630
63	18	33	42	95	48	18.100	0.90	18.063	9047350180630
63	20	33	42	100	50	20.100	1.00	20.063	9047350200630
63	25	44	52.5	115	56	25.100	1.00	25.063	9047350250630
63	32	44	52.5	120	60	32.100	1.10	32.063	9047350320630
63	6	21	27	120	36	6.032	0.90	806.063	9047358060630
63	8	21	27	120	36	8.040	1.00	808.063	9047358080630
63	10	24	32	120	40	10.050	1.10	810.063	9047358100630
63	12	24	32	120	45	12.100	1.20	212.063	9047352120630
63	14	27	34	120	45	14.100	1.40	214.063	9047352140630
63	16	27	34	120	48	16.100	1.40	216.063	9047352160630
63	18	33	42	120	48	18.100	1.60	218.063	9047352180630
63	20	33	42	120	50	20.100	1.60	220.063	9047352200630

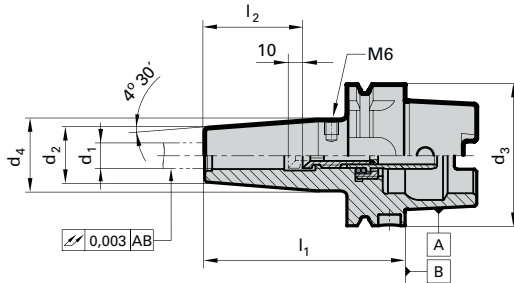
GM 300 **GUHRING** 107

Product information

- to Gühring MQL standard
- for 1-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- incl. balancing thread 4xM6/6xM6
- for tool shank tolerance h6
- max. deviation f. concentricity 3 µm
- also available in the lengths
l1 = 120 mm (concentricity 4 µm)
and 160 mm (concentricity 5 µm)

Scope of delivery

- incl. MQL adjustment screw with sealing lip
Series no. 4937 and MQL coolant supply set
Series no. 4939
- special dimensions on request



Series no.

4741

HSK-A d3	for shank Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw no. 4937 ...	kg	Code no.	EDP Number
32	6	21	25.5	80	36	6.032	0.30	6.032	9047410060320
32	8	21	25.5	80	36	8.032	0.30	8.032	9047410080320
32	10	24	31.7	85	40	10.032	0.30	10.032	9047410100320
32	12	24	32.3	90	45	12.032	0.30	12.032	9047410120320
40	6	21	27	80	36	6.040	0.40	6.040	9047410060400
40	8	21	27	80	36	8.040	0.40	8.040	9047410080400
40	10	24	32	80	40	10.040	0.50	10.040	9047410100400
40	12	24	32	90	45	12.040	0.50	12.040	9047410120400
40	14	27	33.5	90	45	14.040	0.60	14.040	9047410140400
40	16	27	33.5	90	48	16.040	0.50	16.040	9047410160400
50	6	21	27	80	36	6.050	0.60	6.050	9047410060500
50	8	21	27	80	36	8.050	0.60	8.050	9047410080500
50	10	24	32	85	40	10.050	0.70	10.050	9047410100500
50	12	24	32	90	45	12.050	0.70	12.050	9047410120500
50	14	27	34	90	45	14.050	0.70	14.050	9047410140500
50	16	27	34	95	48	16.050	0.70	16.050	9047410160500
50	18	33	41.5	95	48	18.050	0.90	18.050	9047410180500
50	20	33	41.5	100	50	20.050	0.90	20.050	9047410200500
63	6	21	27	80	36	6.100	0.70	6.063	9047410060630
63	8	21	27	80	36	8.100	0.70	8.063	9047410080630
63	10	24	32	85	40	10.100	0.70	10.063	9047410100630
63	12	24	32	90	45	12.100	0.80	12.063	9047410120630
63	14	27	34	90	45	14.100	0.80	14.063	9047410140630
63	16	27	34	95	48	16.100	0.90	16.063	9047410160630
63	18	33	42	95	48	18.100	0.90	18.063	9047410180630
63	20	33	42	100	50	20.100	1.00	20.063	9047410200630
63	25	44	52.5	115	56	25.100	1.00	25.063	9047410250630
63	32	44	52.5	120	60	32.100	1.10	32.063	9047410320630
63	6	21	27	120	36	6.032	0.90	806.063	9047418060630
63	8	21	27	120	36	8.040	1.00	808.063	9047418080630
63	10	24	32	120	40	10.050	1.10	810.063	9047418100630
63	12	24	32	120	45	12.100	1.20	212.063	9047412120630
63	14	27	34	120	45	14.100	1.40	214.063	9047412140630
63	16	27	34	120	48	16.100	1.40	216.063	9047412160630
63	18	33	42	120	48	18.100	1.60	218.063	9047412180630
63	20	33	42	120	50	20.100	1.60	220.063	9047412200630

MQL 1-channel



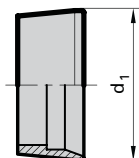
Sealing lips for MQL 1-channel length setting screws

Product information

- sealing lips for MQL 1-channel length setting screws
Series no. 4937
- Series no. 4917 1,140 for module adaptor
Series no. 4716

Scope of delivery

- packaging unit: 5 pieces



Series no. 4617

HSK-A	Modul	for d2 mm	EDP Number
32	-	4.0	9046170010320
40	-	5.4	9046170010400
50	-	6.5	9046170010500
63 / 80 / 100	-	8.0	9046170011000
-	60 / 70 / 80 / 80 / 100 / 117 / 140	10.5	9046170011400

MQL 1-channel

MQL-Key 3000

Product information

- special tool set for the secure assembly of MQL tapered screws for 1- and 2-channel systems
- simplifies the handling when assembling the MQL length setting screws
- prevents damage to the MQL sealing elements
- i.e. to be applied for: MQL 1-channel length setting screws Series no. 4937 or MQL 2-channel length setting screws Series no. 4621

Scope of delivery

- complete set in case or additional set



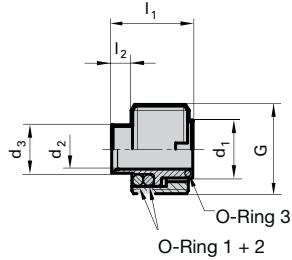
Series no. 4050

	EDP Number
Case, complete 1-channel basic set	9040500010000
2-channel retrofitting set	9040500020000

MQL 1-channel coolant supply set HSK-A (filler)

Product information

- for MQL tool holders
(hydraulic chucks and shrink fit chucks)
to company standard
- for 1-channel-systems
- for tool holders with manual tool change
- optimal seal for MQL clamping set



Series no.

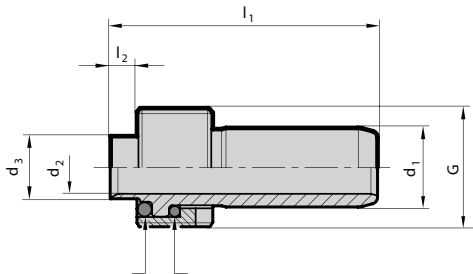
4940

for HSK-A	d ₁ mm	d ₂ mm	d ₃ mm	l ₁ mm	l ₂ mm	G	O-ring 1 & 2 Viton 75	O-ring 3 Viton 80	EDP Number
32	5.8	4.0	4.8	18.7	12.5	M10x1.0	5.0x1.2	–	9049400100320
40	7.6	5.4	6.8	13.8	5.5	M12x1.0	7.5x1.5	6.0x0.5	9049400120400
50	9.6	6.5	7.8	15.8	5.5	M16x1.0	9.0x2.0	7.0x1.0	9049400160500
63	11.6	8.0	9.7	16.3	4.0	M18x1.0	10.0x2.5	9.0x1.0	9049400180630
80	13.6	8.0	9.7	18.4	4.0	M20x1.5	13.0x2.0	10.0x1.0	9049400200800
100	15.6	8.0	11.7	18.4	2.0	M24x1.5	14.0x3.0	12.0x1.0	9049400241000

MQL 1-channel coolant supply set HSK-A

Product information

- for MQL tool holders
(hydraulic chucks and shrink fit chucks)
to company standard
- for 1-channel-systems
- for tool holders with automatic tool change



O-ring 1

O-ring 2



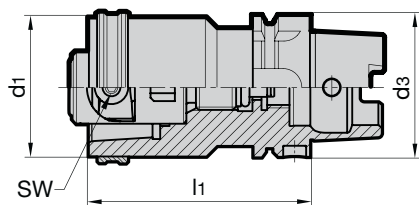
Series no.

4939

for HSK-A	d ₁ mm	d ₂ mm	d ₃ mm	l ₁ mm	l ₂ mm	G	O-ring 1 Viton 75	O-ring 2 Viton 75	EDP Number
32	6	4.0	4.8	38.5	12.5	M10x1.0	5.0x1.2	5.0x1.2	9049390100320
40	8	5.4	6.5	35.0	5.5	M12x1.0	7.5x1.5	7.5x1.5	9049390120400
50	10	6.5	7.5	38.5	5.5	M16x1.0	9.0x2.0	9.0x2.0	9049390160500
63	12	8.0	9.5	40.5	4.0	M18x1.0	10.0x2.5	10.0x2.0	9049390180630
80	14	8.0	9.7	44.0	4.0	M20x1.5	13.0x2.0	13.0x2.0	9049390200800
100	16	8.0	11.5	46.0	2.0	M24x1.5	14.0x3.0	14.0x3.0	9049390241000

Product information

- MQL suitable
- for 1-channel-systems



Scope of delivery

- incl. MQL 4 point clamping set Series no. 4930 and adaptor for extensions
- incl. brass locking ring Series no. 4953
- order coolant supply set separately:
 - for automatic tool change Series no. 4939
 - for manual tool change Series no. 4940



MQL 1-channel

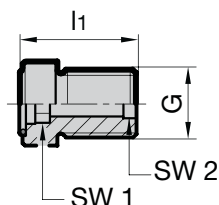
Series no.				4350
HSK-A/HSK-C d ₁ / d ₃	l ₁ mm	SW	kg	EDP Number
32	60	2.5	0.30	9043500600320
40	80	3.0	0.70	9043500800400
50	80	4.0	0.90	9043500800500
50	100	4.0	1.10	9043501000500
63	100	5.0	1.80	9043501000630
63	140	5.0	2.30	9043501400630
80	120	6.0	4.20	9043501200800
80	160	6.0	5.80	9043501600800
100	140	8.0	8.00	9043501401000

Length setting screws for conventional cooling

Product information

- To adapt MQL tool holders to meet the requirements of conventional wet machining. For plain end shanks. The height of screw head compensates the height of MQL taper.

- for MQL HSK-A shrink fit chucks and hydraulic chucks
- for use with shank according to DIN 6535 with plain shank end for conventional cooling
- the patented face orientated o-ring provides axial force clamping which eliminates concentricity errors



Series no.						4941
for HSK-A	clamping- Ø	G	d ₁ mm	l ₁ mm	SW	EDP Number
40	6	M5	6	15.0	2.5	9049410060410
40	6	M7x1	6	15.0	2.5	9049410060400
40	8	M7x1	6	18.0	3.0	9049410080400
50	6	M8x1	8	14.0	2.5	9049410060500
50	8	M8x1	7	18.0	3.0	9049410080500
40 / 50	10	M8x1	10	17.7	4.0	9049410100500
63/ 80/ 100	6	M10x1	9	22.0	2.5	9049410061000
63/ 80/ 100	8	M10x1	9	22.0	3.0	9049410081000
63/ 80/ 100	10	M10x1	10	16.2	4.0	9049410101000
40/ 50/ 63/ 80/ 100	12	M10x1	10	16.2	5.0	9049410121000
40/ 50/ 63/ 80/ 100	14	M10x1	10	17.2	5.0	9049410141000
50/ 63/ 80/ 100	16	M12x1	16	18.2	6.0	9049410161000
50/ 63/ 80/ 100	18	M12x1	16	19.2	6.0	9049410181000
50/ 63/ 80/ 100	20	M16x1	16	19.2	8.0	9049410201000
63/ 80/ 100	25	M16x1	16	22.7	8.0	9049410251000
63/ 80/ 100	32	M16x1	16	26.7	8.0	9049410321000

GM 300 **GUHRING** 115

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MQL HSK-A synchro tapping chucks for manual tool change

Product information

- for MQL single and double channel systems
- compensate synchronisation errors
- minimal length compensation $\pm 0,15$ mm in tension and compression direction balances very small pitch differences between synchro spindle and tap, which can cause high frictional forces on the thread flanks and increase thread quality and tool life
- length-setting screw allows 2 to 3 mm readjustment
- MQL pressure up to max. 10 bar
- mounted MQL coolant supply pipe
- Gühring MQL identifiable by green coloured ring
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. MQL coolant supply set Series no. 4513 (filler) for manual tool change
- Incl. IC/ER clamping nut Series no. 4306 (*see torque)
- incl. adjustment key for MQL adjustment screw
- order MQL adjustment screw Series no. 4305 separately
- order sealing washer Series no. 4335 separately
- order collet Series no. 4308 separately
- order chuck spanner Series no. 4913 for ER retaining nut separately



Series no. **4298**

HSK-A d ₃	nom. size	for thread	G	d ₁ mm	d ₂ mm	l ₁ mm	torque* Nm	kg	Code no.	EDP Number
63	ER20	M4-M14	M25x1.5	4.0-11	34	95.5	35	1.00	20.063	9042980200630
63	ER32	M4-M30	M40x1.5	4.0-20	50	109.0	136	1.50	32.063	9042980320630

MQL HSK-A synchro tapping chucks for single channel systems for automatic tool change

Product information

- for MQL single channel systems
- compensate synchronisation errors
- minimal length compensation $\pm 0,15$ mm in tension and compression direction balances very small pitch differences between synchro spindle and tap, which can cause high frictional forces on the thread flanks and increase thread quality and tool life
- length-setting screw allows 2 to 3 mm readjustment
- MQL pressure up to max. 10 bar
- mounted MQL coolant supply pipe
- Gühring MQL identifiable by green coloured ring
- HSK-A to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. MQL coolant supply set Series no. 4508 for automatic tool change
- incl. sealed IC/ER clamping nut Series no. 4306 (*see torque)
- incl. adjustment key for MQL adjustment screw
- order MQL adjustment screw Series no. 4305 separately
- order sealing washer Series no. 4335 separately
- order collet Series no. 4308 separately
- order chuck spanner Series no. 4913 for ER retaining nut separately



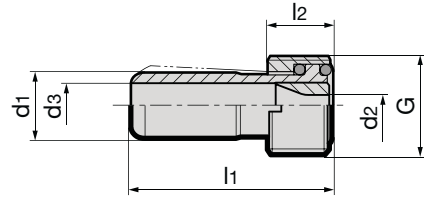
Series no. **4330**

HSK-A d ₃	nom. size	for thread	G	d ₁ mm	d ₂ mm	l ₁ mm	torque* Nm	kg	Code no.	EDP Number
63	ER20	M4-M14	M25x1.5	4.0-11	34	95.5	35	1.00	20.063	9043300200630
63	ER32	M4-M30	M40x1.5	4.0-20	50	109.0	136	1.50	32.063	9043300320630
100	ER20	M4-M14	M25x1.5	4.0-11	34	102.0	35	2.40	20.100	9043300201000
100	ER32	M4-M30	M40x1.5	4.0-20	50	115.5	136	3.00	32.100	9043300321000

MQL coolant supply set for single channel HSK-A

Product information

- for MQL 1-channel systems
- for tool holders with automatic tool clamping
- dimensions d_2 and l_1 based on installed condition



Series no. 4508

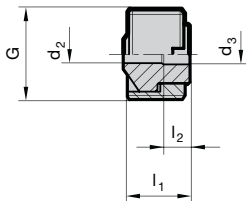
for HSK-A	d_1 mm	d_2 mm	d_3 mm	l_1 mm	l_2 mm	G	EDP Number
32	6.00	3.00	4.00	26.00	5.50	M10x1	9045080100320
40	8.00	3.80	5.40	29.50	7.50	M12x1	9045080120400
50	10.00	3.80	6.40	33.00	9.50	M16x1	9045080160500
63	12.00	3.80	8.00	36.50	11.50	M18x1	9045080180630
80	14.00	3.80	10.00	40.00	13.50	M20x1.5	9045080200800
100	16.00	3.80	12.00	44.00	15.50	M24x1.5	9045080241000

MQL 1-channel

MQL coolant supply set HSK-A (filler)

Product information

- for internal cooling MQL 1 and 2 channel systems
- for tool holders with manual tool clamping
- optimally sealed for MQL clamping set
- dimensions d_2 and l_1 based on installed condition



Series no. 4513

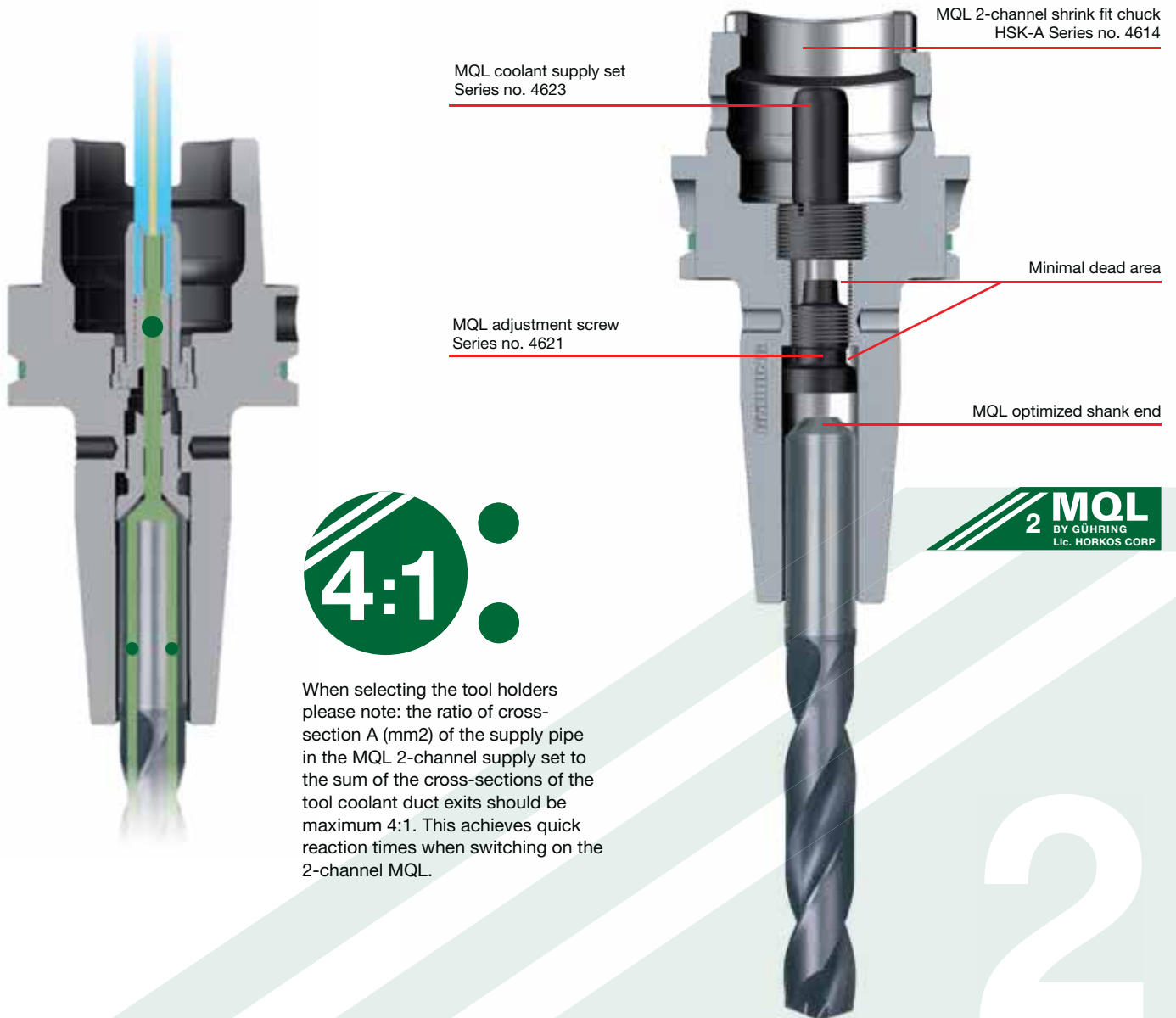
for HSK-A	d_2 mm	d_3 mm	l_1 mm	l_2 mm	G	EDP Number
32	3.00	3.00	6.30	-	M10x1	9045130100320
40	3.60	4.00	8.30	5.00	M12x1	9045130120400
50	3.60	4.00	10.30	5.00	M16x1	9045130160500
50	5.00	5.00	10.30	-	M16x1	9045130161500
63	3.60	4.00	12.30	5.00	M18x1	9045130180630
63	6.00	6.00	12.30	-	M18x1	9045130181630
80	3.60	4.00	14.40	5.00	M20x1.5	9045130200800
80	8.00	8.00	14.40	-	M20x1.5	9045130201800
100	3.60	4.00	16.40	5.00	M24x1.5	9045130241000
100	8.00	8.00	16.40	-	M24x1.5	9045130241010



Our products for the MQL 2-channel technology are identified by this symbol.

Visual feature of the 2-channel system is the black colored MQL length setting screw.

MQL 2-channel



4:1

When selecting the tool holders please note: the ratio of cross-section A (mm²) of the supply pipe in the MQL 2-channel supply set to the sum of the cross-sections of the tool coolant duct exits should be maximum 4:1. This achieves quick reaction times when switching on the 2-channel MQL.

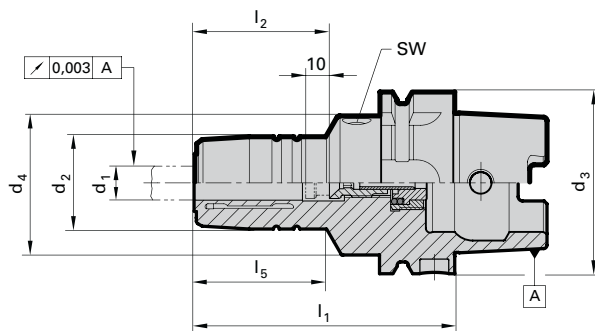
MQL 2-channel hydraulic chucks HSK-A for manual tool change

Product information

- to Gühring MQL standard
- for 2-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- axial length setting

Scope of delivery

- incl. MQL adjustment screw Series no.4621 and MQL coolant supply set Series no. 4622
- incl. hexagon chuck key Series no. 4912
- special dimensions on request



HSK-A d ₃	for shank Ø d ₁ h6 mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	incl. setting screw no. 4621 ...	incl. filler no. 4622 ...	SW	kg	Code no.	Series no.	4611
													EDP Number	
32	6	2.01	26	40	80	36	29	6.032	12.032	4	0.40	6.032		9046110060320
32	6	4.15	26	40	80	36	29	6.132	12.132	4	0.40	6.132		9046110061320
32	8	2.01	28	40	80	36	29	8.032	12.032	4	0.42	8.032		9046110080320
32	8	4.15	28	40	80	36	29	8.132	12.132	4	0.42	8.132		9046110081320
32	10	2.01	30	40	85	40	35	10.032	12.032	4	0.45	10.032		9046110100320
32	10	4.15	30	40	85	40	35	10.132	12.132	4	0.45	10.132		9046110101320
32	12	2.01	32	40	90	45	40	12.032	12.032	4	0.49	12.032		9046110120320
32	12	4.15	32	40	90	45	40	12.132	12.132	4	0.49	12.132		9046110121320
40	6	2.01	26	33.5	80	36	46	6.040	16.040	4	0.44	6.040		9046110060400
40	6	4.15	26	33.5	80	36	46	6.140	16.140	4	0.44	6.140		9046110061400
40	8	2.01	28	33.5	80	36	46	8.040	16.040	4	0.47	8.040		9046110080400
40	8	4.15	28	33.5	80	36	46	8.140	16.140	4	0.47	8.140		9046110081400
40	10	2.01	30	33.5	80	40	46	10.040	16.040	4	0.49	10.040		9046110100400
40	10	4.15	30	33.5	80	40	46	10.140	16.140	4	0.49	10.140		9046110101400
40	12	2.01	32	33.5	90	45	56	12.040	16.040	4	0.56	12.040		9046110120400
40	12	4.15	32	33.5	90	45	56	12.140	16.140	4	0.56	12.140		9046110121400
40	12	9.08	32	33.5	90	45	56	12.240	16.240	4	0.56	12.240		9046110122400
50	6	2.01	26	40	80	36	38	6.050	10.050	4	0.95	6.050		9046110060500
50	6	4.15	26	40	80	36	38	6.150	10.150	4	0.95	6.150		9046110061500
50	8	2.01	28	40	80	36	38	8.050	10.050	4	0.95	8.050		9046110080500
50	8	4.15	28	40	80	36	38	8.150	10.150	4	0.95	8.150		9046110081500
50	10	2.01	30	40	85	40	44	10.050	10.050	4	0.95	10.050		9046110100500
50	10	4.15	30	40	85	40	44	10.150	10.150	4	0.95	10.150		9046110101500
50	12	2.01	32	40	90	45	49	12.050	18.050	4	0.95	12.050		9046110120500
50	12	4.15	32	40	90	45	49	12.150	20.050	4	0.95	12.150		9046110121500
50	12	9.08	32	40	90	45	49	12.250	20.150	4	0.95	12.250		9046110122500
50	14	2.01	34	40	90	45	49	14.050	18.050	4	0.95	14.050		9046110140500
50	14	4.15	34	40	90	45	49	14.150	20.050	4	0.95	14.150		9046110141500
50	14	9.08	34	40	90	45	49	14.250	20.150	4	0.95	14.250		9046110142500
50	16	2.01	38	53	95	48	36	16.050	18.050	5	1.25	16.050		9046110160500
50	16	4.15	38	53	95	48	36	16.150	20.050	5	1.25	16.150		9046110161500
50	16	9.08	38	53	95	48	36	16.250	20.150	5	1.25	16.250		9046110162500
50	18	2.01	40	57	95	48	36	18.050	18.050	5	1.25	18.050		9046110180500
50	18	4.15	40	57	95	48	36	18.150	20.050	5	1.25	18.150		9046110181500
50	18	9.08	40	57	95	48	36	18.250	20.150	5	1.25	18.250		9046110182500
50	20	4.15	42	60	100	50	39	20.050	20.050	5	1.25	20.050		9046110200500
50	20	9.08	42	60	100	50	39	20.150	20.150	5	1.25	20.150		9046110201500
50	20	16.62	42	60	100	50	39	20.250	20.250	5	1.25	20.250		9046110202500

MQL 2-channel hydraulic chucks HSK-A for manual tool change



Series no.

4611

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	incl. setting screw no. 4621 ...	incl. filler no. 4622 ...	SW	kg	Code no.	EDP Number
63	6	2.01	26	50	80	36	34.5	6.100	10.063	5	1.25	6.063	9046110060630
63	6	4.15	26	50	80	36	34.5	6.101	10.163	5	1.25	6.163	9046110061630
63	8	2.01	28	50	80	36	35.5	8.100	10.063	5	1.25	8.063	9046110080630
63	8	4.15	28	50	80	36	35.5	8.101	10.163	5	1.25	8.163	9046110081630
63	10	2.01	30	50	85	40	39	10.100	10.063	5	1.25	10.063	9046110100630
63	10	4.15	30	50	85	40	39	10.101	10.163	5	1.25	10.163	9046110101630
63	12	2.01	32	50	90	45	45	12.100	18.063	5	1.35	12.063	9046110120630
63	12	4.15	32	50	90	45	45	12.101	20.063	5	1.35	12.163	9046110121630
63	12	9.08	32	50	90	45	45	12.102	20.163	5	1.35	12.263	9046110122630
63	14	2.01	34	50	90	45	46	14.100	18.063	5	1.35	14.063	9046110140630
63	14	4.15	34	50	90	45	46	14.101	20.063	5	1.35	14.163	9046110141630
63	14	9.08	34	50	90	45	46	14.102	20.163	5	1.35	14.263	9046110142630
63	16	2.01	38	50	95	48	51	16.100	18.063	5	1.45	16.063	9046110160630
63	16	4.15	38	50	95	48	51	16.101	20.063	5	1.45	16.163	9046110161630
63	16	9.08	38	50	95	48	51	16.102	20.163	5	1.45	16.263	9046110162630
63	18	2.01	40	50	95	48	52	18.100	18.063	5	1.45	18.063	9046110180630
63	18	4.15	40	50	95	48	52	18.101	20.063	5	1.45	18.163	9046110181630
63	18	9.08	40	50	95	48	52	18.102	20.163	5	1.45	18.263	9046110182630
63	20	4.15	42	50	100	50	58	20.100	20.063	5	1.45	20.063	9046110200630
63	20	9.08	42	50	100	50	58	20.101	20.163	5	1.45	20.163	9046110201630
63	20	16.62	42	50	100	50	58	20.102	20.263	5	1.45	20.263	9046110202630
63	25	4.15	57	63	115	56	50	25.100	32.063	6	2.45	25.063	9046110250630
63	25	9.08	57	63	115	56	50	25.101	32.163	6	2.45	25.163	9046110251630
63	25	16.62	57	63	115	56	50	25.102	32.263	6	2.45	25.263	9046110252630
63	32	4.15	64	75	120	60	58	32.100	32.063	6	3.10	32.063	9046110320630
63	32	9.08	64	75	120	60	58	32.101	32.163	6	3.10	32.163	9046110321630
63	32	16.62	64	75	120	60	58	32.102	32.263	6	3.10	32.263	9046110322630
80	6	2.01	26	50	85	36	39	6.100	10.080	5	1.5	6.080	9046110060800
80	6	4.15	26	50	85	36	39	6.101	10.180	5	1.49	6.180	9046110061800
80	8	2.01	28	50	85	36	39	8.100	10.080	5	1.52	8.080	9046110080800
80	8	4.15	28	50	85	36	39	8.101	10.180	5	1.52	8.180	9046110081800
80	10	2.01	30	50	90	40	45	10.100	10.080	5	1.56	10.080	9046110100800
80	10	4.15	30	50	90	40	45	10.101	10.180	5	1.56	10.180	9046110101800
80	12	2.01	32	50	95	45	50	12.100	18.080	5	1.61	12.080	9046110120800
80	12	4.15	32	50	95	45	50	12.101	32.080	5	1.61	12.180	9046110121800
80	12	9.08	32	50	95	45	50	12.102	32.180	5	1.6	12.280	9046110122800
80	14	2.01	34	50	95	45	50	14.100	18.080	5	1.64	14.080	9046110140800
80	14	4.15	34	50	95	45	50	14.101	32.080	5	1.63	14.180	9046110141800
80	14	9.08	34	50	95	45	50	14.102	32.180	5	1.63	14.280	9046110142800
80	16	2.01	38	50	100	48	56	16.100	18.080	5	1.72	16.080	9046110160800
80	16	4.15	38	50	100	48	56	16.101	32.080	5	1.72	16.180	9046110161800
80	16	9.08	38	50	100	48	56	16.102	32.180	5	1.72	16.280	9046110162800
80	18	2.01	40	50	100	48	56	18.100	18.080	5	1.76	18.080	9046110180800
80	18	4.15	40	50	100	48	56	18.101	32.080	5	1.76	18.180	9046110181800
80	18	9.08	40	50	100	48	56	18.102	32.180	5	1.75	18.280	9046110182800
80	20	4.15	42	50	105	50	62	20.100	32.080	5	1.82	20.080	9046110200800
80	20	9.08	42	50	105	50	62	20.101	32.180	5	1.82	20.180	9046110201800
80	20	16.62	42	50	105	50	62	20.102	32.280	5	1.83	20.280	9046110202800
80	25	4.15	57	63	115	56	70	25.100	32.080	6	2.6	25.080	9046110250800
80	25	9.08	57	63	115	56	70	25.101	32.180	6	2.6	25.180	9046110251800
80	25	16.62	57	63	115	56	70	25.102	32.280	6	2.6	25.280	9046110252800
80	32	4.15	64	75	120	60	58	32.100	32.080	6	3.11	32.080	9046110320800
80	32	9.08	64	75	120	60	58	32.101	32.180	6	3.11	32.180	9046110321800
80	32	16.62	64	75	120	60	58	32.102	32.280	6	3.11	32.280	9046110322800
100	6	2.01	26	50	85	36	36	6.100	10.100	5	2.60	6.100	9046110061000
100	6	4.15	26	50	85	36	36	6.101	10.101	5	2.60	6.101	9046110061010
100	8	2.01	28	50	85	36	36	8.100	10.100	5	2.60	8.100	9046110081000
100	8	4.15	28	50	85	36	36	8.101	10.101	5	2.60	8.101	9046110081010
100	10	2.01	30	50	90	40	42	10.100	10.100	5	2.60	10.100	9046110101000
100	10	4.15	30	50	90	40	42	10.101	10.101	5	2.60	10.101	9046110101010
100	12	2.01	32	50	95	45	47	12.100	18.100	5	2.65	12.100	9046110121000
100	12	4.15	32	50	95	45	47	12.101	32.100	5	2.65	12.101	9046110121010
100	12	9.08	32	50	95	45	47	12.102	32.101	5	2.65	12.102	9046110121020
100	14	2.01	34	50	95	45	47	14.100	18.100	5	2.65	14.100	9046110141000
100	14	4.15	34	50	95	45	47	14.101	32.100	5	2.65	14.101	9046110141010
100	14	9.08	34	50	95	45	47	14.102	32.101	5	2.65	14.102	9046110141020

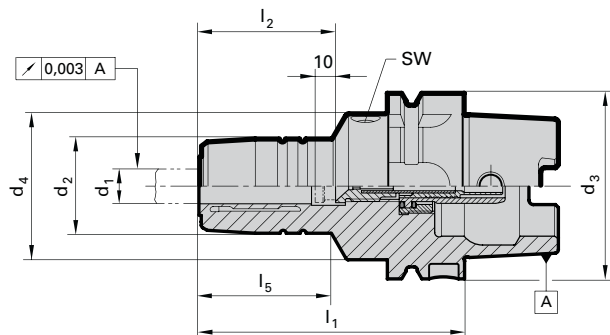
MQL 2-channel

Product information

- to Gühring MQL standard
- for 2-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- axial length setting

Scope of delivery

- incl. MQL adjustment screw with sealing lip
Series no. 4621 and MQL coolant supply set
Series no. 4623
- incl. hexagon chuck key Series no. 4912
- special dimensions on request



Series no.

4612

HSK-A d3	for shank Ø d1 h6 mm	A mm ²	d2 mm	d4 mm	l1 mm	l2 mm	l5 mm	incl. setting screw no. 4621 ...	incl. filler no. 4623 ...	SW	kg	Code no.	EDP Number
32	6	2.01	26	40	80	36	29	6.032	12.032	4	0.41	6.032	9046120060320
32	6	4.15	26	40	80	36	29	6.132	12.132	4	0.41	6.132	9046120061320
32	8	2.01	28	40	80	36	29	8.032	12.032	4	0.42	8.032	9046120080320
32	8	4.15	28	40	80	36	29	8.132	12.132	4	0.42	8.132	9046120081320
32	10	2.01	30	40	85	40	35	10.032	12.032	4	0.45	10.032	9046120100320
32	10	4.15	30	40	85	40	35	10.132	12.132	4	0.45	10.132	9046120101320
32	12	2.01	32	40	90	45	40	12.032	12.032	4	0.49	12.032	9046120120320
32	12	4.15	32	40	90	45	40	12.132	12.132	4	0.49	12.132	9046120121320
40	6	2.01	26	33.5	80	36	46	6.040	16.040	4	0.45	6.040	9046120060400
40	6	4.15	26	33.5	80	36	46	6.140	16.140	4	0.45	6.140	9046120061400
40	8	2.01	28	33.5	80	36	46	8.040	16.040	4	0.47	8.040	9046120080400
40	8	4.15	28	33.5	80	36	46	8.140	16.140	4	0.47	8.140	9046120081400
40	10	2.01	30	33.5	80	40	46	10.040	16.040	4	0.49	10.040	9046120100400
40	10	4.15	30	33.5	80	40	46	10.140	16.140	4	0.49	10.140	9046120101400
40	12	2.01	32	33.5	90	45	56	12.040	16.040	4	0.57	12.040	9046120120400
40	12	4.15	32	33.5	90	45	56	12.140	16.140	4	0.57	12.140	9046120121400
40	12	9.08	32	33.5	90	45	56	12.240	16.240	4	0.57	12.240	9046120122400
50	6	2.01	26	40	80	36	38	6.050	10.050	4	0.95	6.050	9046120060500
50	6	4.15	26	40	80	36	38	6.150	10.150	4	0.95	6.150	9046120061500
50	8	2.01	28	40	80	36	38	8.050	10.050	4	0.95	8.050	9046120080500
50	8	4.15	28	40	80	36	38	8.150	10.150	4	0.95	8.150	9046120081500
50	10	2.01	30	40	85	40	44	10.050	10.050	4	0.95	10.050	9046120100500
50	10	4.15	30	40	85	40	44	10.150	10.150	4	0.95	10.150	9046120101500
50	12	2.01	32	40	90	45	49	12.050	18.050	4	0.95	12.050	9046120120500
50	12	4.15	32	40	90	45	49	12.150	20.050	4	0.95	12.150	9046120121500
50	12	9.08	32	40	90	45	49	12.250	20.150	4	0.95	12.250	9046120122500
50	14	2.01	34	40	90	45	49	14.050	18.050	4	0.95	14.050	9046120140500
50	14	4.15	34	40	90	45	49	14.150	20.050	4	0.95	14.150	9046120141500
50	14	9.08	34	40	90	45	49	14.250	20.150	4	0.95	14.250	9046120142500
50	16	2.01	38	53	95	48	36	16.050	18.050	5	1.25	16.050	9046120160500
50	16	4.15	38	53	95	48	36	16.150	20.050	5	1.25	16.150	9046120161500
50	16	9.08	38	53	95	48	36	16.250	20.150	5	1.25	16.250	9046120162500
50	18	2.01	40	57	95	48	36	18.050	18.050	5	1.25	18.050	9046120180500
50	18	4.15	40	57	95	48	36	18.150	20.050	5	1.25	18.150	9046120181500
50	18	9.08	40	57	95	48	36	18.250	20.150	5	1.25	18.250	9046120182500
50	20	4.15	42	60	100	50	39	20.050	20.050	5	1.25	20.050	9046120200500
50	20	9.08	42	60	100	50	39	20.150	20.150	5	1.25	20.150	9046120201500
50	20	16.62	42	60	100	50	39	20.250	20.250	5	1.25	20.250	9046120202500
63	6	2.01	26	50	80	36	34.5	6.100	10.063	5	1.25	6.063	9046120060630
63	6	4.15	26	50	80	36	34.5	6.101	10.163	5	1.25	6.163	9046120061630
63	8	2.01	28	50	80	36	35.5	8.100	10.063	5	1.25	8.063	9046120080630
63	8	4.15	28	50	80	36	35.5	8.101	10.163	5	1.25	8.163	9046120081630
63	10	2.01	30	50	85	40	39	10.100	10.063	5	1.25	10.063	9046120100630
63	10	4.15	30	50	85	40	39	10.101	10.163	5	1.25	10.163	9046120101630



Series no.

4612

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	l ₅ mm	incl. setting screw no. 4621 ...	incl. filler no. 4623 ...	SW	kg	Code no.	EDP Number
63	12	2.01	32	50	90	45	45	12.100	18.063	5	1.35	12.063	9046120120630
63	12	4.15	32	50	90	45	45	12.101	20.063	5	1.35	12.163	9046120121630
63	12	9.08	32	50	90	45	45	12.102	20.163	5	1.35	12.263	9046120122630
63	14	2.01	34	50	90	45	46	14.100	18.063	5	1.35	14.063	9046120140630
63	14	4.15	34	50	90	45	46	14.101	20.063	5	1.35	14.163	9046120141630
63	14	9.08	34	50	90	45	46	14.102	20.163	5	1.35	14.263	9046120142630
63	16	2.01	38	50	95	48	51	16.100	18.063	5	1.45	16.063	9046120160630
63	16	4.15	38	50	95	48	51	16.101	20.063	5	1.45	16.163	9046120161630
63	16	9.08	38	50	95	48	51	16.102	20.163	5	1.45	16.263	9046120162630
63	18	2.01	40	50	95	48	52	18.100	18.063	5	1.45	18.063	9046120180630
63	18	4.15	40	50	95	48	52	18.101	20.063	5	1.45	18.163	9046120181630
63	18	9.08	40	50	95	48	52	18.102	20.163	5	1.45	18.263	9046120182630
63	20	4.15	42	50	100	50	58	20.100	20.063	5	1.45	20.063	9046120200630
63	20	9.08	42	50	100	50	58	20.101	20.163	5	1.45	20.163	9046120201630
63	20	16.62	42	50	100	50	58	20.102	20.263	5	1.45	20.263	9046120202630
63	25	4.15	57	63	115	56	50	25.100	32.063	6	2.45	25.063	9046120250630
63	25	9.08	57	63	115	56	50	25.101	32.163	6	2.45	25.163	9046120251630
63	25	16.62	57	63	115	56	50	25.102	32.263	6	2.45	25.263	9046120252630
63	32	4.15	64	75	120	60	58	32.100	32.063	6	3.10	32.063	9046120320630
63	32	9.08	64	75	120	60	58	32.101	32.163	6	3.10	32.163	9046120321630
63	32	16.62	64	75	120	60	58	32.102	32.263	6	3.10	32.263	9046120322630
80	6	2.01	26	50	85	36	39	6.100	10.080	5	1.52	6.080	9046120060800
80	6	4.15	26	50	85	36	39	6.101	10.180	5	1.52	6.180	9046120061800
80	8	2.01	28	50	85	36	39	8.100	10.080	5	1.54	8.080	9046120080800
80	8	4.15	28	50	85	36	39	8.101	10.180	5	1.54	8.180	9046120081800
80	10	2.01	30	50	90	40	45	10.100	10.080	5	1.58	10.080	9046120100800
80	10	4.15	30	50	90	40	45	10.101	10.180	5	1.58	10.180	9046120101800
80	12	2.01	32	50	95	45	50	12.100	18.080	5	1.63	12.080	9046120120800
80	12	4.15	32	50	95	45	50	12.101	32.080	5	1.63	12.180	9046120121800
80	12	9.08	32	50	95	45	50	12.102	32.180	5	1.63	12.280	9046120122800
80	14	2.01	34	50	95	45	50	14.100	18.080	5	1.66	14.080	9046120140800
80	14	4.15	34	50	95	45	50	14.101	32.080	5	1.66	14.180	9046120141800
80	14	9.08	34	50	95	45	50	14.102	32.180	5	1.66	14.280	9046120142800
80	16	2.01	38	50	100	48	56	16.100	18.080	5	1.75	16.080	9046120160800
80	16	4.15	38	50	100	48	56	16.101	32.080	5	1.74	16.180	9046120161800
80	16	9.08	38	50	100	48	56	16.102	32.180	5	1.74	16.280	9046120162800
80	18	2.01	40	50	100	48	56	18.100	18.080	5	1.78	18.080	9046120180800
80	18	4.15	40	50	100	48	56	18.101	32.080	5	1.78	18.180	9046120181800
80	18	9.08	40	50	100	48	56	18.102	32.180	5	1.77	18.280	9046120182800
80	20	4.15	42	50	105	50	62	20.100	32.080	5	1.85	20.080	9046120200800
80	20	9.08	42	50	105	50	62	20.101	32.180	5	1.84	20.180	9046120201800
80	20	16.62	42	50	105	50	62	20.102	32.280	5	1.84	20.280	9046120202800
80	25	4.15	57	63	115	56	70	25.100	32.080	6	2.62	25.080	9046120250800
80	25	9.08	57	63	115	56	70	25.101	32.180	6	2.62	25.180	9046120251800
80	25	16.62	57	63	115	56	70	25.102	32.280	6	2.62	25.280	9046120252800
80	32	4.15	64	75	120	60	58	32.100	32.080	6	3.13	32.080	9046120320800
80	32	9.08	64	75	120	60	58	32.101	32.180	6	3.13	32.180	9046120321800
80	32	16.62	64	75	120	60	58	32.102	32.280	6	3.13	32.280	9046120322800
100	6	2.01	26	50	85	36	36	6.100	10.100	5	2.60	6.100	9046120061000
100	6	4.15	26	50	85	36	36	6.101	10.101	5	2.60	6.101	9046120061010
100	8	2.01	28	50	85	36	36	8.100	10.100	5	2.60	8.100	9046120081000
100	8	4.15	28	50	85	36	36	8.101	10.101	5	2.60	8.101	9046120081010
100	10	2.01	30	50	90	40	42	10.100	10.100	5	2.60	10.100	9046120101000
100	10	4.15	30	50	90	40	42	10.101	10.101	5	2.60	10.101	9046120101010
100	12	2.01	32	50	95	45	47	12.100	18.100	5	2.65	12.100	9046120121000
100	12	4.15	32	50	95	45	47	12.101	32.100	5	2.65	12.101	9046120121010
100	12	9.08	32	50	95	45	47	12.102	32.101	5	2.65	12.102	9046120121020
100	14	2.01	34	50	95	45	47	14.100	18.100	5	2.65	14.100	9046120141000
100	14	4.15	34	50	95	45	47	14.101	32.100	5	2.65	14.101	9046120141010
100	14	9.08	34	50	95	45	47	14.102	32.101	5	2.65	14.102	9046120141020
100	16	2.01	38	50	100	48	53	16.100	18.100	5	2.85	16.100	9046120161000
100	16	4.15	38	50	100	48	53	16.101	32.100	5	2.85	16.101	9046120161010
100	16	9.08	38	50	100	48	53	16.102	32.101	5	2.85	16.102	9046120161020
100	18	2.01	40	50	100	48	53	18.100	18.100	5	2.85	18.100	9046120181000
100	18	4.15	40	50	100	48	53	18.101	32.100	5	2.85	18.101	9046120181010
100	18	9.08	40	50	100	48	53	18.102	32.101	5	2.85	18.102	9046120181020
100	20	4.15	42	50	105	50	59	20.100	32.100	5	3.35	20.100	9046120201000
100	20	9.08	42	50	105	50	59	20.101	32.101	5	3.35	20.101	9046120201010

MQL 2-channel

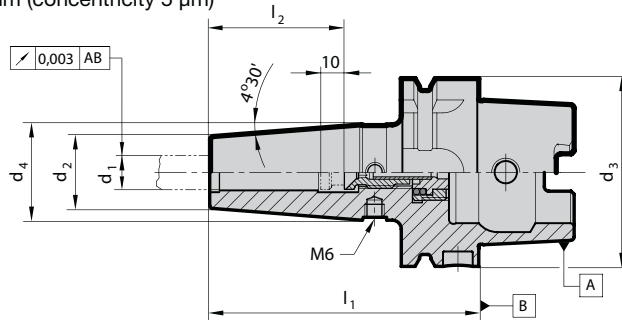
MQL 2-channel shrink fit chucks HSK-A for manual tool change

Product information

- to Gühring MQL standard
- for 2-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- incl. balancing thread 4xM6/6xM6
- for tool shank tolerance h6
- also available in the lengths
l1 = 120 mm (concentricity 4 µm)
and 160 mm (concentricity 5 µm)

Scope of delivery

- incl. MQL adjustment screw Series no. 4621
and MQL coolant supply set Series no. 4622
- special dimensions on request



Series no.											4613
HSK-A d ₃	for shank Ø d ₁ h ₆ mm	 A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. filler no. 4622 ...	kg	Code no.	EDP Number
32	6	2.01	21	25.5	80	36	6.032	12.032	0.30	6.032	9046130060320
32	6	4.15	21	25.5	80	36	6.132	12.132	0.30	6.132	9046130061320
32	8	2.01	21	25.5	80	36	8.032	12.032	0.30	8.032	9046130080320
32	8	4.15	21	25.5	80	36	8.132	12.132	0.30	8.132	9046130081320
32	10	2.01	24	31.7	85	40	10.032	12.032	0.30	10.032	9046130100320
32	10	4.15	24	31.7	85	40	10.132	12.132	0.30	10.132	9046130101320
32	12	2.01	24	32.3	90	45	12.032	12.032	0.30	12.032	9046130120320
32	12	4.15	24	32.3	90	45	12.132	12.132	0.30	12.132	9046130121320
40	6	2.01	21	27	80	36	6.040	16.040	0.40	6.040	9046130060400
40	6	4.15	21	27	80	36	6.140	16.140	0.40	6.140	9046130061400
40	8	2.01	21	27	80	36	8.040	16.040	0.40	8.040	9046130080400
40	8	4.15	21	27	80	36	8.140	16.140	0.40	8.140	9046130081400
40	10	2.01	24	32	80	40	10.040	16.040	0.50	10.040	9046130100400
40	10	4.15	24	32	80	40	10.140	16.140	0.50	10.140	9046130101400
40	12	2.01	24	32	90	45	12.040	16.040	0.50	12.040	9046130120400
40	12	4.15	24	32	90	45	12.140	16.140	0.50	12.140	9046130121400
40	12	9.08	24	32	90	45	12.240	16.240	0.50	12.240	9046130122400
40	14	2.01	27	33.5	90	45	14.040	16.040	0.60	14.040	9046130140400
40	14	4.15	27	33.5	90	45	14.140	16.140	0.60	14.140	9046130141400
40	14	9.08	27	33.5	90	45	14.240	16.240	0.60	14.240	9046130142400
40	16	2.01	27	33.5	90	48	16.040	16.040	0.50	16.040	9046130160400
40	16	4.15	27	33.5	90	48	16.140	16.140	0.50	16.140	9046130161400
40	16	9.08	27	33.5	90	48	16.240	16.240	0.50	16.240	9046130162400
50	6	2.01	21	27	80	36	6.050	10.050	0.60	6.050	9046130060500
50	6	4.15	21	27	80	36	6.150	10.150	0.60	6.150	9046130061500
50	8	2.01	21	27	80	36	8.050	10.050	0.60	8.050	9046130080500
50	8	4.15	21	27	80	36	8.150	10.150	0.60	8.150	9046130081500
50	10	2.01	24	32	85	40	10.050	10.050	0.70	10.050	9046130100500
50	10	4.15	24	32	85	40	10.150	10.150	0.70	10.150	9046130101500
50	12	2.01	24	32	90	45	12.050	18.050	0.70	12.050	9046130120500
50	12	4.15	24	32	90	45	12.150	20.050	0.70	12.150	9046130121500
50	12	9.08	24	32	90	45	12.250	20.150	0.70	12.250	9046130122500
50	14	2.01	27	34	90	45	14.050	18.050	0.70	14.050	9046130140500
50	14	4.15	27	34	90	45	14.150	20.050	0.70	14.150	9046130141500
50	14	9.08	27	34	90	45	14.250	20.150	0.70	14.250	9046130142500
50	16	2.01	27	34	95	48	16.050	18.050	0.70	16.050	9046130160500
50	16	4.15	27	34	95	48	16.150	20.050	0.70	16.150	9046130161500
50	16	9.08	27	34	95	48	16.250	20.150	0.70	16.250	9046130162500
50	18	2.01	33	41.5	95	48	18.050	18.050	0.90	18.050	9046130180500
50	18	4.15	33	41.5	95	48	18.150	20.050	0.90	18.150	9046130181500
50	18	9.08	33	41.5	95	48	18.250	20.150	0.90	18.250	9046130182500

MQL 2-channel shrink fit chucks HSK-A for manual tool change



HSK-A d ₃	for shank Ø d ₁ h ₆ mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. filler no. 4622 ...	kg	Code no.	Series no.	4613
												EDP Number
50	20	4.15	33	41.5	100	50	20.050	20.050	0.90	20.050		9046130200500
50	20	9.08	33	41.5	100	50	20.150	20.150	0.90	20.150		9046130201500
50	20	16.62	33	41.5	100	50	20.250	20.250	0.90	20.250		9046130202500
63	6	2.01	21	27	80	36	6.100	10.063	0.70	6.063		9046130060630
63	6	4.15	21	27	80	36	6.101	10.163	0.70	6.163		9046130061630
63	8	2.01	21	27	80	36	8.100	10.063	0.70	8.063		9046130080630
63	8	4.15	21	27	80	36	8.101	10.163	0.70	8.163		9046130081630
63	10	2.01	24	32	85	40	10.100	10.063	0.70	10.063		9046130100630
63	10	4.15	24	32	85	40	10.101	10.163	0.70	10.163		9046130101630
63	12	2.01	24	32	90	45	12.100	18.063	0.80	12.063		9046130120630
63	12	4.15	24	32	90	45	12.101	20.063	0.80	12.163		9046130121630
63	12	9.08	24	32	90	45	12.102	20.163	0.80	12.263		9046130122630
63	14	2.01	27	34	90	45	14.100	18.063	0.80	14.063		9046130140630
63	14	4.15	27	34	90	45	14.101	20.063	0.80	14.163		9046130141630
63	14	9.08	27	34	90	45	14.102	20.163	0.80	14.263		9046130142630
63	16	2.01	27	34	95	48	16.100	18.063	0.90	16.063		9046130160630
63	16	4.15	27	34	95	48	16.101	20.063	0.90	16.163		9046130161630
63	16	9.08	27	34	95	48	16.102	20.163	0.90	16.263		9046130162630
63	18	2.01	33	42	95	48	18.100	18.063	0.90	18.063		9046130180630
63	18	4.15	33	42	95	48	18.101	20.063	0.90	18.163		9046130181630
63	18	9.08	33	42	95	48	18.102	20.163	0.90	18.263		9046130182630
63	20	4.15	33	42	100	50	20.100	20.063	1.00	20.063		9046130200630
63	20	9.08	33	42	100	50	20.101	20.163	1.00	20.163		9046130201630
63	20	16.62	33	42	100	50	20.102	20.263	1.00	20.263		9046130202630
63	25	4.15	44	52.5	115	56	25.100	32.063	1.00	25.063		9046130250630
63	25	9.08	44	52.5	115	56	25.101	32.163	1.00	25.163		9046130251630
63	25	16.62	44	52.5	115	56	25.102	32.263	1.00	25.263		9046130252630
63	32	4.15	44	52.5	120	60	32.100	32.063	1.10	32.063		9046130320630
63	32	9.08	44	52.5	120	60	32.101	32.163	1.10	32.163		9046130321630
63	32	16.62	44	52.5	120	60	32.102	32.263	1.10	32.263		9046130322630
63	6	2.01	21	27	120	36	6.032	208.063	0.90	206.063		9046132060630
63	6	4.15	21	27	120	36	6.132	208.163	0.90	206.163		9046132061630
63	8	2.01	21	27	120	36	8.040	208.063	1.00	208.063		9046132080630
63	8	4.15	21	27	120	36	8.140	208.163	1.00	208.163		9046132081630
63	10	2.01	24	32	120	40	10.050	210.063	1.10	210.063		9046132100630
63	10	4.15	24	32	120	40	10.150	210.063	1.10	210.163		9046132101630
63	12	2.01	24	32	120	45	12.100	214.063	1.20	212.063		9046132120630
63	12	4.15	24	32	120	45	12.101	214.163	1.20	212.163		9046132121630
63	12	9.08	24	32	120	45	12.102	214.263	1.20	212.263		9046132122630
63	14	2.01	27	34	120	45	14.100	214.063	1.20	214.063		9046132140630
63	14	4.15	27	34	120	45	14.101	214.163	1.20	214.163		9046132141630
63	14	9.08	27	34	120	45	14.102	214.263	1.20	214.263		9046132142630
63	16	2.01	27	34	120	48	16.100	218.063	1.20	216.063		9046132160630
63	16	4.15	27	34	120	48	16.101	218.163	1.20	216.163		9046132161630
63	16	9.08	27	34	120	48	16.102	218.263	1.20	216.263		9046132162630
63	18	2.01	33	42	120	48	18.100	218.063	1.40	218.063		9046132180630
63	18	4.15	33	42	120	48	18.101	218.163	1.40	218.163		9046132181630
63	18	9.08	33	42	120	48	18.102	218.263	1.40	218.263		9046132182630
63	20	4.15	33	42	120	50	20.100	220.063	1.40	220.063		9046132200630
63	20	9.08	33	42	120	50	20.101	220.163	1.40	220.163		9046132201630
63	20	16.62	33	42	120	50	20.102	220.263	1.40	220.263		9046132202630
63	6	2.01	21	27	160	36	6.032	108.063	0.80	106.063		9046131060630
63	6	4.15	21	27	160	36	6.132	108.163	0.80	106.163		9046131061630
63	8	2.01	21	27	160	36	8.040	108.063	0.80	108.063		9046131080630
63	8	4.15	21	27	160	36	8.140	108.163	0.80	108.163		9046131081630
63	10	2.01	24	32	160	40	10.050	110.063	0.90	110.063		9046131100630
63	10	4.15	24	32	160	40	10.150	110.163	0.90	110.163		9046131101630
63	12	2.01	24	32	160	45	12.100	114.063	0.90	112.063		9046131120630
63	12	4.15	24	32	160	45	12.101	114.163	0.90	112.163		9046131121630
63	12	9.08	24	32	160	45	12.102	114.263	0.90	112.263		9046131122630
63	14	2.01	27	34	160	45	14.100	114.063	1.00	114.063		9046131140630
63	14	4.15	27	34	160	45	14.101	114.163	1.00	114.163		9046131141630
63	14	9.08	27	34	160	45	14.102	114.263	1.00	114.263		9046131142630

MQL 2-channel shrink fit chucks HSK-A for manual tool change

Series no.											4613
HSK-A d ₃	for shank Ø d ₁ h ₆ mm	 A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. filler no. 4622 ...	kg	Code no.	EDP Number
63	16	2.01	27	34	160	48	16.100	118.063	1.00	116.063	9046131160630
63	16	4.15	27	34	160	48	16.101	118.163	1.00	116.163	9046131161630
63	16	9.08	27	34	160	48	16.102	118.263	1.00	116.263	9046131162630
63	18	2.01	33	42	160	48	18.100	118.063	1.20	118.063	9046131180630
63	18	4.15	33	42	160	48	18.101	118.163	1.20	118.163	9046131181630
63	18	9.08	33	42	160	48	18.102	118.263	1.20	118.263	9046131182630
63	20	4.15	33	42	160	50	20.100	120.063	1.20	120.063	9046131200630
63	20	9.08	33	42	160	50	20.101	120.163	1.20	120.163	9046131201630
63	20	16.62	33	42	160	50	20.102	120.263	1.20	120.263	9046131202630
63	25	4.15	44	52.5	160	56	25.100	125.063	1.80	125.063	9046131250630
63	25	9.08	44	52.5	160	56	25.101	125.163	1.80	125.163	9046131251630
63	25	16.62	44	52.5	160	56	25.102	125.263	1.80	125.263	9046131252630
63	32	4.15	44	52.5	160	60	32.100	132.063	1.70	132.063	9046131320630
63	32	9.08	44	52.5	160	60	32.101	132.163	1.70	132.163	9046131321630
63	32	16.62	44	52.5	160	60	32.102	132.263	1.70	132.263	9046131322630
80	6	2.01	21	27	85	36	6.100	10.080	1.30	6.080	9046130060800
80	6	4.15	21	27	85	36	6.101	10.180	1.30	6.180	9046130061800
80	8	2.01	21	27	85	36	8.100	10.080	1.30	8.080	9046130080800
80	8	4.15	21	27	85	36	8.101	10.180	1.30	8.180	9046130081800
80	10	2.01	24	32	90	40	10.100	10.080	1.40	10.080	9046130100800
80	10	4.15	24	32	90	40	10.101	10.180	1.40	10.180	9046130101800
80	12	2.01	24	32	95	45	12.100	18.080	1.40	12.080	9046130120800
80	12	4.15	24	32	95	45	12.101	32.080	1.40	12.180	9046130121800
80	12	9.08	24	32	95	45	12.102	32.180	1.40	12.280	9046130122800
80	14	2.01	27	34	95	45	14.100	18.080	1.50	14.080	9046130140800
80	14	4.15	27	34	95	45	14.101	32.080	1.50	14.180	9046130141800
80	14	9.08	27	34	95	45	14.102	32.180	1.50	14.280	9046130142800
80	16	2.01	27	34	100	48	16.100	18.080	1.50	16.080	9046130160800
80	16	4.15	27	34	100	48	16.101	32.080	1.50	16.180	9046130161800
80	16	9.08	27	34	100	48	16.102	32.180	1.50	16.280	9046130162800
80	18	2.01	33	42	100	48	18.100	18.080	1.70	18.080	9046130180800
80	18	4.15	33	42	100	48	18.101	32.080	1.70	18.180	9046130181800
80	18	9.08	33	42	100	48	18.102	32.180	1.70	18.280	9046130182800
80	20	4.15	33	42	105	50	20.100	32.080	1.70	20.080	9046130200800
80	20	9.08	33	42	105	50	20.101	32.180	1.70	20.180	9046130201800
80	20	16.62	33	42	105	50	20.102	32.280	1.70	20.280	9046130202800
80	25	4.15	44	53	115	56	25.100	32.080	2.20	25.080	9046130250800
80	25	9.08	44	53	115	56	25.101	32.180	2.20	25.180	9046130251800
80	25	16.62	44	53	115	56	25.102	32.280	2.20	25.280	9046130252800
80	32	4.15	44	53	120	60	32.100	32.080	2.10	32.080	9046130320800
80	32	9.08	44	53	120	60	32.101	32.180	2.10	32.180	9046130321800
80	32	16.62	44	53	120	60	32.102	32.280	2.10	32.280	9046130322800
100	6	2.01	21	27	85	36	6.100	10.100	2.10	6.100	9046130061000
100	6	4.15	21	27	85	36	6.101	10.101	2.10	6.101	9046130061010
100	8	2.01	21	27	85	36	8.100	10.100	2.20	8.100	9046130081000
100	8	4.15	21	27	85	36	8.101	10.101	2.20	8.101	9046130081010
100	10	2.01	24	32	90	40	10.100	10.100	2.30	10.100	9046130101000
100	10	4.15	24	32	90	40	10.101	10.101	2.30	10.101	9046130101010
100	12	2.01	24	32	95	45	12.100	18.100	2.30	12.100	9046130121000
100	12	4.15	24	32	95	45	12.101	32.100	2.30	12.101	9046130121010
100	12	9.08	24	32	95	45	12.102	32.101	2.30	12.102	9046130121020
100	14	2.01	27	34	95	45	14.100	18.100	2.30	14.100	9046130141000
100	14	4.15	27	34	95	45	14.101	32.100	2.30	14.101	9046130141010
100	14	9.08	27	34	95	45	14.102	32.101	2.30	14.102	9046130141020
100	16	2.01	27	34	100	48	16.100	18.100	2.30	16.100	9046130161000
100	16	4.15	27	34	100	48	16.101	32.100	2.30	16.101	9046130161010
100	16	9.08	27	34	100	48	16.102	32.101	2.30	16.102	9046130161020
100	18	2.01	33	42	100	48	18.100	18.100	2.50	18.100	9046130181000
100	18	4.15	33	42	100	48	18.101	32.100	2.50	18.101	9046130181010
100	18	9.08	33	42	100	48	18.102	32.101	2.50	18.102	9046130181020
100	20	4.15	33	42	105	50	20.100	32.100	2.50	20.100	9046130201000
100	20	9.08	33	42	105	50	20.101	32.101	2.50	20.101	9046130201010
100	20	16.62	33	42	105	50	20.102	32.102	2.50	20.102	9046130201020
100	25	4.15	44	53	115	56	25.100	32.100	3.00	25.100	9046130251000

MQL 2-channel



Series no.

4613

HSK-A d ₃	for shank Ø d ₁ h6 mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. filler no. 4622 ...	kg	Code no.	EDP Number
100	25	9.08	44	53	115	56	25.101	32.101	3.00	25.101	9046130251010
100	25	16.62	44	53	115	56	25.102	32.102	3.00	25.102	9046130251020
100	32	4.15	44	53	120	60	32.100	32.100	3.00	32.100	9046130321000
100	32	9.08	44	53	120	60	32.101	32.101	3.00	32.101	9046130321010
100	32	16.62	44	53	120	60	32.102	32.102	3.00	32.102	9046130321020
100	6	2.01	21	27	160	36	6.032	108.100	2.60	106.100	9046131061000
100	6	4.15	21	27	160	36	6.132	108.101	2.60	106.101	9046131061010
100	8	2.01	21	27	160	36	8.040	108.100	2.50	108.100	9046131081000
100	8	4.15	21	27	160	36	8.140	108.101	2.50	108.101	9046131081010
100	10	2.01	24	32	160	40	10.050	110.100	2.70	110.100	9046131101000
100	10	4.15	24	32	160	40	10.150	110.101	2.70	110.101	9046131101010
100	12	2.01	24	32	160	45	12.100	114.100	2.70	112.100	9046131121000
100	12	4.15	24	32	160	45	12.101	114.101	2.70	112.101	9046131121010
100	12	9.08	24	32	160	45	12.102	114.102	2.70	112.102	9046131121020
100	14	2.01	27	34	160	45	14.100	114.100	2.80	114.100	9046131141000
100	14	4.15	27	34	160	45	14.101	114.101	2.80	114.101	9046131141010
100	14	9.08	27	34	160	45	14.102	114.102	2.80	114.102	9046131141020
100	16	2.01	27	34	160	48	16.100	118.100	2.80	116.100	9046131161000
100	16	4.15	27	34	160	48	16.101	118.101	2.80	116.101	9046131161010
100	16	9.08	27	34	160	48	16.102	118.102	2.80	116.102	9046131161020
100	18	2.01	33	42	160	48	18.100	118.100	3.20	118.100	9046131181000
100	18	4.15	33	42	160	48	18.101	118.101	3.20	118.101	9046131181010
100	18	9.08	33	42	160	48	18.102	118.102	3.20	118.102	9046131181020
100	20	4.15	33	42	160	50	20.100	120.100	3.10	120.100	9046131201000
100	20	9.08	33	42	160	50	20.101	120.101	3.10	120.101	9046131201010
100	20	16.62	33	42	160	50	20.102	120.102	3.10	120.102	9046131201020
100	25	4.15	44	53	160	56	25.100	125.100	3.90	125.100	9046131251000
100	25	9.08	44	53	160	56	25.101	125.101	3.90	125.101	9046131251010
100	25	16.62	44	53	160	56	25.102	125.102	3.90	125.102	9046131251020
100	32	4.15	44	53	160	60	32.100	132.100	3.70	132.100	9046131321000
100	32	9.08	44	53	160	60	32.101	132.101	3.70	132.101	9046131321010
100	32	16.62	44	53	160	60	32.102	132.102	3.70	132.102	9046131321020

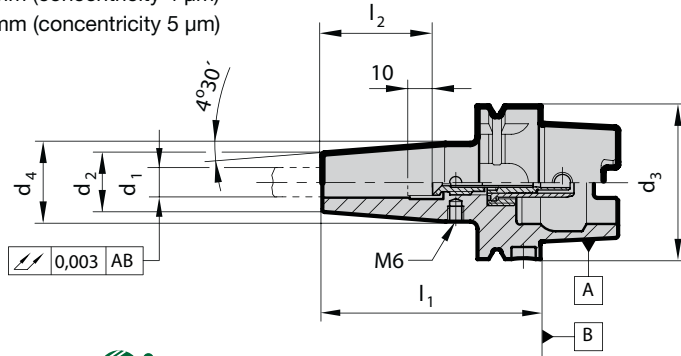
MQL 2-channel shrink fit chucks HSK-A for automatic tool change

Product information

- to Gühring MQL standard
- for 2-channel-systems
- balancing quality: G6.3 / 15,000 rev./min
- incl. balancing thread 4xM6/6xM6
- for tool shank tolerance h6
- also available in the lengths
l1 = 120 mm (concentricity 4 µm)
and 160 mm (concentricity 5 µm)

Scope of delivery

- incl. MQL adjustment screw Series no. 4621
and MQL coolant supply set Series no. 4623
- special dimensions on request



Series no. 4614											EDP Number
HSK-A d3	for shank Ø d1 h6 mm	A mm²	d2 mm	d4 mm	l1 mm	l2 mm	incl. setting screw no. 4621 ...	incl. cool. deliv. set 4623 ...	kg	Code no.	
32	6	2.01	21	25.5	80	36	6.032	12.032	0.30	6.032	9046140060320
32	6	4.15	21	25.5	80	36	6.132	12.132	0.30	6.132	9046140061320
32	8	2.01	21	25.5	80	36	8.032	12.032	0.30	8.032	9046140080320
32	8	4.15	21	25.5	80	36	8.132	12.132	0.30	8.132	9046140081320
32	10	2.01	24	31.7	85	40	10.032	12.032	0.30	10.032	9046140100320
32	10	4.15	24	31.7	85	40	10.132	12.132	0.30	10.132	9046140101320
32	12	2.01	24	32.3	90	45	12.032	12.032	0.30	12.032	9046140120320
32	12	4.15	24	32.3	90	45	12.132	12.132	0.30	12.132	9046140121320
40	6	2.01	21	27	80	36	6.040	16.040	0.40	6.040	9046140060400
40	6	4.15	21	27	80	36	6.140	16.140	0.40	6.140	9046140061400
40	8	2.01	21	27	80	36	8.040	16.040	0.40	8.040	9046140080400
40	8	4.15	21	27	80	36	8.140	16.140	0.40	8.140	9046140081400
40	10	2.01	24	32	80	40	10.040	16.040	0.50	10.040	9046140100400
40	10	4.15	24	32	80	40	10.140	16.140	0.50	10.140	9046140101400
40	12	2.01	24	32	90	45	12.040	16.040	0.50	12.040	9046140120400
40	12	4.15	24	32	90	45	12.140	16.140	0.50	12.140	9046140121400
40	12	9.08	24	32	90	45	12.240	16.240	0.50	12.240	9046140122400
40	14	2.01	27	33.5	90	45	14.040	16.040	0.60	14.040	9046140140400
40	14	4.15	27	33.5	90	45	14.140	16.140	0.60	14.140	9046140141400
40	14	9.08	27	33.5	90	45	14.240	16.240	0.60	14.240	9046140142400
40	16	2.01	27	33.5	90	48	16.040	16.040	0.50	16.040	9046140160400
40	16	4.15	27	33.5	90	48	16.140	16.140	0.50	16.140	9046140161400
40	16	9.08	27	33.5	90	48	16.240	16.240	0.50	16.240	9046140162400
50	6	2.01	21	27	80	36	6.050	10.050	0.60	6.050	9046140060500
50	6	4.15	21	27	80	36	6.150	10.150	0.60	6.150	9046140061500
50	8	2.01	21	27	80	36	8.050	10.050	0.60	8.050	9046140080500
50	8	4.15	21	27	80	36	8.150	10.150	0.60	8.150	9046140081500
50	10	2.01	24	32	85	40	10.050	10.050	0.70	10.050	9046140100500
50	10	4.15	24	32	85	40	10.150	10.150	0.70	10.150	9046140101500
50	12	2.01	24	32	90	45	12.050	18.050	0.70	12.050	9046140120500
50	12	4.15	24	32	90	45	12.150	20.050	0.70	12.150	9046140121500
50	12	9.08	24	32	90	45	12.250	20.150	0.70	12.250	9046140122500
50	14	2.01	27	34	90	45	14.050	18.050	0.70	14.050	9046140140500
50	14	4.15	27	34	90	45	14.150	20.050	0.70	14.150	9046140141500
50	14	9.08	27	34	90	45	14.250	20.150	0.70	14.250	9046140142500
50	16	2.01	27	34	95	48	16.050	18.050	0.70	16.050	9046140160500
50	16	4.15	27	34	95	48	16.150	20.050	0.70	16.150	9046140161500
50	16	9.08	27	34	95	48	16.250	20.150	0.70	16.250	9046140162500
50	18	2.01	33	41.5	95	48	18.050	18.050	0.90	18.050	9046140180500
50	18	4.15	33	41.5	95	48	18.150	20.050	0.90	18.150	9046140181500
50	18	9.08	33	41.5	95	48	18.250	20.150	0.90	18.250	9046140182500
50	20	4.15	33	41.5	100	50	20.050	20.050	0.90	20.050	9046140200500

MQL 2-channel shrink fit chucks HSK-A for automatic tool change



Series no.

4614

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. cool. deliv. set 4623 ...	kg	Code no.	EDP Number
50	20	9.08	33	41.5	100	50	20.150	20.150	0.90	20.150	9046140201500
50	20	16.62	33	41.5	100	50	20.250	20.250	0.90	20.250	9046140202500
63	6	2.01	21	27	80	36	6.100	10.063	0.70	6.063	9046140060630
63	6	4.15	21	27	80	36	6.101	10.163	0.70	6.163	9046140061630
63	8	2.01	21	27	80	36	8.100	10.063	0.70	8.063	9046140080630
63	8	4.15	21	27	80	36	8.101	10.163	0.70	8.163	9046140081630
63	10	2.01	24	32	85	40	10.100	10.063	0.70	10.063	9046140100630
63	10	4.15	24	32	85	40	10.101	10.163	0.70	10.163	9046140101630
63	12	2.01	24	32	90	45	12.100	18.063	0.80	12.063	9046140120630
63	12	4.15	24	32	90	45	12.101	20.063	0.80	12.163	9046140121630
63	12	9.08	24	32	90	45	12.102	20.163	0.80	12.263	9046140122630
63	14	2.01	27	34	90	45	14.100	18.063	0.80	14.063	9046140140630
63	14	4.15	27	34	90	45	14.101	20.063	0.80	14.163	9046140141630
63	14	9.08	27	34	90	45	14.102	20.163	0.80	14.263	9046140142630
63	16	2.01	27	34	95	48	16.100	18.063	0.90	16.063	9046140160630
63	16	4.15	27	34	95	48	16.101	20.063	0.90	16.163	9046140161630
63	16	9.08	27	34	95	48	16.102	20.163	0.90	16.263	9046140162630
63	18	2.01	33	42	95	48	18.100	18.063	0.90	18.063	9046140180630
63	18	4.15	33	42	95	48	18.101	20.063	0.90	18.163	9046140181630
63	18	9.08	33	42	95	48	18.102	20.163	0.90	18.263	9046140182630
63	20	4.15	33	42	100	50	20.100	20.063	1.00	20.063	9046140200630
63	20	9.08	33	42	100	50	20.101	20.163	1.00	20.163	9046140201630
63	20	16.62	33	42	100	50	20.102	20.263	1.00	20.263	9046140202630
63	25	4.15	44	52.5	115	56	25.100	32.063	1.00	25.063	9046140250630
63	25	9.08	44	52.5	115	56	25.101	32.163	1.00	25.163	9046140251630
63	25	16.62	44	52.5	115	56	25.102	32.263	1.00	25.263	9046140252630
63	32	4.15	44	52.5	120	60	32.100	32.063	1.10	32.063	9046140320630
63	32	9.08	44	52.5	120	60	32.101	32.163	1.10	32.163	9046140321630
63	32	16.62	44	52.5	120	60	32.102	32.263	1.10	32.263	9046140322630
63	6	2.01	21	27	120	36	6.032	208.063	0.90	206.063	9046142060630
63	6	4.15	21	27	120	36	6.132	208.163	0.90	206.163	9046142061630
63	8	2.01	21	27	120	36	8.040	208.063	1.00	208.063	9046142080630
63	8	4.15	21	27	120	36	8.140	208.163	1.00	208.163	9046142081630
63	10	2.01	24	32	120	40	10.050	210.063	1.10	210.063	9046142100630
63	10	4.15	24	32	120	40	10.150	210.063	1.10	210.163	9046142101630
63	12	2.01	24	32	120	45	12.100	214.063	1.20	212.063	9046142120630
63	12	4.15	24	32	120	45	12.101	214.163	1.20	212.163	9046142121630
63	12	9.08	24	32	120	45	12.102	214.263	1.20	212.263	9046142122630
63	14	2.01	27	34	120	45	14.100	214.063	1.20	214.063	9046142140630
63	14	4.15	27	34	120	45	14.101	214.163	1.20	214.163	9046142141630
63	14	9.08	27	34	120	45	14.102	214.263	1.20	214.263	9046142142630
63	16	2.01	27	34	120	48	16.100	218.063	1.20	216.063	9046142160630
63	16	4.15	27	34	120	48	16.101	218.163	1.20	216.163	9046142161630
63	16	9.08	27	34	120	48	16.102	218.263	1.20	216.263	9046142162630
63	18	2.01	33	42	120	48	18.100	218.063	1.40	218.063	9046142180630
63	18	4.15	33	42	120	48	18.101	218.163	1.40	218.163	9046142181630
63	18	9.08	33	42	120	48	18.102	218.263	1.40	218.263	9046142182630
63	20	4.15	33	42	120	50	20.100	220.063	1.40	220.063	9046142200630
63	20	9.08	33	42	120	50	20.101	220.163	1.40	220.163	9046142201630
63	20	16.62	33	42	120	50	20.102	220.263	1.40	220.263	9046142202630
63	6	2.01	21	27	160	36	6.032	108.063	0.80	106.063	9046141060630
63	6	4.15	21	27	160	36	6.132	108.163	0.80	106.163	9046141061630
63	8	2.01	21	27	160	36	8.040	108.063	0.80	108.063	9046141080630
63	8	4.15	21	27	160	36	8.140	108.163	0.80	108.163	9046141081630
63	10	2.01	24	32	160	40	10.050	110.063	0.90	110.063	9046141100630
63	10	4.15	24	32	160	40	10.150	110.163	0.90	110.163	9046141101630
63	12	2.01	24	32	160	45	12.100	114.063	0.90	112.063	9046141120630
63	12	4.15	24	32	160	45	12.101	114.163	0.90	112.163	9046141121630
63	12	9.08	24	32	160	45	12.102	114.263	0.90	112.263	9046141122630
63	14	2.01	27	34	160	45	14.100	114.063	1.00	114.063	9046141140630
63	14	4.15	27	34	160	45	14.101	114.163	1.00	114.163	9046141141630
63	14	9.08	27	34	160	45	14.102	114.263	1.00	114.263	9046141142630

MQL 2-channel shrink fit chucks HSK-A for automatic tool change



Series no.

4614

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. cool. deliv. set 4623 ...	kg	Code no.	EDP Number
63	16	2.01	27	34	160	48	16.100	118.063	1.00	116.063	9046141160630
63	16	4.15	27	34	160	48	16.101	118.163	1.00	116.163	9046141161630
63	16	9.08	27	34	160	48	16.102	118.263	1.00	116.263	9046141162630
63	18	2.01	33	42	160	48	18.100	118.063	1.20	118.063	9046141180630
63	18	4.15	33	42	160	48	18.101	118.163	1.20	118.163	9046141181630
63	18	9.08	33	42	160	48	18.102	118.263	1.20	118.263	9046141182630
63	20	4.15	33	42	160	50	20.100	120.063	1.20	120.063	9046141200630
63	20	9.08	33	42	160	50	20.101	120.163	1.20	120.163	9046141201630
63	20	16.62	33	42	160	50	20.102	120.263	1.20	120.263	9046141202630
63	25	4.15	44	52.5	160	56	25.100	125.063	1.80	125.063	9046141250630
63	25	9.08	44	52.5	160	56	25.101	125.163	1.80	125.163	9046141251630
63	25	16.62	44	52.5	160	56	25.102	125.263	1.80	125.263	9046141252630
63	32	4.15	44	52.5	160	60	32.100	132.063	1.70	132.063	9046141320630
63	32	9.08	44	52.5	160	60	32.101	132.163	1.70	132.163	9046141321630
63	32	16.62	44	52.5	160	60	32.102	132.263	1.70	132.263	9046141322630
80	6	2.01	21	27	85	36	6.100	10.080	1.30	6.080	9046140060800
80	6	4.15	21	27	85	36	6.101	10.180	1.30	6.180	9046140061800
80	8	2.01	21	27	85	36	8.100	10.080	1.30	8.080	9046140080800
80	8	4.15	21	27	85	36	8.101	10.180	1.30	8.180	9046140081800
80	10	2.01	24	32	90	40	10.100	10.080	1.40	10.080	9046140100800
80	10	4.15	24	32	90	40	10.101	10.180	1.40	10.180	9046140101800
80	12	2.01	24	32	95	45	12.100	18.080	1.40	12.080	9046140120800
80	12	4.15	24	32	95	45	12.101	32.080	1.40	12.180	9046140121800
80	12	9.08	24	32	95	45	12.102	32.180	1.40	12.280	9046140122800
80	14	2.01	27	34	95	45	14.100	18.080	1.50	14.080	9046140140800
80	14	4.15	27	34	95	45	14.101	32.080	1.50	14.180	9046140141800
80	14	9.08	27	34	95	45	14.102	32.180	1.50	14.280	9046140142800
80	16	2.01	27	34	100	48	16.100	18.080	1.50	16.080	9046140160800
80	16	4.15	27	34	100	48	16.101	32.080	1.50	16.180	9046140161800
80	16	9.08	27	34	100	48	16.102	32.180	1.50	16.280	9046140162800
80	18	2.01	33	42	100	48	18.100	18.080	1.70	18.080	9046140180800
80	18	4.15	33	42	100	48	18.101	32.080	1.70	18.180	9046140181800
80	18	9.08	33	42	100	48	18.102	32.180	1.70	18.280	9046140182800
80	20	4.15	33	42	105	50	20.100	32.080	1.70	20.080	9046140200800
80	20	9.08	33	42	105	50	20.101	32.180	1.70	20.180	9046140201800
80	20	16.62	33	42	105	50	20.102	32.280	1.70	20.280	9046140202800
80	25	4.15	44	53	115	56	25.100	32.080	2.20	25.080	9046140250800
80	25	9.08	44	53	115	56	25.101	32.180	2.20	25.180	9046140251800
80	25	16.62	44	53	115	56	25.102	32.280	2.20	25.280	9046140252800
80	32	4.15	44	53	120	60	32.100	32.080	2.10	32.080	9046140320800
80	32	9.08	44	53	120	60	32.101	32.180	2.10	32.180	9046140321800
80	32	16.62	44	53	120	60	32.102	32.280	2.10	32.280	9046140322800
100	6	2.01	21	27	85	36	6.100	10.100	2.10	6.100	9046140061000
100	6	4.15	21	27	85	36	6.101	10.101	2.10	6.101	9046140061010
100	8	2.01	21	27	85	36	8.100	10.100	2.20	8.100	9046140081000
100	8	4.15	21	27	85	36	8.101	10.101	2.20	8.101	9046140081010
100	10	2.01	24	32	90	40	10.100	10.100	2.30	10.100	9046140101000
100	10	4.15	24	32	90	40	10.101	10.101	2.30	10.101	9046140101010
100	12	2.01	24	32	95	45	12.100	18.100	2.30	12.100	9046140121000
100	12	4.15	24	32	95	45	12.101	32.100	2.30	12.101	9046140121010
100	12	9.08	24	32	95	45	12.102	32.101	2.30	12.102	9046140121020
100	14	2.01	27	34	95	45	14.100	18.100	2.30	14.100	9046140141000
100	14	4.15	27	34	95	45	14.101	32.100	2.30	14.101	9046140141010
100	14	9.08	27	34	95	45	14.102	32.101	2.30	14.102	9046140141020
100	16	2.01	27	34	100	48	16.100	18.100	2.30	16.100	9046140161000
100	16	4.15	27	34	100	48	16.101	32.100	2.30	16.101	9046140161010
100	16	9.08	27	34	100	48	16.102	32.101	2.30	16.102	9046140161020
100	18	2.01	33	42	100	48	18.100	18.100	2.50	18.100	9046140181000
100	18	4.15	33	42	100	48	18.101	32.100	2.50	18.101	9046140181010
100	18	9.08	33	42	100	48	18.102	32.101	2.50	18.102	9046140181020
100	20	4.15	33	42	105	50	20.100	32.100	2.50	20.100	9046140201000
100	20	9.08	33	42	105	50	20.101	32.101	2.50	20.101	9046140201010
100	20	16.62	33	42	105	50	20.102	32.102	2.50	20.102	9046140201020
100	25	4.15	44	53	115	56	25.100	32.100	3.00	25.100	9046140251000

MQL 2-channel

MQL 2-channel shrink fit chucks HSK-A for automatic tool change

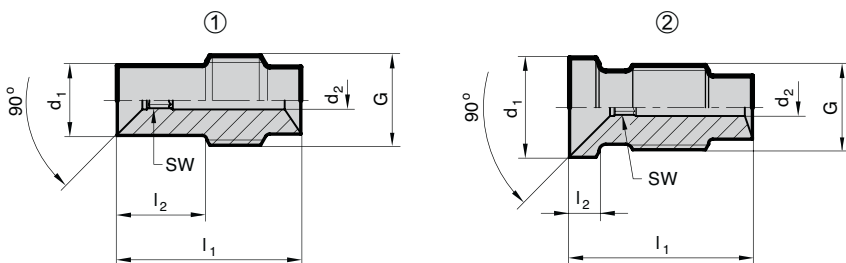
Series no.

4614

HSK-A d ₃	for shank Ø d ₁ h ₆ mm	A mm ²	d ₂ mm	d ₄ mm	l ₁ mm	l ₂ mm	incl. setting screw no. 4621 ...	incl. cool. deliv. set 4623 ...	kg	Code no.	EDP Number
100	25	9.08	44	53	115	56	25.101	32.101	3.00	25.101	9046140251010
100	25	16.62	44	53	115	56	25.102	32.102	3.00	25.102	9046140251020
100	32	4.15	44	53	120	60	32.100	32.100	3.00	32.100	9046140321000
100	32	9.08	44	53	120	60	32.101	32.101	3.00	32.101	9046140321010
100	32	16.62	44	53	120	60	32.102	32.102	3.00	32.102	9046140321020
100	6	2.01	21	27	160	36	6.032	108.100	2.60	106.100	9046141061000
100	6	4.15	21	27	160	36	6.132	108.101	2.60	106.101	9046141061010
100	8	2.01	21	27	160	36	8.040	108.100	2.50	108.100	9046141081000
100	8	4.15	21	27	160	36	8.140	108.101	2.50	108.101	9046141081010
100	10	2.01	24	32	160	40	10.050	110.100	2.70	110.100	9046141101000
100	10	4.15	24	32	160	40	10.150	110.101	2.70	110.101	9046141101010
100	12	2.01	24	32	160	45	12.100	114.100	2.70	112.100	9046141121000
100	12	4.15	24	32	160	45	12.101	114.101	2.70	112.101	9046141121010
100	12	9.08	24	32	160	45	12.102	114.102	2.70	112.102	9046141121020
100	14	2.01	27	34	160	45	14.100	114.100	2.80	114.100	9046141141000
100	14	4.15	27	34	160	45	14.101	114.101	2.80	114.101	9046141141010
100	14	9.08	27	34	160	45	14.102	114.102	2.80	114.102	9046141141020
100	16	2.01	27	34	160	48	16.100	118.100	2.80	116.100	9046141161000
100	16	4.15	27	34	160	48	16.101	118.101	2.80	116.101	9046141161010
100	16	9.08	27	34	160	48	16.102	118.102	2.80	116.102	9046141161020
100	18	2.01	33	42	160	48	18.100	118.100	3.20	118.100	9046141181000
100	18	4.15	33	42	160	48	18.101	118.101	3.20	118.101	9046141181010
100	18	9.08	33	42	160	48	18.102	118.102	3.20	118.102	9046141181020
100	20	4.15	33	42	160	50	20.100	120.100	3.10	120.100	9046141201000
100	20	9.08	33	42	160	50	20.101	120.101	3.10	120.101	9046141201010
100	20	16.62	33	42	160	50	20.102	120.102	3.10	120.102	9046141201020
100	25	4.15	44	53	160	56	25.100	125.100	3.90	125.100	9046141251000
100	25	9.08	44	53	160	56	25.101	125.101	3.90	125.101	9046141251010
100	25	16.62	44	53	160	56	25.102	125.102	3.90	125.102	9046141251020
100	32	4.15	44	53	160	60	32.100	132.100	3.70	132.100	9046141321000
100	32	9.08	44	53	160	60	32.101	132.101	3.70	132.101	9046141321010
100	32	16.62	44	53	160	60	32.102	132.102	3.70	132.102	9046141321020

Product information

- to Gühring MQL standard
- for 2-channel-systems
- for the use of tool shanks to Gühring MQL standard
- black color, corrosion protective coating to visually identify the 2-channel system



Series no. 4621										EDP Number
HSK-A	holder Ø d1 mm	for A mm²	d2 mm	l1 mm	l2 mm	G	SW	type	Code no.	
32	6	2.01	2	25.8	2.5	M5x0.8	1.5	2	6.032	9046210060320
32	6	4.15	2.9	25.8	2.5	M5x0.8	2	2	6.132	9046210061320
32	8	2.01	2	21	3	M7x1	1.5	2	8.032	9046210080320
32	8	4.15	2.9	21	3	M7x1	2	2	8.132	9046210081320
32	10	2.01	2	22	3.5	M8x1	1.5	2	10.032	9046210100320
32	10	4.15	2.9	22	3.5	M8x1	2	2	10.132	9046210101320
32	12	2.01	2	22	3.5	M10x1	1.5	2	12.032	9046210120320
32	12	4.15	2.9	22	3.5	M10x1	2	2	12.132	9046210121320
40	6	2.01	2	26.5	11	M7x1	1.5	1	6.040	9046210060400
40	6	4.15	2.9	26.5	11	M7x1	2	1	6.140	9046210061400
40	8	2.01	2	26.5	3	M7x1	1.5	2	8.040	9046210080400
40	8	4.15	2.9	26.5	3	M7x1	2	2	8.140	9046210081400
40	10	2.01	2	22.2	3.5	M8x1	1.5	2	10.040	9046210100400
40	10	4.15	2.9	22.2	3.5	M8x1	2	2	10.140	9046210101400
40	12	2.01	2	26.5	3.5	M10x1	1.5	2	12.040	9046210120400
40	12	4.15	2.9	26.5	3.5	M10x1	2	2	12.140	9046210121400
40	12	9.08	4.1	26.5	3.5	M10x1	3	2	12.240	9046210122400
40	14	2.01	2	26.5	4.5	M10x1	1.5	2	14.040	9046210140400
40	14	4.15	2.9	26.5	4.5	M10x1	2	2	14.140	9046210141400
40	14	9.08	4.1	26.5	4.5	M10x1	3	2	14.240	9046210142400
40	16	2.01	2	23.5	5.5	M12x1	1.5	2	16.040	9046210160400
40	16	4.15	2.9	23.5	5.5	M12x1	2	2	16.140	9046210161400
40	16	9.08	4.1	23.5	5.5	M12x1	3	2	16.240	9046210162400
50	6	2.01	2	22	10	M8x1	1.5	1	6.050	9046210060500
50	6	4.15	2.9	22	10	M8x1	2	1	6.150	9046210061500
50	8	2.01	2	22	3	M8x1	1.5	2	8.050	9046210080500
50	8	4.15	2.9	22	3	M8x1	2	2	8.150	9046210081500
50	10	2.01	2	23	3.5	M8x1	1.5	2	10.050	9046210100500
50	10	4.15	2.9	23	3.5	M8x1	2	2	10.150	9046210101500
50	12	2.01	2	23.7	3.5	M10x1	1.5	2	12.050	9046210120500
50	12	4.15	2.9	23.7	3.5	M10x1	2	2	12.150	9046210121500
50	12	9.08	4.1	23.7	3.5	M10x1	3	2	12.250	9046210122500
50	14	2.01	2	23.7	4.5	M10x1	1.5	2	14.050	9046210140500
50	14	4.15	2.9	23.7	4.5	M10x1	2	2	14.150	9046210141500
50	14	9.08	4.1	23.7	4.5	M10x1	3	2	14.250	9046210142500
50	16	2.01	2	25.7	5.5	M12x1	1.5	2	16.050	9046210160500
50	16	4.15	2.9	25.7	5.5	M12x1	2	2	16.150	9046210161500
50	16	9.08	4.1	25.7	5.5	M12x1	3	2	16.250	9046210162500
50	18	2.01	2	25.7	6.5	M12x1	1.5	2	18.050	9046210180500
50	18	4.15	2.9	25.7	6.5	M12x1	2	2	18.150	9046210181500
50	18	9.08	4.1	25.7	6.5	M12x1	3	2	18.250	9046210182500
50	20	4.15	2.9	27.5	6.5	M16x1	2	2	20.050	9046210200500
50	20	9.08	4.1	27.5	6.5	M16x1	3	2	20.150	9046210201500
50	20	16.62	5.4	27.5	6.5	M16x1	4	2	20.250	9046210202500

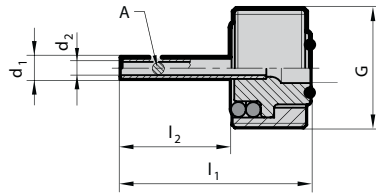
MQL 2-channel length setting screws for HSK-A

HSK-A	holder Ø d ₁ mm	 for A mm ²	d ₂ mm	l ₁ mm	l ₂ mm	G	SW	type	Series no.	4621
									Code no.	EDP Number
63/80/100	6	2.01	2	20.5	10	M10x1	1.5	1	6.100	9046210061000
63/80/100	6	4.15	2.9	20.5	10	M10x1	2	1	6.101	9046210061010
63/80/100	8	2.01	2	21.3	10	M10x1	1.5	1	8.100	9046210081000
63/80/100	8	4.15	2.9	21.3	10	M10x1	2	1	8.101	9046210081010
63/80/100	10	2.01	2	21.2	3.5	M10x1	1.5	2	10.100	9046210101000
63/80/100	10	4.15	2.9	21.2	3.5	M10x1	2	2	10.101	9046210101010
63/80/100	12	2.01	2	21.7	3.5	M10x1	1.5	2	12.100	9046210121000
63/80/100	12	4.15	2.9	21.7	3.5	M10x1	2	2	12.101	9046210121010
63/80/100	12	9.08	4.1	21.7	3.5	M10x1	3	2	12.102	9046210121020
63/80/100	14	2.01	2	21.8	4.5	M10x1	1.5	2	14.100	9046210141000
63/80/100	14	4.15	2.9	21.8	4.5	M10x1	2	2	14.101	9046210141010
63/80/100	14	9.08	4.1	21.8	4.5	M10x1	3	2	14.102	9046210141020
63/80/100	16	2.01	2	23.7	5.5	M12x1	1.5	2	16.100	9046210161000
63/80/100	16	4.15	2.9	23.7	5.5	M12x1	2	2	16.101	9046210161010
63/80/100	16	9.08	4.1	23.7	5.5	M12x1	3	2	16.102	9046210161020
63/80/100	18	2.01	2	23.8	6.5	M12x1	1.5	2	18.100	9046210181000
63/80/100	18	4.15	2.9	23.8	6.5	M12x1	2	2	18.101	9046210181010
63/80/100	18	9.08	4.1	23.8	6.5	M12x1	3	2	18.102	9046210181020
63/80/100	20	4.15	2.9	26.7	6.5	M16x1	2	2	20.100	9046210201000
63/80/100	20	9.08	4.1	26.7	6.5	M16x1	3	2	20.101	9046210201010
63/80/100	20	16.62	5.4	26.7	6.5	M16x1	4	2	20.102	9046210201020
63/80/100	25	4.15	2.9	30.6	10	M16x1	2	2	25.100	9046210251000
63/80/100	25	9.08	4.1	30.6	10	M16x1	3	2	25.101	9046210251010
63/80/100	25	16.62	5.4	30.6	10	M16x1	4	2	25.102	9046210251020
63/80/100	32	4.15	2.9	31.6	14	M16x1	2	2	32.100	9046210321000
63/80/100	32	9.08	4.1	31.6	14	M16x1	3	2	32.101	9046210321010
63/80/100	32	16.62	5.4	31.6	14	M16x1	4	2	32.102	9046210321020

MQL 2-channel coolant supply set HSK-A (filler)

Product information

- for MQL tool holders (hydraulic chucks and shrink fit chucks) to company standard
- for 2-channel-systems
- for tool holders with manual tool change
- sealed thanks to bypass system



Series no. 4622

for HSK-A	for clamp. Ø mm	A mm ²	d ₁ mm	d ₂ mm	l ₁ mm	l ₂ mm	G	for chuck length	Code no.	EDP Number
32	6- 12	2.01	1.9	1.6	26,5	20	M10x1	Standard	12.032	9046220120320
32	6- 12	4.15	2.8	2.3	26,5	20	M10x1	Standard	12.132	9046220121320
40	6-16	2.01	1.9	1.6	22.8	14.5	M12x1	Standard	16.040	9046220160400
40	6-16	4.15	2.8	2.3	22.8	14.5	M12x1	Standard	16.140	9046220161400
40	12-16	9.08	4	3.4	22.6	14.3	M12x1	Standard	16.240	9046220162400
50	6-10	2.01	1.9	1.6	26.3	16	M16x1.0	Standard	10.050	9046220100500
50	6-10	4.15	2.8	2.3	26.3	16	M16x1.0	Standard	10.150	9046220101500
50	12-18	2.01	1.9	1.6	24.2	13.9	M16x1.0	Standard	18.050	9046220180500
50	12-20	4.15	2.8	2.3	24.2	13.9	M16x1.0	Standard	20.050	9046220200500
50	12-20	9.08	4	3.4	24.2	13.9	M16x1.0	Standard	20.150	9046220201500
50	20	16.62	5.3	4.6	24.2	13.9	M16x1.0	Standard	20.250	9046220202500
63	6-10	2.01	1.9	1.6	26.4	14.1	M18x1.0	Standard	10.063	9046220100630
63	6-10	4.15	2.8	2.3	26.4	14.1	M18x1.0	Standard	10.163	9046220101630
63	12-18	2.01	1.9	1.6	25.3	13.0	M18x1.0	Standard	18.063	9046220180630
63	12-20	4.15	2.8	2.3	25.3	13.0	M18x1.0	Standard	20.063	9046220200630
63	12-20	9.08	4.0	3.4	25.3	13.0	M18x1.0	Standard	20.163	9046220201630
63	20	16.62	5.3	4.6	26.5	14.2	M18x1.0	Standard	20.263	9046220202630
63	25-32	4.15	2.8	2.3	30.6	18.3	M18x1.0	Standard	32.063	9046220320630
63	25-32	9.08	4.0	3.4	30.6	18.3	M18x1.0	Standard	32.163	9046220321630
63	25-32	16.62	5.3	4.6	30.6	18.3	M18x1.0	Standard	32.263	9046220322630
63	6-8	2.01	1.9	1.6	66.4	54.1	M18x1.0	120	208.063	9046222080630
63	6-8	4.15	2.8	2.3	66.4	54.1	M18x1.0	120	208.163	9046222081630
63	10	2.01	1.9	1.6	61.4	49.1	M18x1.0	120	210.063	9046222100630
63	10	4.15	2.8	2.3	61.4	49.1	M18x1.0	120	210.163	9046222101630
63	12-14	2.01	1.9	1.6	55.3	43.0	M18x1.0	120	214.063	9046222140630
63	12-14	4.15	2.8	2.3	55.3	43.0	M18x1.0	120	214.163	9046222141630
63	12-14	9.08	4.0	3.4	55.3	43.0	M18x1.0	120	214.263	9046222142630
63	16-18	2.01	1.9	1.6	50.3	38.0	M18x1.0	120	218.063	9046222180630
63	16-18	4.15	2.8	2.3	50.3	38.0	M18x1.0	120	218.163	9046222181630
63	16-18	9.08	4.0	3.4	50.3	38.0	M18x1.0	120	218.263	9046222182630
63	20	4.15	2.8	2.3	46.5	34.2	M18x1.0	120	220.063	9046222200630
63	20	9.08	4.0	3.4	46.5	34.2	M18x1.0	120	220.163	9046222201630
63	20	16.62	5.3	4.6	46.5	34.2	M18x1.0	120	220.263	9046222202630
63	6-8	2.01	1.9	1.6	106.4	94.1	M18x1.0	160	108.063	9046221080630
63	6-8	4.15	2.8	2.3	106.4	94.1	M18x1.0	160	108.163	9046221081630
63	10	2.01	1.9	1.6	101.4	89.1	M18x1.0	160	110.063	9046221100630
63	10	4.15	2.8	2.3	101.4	89.1	M18x1.0	160	110.163	9046221101630
63	12-14	2.01	1.9	1.6	95.3	83.0	M18x1.0	160	114.063	9046221140630
63	12-14	4.15	2.8	2.3	95.3	83.0	M18x1.0	160	114.163	9046221141630
63	12-14	9.08	4.0	3.4	95.3	83.0	M18x1.0	160	114.263	9046221142630
63	16-18	2.01	1.9	1.6	90.3	78.0	M18x1.0	160	118.063	9046221180630
63	16-18	4.15	2.8	2.3	90.3	78.0	M18x1.0	160	118.163	9046221181630
63	16-18	9.08	4.0	3.4	90.3	78.0	M18x1.0	160	118.263	9046221182630
63	20	4.15	2.8	2.3	86.5	74.2	M18x1.0	160	120.063	9046221200630
63	20	9.08	4.0	3.4	86.5	74.2	M18x1.0	160	120.163	9046221201630
63	20	16.62	5.3	4.6	86.5	74.2	M18x1.0	160	120.263	9046221202630
63	25	4.15	2.8	2.3	75.6	63.3	M18x1.0	160	125.063	9046221250630
63	25	9.08	4.0	3.4	75.6	63.3	M18x1.0	160	125.163	9046221251630
63	25	16.62	5.3	4.6	75.6	63.3	M18x1.0	160	125.263	9046221252630

MQL 2-channel



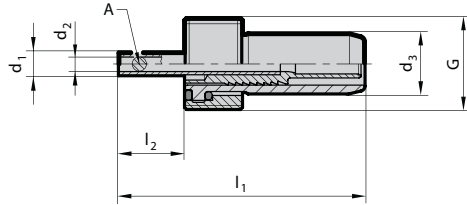
Series no.

4622

for HSK-A	for clamp. Ø mm	A mm ²	d ₁ mm	d ₂ mm	l ₁ mm	l ₂ mm	G	for chuck length	Code no.	EDP Number
63	32	4.15	2.8	2.3	70.6	58.3	M18x1.0	160	132.063	9046221320630
63	32	9.08	4.0	3.4	70.6	58.3	M18x1.0	160	132.163	9046221321630
63	32	16.62	5.3	4.6	70.6	58.3	M18x1.0	160	132.263	9046221322630
80	6-10	2.01	1.9	1.6	29.0	14.6	M20x1.5	Standard	10.080	9046220100800
80	6-10	4.15	2.8	2.3	29.0	14.6	M20x1.5	Standard	10.180	9046220101800
80	12-18	2.01	1.9	1.6	27.9	13.5	M20x1.5	Standard	18.080	9046220180800
80	12-32	4.15	2.8	2.3	27.9	13.5	M20x1.5	Standard	32.080	9046220320800
80	12-32	9.08	4.0	3.4	27.9	13.5	M20x1.5	Standard	32.180	9046220321800
80	20-32	16.62	5.3	4.6	28.4	14.0	M20x1.5	Standard	32.280	9046220322800
100	6-10	2.01	1.9	1.6	29.0	12.6	M24x1.5	Standard	10.100	9046220101000
100	6-10	4.15	2.8	2.3	29.0	12.6	M24x1.5	Standard	10.101	9046220101010
100	12-18	2.01	1.9	1.6	27.9	11.5	M24x1.5	Standard	18.100	9046220181000
100	12-32	4.15	2.8	2.3	27.9	11.5	M24x1.5	Standard	32.100	9046220321000
100	12-32	9.08	4.0	3.4	27.9	11.5	M24x1.5	Standard	32.101	9046220321010
100	20-32	16.62	5.3	4.6	28.4	12.0	M24x1.5	Standard	32.102	9046220321020
100	6-8	2.01	1.9	1.6	104.0	87.6	M24x1.5	160	108.100	9046221081000
100	6-8	4.15	2.8	2.3	104.0	87.6	M24x1.5	160	108.101	9046221081010
100	10	2.01	1.9	1.6	99.0	82.6	M24x1.5	160	110.100	9046221101000
100	10	4.15	2.8	2.3	99.0	82.6	M24x1.5	160	110.101	9046221101010
100	12-14	2.01	1.9	1.6	92.9	76.5	M24x1.5	160	114.100	9046221141000
100	12-14	4.15	2.8	2.3	92.9	76.5	M24x1.5	160	114.101	9046221141010
100	12-14	9.08	4.0	3.4	92.9	76.5	M24x1.5	160	114.102	9046221141020
100	16-18	2.01	1.9	1.6	87.9	71.5	M24x1.5	160	118.100	9046221181000
100	16-18	4.15	2.8	2.3	87.9	71.5	M24x1.5	160	118.101	9046221181010
100	16-18	9.08	4.0	3.4	87.9	71.5	M24x1.5	160	118.102	9046221181020
100	20	4.15	2.8	2.3	83.4	67.0	M24x1.5	160	120.100	9046221201000
100	20	9.08	4.0	3.4	83.4	67.0	M24x1.5	160	120.101	9046221201010
100	20	16.62	5.3	4.6	83.4	67.0	M24x1.5	160	120.102	9046221201020
100	25	4.15	2.8	2.3	73.4	57.0	M24x1.5	160	125.100	9046221251000
100	25	9.08	4.0	3.4	73.4	57.0	M24x1.5	160	125.101	9046221251010
100	25	16.62	5.3	4.6	73.4	57.0	M24x1.5	160	125.102	9046221251020
100	32	4.15	2.8	2.3	68.4	52.0	M24x1.5	160	132.100	9046221321000
100	32	9.08	4.0	3.4	68.4	52.0	M24x1.5	160	132.101	9046221321010
100	32	16.62	5.3	4.6	68.4	52.0	M24x1.5	160	132.102	9046221321020

Product information

- for MQL tool holders (hydraulic chucks and shrink fit chucks) to company standard
- for 2-channel-systems
- for tool holders with automatic tool change
- sealed thanks to bypass system
- "Crashsafe" design similar to DIN 69090-2 supply collar
- all dimensions to DIN 69895 unless stated

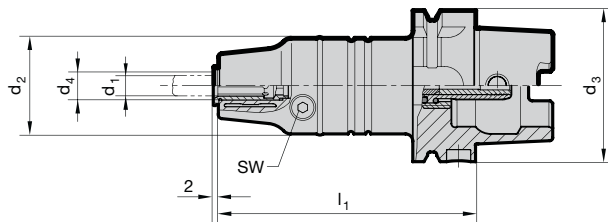


Series no.

4623

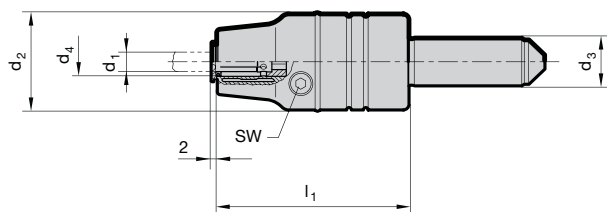
for HSK-A	for clamp. Ø mm	A mm ²	d ₁ mm	d ₂ mm	d ₃ mm	l ₁ mm	l ₂ mm	G	for chuck length	Code no.	EDP Number
32	6- 12	2.01	1.9	1.6	6	47	20.6	M10x1	Standard	12.032	9046230120320
32	6- 12	4.15	2.8	2.3	6	47	20.6	M10x1	Standard	12.132	9046230121320
40	6-16	2.01	1.9	1.6	8	43.3	14.5	M12x1	Standard	16.040	9046230160400
40	6-16	4.15	2.8	2.3	8	43.3	14.5	M12x1	Standard	16.140	9046230161400
40	12-16	9.08	4.0	3.4	8	43.1	14.3	M12x1	Standard	16.240	9046230162400
50	6-10	2.01	1.9	1.6	10	48.6	16.0	M16x1.0	Standard	10.050	9046230100500
50	6-10	4.15	2.8	2.3	10	48.6	16.0	M16x1.0	Standard	10.150	9046230101500
50	12-18	2.01	1.9	1.6	10	46.5	13.9	M16x1.0	Standard	18.050	9046230180500
50	12-20	4.15	2.8	2.3	10	46.5	13.9	M16x1.0	Standard	20.050	9046230200500
50	12-20	9.08	4.0	3.4	10	46.5	13.9	M16x1.0	Standard	20.150	9046230201500
50	20	16.62	5.3	4.6	10	46.5	13.9	M16x1.0	Standard	20.250	9046230202500
63	6-10	2.01	1.9	1.6	12	50.0	14.1	M18x1.0	Standard	10.063	9046230100630
63	6-10	4.15	2.8	2.3	12	50.0	14.1	M18x1.0	Standard	10.163	9046230101630
63	12-18	2.01	1.9	1.6	12	48.8	13.0	M18x1.0	Standard	18.063	9046230180630
63	12-20	4.15	2.8	2.3	12	48.8	13.0	M18x1.0	Standard	20.063	9046230200630
63	12-20	9.08	4.0	3.4	12	48.8	13.0	M18x1.0	Standard	20.163	9046230201630
63	20	16.62	5.3	4.6	12	50.0	14.2	M18x1.0	Standard	20.263	9046230202630
63	25-32	4.15	2.8	2.3	12	54.1	18.3	M18x1.0	Standard	32.063	9046230320630
63	25-32	9.08	4.0	3.4	12	54.1	18.3	M18x1.0	Standard	32.163	9046230321630
63	25-32	16.62	5.3	4.6	12	54.1	18.3	M18x1.0	Standard	32.263	9046230322630
63	6-8	2.01	1.9	1.6	12	90.0	54.1	M18x1.0	120	208.063	9046232080630
63	6-8	4.15	2.8	2.3	12	90.0	54.1	M18x1.0	120	208.163	9046232081630
63	10	2.01	1.9	1.6	12	85.0	49.1	M18x1.0	120	210.063	9046232100630
63	10	4.15	2.8	2.3	12	85.0	49.1	M18x1.0	120	210.163	9046232101630
63	12-14	2.01	1.9	1.6	12	78.8	43.0	M18x1.0	120	214.063	9046232140630
63	12-14	4.15	2.8	2.3	12	78.8	43.0	M18x1.0	120	214.163	9046232141630
63	12-14	9.08	4.0	3.4	12	78.8	43.0	M18x1.0	120	214.263	9046232142630
63	16-18	2.01	1.9	1.6	12	73.8	38.0	M18x1.0	120	218.063	9046232180630
63	16-18	4.15	2.8	2.3	12	73.8	38.0	M18x1.0	120	218.163	9046232181630
63	16-18	9.08	4.0	3.4	12	73.8	38.0	M18x1.0	120	218.263	9046232182630
63	20	4.15	2.8	2.3	12	70.0	34.2	M18x1.0	120	220.063	9046232200630
63	20	9.08	4.0	3.4	12	70.0	34.2	M18x1.0	120	220.163	9046232201630
63	20	16.62	5.3	4.6	12	70.0	34.2	M18x1.0	120	220.263	9046232202630
63	6-8	2.01	1.9	1.6	12	130.0	94.1	M18x1.0	160	108.063	9046231080630
63	6-8	4.15	2.8	2.3	12	130.0	94.1	M18x1.0	160	108.163	9046231081630
63	10	2.01	1.9	1.6	12	125.0	89.1	M18x1.0	160	110.063	9046231100630
63	10	4.15	2.8	2.3	12	125.0	89.1	M18x1.0	160	110.163	9046231101630
63	12-14	2.01	1.9	1.6	12	118.8	83.0	M18x1.0	160	114.063	9046231140630
63	12-14	4.15	2.8	2.3	12	118.8	83.0	M18x1.0	160	114.163	9046231141630
63	12-14	9.08	4.0	3.4	12	118.8	83.0	M18x1.0	160	114.263	9046231142630
63	16-18	2.01	1.9	1.6	12	113.8	78.0	M18x1.0	160	118.063	9046231180630
63	16-18	4.15	2.8	2.3	12	113.8	78.0	M18x1.0	160	118.163	9046231181630
63	16-18	9.08	4.0	3.4	12	113.8	78.0	M18x1.0	160	118.263	9046231182630
63	20	4.15	2.8	2.3	12	110.0	74.2	M18x1.0	160	120.063	9046231200630
63	20	9.08	4.0	3.4	12	110.0	74.2	M18x1.0	160	120.163	9046231201630
63	20	16.62	5.3	4.6	12	110.0	74.2	M18x1.0	160	120.263	9046231202630

MQL 2-channel

**GÜHROSync**[illegible]

Scope of delivery

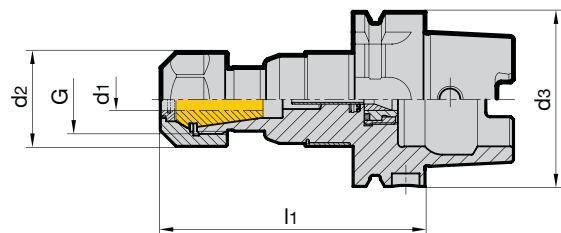
- incl. hexagon clamping key Series no. 4912
- incl. adjustment key for MQL adjustment screws
- order MQL adjustment screw Series no. 4305 separately
- order reduction bushes Series no. 4605 or 4606 separately

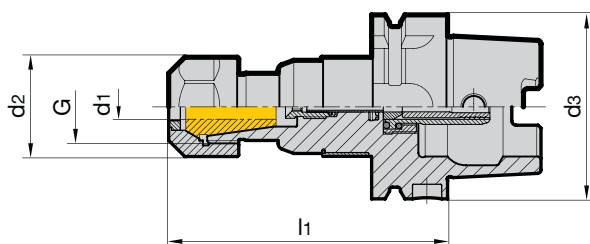


Series no. 4524

- for MQL single and double channel systems
- compensate synchronisation errors
- minimal length compensation $\pm 0,15$ mm in tension and compression direction balances very small pitch differences between synchro spindle and tap, which can cause high frictional forces on the thread flanks and increase thread quality and tool life
- length-setting screw allows 2 to 3 mm readjustment
- MQL pressure up to max. 10 bar
- mounted MQL coolant supply pipe
- Gühring MQL identifiable by green colored ring
- HSK-A to ISO 12164-1/DIN 69893-1

- incl. MQL coolant supply set Series no. 4513 for manual tool change (filler)
- incl. sealed IC/ER clamping nut Series no. 4306 (*see torque)
- incl. adjustment key for MQL adjustment screw
- order MQL adjustment screw Series no. 4305 separately
- order sealing washer Series no. 4335 separately
- order collet Series no. 4308 separately
- order incl. clamping key Series no. 4913 for ER retaining nut separately

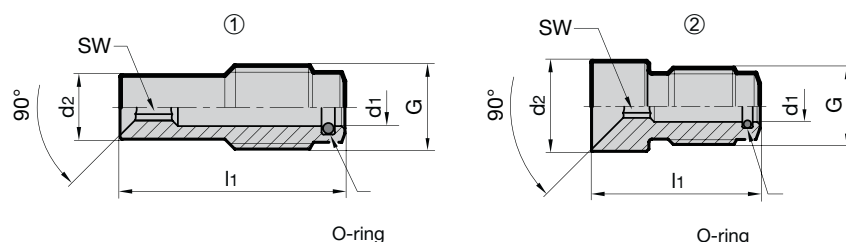
Series no. 4298

GM 300 **GUHRING** 145

Scope of delivery

- MQL setting screws with internal cone
- for MQL single and double channel systems
- for MQL taps with external cone
- for MQL hydrosynchro tapping chucks
Series no. 4602, 4603 4604 und 4524
- for MQL synchro tapping chucks
Series no. 4298, 4330 und 4341
- position setting screw on tap shank
- length-setting screw allows 3 mm readjustment
with hexagon chuck key Series no. 4912, type „B“

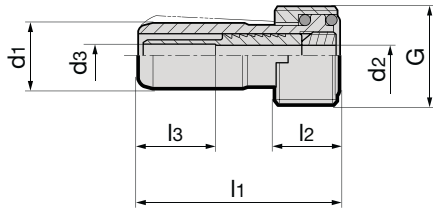
- with O-ring for secure seal

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MQL coolant supply set for 2 channel systems HSK-A

Product information

- to MQL standard
- version sim. to DIN 69895
- for MQL 2-channel systems
- for tool holders with automatic tool clamping
- "Crashsafe" version similar to DIN 69090-2 neck design
- dimensions d_2 and l_1 based on installed condition



Series no.

4511

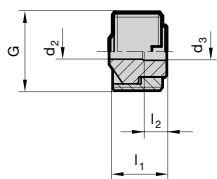
for HSK-A	d_1 mm	d_2 mm	d_3 mm	l_1 mm	l_2 mm	l_3 mm	G	EDP Number
32	6.00	3.00	4.00	26.00	5.50	-	M10x1	9045110100320
40	8.00	3.80	5.40	29.50	7.50	-	M12x1	9045110120400
50	10.00	3.60	4.00	33.00	9.50	21.00	M16x1	9045110160500
63	12.00	3.60	4.00	36.50	11.50	13.80	M18x1	9045110180630
80	14.00	3.60	4.00	40.00	13.50	14.00	M20x1.5	9045110200800
100	16.00	3.60	4.00	44.00	15.50	14.00	M24x1.5	9045110241000

MQL 2-channel

MQL coolant supply set HSK-A (filler)

Product information

- to MQL standard
- for internal cooling MQL 1 and 2 channel systems
- for tool holders with manual tool clamping
- optimally sealed for MQL clamping set
- dimensions d_2 and l_1 based on installed condition



Series no.

4513

for HSK-A	d_2 mm	d_3 mm	l_1 mm	l_2 mm	G	for MQL or IC	EDP Number
32	3.00	3.00	6.30	-	M10x1	MQL-1C/2-C	9045130100320
40	3.60	4.00	8.30	5.00	M12x1	MQL-1C/2-C	9045130120400
50	3.60	4.00	10.30	5.00	M16x1	MQL-1C/2-C	9045130160500
50	5.00	5.00	10.30	-	M16x1	IC	9045130161500
63	3.60	4.00	12.30	5.00	M18x1	MQL-1C/2-C	9045130180630
63	6.00	6.00	12.30	-	M18x1	IC	9045130181630
80	3.60	4.00	14.40	5.00	M20x1.5	MQL-1C/2-C	9045130200800
80	8.00	8.00	14.40	-	M20x1.5	IC	9045130201800
100	3.60	4.00	16.40	5.00	M24x1.5	MQL-1C/2-C	9045130241000
100	8.00	8.00	16.40	-	M24x1.5	IC	9045130241010

4-POINT CLAMPING TECHNOLOGY FOR MQL

TECHNICAL INFORMATION AND ADVANTAGES

GÜHROCLAMP



Our 4-point clamping system is suitable for radial manual clamping. Primarily designed for installation in spindles (short drilling spindles, multiple-spindle drilling heads).



Advantages:

- simple and hence more economic spindle manufacture
- short, small diameter spindles with constricted spindle bearing spacing
- suitable for a pressure up to 160 bar (for conventional internal cooling)
- fast response time thanks to uninterrupted MQL supply
- compatible installation contour and application of our 4-point clamping set for conventional cooling
- fixed installation through screwed joint, prebalanced, good rotation symmetry, therefore high-speed capability

GÜHROCLAMP MQL 4-point clamping sets for MQL and IC

Product information

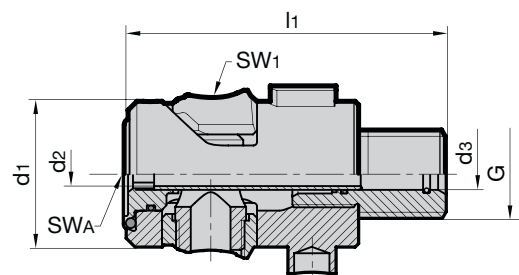
- for radial manual HSK tool clamping
- universal application for MQL and high-pressure IC
- the central and coaxial MQL supply with constant internal diameter prevents coolant from consolidating to DIN 69090-2
- for a coolant pressure up to 160 bar
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- complete as shown in illustration
- installation and operating instructions



GÜHROCLAMP



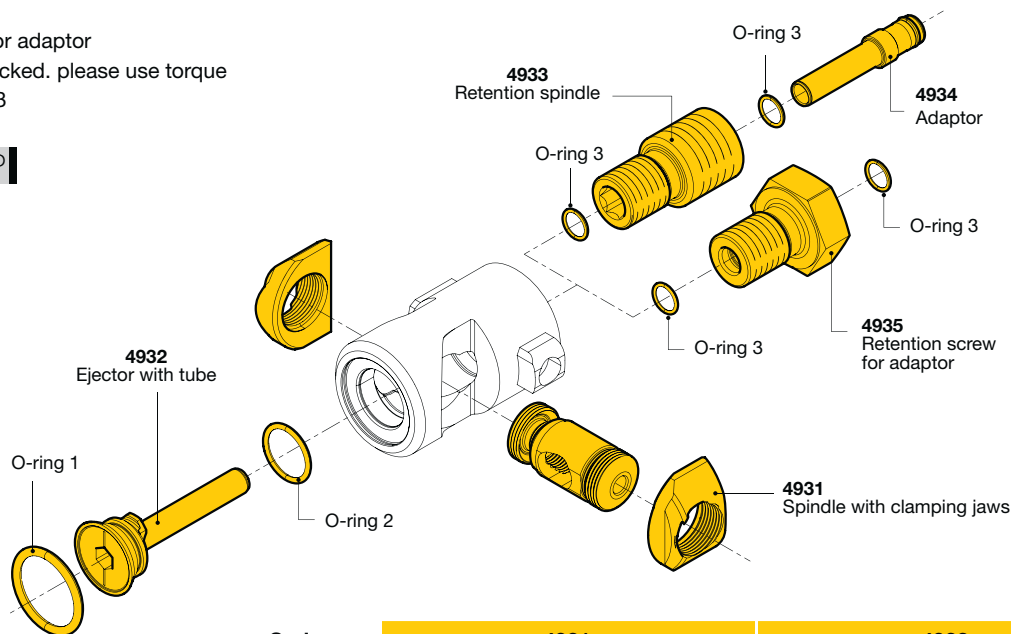
Series no.										4930
HSK-C	d1 mm	d2 mm	d3 mm	l1 mm	G	SW1	SWA	kg	Code no.	EDP Number
32	16.7	3	4.1	41.75	M10	2.5	3	0.05	24.100	9049300241000
40	20.6	4	5.1	43.90	M12	3	4	0.09	30.100	9049300301000
50	25.5	5	7.1	54.20	M16	4	5	0.18	38.100	9049300381000
50	25.5	5	6.1	54.20	M16	4	5	0.18	38.200	9049300382000
63	33.0	6	7.1	72.20	M20	5	6	0.37	48.100	9049300481000
80	41.0	8	10.1	90.20	M24	6	8	0.70	60.100	9049300601000
100	52.0	10	12.1	107.10	M24	8	10	1.30	75.100	9049300751000

MQL
HSK clamping
technology

GÜHROCLAMP component parts for MQL 4-point clamping sets Series no. 4930

- retention screw only for adaptor
- if spindle cannot be locked, please use torque socket Series no. 4963

GÜHROCLAMP



Series no.				4931	4932
HSK-C	O-ring 1	O-ring 2	O-ring 3	Spindle with clamping jaws	Ejector with tube
	mm	mm	mm	EDP Number	EDP Number
32	10.5x2.0	6.0x1.5	3.5x1/4x1	9049310240000	9049320241000
40	13.0x2.0	7.0x1.5	4.5x1.0/5.0x1.0	9049310300000	9049320301000
50	16.0x2.0	10.0x1.5	5.5x1.0/7x1.0	9049310380000	9049320381000
63	20.3x2.4	14.0x1.5	7.0x1.0	9049310480000	9049320481000
80	23.4x3.53	16.0x2.0	10.0x1.5	9049310600000	9049320601000
100	28.17x3.53	22.0x2.0	12.0x1.70	9049310750000	9049320751000

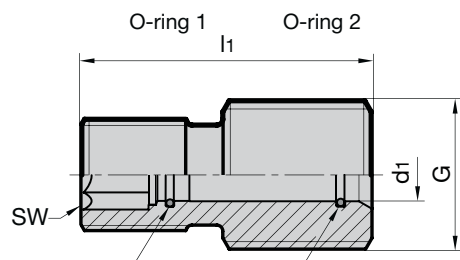
Retention spindles for GÜHROCLAMP MQL 4-point clamping sets

Product information

- retention spindle for direct installation in spindle

Scope of delivery

- complete as shown in illustration



Series no.

4933

for HSK-C	d ₁ mm	l ₁ mm	G	SW	O-ring 1	O-ring 2	EDP Number
32	4.1	22.5	M10	4	3.5x1.0	4.0x1.0	9049330241000
40	5.1	23.2	M 12	5	4.5x1.0	5.0x1.0	9049330301000
50	7.1	27.0	M 16	6	5.5x1.0	7.0x1.0	9049330381000
50	6.1	27.0	M 16	6	5.5x1.0	5.5x1.0	9049330382000
63	7.1	39.0	M 20	8	7.0x1.0	7.0x1.0	9049330481000
80	10.1	50.0	M 24	10	10.0x1.5	10.0x1.5	9049330601000
100	12.1	60.0	M 24	12	12.0x1.70	12.0x1.70	9049330751000

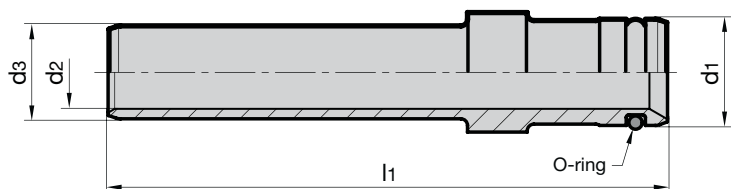
Adaptor for GÜHROCLAMP MQL 4-point clamping sets

Product information

- adaptor for direct installation in spindle and spindle adaptor (integrated) for coolant supply and sealing

Scope of delivery

- complete as shown in illustration



Series no.

4934

for HSK-C	d ₁ mm	d ₂ mm	d ₃ mm	l ₁ mm	O-ring	EDP Number
32	4.0	2.0	4.0	14	2.0 x 1.0	9049340241000
40	5.0	3.0	5.0	28	3.0 x 1.0	9049340301000
50	6.0	4.0	6.0	28	4.0 x 1.0	9049340382000
50	6.0	4.0	7.0	28	4.0 x 1.0	9049340381000
63	8.0	5.5	7.0	42	6.0 x 1.0	9049340481000
80	10.2	7.5	10.0	56	8.0 x 1.0	9049340601000
100	12.0	9.5	12.0	60	10.0 x 1.0	9049340751000

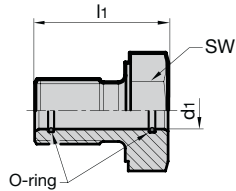
Retention screw for GÜHROCLAMP MQL 4-point clamping sets

Product information

- necessary for installation of MQL 4-point clamping set in spindle adaptors and module adaptor flange Series no. 4363, 4386, 4387 and 4713
- change against standard retention bolt

Scope of delivery

- complete as shown in illustration



Series no.							4935
for HSK-C	d ₁ mm	l ₁ mm	SW	O-ring 1	O-ring 2	torque Nm	EDP Number
32	4.1	23.5	13	4x1.0	4x1.0	14	9049350240000
40	5.1	21	16	4.5x1.0	5x1.0	30	9049350300000
50	6.1	25	18	5.5x1.0	6x1.0	60	9049350382000
50	7.1	25	18	5.5x1.0	7x1.0	60	9049350380000
63	7.1	29	24	7x1.0	7x1.0	110	9049350480000
80	10.1	36	24	10x1.5	10x1.5	180	9049350600000
100	12.1	46.5	32	12x1.7	12x1.7	200	9049350750000

MQL
HSK clamping
technology

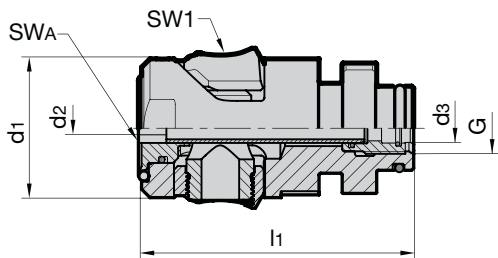
M contour clamping sets for MQL and IC

Product information

- HSK clamping sets compatible with M contour spindles and adaptors
- universal application for MQL and high-pressure IC
- the central coaxial MQL supply with constant internal diameter ensures a uninterrupted coolant supply to DIN 69090-2
- for a coolant pressure up to 160 bar
- for radial manual HSK tool clamping
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- incl. adaptor with through hole for uninterrupted coolant supply
- including installation and operating instructions
- order adaptor with spigot connection Series no. 4616 separately
- spindle connection dimensions on request

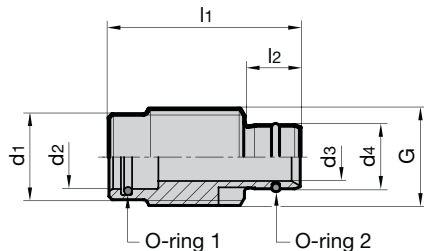


Series no.								4615
HSK-C	d ₁ mm	d ₂ mm	d ₃ mm	l ₁ mm	G	SW1	SWA	EDP Number
32	16.7	3.0	4.1	43.4	M8x1	2.5	3	9046150240000
40	20.6	4.0	5.1	48.3	M10x1	3	4	9046150300000
50	25.5	5.0	6.1	55.3	M12x1	4	5	9046150381000
50	25.5	5.0	7.1	55.3	M12x1	4	5	9046150380000
63	33.0	6.0	7.1	64.7	M12x1	5	6	9046150480000
80	41.0	8.0	10.1	75.3	M16x1	6	8	9046150600000
100	52.0	10.0	12.1	94.5	M18x1	8	10	9046150750000

Adaptor with spigot transition for M contour clamping set

Product information

- application on M contour clamping sets
Series no. 4615 instead of adaptor with coolant transfer hole
- universal application for MQL and high-pressure IC
- for a coolant pressure up to 160 bar
- adaptor for spindles without coolant tube for uninterrupted coolant supply
- spindle connection dimensions on request



Series no.

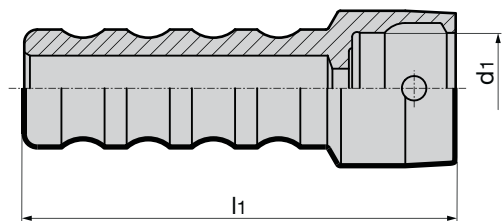
4616

for HSK-C	d1 mm	d2 mm	d3 mm	d4 mm	l1 mm	l2 mm	O-ring 1	O-ring 2	G	EDP Number
32	-	3.5	3	5.00	14.4	5.4	3.5x1	3x1	M8x1	9046160240000
40	7.7	4.5	4	6.00	22.0	6.5	4.0x1	4x1	M10x1	9046160300000
50	8.5	5.5	5	8.00	23.0	7.5	5.5x1	6x1	M12x1	9046160380000
63	10.6	7.0	6	8.00	24.0	7.0	7.0x1	6x1	M12x1	9046160480000
80	-	10.0	8	11.30	23.3	8.3	10x1.5	8x1.5	M12x1	9046160600000
100	-	12.0	10	13.80	30.6	9.6	12x1.5	12x1.5	M18x1	9046160750000

Tool for the assembly / disassembly of M contour clamping sets

Product information

- for the assembly and disassembly of M contour clamping sets
Series no. 4615



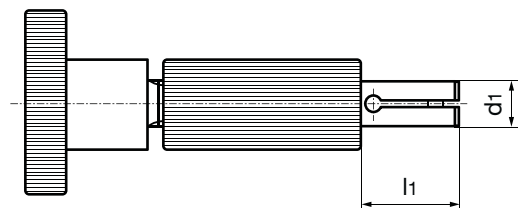
Series no.

4624

for HSK	d1 mm	l1 mm	EDP Number
32	17	118.7	9046240320000
40	21	121.6	9046240400000
50	26	127.5	9046240500000
63	34	132	9046240630000
80	42	143	9046240800000
100	53	152	9046241000000

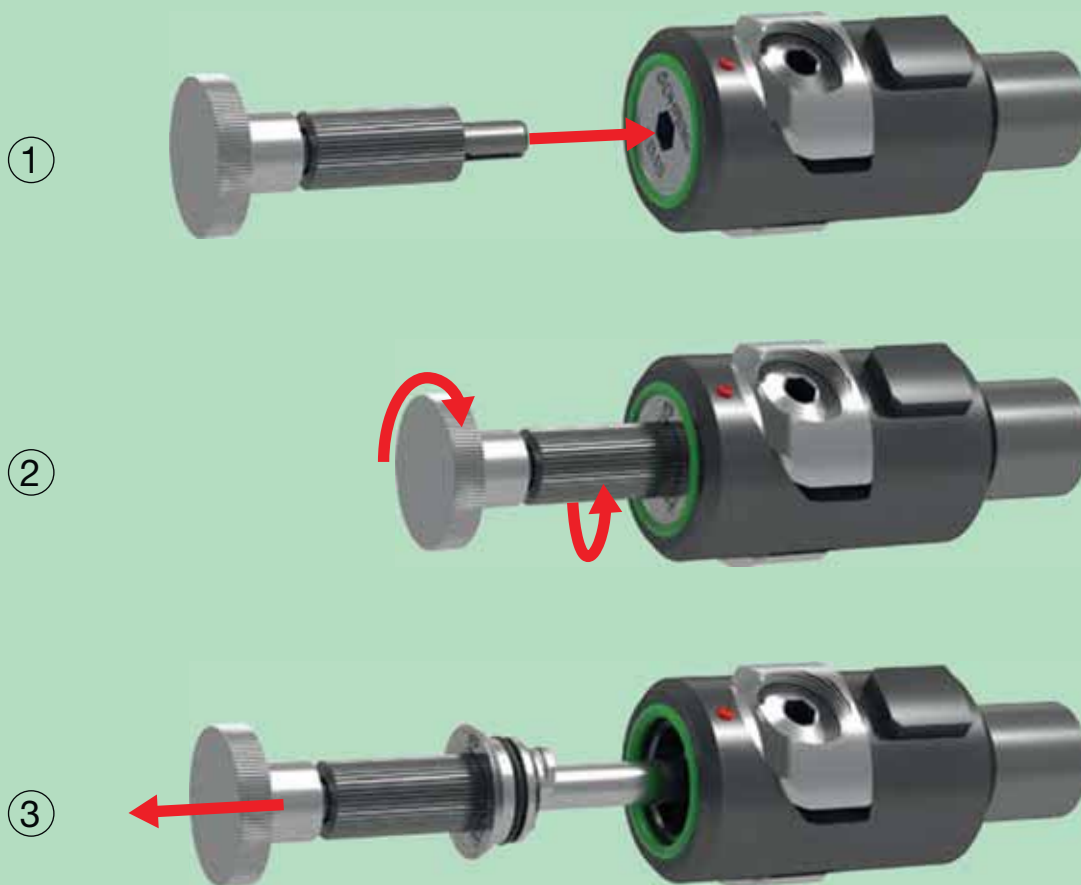
Product information

- for assembly and disassembly of ejectors of MQL clamping sets, Series no. 4930, and M contour clamping sets, Series no. 4615



			Series no.	4986
for HSK	d1 mm	l1 mm	EDP Number	
32	3	9	9049860030320	
40	4	9	9049860040400	
50	5	11	9049860050500	
63	6	12	9049860060630	
80	8	15	9049860080800	
100	10	15	9049860101000	

Assembly instructions



MQL-CHECK 3001

NEW GENERATION

Measurement directly at tool tip

In particular with minimum quantity lubrication it is very essential that very little quantities of lubrication are perfectly applied on the tool's cutting edge.

Deficient supply or long response times may have fatal consequences, which are premature wear, lower processing quality or even tool breakages. If the quantity of lubrication is too high, this may lead to a cost-intensive and needless lubricant consumption and extra cleaning effort on components or/and machines. The MQL Check 3001 is a measuring device provided by Gühring which is easy in operation and which allows fast and reliable checking of the lubrication quantity directly at the tool's tip.

The MQL Check 3001 is fastened inside the machine via magnet points before the zero point of the plunging depth is determined via the tool's tip. After the tool has been positioned in the measuring device and the start command has been transmitted via the software, MQL supply can be started. The measuring device sends the collected data to the respective software on PC/laptop via bluetooth.

Advantages of MQL-Check 3001

- simple, quick measurements of the coolant volume directly at the tool point
- reproduceable and at any time comparable measuring data
- it also comes with a master tool for cross-checking the MQL test stand → in order to check the function of the MQL device, machine, spindle, tool holder and tool
- a workshop suitable system, wireless operation - in terms of power supply as well as data transfer

Technical Data

Measuring range	10 to 160 ml/h
Tool diameter range	3 to 21.5 mm
Measuring position	0 to 90° (vertical and horizontal machining)
Radio range	approx. 50 m (at optimal conditions)



Note:

Only tools with axial coolant duct exits can be checked by means of the MQL Check 3001

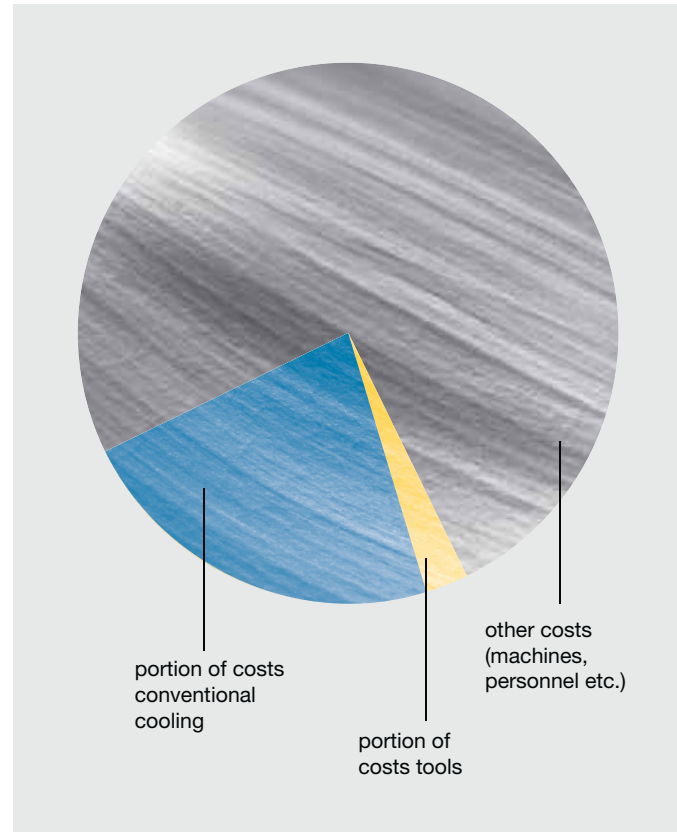
MQL-Check 3001 consists of:

- Measuring device incl. bluetooth sender and magnet foot for fastening during horizontal processing
- Software for measured data logging
- 10 measuring filter
- Battery + power pack

Introduction

Alongside the machine and tooling the costs for coolant are a considerable portion of the overall cost of the machining process. Therefore, a reduction in the cooling lubrication requirements offers a potential for cost savings.

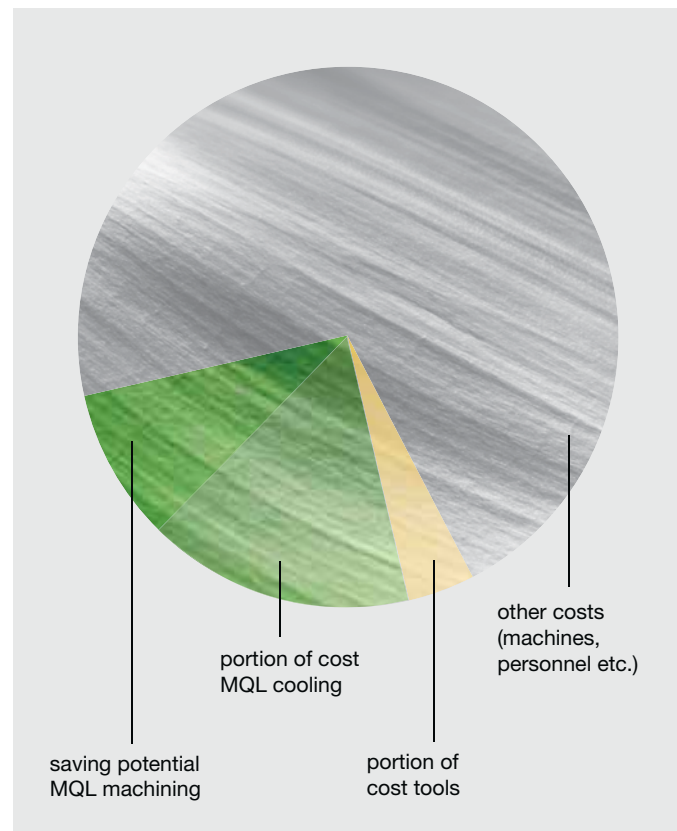
The reduction of cooling lubricants is not only cost saving but is also of benefit to the environment and health protection. Gühring is one of the pioneers in the research and development of MQL that began in the mid 1990's.



The aim of MQL machining

The acquisition of a new MQL cooling lubricant system is significantly less expensive than conventional cooling!

- reduction of thermal stresses at the tool point
- less tool wear
- effective chip evacuation from deep holes
- reduction of cooling lubricant requirement
- high cooling and lubrication effect especially in deep holes
- lowering the resulting costs such as:
 - component cleaning costs
 - cooling lubricant disposal costs
 - swarf disposal costs
- environment and health protection



The development of present-day MQL systems

Thanks to the research in MQL machining Gühring created the pre-condition for a practical MQL technology. From the clamping set to the tool's cutting edge all the components were integrated in the development – the result was the first MQL supply system.

Features:

- modular constructed and standardised system
- MQL and conventional clamping set are freely interchangeable thanks to an identical spindle contour
- hydraulic, shrink fit and synchro chucks are all designed for the MQL clamping set



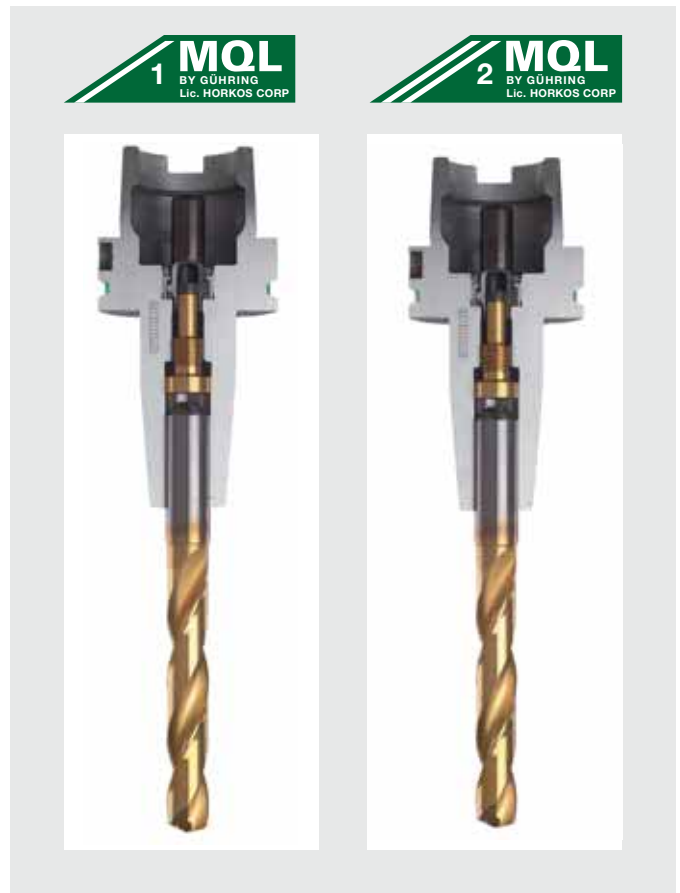
Gühring's current MQL system

By incorporating the MQL length adjustment screw to Gühring's first MQL supply system in 2007, the original drawback was eliminated. There is, therefore, currently a MQL supply system available to the customer that optimally meets the requirements of the present-day production process.

Features of the first Gühring MQL supply system:

- no lubricant delays
- special MQL coolant supply unit
- MQL suitable tool shank end
- tapered length setting screw

The user, therefore, benefits from a standardised system and a clearly reduced stock keeping thanks to compatible components.



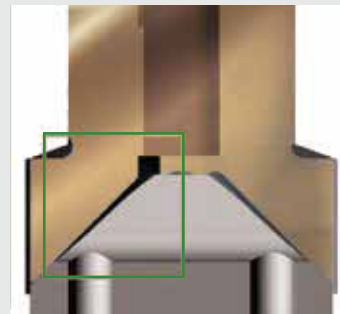
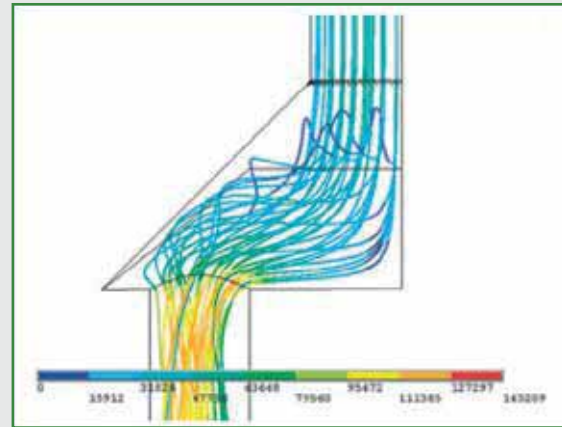
Optimally formed shank end For a secure MQL supply

The supply of these extremely low coolant quantities directly to the effective area is of utmost importance. Hereby, the geometric design of the shank end plays a significant role! The Gühring developed conical shank end optimally satisfies the relevant MQL conditions.

Advantages of the tapered shank end:

- no lubricant delays
- minimal dead area
- simple operation
- cost-efficient production

Flow pattern with low vortex formation

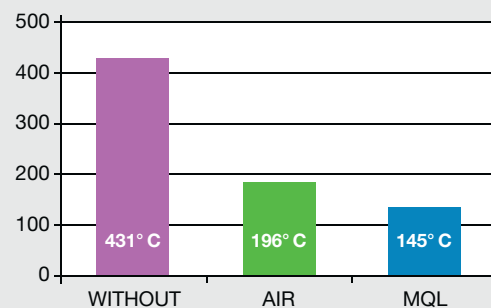
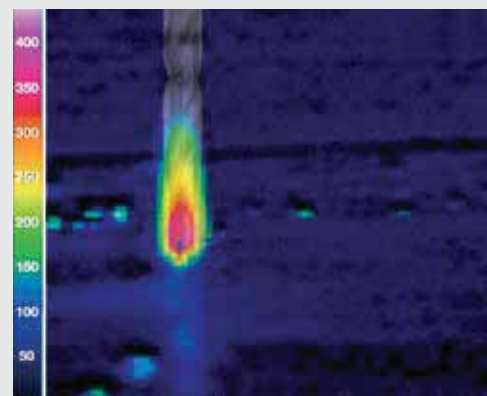


Flow conditions in the coolant duct connection slot at the point of the tapered transition

Keeping a cool point

With MQL the process temperature can be considerably reduced in comparison to dry machining resulting in longer tool life and an increased process reliability.

Thermographic examination at Gühring:
Comparison of tool temperatures



The best form for MQL!

Optimal MQL machining results thanks to the optimized tool geometry of RT 100 T!



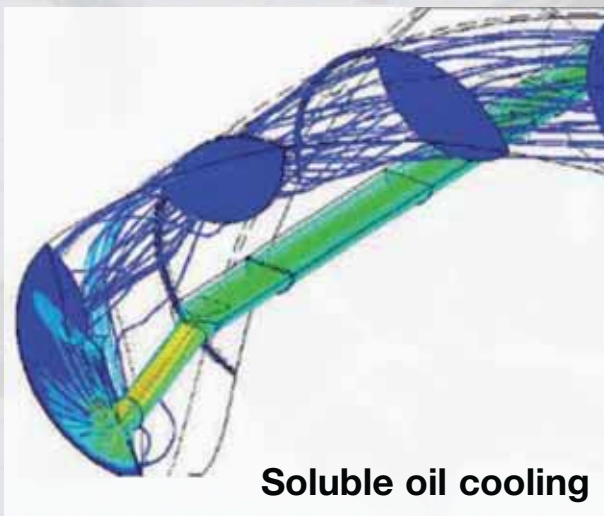
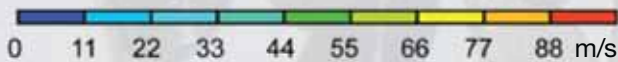
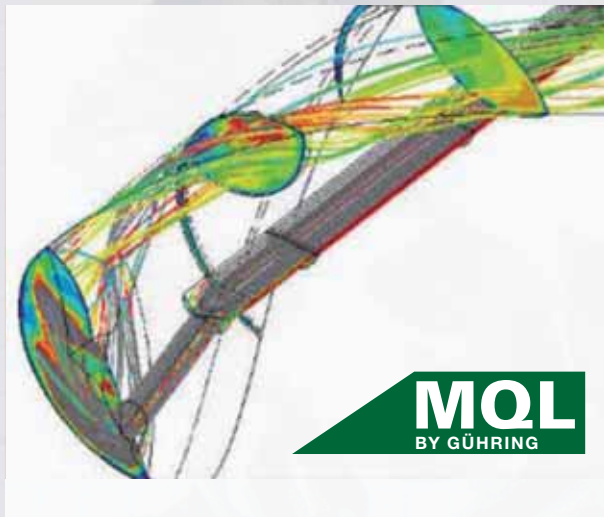
1. Flute cross section:

The flute geometry of Gühring MQL tools ensures short chips that are optimally evacuated from deep holes.

2. Maximum coolant duct cross-section:

The cooling lubricant supply as well as the chip evacuation have been optimized through the tool' maximum coolant duct cross-section.

Flow speed comparison



The flow speed

in the flute with MQL is 30.4 m/s.

The volume with MQL

is 6.960 l/h (std.litres air/h).

Tool Ø = 11.7 mm

Pressure at pump = 6 bar

Pressure at tool = 4 bar

The flow speed

In the flute with soluble oil is 3.5 m/s.

The volume with soluble oil

is 600 l/h (std.litres air/h).

Tool Ø = 11.7 mm

Pressure at pump = 60 bar

Pressure at tool = 31 bar

MQL system types

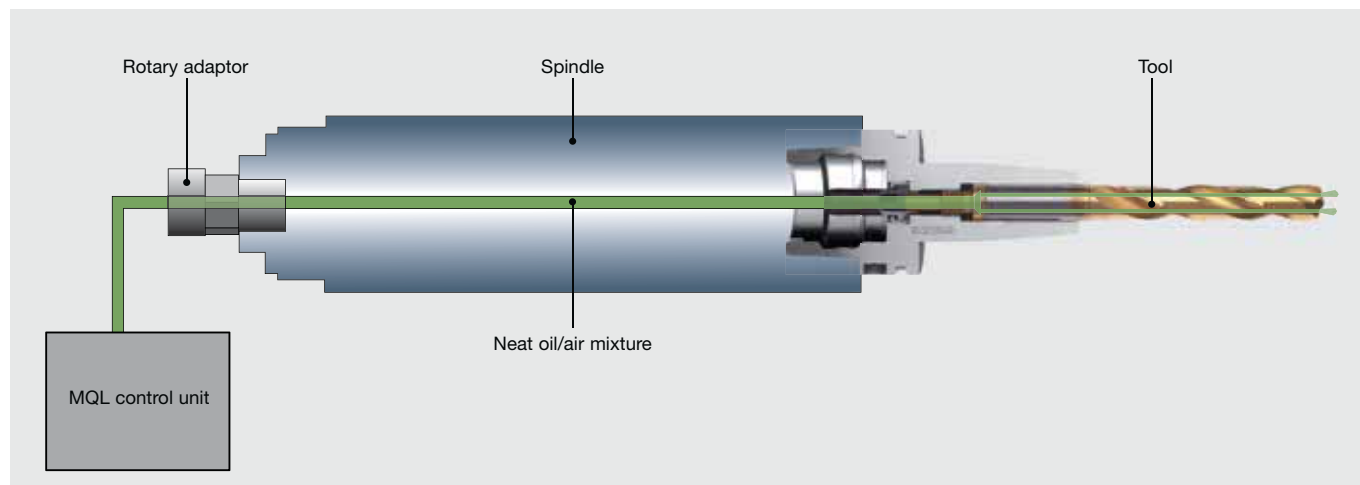
The provision of the MQL medium to the tool can be achieved in two ways: the aerosol mixture can be prepared outside the machine and conveyed to the machining location (1-channel system) or compressed air and MQL medium are conveyed separately to the mixing chamber where they are then mixed together (2-channel system).

1-channel MQL system

With a 1-channel MQL system, a lubricating aerosol is created in a separate MQL unit attached to the machine tool. Special nozzle systems inside a pressurised container create a lubri-

The aerosol feed to the machining location is achieved via a suitable minimal quantity lubrication rotary adaptor (preferably with axial flowthrough), the spindle, the clamping system and finally the cutting tool. Unavoidable cross-section modifications should be as streamlined as possible.

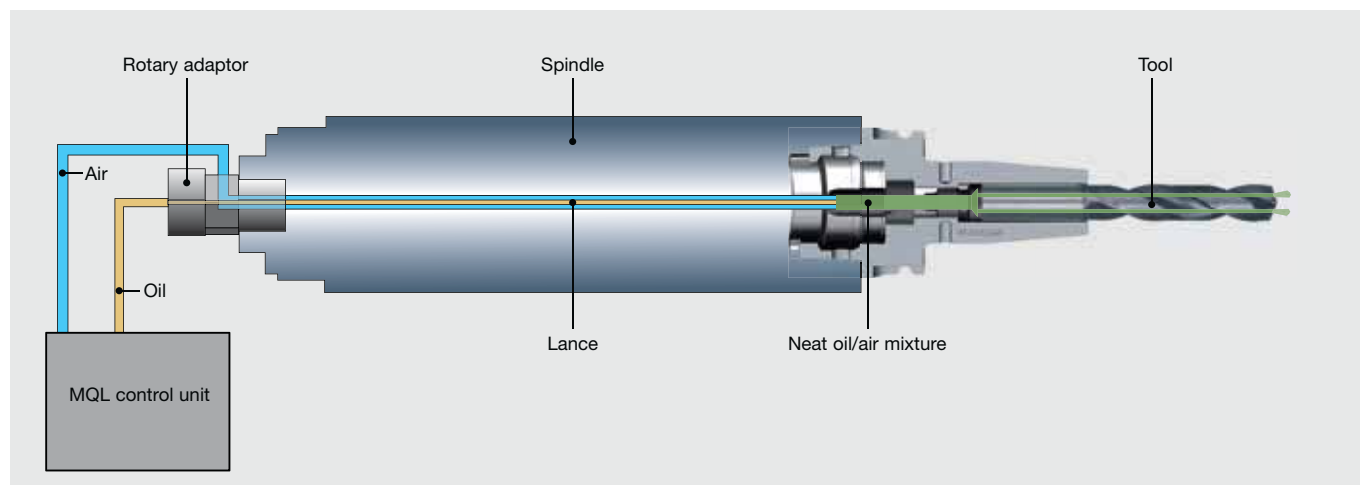
cating aerosol via a regulated compressed air feed, its neat oil content adjustable and then maintained within the physical limits by the MQL control.



The 2-channel MQL system

With a 2-channel system the neat oil reaches the rotary adaptor from the unit via a ring line and a as short as possible stub line. In it is incorporated a quick valve that regulates minute quantities of neat oil. The neat oil is transported into the tool holder via a lance attached in the spindle. The second channel of the rotary adaptor is used for the air supply to the tool holder. Only at this point the air is mixed with the neat oil.

To achieve this, the tool holder possesses a pressed-in pipe nozzle in which the mixing chamber is located. Neat oil and air can be mixed with this system in more or less any quantities. The route from the mixing chamber to the point of destination is only minimal resulting in a rapid response time and allowing a very quick alteration of the volume of neat oil.



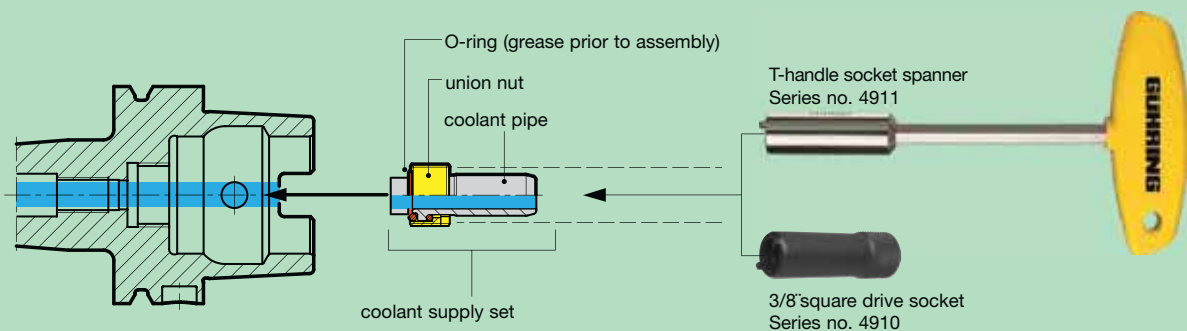
INSTALLATION INSTRUCTIONS

1. The HSK holder must be clean, free of swarf and undamaged.
2. Grease the O-rings prior to assembly.
3. Centrally insert the complete coolant supply set (coolant pipe, union nut and 2 O-rings) in the HSK with the assistance of the socket spanner. When inserting the MQL coolant supply unit, it is paramount to ensure that the MQL pipe is inserted centrally and undamaged into the MQL length setting screw (do not kink).
4. Screw in the coolant supply set/coolant supply unit and tighten (see table for torque figures)
5. Check coolant pipe for radial mobility.

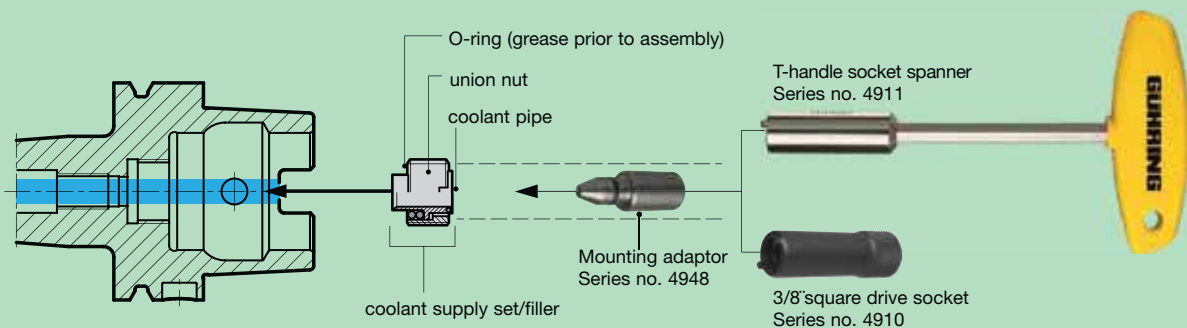
Torque figures

for HSK	MA Nm
32	7
40	11
50	15
63	20
80	25
100	30

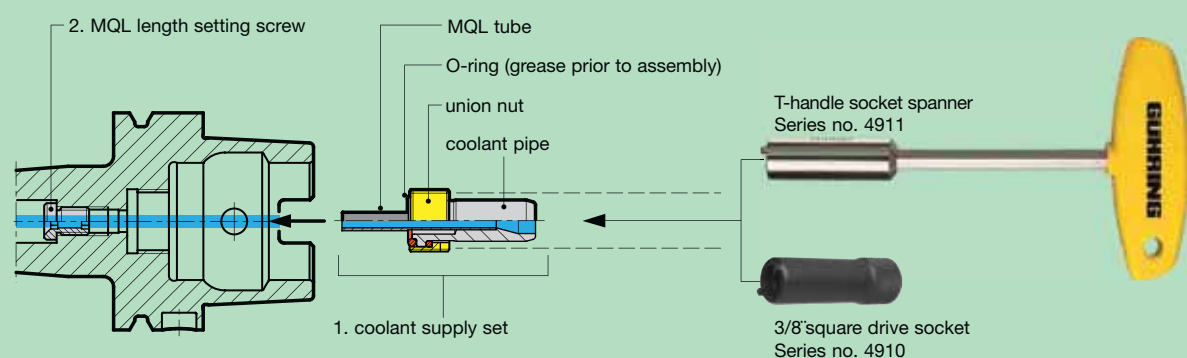
Installation of MQL coolant supply set Series no. 4939



Installation of MQL coolant supply set filler Series no. 4940



Installation of MQL coolant supply unit Series no. 4623/4924



HPC

HPC CLAMPING CHUCKS



HPC clamping chucks

AT FULL SPEED
A FIRM GRASP
ON EVERYTHING!





HIGH CLAMPING FORCE



*IDEAL CLAMPING
FORCE TRANSFER
TO THE TOOL*



IMMENSE SPEEDS



MAXIMUM RIGIDITY



OPTIMAL FOR

imachining®



PRECISION CLAMPING CHUCKS

TECHNOLOGY AND ADVANTAGES

Gühring's precision clamping chucks offer highest clamping force particularly for milling operations but also for drilling and reaming as well as under HSC and HPC conditions. The special clamping sleeve is clamped via a worm gear and optimally transfers the enormous clamping force onto the clamped tool. This enables clamping forces of, for example, > 200 Nm for 12 mm shank diameters or > 300 Nm for 16 mm shank diameters.

New: Now available with PinLock pull-out protection!



• **This system offers the following advantages:**

- increased cutting depths in comparison to conventional tool holders
- increased radial engagement and subsequently higher material removal rate
- maintenance-free technology
- suitable for straight shanks to DIN 1835 A and B as well as to 6535 HA, HB and HE
- concentricity 3 μm with 2.5 x D
- balancing quality: G2.5 / 20,000 rev./min or U < 1.2 gmm

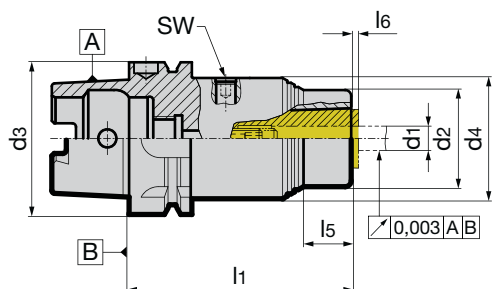
HSK-A precision clamping chucks

Product information

- for heavy-duty cutting as well as HSC and HPC
- HSK-A to ISO 12164-1/DIN 69893-1
- balancing quality: G2.5 / 20,000 rev./min or $U < 1.2$ gmm
- for tool shank tolerance h6
- highest clamping force and stability thanks to mech. tension gearing
- actuation torque for clamping initiation 10 Nm
- suitable for internal cooling up to 80 bar

Scope of delivery

- hexagon clamping key Series no. 4912 4.600
- order clamping sleeves Series no. 4302, 4235, 4236, 4237 separately
- order coolant supply set Series no. 4949 separately
- order torque wrench 10 Nm Series no. 4987 10.000 and hexagon socket/attachments Series no. 4916 4.000 separately



Series no. 4300

HSK-A d3	nom. size	for clamping-Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l5 mm	l6 mm	SW	Code no.	EDP Number
63	20	3-20	40	53	92	20	3.0	4	20.063	9043000200630
100	20	3-20	40	70	100	18	3.0	4	20.100	9043000201000
100	25	16-32	52.5	70	139	-	3.5	4	25.100	9043000251000

HPC
clamping chucks

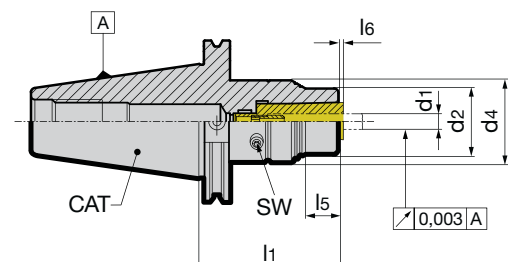
CAT precision clamping chucks

Product information

- for heavy-duty cutting as well as HSC and HPC
- CAT to ASME B5.50
- balancing quality: G2.5 / 20,000 rev./min or $U < 1.2$ gmm
- for tool shank tolerance h6
- highest clamping force and stability thanks to mech. tension gearing
- actuation torque for clamping initiation 10 Nm
- suitable for internal cooling up to 80 bar
- central coolant supply form DU
- CAT40 d4: does not correspond to ASME B5.50

Scope of delivery

- hexagon clamping key Series no. 4912 4.600
- order clamping sleeves Series no. 4302, 4235, 4236, 4237 separately
- order torque wrench 10 Nm Series no. 4987 10.000 and hexagon socket/attachments Series no. 4916 4.000 separately



Series no. 4243

CAT	nom. size	for clamping-Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l5 mm	l6 mm	SW	Code no.	EDP Number
40	20	3-20	40	50	62.5	20	3.0	4	20.040	9042430200400
50	20	3-20	40	63	62	18	3.0	4	20.050	9042430200500
50	25	16-32	52.5	70	101.5	-	3.5	4	25.050	9042430250500

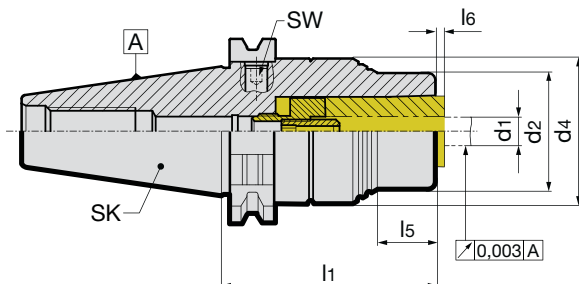
Product information

- for heavy-duty cutting as well as HSC and HPC
- SK taper to DIN ISO 7388-1 form AD
- balancing quality: G2.5 / 20,000 rev./min or U< 1.2 gmm
- for tool shank tolerance h6
- highest clamping force and stability thanks to mech. tension gearing
- actuation torque for clamping initiation 10 Nm
- suitable for internal cooling up to 80 bar central coolant supply form AD
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- hexagon clamping key Series no. 4912 4.600
- order clamping sleeves Series no. 4302, 4235, 4236, 4237 separately
- order torque wrench 10 Nm, Series no. 4987 10.000, and hexagon socket/attachments, Series no. 4916 4.000, separately

- form AD/B on request



Series no.

4301

SK	nom. size	for clamping-Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l5 mm	l6 mm	SW	Code no.	EDP Number
40	20	3-20	40	50	62.5	20	3.0	4	20.040	9043010200400
50	20	3-20	40	63	62	18	3.0	4	20.050	9043010200500
50	25	16-32	52.5	70	101.5	-	3.5	4	25.050	9043010250500

MAS/BT precision clamping chucks

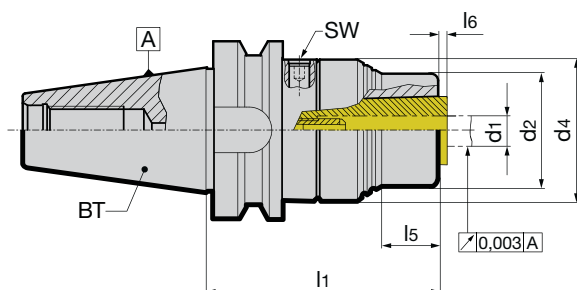
Product information

- for heavy-duty cutting as well as HSC and HPC
- MAS/BT to DIN ISO7388-2 form AD
- balancing quality: G2.5 / 20,000 rev./min or U< 1.2 gmm
- for tool shank tolerance h6
- highest clamping force and stability thanks to mech. tension gearing
- actuation torque for clamping initiation 10 Nm
- suitable for internal cooling up to 80 bar
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- hexagon clamping key Series no. 4912 4.600
- order clamping sleeves Series no. 4302, 4235, 4236, 4237 separately
- order torque wrench 10 Nm Series no. 4987 10.000 and hexagon socket/attachments Series no. 4916 4.000 separately

- form AD/B on request



Series no.

4244

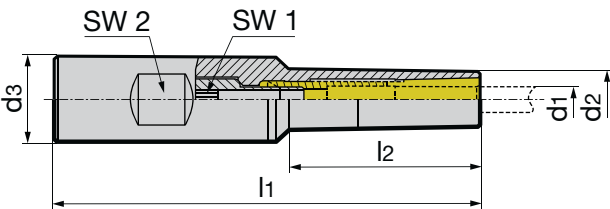
MAS/BT	nom. size	for clamping-Ø d1 h6 mm	d2 mm	d4 mm	l1 mm	l5 mm	l6 mm	SW	Code no.	EDP Number
30	20	3-20	40	53	82.0	20	3.0	4	20.030	9042440200300
40	20	3-20	40	63	70.5	18	3.0	4	20.040	9042440200400
40	20	3-20	40	63	120.0	48	3.0	4	120.040	9042441200400
50	20	3-20	40	63	81.5	18	3.0	4	20.050	9042440200500
50	20	3-20	40	63	167.5	84	3.0	4	120.050	9042441200500
40	25	16-32	53	63	109.5	-	3.5	4	25.040	9042440250400
50	25	16-32	70	70	121	-	3.5	4	25.050	9042440250500

Product information

- slender extension for mounting in HPC chucks or hydraulic shrink fit chucks
- for tool shank tolerances h6
- high clamping force
- actuation from back by using supplied hexagon key (SW 1)
- actuating torque for clamping initiation max. 3 Nm

Scope of delivery

- hexagon clamping key Series no. 4912 4.000
- order clamping sleeves Series no. 4302, 4235 separately
- for optimal operation order torque wrench Series no. 4915 3,000 separately



Series no.									4208
d3 mm	nom. size	for clamping-Ø d1 mm	d2 mm	l1 mm	SW 1	SW 2	kg	Code no.	EDP Number
14	6	1-6	14.0	100	4	13	0.26	6.014	9042080060140
14	6	1-6	14.0	150	4	13	0.32	6.114	9042080061140
14	6	1-6	14.0	190	4	13	0.45	6.214	9042080062140
20	6	1-6	20.0	100	4	16	0.34	6.020	9042080060200
20	6	1-6	20.0	150	4	16	0.46	6.120	9042080061200

HPC
clamping chucks

Power milling with Pin**Lock**

Drawout secure volume machining – with Gührojet cooling
Perfect combination - HPC clamping chuck with PinLock drawout safety

- process reliable (no tool drawout, no component damage)
- long tool life and optimal surface finish
- simple handling
- standard milling tools therefore no licenses required

Thanks to the application of a PinLock clamping sleeve with securing pin any drawout of the applied standard milling tools with HB shank to DIN 6535 is safely prevented. The combination of HPC clamping technology with perfect concentricity and the efficient Gührojet peripheral cooling achieves, until now, unachieved metal removal rates, tool life and surface quality. All this with standard tools and absolute protection against unwanted drawout effects.



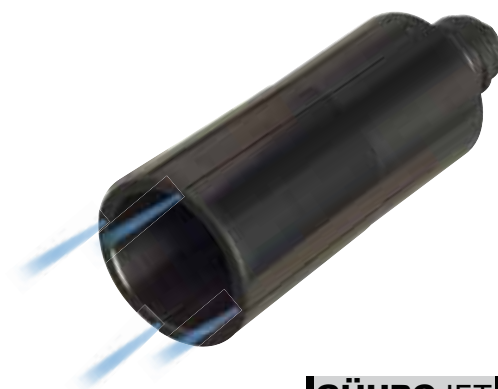
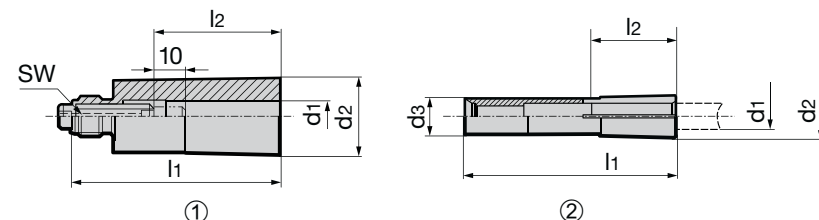
GÜHROJET clamping sleeves with peripheral cooling for precision clamping chucks

Product information

- for clamping tools with straight shank
- for maximum holding torque
- design with peripheral cooling thanks to long slots
- for tool shank tolerance h6
- Type 1: for HPC power clamping chucks
- Type 2: for HPC extensions
- Type P: PinLock drawout protection
incl. 3 locking pins and assembly tool

Scope of delivery

- incl. length setting screw



GÜHROJET
PINLOCK

							Series no.	4302
nom. size	for shank Ø d1 h6 mm	d2 mm	l1 mm	l2 mm	Type	SW	Code no.	EDP Number
6	1	10	50	28	2	–	1.006	9043020010060
6	2	10	50	28	2	–	2.006	9043020020060
6	3	10	50	28	2	–	3.006	9043020030006
6	4	10	50	28	2	–	4.006	9043020040006
6	5	10	50	28	2	–	5.006	9043020050006
6	6	10	50	28	2	–	6.006	9043020060006
20	3	24.6	66	28	1	4	3.020	9043020030200
20	4	24.6	66	28	1	4	4.020	9043020040200
20	5	24.6	66	28	1	4	5.020	9043020050200
20	6	24.6	66	36	1	4	6.020	9043020060200
20	8	24.6	66	36	1	4	8.020	9043020080200
20	10	24.6	66	40	1	4	10.020	9043020100200
20	12	24.6	66	45	1	4	12.020	9043020120200
20	14	24.6	66	45	1	4	14.020	9043020140200
20	16	24.6	66	48	1	4	16.020	9043020160200
20	18	24.6	66	48	1	4	18.020	9043020180200
20	20	24.6	66	50	1	4	20.020	9043020200200
32	20	45.5	90	50	1	4	20.032	9043020200320
32	22	45.5	90	50	1	4	22.032	9043020220320
32	25	45.5	90	56	1	4	25.032	9043020250320
32	32	45.5	90	59	1	4	32.032	9043020320320
25	16	39	87.5	48	1	5	16.025	9043020160250
25	20	39	87.5	50	1	5	20.025	9043020200250
25	22	39	87.5	50	1	5	22.025	9043020220250
25	25	39	87.5	56	1	5	25.025	9043020250250
25	32	39	87.5	59	1	5	32.025	9043020320250
20	6	24.6	66	36	1/P	4	6.120	9043020061200
20	8	24.6	66	36	1/P	4	8.120	9043020081200
20	10	24.6	66	40	1/P	4	10.120	9043020101200
20	12	24.6	66	45	1/P	4	12.120	9043020121200
20	14	24.6	66	45	1/P	4	14.120	9043020141200
20	16	24.6	66	48	1/P	4	16.120	9043020161200
20	18	24.6	66	48	1/P	4	18.120	9043020181200
20	20	24.6	66	50	1/P	4	20.120	9043020201200
25	16	39	87.5	48	1/P	5	16.125	9043020161250
25	20	39	87.5	50	1/P	5	20.125	9043020201250
25	22	39	87.5	50	1/P	5	22.125	9043020221250
25	25	39	87.5	56	1/P	5	25.125	9043020251250

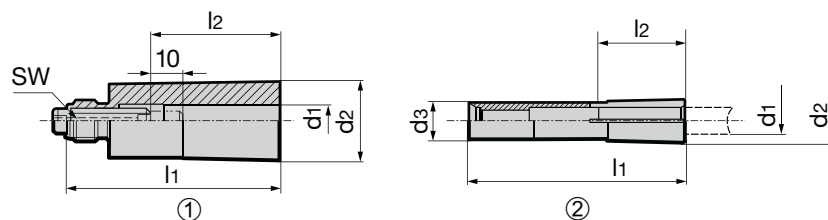
HPC
clamping chucks

Product information

- for clamping tools with straight shank
- high holding torque
- sealed design with short slots
- for tool shank tolerance h6
- Type 1: for HPC power clamping chucks
- Type 2: for HPC extensions

Scope of delivery

- incl. length setting screw



Series no.

4235

nom. size	for shank Ø d ₁ h6 mm	d ₂ mm	l ₁ mm	l ₂ mm	type	SW	Code no.	EDP Number
6	1	24.6	50	28	2	–	1.006	9042350010060
6	2	24.6	50	28	2	–	2.006	9042350020060
6	3	24.6	50	28	2	–	3.006	9042350030060
6	4	24.6	50	28	2	–	4.006	9042350040060
6	5	24.6	50	28	2	–	5.006	9042350050060
6	6	24.6	50	36	2	–	6.006	9042350060060
20	3	24.6	66	28	1	4	3.020	9042350030200
20	4	24.6	66	28	1	4	4.020	9042350040200
20	5	24.6	66	28	1	4	5.020	9042350050200
20	6	24.6	66	36	1	4	6.020	9042350060200
20	8	24.6	66	36	1	4	8.020	9042350080200
20	10	24.6	66	40	1	4	10.020	9042350100200
20	12	24.6	66	45	1	4	12.020	9042350120200
20	14	24.6	66	45	1	4	14.020	9042350140200
20	16	24.6	66	48	1	4	16.020	9042350160200
20	18	24.6	66	48	1	4	18.020	9042350180200
20	20	24.6	66	50	1	4	20.020	9042350200200
25	16	39	87.5	48	1	5	16.025	9042350160250
25	20	39	87.5	50	1	5	20.025	9042350200250
25	22	39	87.5	50	1	5	22.025	9042350220250
25	25	39	87.5	56	1	5	25.025	9042350250250
25	32	39	87.5	59	1	5	32.025	9042350320250
32	20	45.5	90	50	1	4	20.032	9042350200320
32	22	45.5	90	50	1	4	22.032	9042350220320
32	25	45.5	90	56	1	4	25.032	9042350250320
32	32	45.5	90	59	1	4	32.032	9042350320320

GÜHRJET



TOOL HOLDERS

Tool holders

TOOL HOLDERS WITH PERIPHERAL COOLING

|GÜHROJET|





*OPTIMAL CHIP
EVACUATION*



*HIGH PROCESS
RELIABILITY*



*IMPROVED COOLING
LUBRICATION*

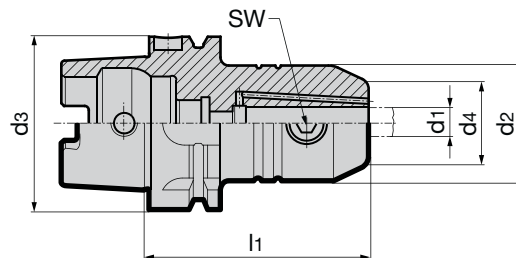


Product information

- balancing quality: G6.3 / 15,000 rev./min
- with bore to DIN 1835-2 form B "Weldon"
- dimensions to DIN 69882-4
- from bore d1 = 25 with two clamping screws
- with coolant ducts in the bore for peripheral cooling, improving process and tool life
- coolant ducts:
 - d = 6 - 14 with two coolant ducts
 - d = 16 - 40 with four coolant ducts
- HSK-A to ISO 12164-1 / DIN 69893-1

Scope of delivery

- incl. clamping screw article no. 4903
- order coolant supply set, article no. 4949 separately
- HSK-A32, 40 & 80 on request



Series no. 4232

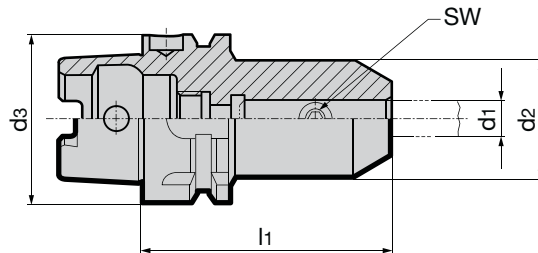
HSK-A d3	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	SW	kg	Code no.	EDP Number
32	6	25	15	60	3	0.24	6.032	9042320060320
32	8	28	20	60	4	0.27	8.032	9042320080320
32	10	35	25	65	5	0.31	10.032	9042320100320
32	12	42	30	65	6	0.41	12.032	9042320120320
40	6	25	15	60	3	0.33	6.040	9042320060400
40	8	28	20	60	4	0.35	8.040	9042320080400
40	10	35	25	60	5	0.47	10.040	9042320100400
40	12	42	30	70	5	0.58	12.040	9042320120400
40	14	44	32	75	6	0.59	14.040	9042320140400
40	16	48	36	75	6	0.64	16.040	9042320160400
50	6	25	15	65	3	0.50	6.050	9042320060500
50	8	28	20	65	4	0.60	8.050	9042320080500
50	10	35	25	65	5	0.60	10.050	9042320100500
50	12	42	30	80	6	0.90	12.050	9042320120500
50	14	44	32	80	6	0.90	14.050	9042320140500
50	16	48	36	80	6	1.00	16.050	9042320160500
50	18	50	38	80	6	1.00	18.500	9042320185000
50	20	52	40	80	8	1.00	20.050	9042320200500
63	6	25	15	65	3	0.80	6.063	9042320060630
63	8	28	20	65	4	0.80	8.063	9042320080630
63	10	35	25	65	5	0.90	10.063	9042320100630
63	12	42	30	80	6	1.20	12.063	9042320120630
63	14	44	32	80	6	1.20	14.063	9042320140630
63	16	48	36	80	6	1.30	16.063	9042320160630
63	18	50	38	80	6	1.40	18.063	9042320180630
63	20	52	40	80	8	1.40	20.063	9042320200630
63	25	65	45	110	10	2.40	25.063	9042320250630
63	32	72	56	110	10	2.70	32.063	9042320320630
80	6	25	15	80	3	1.75	6.080	9042320060800
80	8	28	20	80	4	1.90	8.080	9042320080800
80	10	35	25	80	5	2.10	10.080	9042320100800
80	12	42	30	80	6	2.10	12.080	9042320120800
80	14	44	32	80	6	2.30	14.080	9042320140800
80	16	48	36	100	6	2.50	16.080	9042320160800
80	18	50	38	100	6	2.50	18.080	9042320180800
80	20	52	40	100	8	2.70	20.080	9042320200800
80	25	65	45	100	10	2.80	25.080	9042320250800
80	32	72	56	110	10	2.85	32.080	9042320320800
80	40	80	60	120	10	2.98	40.080	9042320400800
100	6	25	15	80	3	3.00	6.100	9042320061000
100	8	28	20	80	4	3.20	8.100	9042320081000
100	10	35	25	80	5	3.40	10.100	9042320101000
100	12	42	30	80	6	3.40	12.100	9042320121000
100	14	44	32	80	6	3.50	14.100	9042320141000
100	16	48	36	100	6	3.80	16.100	9042320161000
100	18	50	38	100	6	3.80	18.100	9042320181000
100	20	52	40	100	8	3.90	20.100	9042320201000
100	25	65	45	100	10	3.90	25.100	9042320251000
100	32	72	56	100	10	4.20	32.100	9042320321000
100	40	80	60	110	10	4.60	40.100	9042320401000

Product information

- balancing quality: G6.3 / 15,000 rev./min
- dimensions to DIN 69882-4
- with bore to DIN 1835-2 form B "Weldon"
- from bore d1 = 25 with two clamping screws
- HSK-A to ISO 12164-1 / DIN 69893-1

Scope of delivery

- incl. clamping screw article no. 4903
- order coolant supply set, article no. 4949 separately



Series no.

4329

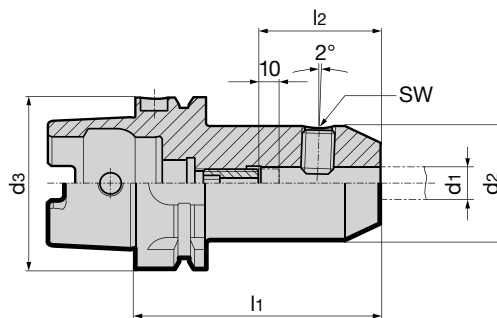
HSK-A d ₃	clamping-Ø d ₁ H5 mm	d ₂ mm	d ₄ mm	l ₁ mm	SW	kg	Code no.	EDP Number
32	6	25	15	60	3	0.24	6.032	9043290060320
32	8	28	20	60	4	0.27	8.032	9043290080320
32	10	35	25	65	5	0.31	10.032	9043290100320
32	12	42	30	65	6	0.41	12.032	9043290120320
40	6	25	15	60	3	0.33	6.040	9043290060400
40	8	28	20	60	4	0.35	8.040	9043290080400
40	10	35	25	60	5	0.47	10.040	9043290100400
40	12	42	30	70	6	0.58	12.040	9043290120400
40	14	44	32	75	6	0.59	14.040	9043290140400
40	16	48	36	75	6	0.64	16.040	9043290160400
50	6	25	15	65	3	0.52	6.050	9043290060500
50	8	28	20	65	4	0.55	8.050	9043290080500
50	10	35	25	65	5	0.62	10.050	9043290100500
50	12	42	30	80	6	0.87	12.050	9043290120500
50	14	44	32	80	6	0.90	14.050	9043290140500
50	16	48	36	80	6	0.94	16.050	9043290160500
50	18	50	38	80	6	0.96	18.050	9043290180500
50	20	52	40	80	8	0.97	20.050	9043290200500
63	6	25	15	65	3	0.81	6.063	9043290060630
63	8	28	20	65	4	0.83	8.063	9043290080630
63	10	35	25	65	5	0.89	10.063	9043290100630
63	12	42	30	80	6	1.20	12.063	9043290120630
63	14	44	32	80	6	1.20	14.063	9043290140630
63	16	48	36	80	6	1.30	16.063	9043290160630
63	18	50	38	80	6	1.35	18.063	9043290180630
63	20	52	40	80	8	1.40	20.063	9043290200630
63	25	65	45	110	10	2.40	25.063	9043290250630
63	32	72	56	110	10	2.70	32.063	9043290320630
80	6	25	15	80	3	1.75	6.080	9043290060800
80	8	28	20	80	4	1.90	8.080	9043290080800
80	10	35	25	80	5	2.10	10.080	9043290100800
80	12	42	30	80	6	2.10	12.080	9043290120800
80	14	44	32	80	6	2.30	14.080	9043290140800
80	16	48	36	100	6	2.50	16.080	9043290160800
80	18	50	38	100	6	2.50	18.080	9043290180800
80	20	52	40	100	8	2.70	20.080	9043290200800
80	25	65	45	100	10	2.80	25.080	9043290250800
80	32	72	56	110	10	2.85	32.080	9043290320800
80	40	80	60	120	10	2.98	40.080	9043290400800
100	6	25	15	80	3	3.00	6.100	9043290061000
100	8	28	20	80	4	3.20	8.100	9043290081000
100	10	35	25	80	5	3.40	10.100	9043290101000
100	12	42	30	80	6	3.40	12.100	9043290121000
100	14	44	32	80	6	3.50	14.100	9043290141000
100	16	48	36	100	6	3.80	16.100	9043290161000
100	18	50	38	100	6	3.80	18.100	9043290181000
100	20	52	40	100	8	3.90	20.100	9043290201000
100	25	65	45	100	10	3.90	25.100	9043290251000
100	32	72	56	100	10	4.20	32.100	9043290321000
100	40	80	60	110	10	4.60	40.100	9043290401000

Product information

- balancing quality: G6.3 / 15,000 rev./min
- dimensions to DIN 69882-5
- with bore to DIN 1835-2 form E "Whistle Notch" with groove on face side for identification
- from bore d1 = 25 with two clamping screws
- HSK-A to ISO 12164-1 / DIN 69893-1

Scope of delivery

- incl. clamping screw article no. 4903 and adjustment screw article no. 4904
- order coolant supply set, article no. 4949 separately



Series no. 4334

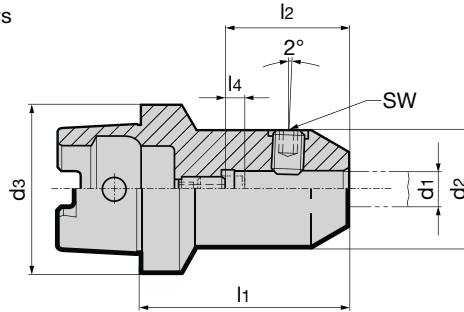
HSK-A d3	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	l2 mm	incl. adjustment screw 4904 ...	SW	kg	Code no.	EDP Number
32	6	25	15	80	36	6.014	3	0.32	6.032	9043340060320
32	8	28	20	80	36	8.014	4	0.36	8.032	9043340080320
32	10	35	25	80	40	10.014	5	0.46	10.032	9043340100320
32	12	42	30	80	45	12.014	6	0.57	12.032	9043340120320
40	6	25	15	80	36	6.014	3	0.36	6.040	9043340060400
40	8	28	20	80	36	8.014	4	0.40	8.040	9043340080400
40	10	35	25	80	40	10.014	5	0.50	10.040	9043340100400
40	12	42	30	90	45	12.014	6	0.68	12.040	9043340120400
40	14	44	32	90	45	12.014	6	0.72	14.040	9043340140400
40	16	48	36	90	48	16.014	6	0.77	16.040	9043340160400
50	6	25	15	80	36	6.014	3	0.58	6.050	9043340060500
50	8	28	20	80	36	8.014	4	0.62	8.050	9043340080500
50	10	35	25	80	40	10.014	5	0.73	10.050	9043340100500
50	12	42	30	90	45	12.014	6	0.97	12.050	9043340120500
50	14	44	32	90	45	12.014	6	1.00	14.050	9043340140500
50	16	48	36	90	48	16.014	6	1.09	16.050	9043340160500
50	18	50	38	90	48	16.014	6	1.12	18.050	9043340180500
50	20	52	40	100	50	20.114	8	1.30	20.050	9043340200500
63	6	25	15	80	36	6.014	3	0.86	6.063	9043340060630
63	8	28	20	80	36	8.014	4	0.90	8.063	9043340080630
63	10	35	25	80	40	10.014	5	1.00	10.063	9043340100630
63	12	42	30	90	45	12.014	6	1.24	12.063	9043340120630
63	14	44	32	90	45	12.014	6	1.28	14.063	9043340140630
63	16	48	36	100	48	16.014	6	1.53	16.063	9043340160630
63	18	50	38	100	48	16.014	6	1.60	18.063	9043340180630
63	20	52	40	100	50	20.114	8	1.65	20.063	9043340200630
63	25	65	45	110	56	20.114	10	2.34	25.063	9043340250630
63	32	72	56	110	60	20.114	10	2.54	32.063	9043340320630
80	6	25	15	90	36	6.014	3	2.20	6.080	9043340060800
80	8	28	20	90	36	8.014	4	2.25	8.080	9043340080800
80	10	35	25	90	40	10.014	5	2.56	10.080	9043340100800
80	12	42	30	100	45	12.014	6	2.60	12.080	9043340120800
80	14	44	32	100	45	12.014	6	2.85	14.080	9043340140800
80	16	48	36	100	48	16.014	6	2.88	16.080	9043340160800
80	18	50	38	100	48	16.014	6	2.90	18.080	9043340180800
80	20	52	40	110	50	20.114	8	3.05	20.080	9043340200800
80	25	65	45	110	56	20.114	10	3.10	25.080	9043340250800
80	32	72	56	120	60	20.114	10	3.20	32.080	9043340320800
100	6	25	15	90	36	6.014	3	2.60	6.100	9043340061000
100	8	28	20	90	36	8.014	4	2.60	8.100	9043340081000
100	10	35	25	90	40	10.014	5	2.60	10.100	9043340101000
100	12	42	30	100	45	12.014	6	2.80	12.100	9043340121000
100	14	44	32	100	45	12.014	6	2.85	14.100	9043340141000
100	16	48	36	100	48	16.014	6	2.97	16.100	9043340161000
100	18	50	38	100	48	16.014	6	3.10	18.100	9043340181000
100	20	52	40	110	50	20.114	8	3.23	20.100	9043340201000
100	25	65	45	120	56	20.114	10	4.06	25.100	9043340251000
100	32	72	56	120	60	20.114	10	4.40	32.100	9043340321000

Product information

- balancing quality: G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- dimensions to DIN 69882-5
- with bore to DIN 1835-2 form E "Whistle Notch" with groove on face side for identification
- from bore d1 = 25 with two clamping screws article no. 4903
- HSK-C to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. clamping screw article no. 4903 and adjustment screw article no. 4905



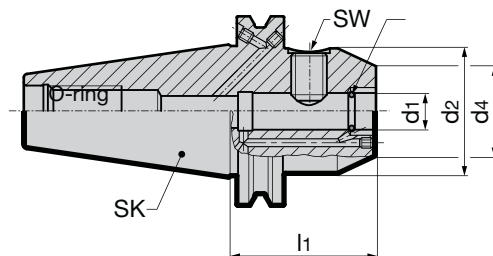
Series no. 4333											EDP Number
HSK-C d3	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	l2 mm	l4 mm	incl. adjustment screw 4905 ...	SW	kg	Code no.	
32	6	25	15	60	36	10	9049050050160	3	0.23	6.032	9043330060320
32	8	28	20	60	36	10	9049050060160	4	0.28	8.032	9043330080320
32	10	35	25	65	40	10	9049050080170	5	0.43	10.032	9043330100320
40	6	25	15	60	36	10	9049050050160	3	0.29	6.040	9043330060400
40	8	28	20	60	36	10	9049050060160	4	0.33	8.040	9043330080400
40	10	35	25	65	40	10	9049050080170	5	0.47	10.040	9043330100400
40	12	42	30	70	45	8	9049050100170	6	0.67	12.040	9043330120400
40	14	44	32	70	45	8	9049050100170	6	0.73	14.040	9043330140400
40	16	48	36	75	48	8	9049050120190	6	0.92	16.040	9043330160400
40	20	52	40	80	50	8	9049050160200	8	1.11	20.040	9043330200400
50	6	25	15	60	36	8	9049050050140	3	0.42	6.050	9043330060500
50	8	28	20	60	36	8	9049050060140	4	0.46	8.050	9043330080500
50	10	35	25	65	40	8	9049050080150	5	0.57	10.050	9043330100500
50	12	42	30	75	45	10	9049050100200	6	0.80	12.050	9043330120500
50	14	44	32	75	45	10	9049050100200	6	0.87	14.050	9043330140500
50	16	48	36	80	48	10	9049050120220	6	1.02	16.050	9043330160500
50	18	49	38	80	48	10	9049050120220	6	1.09	18.050	9043330180500
50	20	52	40	80	50	8	9049050160200	8	1.15	20.050	9043330200500
50	25	65	45	95	56	8	9049050200260	10	2.14	25.050	9043330250500
63	6	25	15	60	36	8	9049050050140	3	0.64	6.063	9043330060630
63	8	28	20	60	36	8	9049050060140	4	0.66	8.063	9043330080630
63	10	35	25	65	40	8	9049050080150	5	0.78	10.063	9043330100630
63	12	42	30	75	45	10	9049050100200	6	0.99	12.063	9043330120630
63	14	44	32	75	45	10	9049050100200	6	1.03	14.063	9043330140630
63	16	48	36	80	48	10	9049050120220	6	1.21	16.063	9043330160630
63	18	50	38	80	48	10	9049050120220	6	1.26	18.063	9043330180630
63	20	52	40	80	50	8	9049050160200	8	1.31	20.063	9043330200630
63	25	65	45	95	56	8	9049050200260	10	2.23	25.063	9043330250630
63	32	72	56	100	60	8	9049050200260	10	2.75	32.063	9043330320630

Product information

- balancing quality: G6.3 / 15,000 rev./min
- form AD/B supplied with set screws in bores
- with coolant ducts in the bore for peripheral cooling, improving process and tool life
- from bore d1 = 25 mm with two clamping screws article no. 4903
- coolant supply form AD/B
- coolant ducts:
 - d1 = 6 - 18 mm with two coolant ducts
 - d1 = 20 - 32 mm with four coolant ducts
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. clamping screw article no. 4903
- incl. O-ring for sealing



GÜHROJET

Series no. **4317**

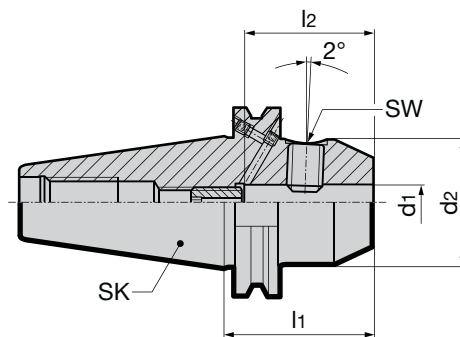
SK taper/form	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	SW	Code no.	EDP Number.
40 AD	16	45	36	35	6	916.040	9043179160400
40 AD	20	45	40	35	8	920.040	9043179200400
40 AD	25	50	45	35	10	925.040	9043179250400
40 AD/B	6	25	15	50	3	6.040	9043170060400
40 AD/B	8	28	20	50	4	8.040	9043170080400
40 AD/B	10	35	25	50	5	10.040	9043170100400
40 AD/B	12	42	30	50	6	12.040	9043170120400
40 AD/B	14	44	32	50	6	14.040	9043170140400
40 AD/B	16	48	36	63	6	16.040	9043170160400
40 AD/B	18	50	38	63	6	18.040	9043170180400
40 AD/B	20	52	40	63	8	20.040	9043170200400
40 AD/B	6	25	15	100	3	106.040	9043171060400
40 AD/B	8	28	20	100	4	108.040	9043171080400
40 AD/B	10	35	25	100	5	110.040	9043171100400
40 AD/B	12	42	30	100	6	112.040	9043171120400
40 AD/B	14	44	32	100	6	114.040	9043171140400
40 AD/B	16	48	36	100	6	116.040	9043171160400
40 AD/B	18	50	38	100	6	118.040	9043171180400
40 AD/B	20	52	40	100	8	120.040	9043171200400
40 AD/B	25	63	45	100	10	25.040	9043170250400
40 AD/B	32	72	56	100	10	32.040	9043170320400
50 AD/B	6	25	15	63	3	6.050	9043170060500
50 AD/B	8	28	20	63	4	8.050	9043170080500
50 AD/B	10	35	25	63	5	10.050	9043170100500
50 AD/B	12	42	30	63	6	12.050	9043170120500
50 AD/B	14	44	32	63	6	14.050	9043170140500
50 AD/B	16	48	36	63	6	16.050	9043170160500
50 AD/B	18	50	38	63	6	18.050	9043170180500
50 AD/B	20	52	40	63	8	20.050	9043170200500
50 AD/B	25	65	45	80	10	25.050	9043170250500
50 AD/B	32	72	56	100	10	32.050	9043170320500

Product information

- balancing quality: G6.3 / 15,000 rev./min
- coolant supply form AD/B
- from bore d1 = 25 mm with two clamping screws article no. 4903
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. clamping screw article no. 4903 and adjustment screw



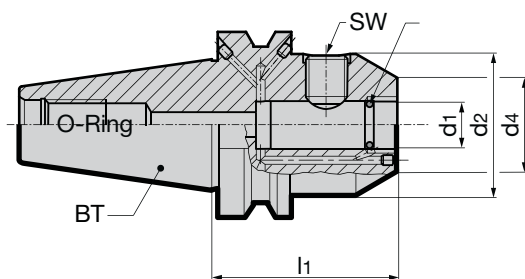
									Series no	4322
SK taper	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	l2 mm	SW	kg	Code no.	EDP Number	
40	6	25	15	50	36	3	0.9	6.040	9043220060400	
40	8	28	20	50	36	4	0.9	8.040	9043220080400	
40	10	35	25	50	40	5	1.0	10.040	9043220100400	
40	12	42	30	50	45	6	1.2	12.040	9043220120400	
40	14	44	32	50	45	6	1.2	14.040	9043220140400	
40	16	48	36	63	48	6	1.2	16.040	9043220160400	
40	18	50	38	63	48	6	1.4	18.040	9043220180400	
40	20	52	40	63	50	8	1.5	20.040	9043220200400	
40	25	65	45	100	56	10	2.3	25.040	9043220250400	
40	32	72	56	100	60	10	2.5	32.040	9043220320400	
50	6	25	15	63	36	3	2.7	6.050	9043220060500	
50	8	28	20	63	36	4	2.7	8.050	9043220080500	
50	10	35	25	63	40	5	2.9	10.050	9043220100500	
50	12	42	30	63	45	6	3.0	12.050	9043220120500	
50	14	44	32	63	45	6	3.0	14.050	9043220140500	
50	16	48	36	63	48	6	3.0	16.050	9043220160500	
50	18	50	38	63	48	6	3.0	18.050	9043220180500	
50	20	52	40	63	50	8	3.1	20.050	9043220200500	
50	25	65	45	80	56	10	3.7	25.050	9043220250500	
50	32	72	56	100	60	10	4.5	32.050	9043220320500	

Product information

- balancing quality: G6.3 / 15,000 rev./min
- from bore d1 = 25 with two clamping screws
- with coolant ducts in the bore for peripheral cooling, improving process and tool life
- coolant supply form AD/B
- coolant ducts:
 - d1 = 6 - 18 mm with two coolant ducts
 - d1 = 20 - 32 mm with four coolant ducts
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob

Scope of delivery

- incl. clamping screw article no. 4903
- incl. O-ring for sealing
- BT-50 on request



GÜHROJET

Series no. 4234

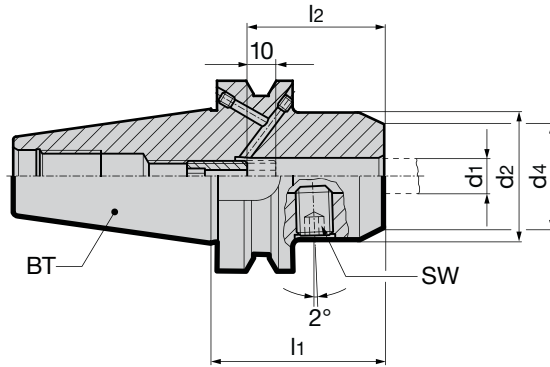
BT	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	SW	Code no.	EDP Number.
30*	6	25	15	50	3	6.030	9042340060300
30*	8	28	20	50	4	8.030	9042340080300
30*	10	35	25	50	5	10.030	9042340100300
30*	12	42	30	50	6	12.030	9042340120300
30*	14	44	32	50	6	14.030	9042340140300
30*	16	48	36	63	6	16.030	9042340160300
30*	18	50	38	63	6	18.030	9042340180300
30*	20	52	40	63	8	20.030	9042340200300
40*	16	45	36	35	6	916.040	9042349160400
40*	20	45	40	35	8	920.040	9042349200400
40*	25	45	45	35	10	925.040	9042349250400
40	6	25	15	50	3	6.040	9042340060400
40	8	28	20	50	4	8.040	9042340080400
40	10	35	25	63	5	10.040	9042340100400
40	12	42	30	63	6	12.040	9042340120400
40	14	44	32	63	6	14.040	9042340140400
40	16	48	36	63	6	16.040	9042340160400
40	18	50	38	63	6	18.040	9042340180400
40	20	52	40	63	8	20.040	9042340200400
40	25	63	45	90	10	25.040	9042340250400
40	32	72	56	100	10	32.040	9042340320400
40	6	25	15	100	3	106.040	9042341060400
40	8	28	20	100	4	108.040	9042341080400
40	10	35	25	100	5	110.040	9042341100400
40	12	42	30	100	6	112.040	9042341120400
40	14	44	32	100	6	114.040	9042341140400
40	16	48	36	100	6	116.040	9042341160400
40	18	50	38	100	6	118.040	9042341180400
40	20	52	40	100	8	120.040	9042341200400

Product information

- balancing quality: G6.3 / 15,000 rev./min
- MAS/BT to DIN ISO 7388-2 form AD/B
- with bore to DIN 1835-2 form E "whistle notch"
- from bore d1 = 25 with two clamping screws
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. clamping screw article no. 4903 and adjustment screw



Series no. 4233

BT	clamping-Ø d1 H5 mm	d2 mm	d4 mm	l1 mm	l2 mm	SW	Code no.	Order no.
40	6	25	15	50	36	3	6.040	9042330060400
40	8	28	20	50	36	4	8.040	9042330080400
40	10	35	25	63	40	5	10.040	9042330100400
40	12	42	30	63	45	6	12.040	9042330120400
40	14	44	32	63	45	6	14.040	9042330140400
40	16	48	36	63	48	6	16.040	9042330160400
40	18	50	38	63	48	6	18.040	9042330180400
40	20	52	40	63	50	8	20.040	9042330200400
40	25	63	45	90	56	10	25.040	9042330250400
40	32	72	56	100	60	10	32.040	9042330320400
50	6	25	15	63	36	3	6.050	9042330060500
50	8	28	20	63	36	4	8.050	9042330080500
50	10	35	25	63	40	5	10.050	9042330100500
50	12	42	30	80	45	6	12.050	9042330120500
50	14	44	32	80	45	6	14.050	9042330140500
50	16	48	36	80	48	6	16.050	9042330160500
50	18	50	38	80	48	6	18.050	9042330180500
50	20	52	40	80	50	8	20.050	9042330200500
50	25	65	45	100	56	10	25.050	9042330250500
50	32	72	56	105	60	10	32.050	9042330320500

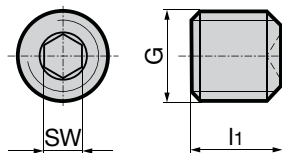
Clamping screws

Product information

- for side lock holders with bore to DIN 1835-2, B and E, and HSK-A adaptors for tapping chucks, article nos. 4317/4322/4329/4333/4334/4343
- article no. 4903 12,001 (M12) only for article no. 4343

Scope of delivery

- minimum order quantity 5



Series no.					4903
for holder- Ø	G	l ₁ mm	torque Nm	SW	EDP Number
6	M6	10	5	3	9049030060000
8	M8	10	10	4	9049030080000
10	M10	12	15	5	9049030100000
12/14	M12	14	28	6	9049030120000
25	M12	12	28	6	9049030120010
16/18	M14	16	42	6	9049030140000
20	M16	16	50	8	9049030160000
25	M18x2	20	60	10	9049030180000
32/40	M20x2	20	72	10	9049030200000
40	M20x2	25	72	10	9049030200010
25	M14	11,5	42	6	9049030140010
25	M16	12	50	8	9049030160010

Adjustment screws

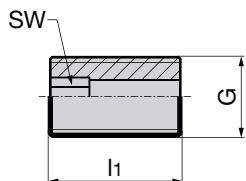
Adjustment screws

Product information

- for HSK-A Weldon side lock holders with bore to DIN 1835-2, form E, shrink fit chuck and shrink fit extensions

Scope of delivery

- minimum order quantity 5

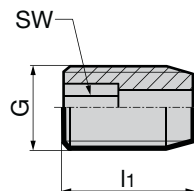


Product information

- for HSK-C side lock with bore to DIN 1835-2, form E, article nos. 4333 / 4322

Scope of delivery

- minimum order quantity 5



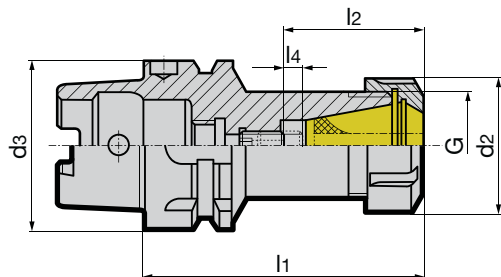
Series no.				4904	Series no.				4905
G	l ₁ mm	SW	EDP Number		G	l ₁ mm	SW	EDP Number	
M5	16	2.5	9049040050160		M5	14	2.5	9049050050140	
M5	20	2.5	9049040050200		M5	16	2.5	9049050050160	
M6	16	3.0	9049040060160		M6	14	3.0	9049050060140	
M6	20	3.0	9049040060200		M6	16	3.0	9049050060160	
M8	12	3.0	9049040080120		M8	15	4.0	9049050080150	
M8	18	4.0	9049040080180		M8	17	4.0	9049050080170	
M10	17	3.0	9049040100170		M10	17	5.0	9049050100170	
M10	20	5.0	9049040100200		M10	20	5.0	9049050100200	
M12	14	3.0	9049040120140		M12	19	6.0	9049050120190	
M12	20	5.0	9049040120200		M12	22	6.0	9049050120220	
M16	25	5.0	9049040160250		M16	20	6.0	9049050160200	
M20	25	6.0	9049040200250		M20	26	6.0	9049050200260	

Product information

- balancing quality: G2.5 / 25.000 rev./min or U< 1 gmm
- HSK-A to ISO 12164-1/DIN 69893-1
- for collet chucks with adjustment angle 8° according to DIN ISO 15488

Scope of delivery

- incl. retaining nut article no. 4306 and adjustment screw article no. 4902
- order collet, article no. 4307, clamping key, article no. 4913 and coolant supply set, article no. 4949 separately



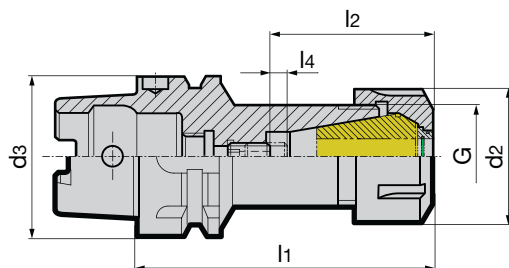
Series no.										4304
HSK-A d3	clamping range	d2 mm	G	l1 mm	l2 mm	l4 mm	incl. adjustment screw art. no. 4902...	kg	Code no.	EDP Number
32	ER 11 Ø 0.5-7.0	19	M14 x 0.75	55	25	6	11.012	0.20	11.032	9043040110320
32	ER 16 Ø 0.5-10.0	28	M22 x 1.5	80	34	6	16.012	0.30	16.032	9043040160320
32	ER 20 Ø 0.5-13.0	34	M25 x 1.5	70	40	8	16.012	0.30	20.032	9043040200320
40	ER 16 Ø 0.5-10.0	28	M22 x 1.5	80	34	6	16.012	0.40	16.040	9043040160400
40	ER 25 Ø 0.5-16.0	42	M32 x 1.5	80	44	8	25.014	0.50	25.040	9043040250400
40	ER 32 Ø 1.0-20.0	50	M40 x 1.5	100	50	10	32.020	0.80	32.040	9043040320400
50	ER 16 Ø 0.5-10.0	28	M22 x 1.5	100	34	6	16.012	0.70	16.050	9043040160500
50	ER 25 Ø 0.5-16.0	42	M32 x 1.5	100	44	8	25.014	1.00	25.050	9043040250500
50	ER 25 Ø 0.5-16.0	42	M32 x 1.5	80	44	8	25.014	0.80	25.150	9043040251500
50	ER 32 Ø 1.0-20.0	50	M40 x 1.5	100	50	10	32.020	1.00	32.050	9043040320500
63	ER 16 Ø 0.5-10.0	28	M22 x 1.5	100	34	6	16.012	0.90	16.063	9043040160630
63	ER 16 Ø 0.5-10.0	28	M22 x 1.5	160	34	6	16.012	1.20	16.163	9043040161630
63	ER 25 Ø 0.5-16.0	42	M32 x 1.5	80	42	6	25.014	1.00	25.063	9043040250630
63	ER 25 Ø 0.5-16.0	42	M32 x 1.5	100	42	6	25.014	1.20	25.163	9043040251630
63	ER 32 Ø 1.0-20.0	50	M40 x 1.5	100	50	10	32.020	1.40	32.063	9043040320630
63	ER 40 Ø 3.0-26.0	63	M50 x 1.5	120	56	10	32.020	1.90	40.063	9043040400630
80	ER 32 Ø 1.0-20.0	50	M40 x 1.5	100	50	10	32.020	1.90	32.080	9043040320800
80	ER 32 Ø 1.0-20.0	50	M40 x 1.5	160	50	10	32.020	2.80	32.180	9043040321800
80	ER 40 Ø 3.0-26.0	63	M50 x 1.5	120	56	10	32.020	2.80	40.080	9043040400800
100	ER 32 Ø 1.0-20.0	50	M40 x 1.5	100	50	10	32.020	2.80	32.100	9043040321000
100	ER 32 Ø 1.0-20.0	50	M40 x 1.5	160	50	10	32.020	3.60	32.101	9043040321010
100	ER 40 Ø 3.0-26.0	63	M50 x 1.5	120	56	10	32.020	3.60	40.100	9043040401000

Product information

- sealed, suitable for coolant pressure up to 100 bar thanks to the application of IC clamping nuts and suitable sealing washer
- balancing quality: G2.5 / 25.000 rev./min or U< 1 gmm
- HSK-A to ISO 12164-1/DIN 69893-1
- for collet chucks with adjustment angle 8° according to DIN ISO 15488

Scope of delivery

- incl. IC retaining nut article no. 4306 and adjustment screw article no. 4902
- order sealing washer, article no. 4335, collet, article no. 4307, clamping key, article no. 4913 and coolant supply set article no. 4949 separately



Series no.

4324

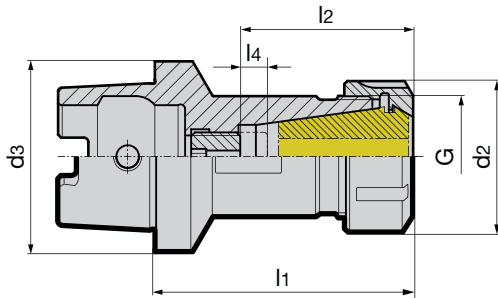
HSK-A d ₃	clamping range	d ₂ mm	G	l ₁ mm	l ₂ mm	l ₄ mm	incl. adjustment screw art. no. 4902...	kg	Code no.	EDP Number
32	ER 16 Ø 0.5-10.0	28	M22 x 1.5	85	39	6	16.012	0.30	16.032	9043240160320
32	ER 20 Ø 0.5-13.0	34	M25 x 1.5	75	45	8	16.012	0.30	20.032	9043240200320
40	ER 16 Ø 0.5-10.0	28	M22 x 1.5	85	39	6	16.012	0.40	16.040	9043240160400
40	ER 25 Ø 0.5-16.0	42	M32 x 1.5	85	49	8	25.014	0.50	25.040	9043240250400
40	ER 32 Ø 1.0-20.0	50	M40 x 1.5	105	55	10	32.020	0.80	32.040	9043240320400
50	ER 16 Ø 0.5-10.0	28	M22 x 1.5	105	39	6	16.012	0.70	16.050	9043240160500
50	ER 25 Ø 0.5-16.0	42	M32 x 1.5	105	49	8	25.014	0.90	25.050	9043240250500
50	ER 25 Ø 0.5-16.0	42	M32 x 1.5	85	49	6	25.014	1.00	25.150	9043240251500
50	ER 32 Ø 1.0-20.0	50	M40 x 1.5	105	55	10	32.020	1.00	32.050	9043240320500
63	ER 16 Ø 0.5-10.0	28	M22 x 1.5	105	39	6	16.012	0.90	16.063	9043240160630
63	ER 16 Ø 0.5-10.0	28	M22 x 1.5	165	39	6	16.012	1.20	16.163	9043240161630
63	ER 25 Ø 0.5-16.0	42	M32 x 1.5	85	47	6	25.014	1.00	25.063	9043240250630
63	ER 25 Ø 0.5-16.0	42	M32 x 1.5	105	47	6	25.014	1.20	25.163	9043240251630
63	ER 32 Ø 1.0-20.0	50	M40 x 1.5	105	55	10	32.020	1.40	32.063	9043240320630
63	ER 40 Ø 3.0-26.0	63	M50 x 1.5	125	61	10	32.020	1.90	40.063	9043240400630
80	ER 32 Ø 1.0-20.0	50	M40 x 1.5	105	55	10	32.020	1.90	32.080	9043240320800
80	ER 32 Ø 1.0-20.0	50	M40 x 1.5	165	55	10	32.020	2.80	32.180	9043240321800
80	ER 40 Ø 3.0-26.0	63	M50 x 1.5	125	61	10	32.020	2.80	40.080	9043240400800
100	ER 32 Ø 1.0-20.0	50	M40 x 1.5	105	55	10	32.020	2.80	32.100	9043240321000
100	ER 32 Ø 1.0-20.0	50	M40 x 1.5	165	55	10	32.020	3.70	32.101	9043240321010
100	ER 40 Ø 3.0-26.0	63	M50 x 1.5	125	61	10	32.020	3.70	40.100	9043240401000

Product information

- balancing quality: G2.5 / 25.000 rev./min or U< 1 gmm
- HSK-C to ISO 12164-1/DIN 69893-1
- for collet chucks with adjustment angle 8° according to DIN ISO 15488

Scope of delivery

- incl. retaining nut article no. 4306 and adjustment screw article no. 4901
- order collet, article no. 4307, clamping key, article no. 4913 separately



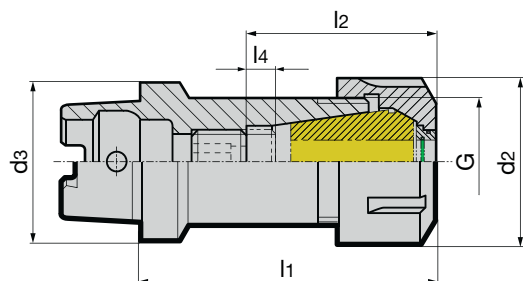
Series no. 4303										EDP Number
HSK-C d3	clamping range	d2 mm	G	l1 mm	l2 mm	l4 mm	incl. adjustment screw art. no. 4901...	kg	Code no.	
25	ER16 mini Ø 0.5-10.0	22	M19 x 1.0	50	30	3	16.012	0.10	16.025	9043030160250
32	ER 16 Ø 0.5-10.0	28	M22 x 1.5	55	32	4	16.012	0.20	16.032	9043030160320
32	ER 20 Ø 0.5-13.0	34	M25 x 1.5	60	38	6	16.012	0.30	20.032	9043030200320
32	ER 25 Ø 0.5-16.0	42	M32 x 1.5	70	44	6	25.014	0.40	25.032	9043030250320
40	ER 20 Ø 0.5-13.0	34	M25 x 1.5	60	38	6	16.012	0.40	20.040	9043030200400
40	ER 25 Ø 0.5-16.0	42	M32 x 1.5	70	44	8	25.014	0.50	25.040	9043030250400
40	ER 32 Ø 1.0-20.0	50	M40 x 1.5	75	49	8	25.014	0.60	32.040	9043030320400
50	ER 16 Ø 0.5-10.0	28	M22 x 1.5	60	34	6	16.012	0.40	16.050	9043030160500
50	ER 25 Ø 0.5-16.0	42	M32 x 1.5	70	44	8	25.014	0.70	25.050	9043030250500
50	ER 32 Ø 1.0-20.0	50	M40 x 1.5	75	49	8	25.014	0.90	32.050	9043030320500
50	ER 40 Ø 3.0-26.0	63	M50 x 1.5	80	54	8	25.014	1.00	40.050	9043030400500
63	ER 40 Ø 3.0-26.0	63	M50 x 1.5	80	54	8	25.014	1.50	40.063	9043030400630

Product information

- sealed, suitable for coolant pressure up to 100 bar thanks to the application of IC clamping nuts and suitable sealing washer
- balancing quality: G2.5 / 25.000 rev./min or $U < 1 \text{ gmm}$
- HSK-C to ISO 12164-1/DIN 69893-1
- for collet chucks with adjustment angle 8° according to DIN ISO 15488

Scope of delivery

- incl. IC retaining nut article no. 4306 and adjustment screw article no. 4901
- order sealing washer, article no. 4335, collet, article no. 4307, clamping key, article no. 4913 separately

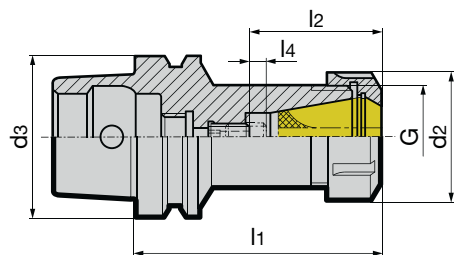


Series no. **4323**

HSK-C d ₃	clamping range	d ₂ mm	G	l ₁ mm	l ₂ mm	l ₄ mm	incl. adjustment screw art. no. 4901...	kg	Code no.	EDP Number
25	ER16 mini Ø 1.0-10.0	22	M19 x 1.0	55	35	3	16.012	0.10	16.025	9043230160250
32	ER 16 Ø 0.5-10.0	28	M22 x 1.5	60	37	4	16.012	0.20	16.032	9043230160320
32	ER 20 Ø 0.5-13.0	34	M25 x 1.5	65	43	6	16.012	0.30	20.032	9043230200320
32	ER 25 Ø 0.5-16.0	42	M32 x 1.5	75	49	8	25.014	0.40	25.032	9043230250320
40	ER 20 Ø 0.5-13.0	34	M25 x 1.5	65	43	6	16.012	0.40	20.040	9043230200400
40	ER 25 Ø 0.5-16.0	42	M32 x 1.5	75	49	8	25.014	0.60	25.040	9043230250400
40	ER 32 Ø 1.0-20.0	50	M40 x 1.5	80	54	8	25.014	0.60	32.040	9043230320400
50	ER 16 Ø 0.5-10.0	28	M22 x 1.5	65	39	6	16.012	0.40	16.050	9043230160500
50	ER 25 Ø 0.5-16.0	42	M32 x 1.5	75	49	8	25.014	0.70	25.050	9043230250500
50	ER 32 Ø 1.0-20.0	50	M40 x 1.5	80	54	8	25.014	0.90	32.050	9043230320500
50	ER 40 Ø 3.0-26.0	63	M50 x 1.5	85	59	8	25.014	1.10	40.050	9043230400500
63	ER 40 Ø 3.0-26.0	63	M50 x 1.5	85	59	8	25.014	1.50	40.063	9043230400630

Product information

- balancing quality: G2.5 / 25,000 rev./min or < 1 gmm residual imbalance
- incl. spanner flat for locking during clamping
- Order no. 16,025 without length adjustment and central cooling
- HSK-E according to DIN 69893-5 with access hole in taper for manual tool change
- for collet chucks with adjustment angle 8° according to DIN ISO 15488



Scope of delivery

- incl. retaining nut article no. 4306 and adjustment screw article no. 4902
- order collet, article no. 4307, clamping key, article no. 4913 and coolant supply set, article no. 4949 separately

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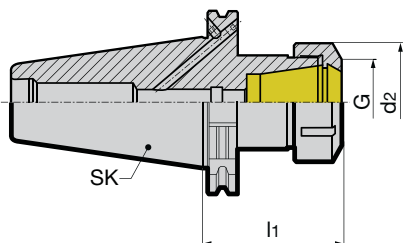
SK taper collet holders

Product information

- balancing quality: G6.3 / 15,000 rev./min
- ISO taper to DIN ISO 7388-1 form AD/B
- for collet chucks with adjustment angle 8° according to DIN ISO 15488
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. retaining nut
- order collet, article no. 4307, separately
- order clamping key, article no. 4913, separately



Series no. **4318**

SK taper	clamping range	d2 mm	G	l1 mm	Code no.	EDP Number
40	ER16 Ø 0.5-10.0	32	M22 x 1.5	63	16.040	9043180160400
40	ER25 Ø 0.5-16.0	42	M32 x 1.5	60	25.040	9043180250400
40	ER32 Ø 1.0-20.0	50	M40 x 1.5	70	32.040	9043180320400
40	ER16 Ø 0.5-10.0	32	M22 x 1.5	160	16.140	9043180161400
40	ER25 Ø 0.5-16.0	42	M32 x 1.5	160	25.140	9043180251400
40	ER32 Ø 1.0-20.0	50	M40 x 1.5	160	32.140	9043180321400
50	ER25 Ø 0.5-16.0	42	M32 x 1.5	60	25.050	9043180250500
50	ER32 Ø 1.0-20.0	50	M40 x 1.5	70	32.050	9043180320500
50	ER40 Ø 3.0-26.0	63	M50 x 1.5	80	40.050	9043180400500
50	ER25 Ø 0.5-16.0	42	M32 x 1.5	160	25.150	9043180251500
50	ER40 Ø 3.0-26.0	63	M50 x 1.5	160	40.150	9043180401500

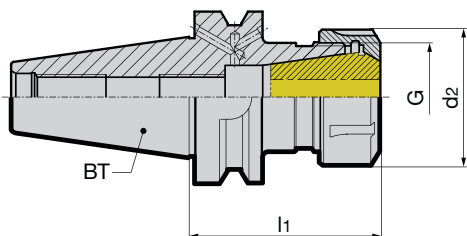
MAS/BT collet holders

Product information

- balancing quality: G6.3 / 15,000 rev./min
- MAS/BT to DIN ISO 7388-2 form AD/B
- coolant supply form AD/B
(* BT30 version AD without coolant supply over collar)
- for collet chucks with adjustment angle 8° per DIN ISO 15488
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. retaining nut
- order collet, article no. 4307, separately
- order clamping key, article no. 4913, separately
- BT50 on request

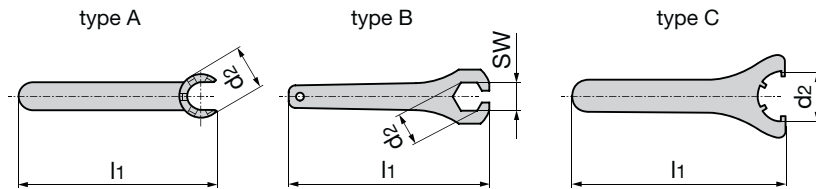


Series no. **4245**

BT	clamping range	d2 mm	G	l1 mm	Code no.	EDP Number
30*	ER16 0.5-10.0	32	M22x1.5	70	16.030	9042450160300
30*	ER25 0.5-16.0	42	M32x1.5	70	25.030	9042450250300
40	ER16 0.5-10.0	32	M22x1.5	63	16.040	9042450160400
40	ER25 0.5-16.0	42	M32x1.5	60	25.040	9042450250400
40	ER32 1.0-20.0	50	M40x1.5	70	32.040	9042450320400
40	ER16 0.5-10.0	32	M22x1.5	160	16.140	9042450161400
40	ER25 0.5-16.0	42	M32x1.5	160	25.140	9042450251400
40	ER32 1.0-20.0	50	M40x1.5	160	32.140	9042450321400

Product information

- for clamping nuts
- Type A with special hook key for clamping nuts
System DIN 6499 mini design
- Type B for clamping nuts with hexagonal design
- Type C for clamping nuts for external slots

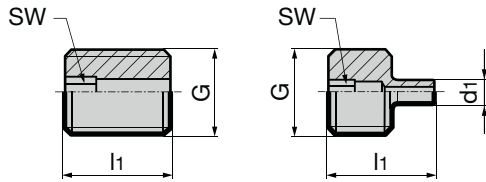


Series no.					4913
nom. size mm	type	l ₁ mm	for ER d ₂ mm	SW	EDP Number
ER16 mini	A	122	22	-	9049130162000
ER20 mini	A	139	28	-	9049130202000
ER25 mini	A	143	35	-	9049130252000
ER11	B	141	19	17	9049130110000
ER16	B	178	28	25	9049130160000
ER16	C	161	32	-	9049130160320
ER20	B	200	34	30	9049130200000
ER20	C	183	35	-	9049130201000
ER25	C	210	42	-	9049130250000
ER32	C	250	50	-	9049130320000
ER40	C	290	63	-	9049130400000

Adjustment screws for HSK-A/HSK-E collet holders

Product information

- for dimensions without d1 the screw is designed without spigot



Series no.

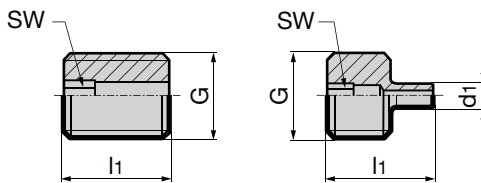
4902

for nom. size	for clamping range	G	d1 mm	l1 mm	SW	EDP Number
ER11	2- 7	M6	–	12	3	9049020110120
ER16	2- 6	M10	3.5	18	3	9049020160180
ER16	6-10	M10	–	12	3	9049020160120
ER16	6- 10	M10	–	10	3	9049020200240
ER20	2,5- 6	M10	4.5	24	3	9049020200180
ER20	6-10	M10	5.5	18	3	9049020160120
ER20	10-13	M10	–	12	3	9049020250260
ER25	2,5- 7	M16	4.5	26	4	9049020250200
ER25	7-10	M16	6.5	20	4	9049020250140
ER25	10-17	M16	–	14	4	9049020320360
ER32	3,5-10	M16	6.5	36	5	9049020320280
ER32	10-16	M16	9.5	28	5	9049020320200
ER32	16-22	M16	–	20	5	9049020400440
ER40	3- 8	M16	6.5	44	5	9049020320200
ER40	8-10	M16	6.5	36	5	9049020320360
ER40	10-16	M16	9.5	28	5	9049020320280
ER40	16-30	M16	–	20	5	9049020320200

Adjustment screws for HSK-C collet holders

Product information

- for dimensions without d1 the screw is designed without spigot



Series no.

4901

for nom. size	for clamping range	G	d1 mm	l1 mm	SW	EDP Number
ER16	2- 6	M10	3.5	16	3	9049010160160
ER16	6-10	M10	–	12	3	9049010160120
ER20	2,5- 6	M10	4.5	20	3	9049010200200
ER20	6-10	M10	5.5	16	3	9049010200160
ER20	10-13	M10	–	12	3	9049010160120
ER25	2,5- 7	M16	4.5	26	4	9049010250260
ER25	7-10	M16	6.5	20	4	9049010250200
ER25	10-17	M16	–	14	4	9049010250140
ER32	3- 7	M16	6.5	32	5	9049010320320
ER32	7-10	M16	6.5	26	5	9049010320260
ER32	10-16	M16	9.5	20	5	9049010320200
ER32	16-22	M16	–	14	4	9049010250140
ER40	3- 6	M16	6.5	38	5	9049010400380
ER40	6- 8	M16	6.5	32	5	9049010320320
ER40	8-10	M16	6.5	26	5	9049010320260
ER40	10-16	M16	9.5	20	5	9049010320200
ER40	16-30	M16	–	14	4	9049010250140

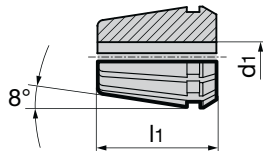
Product information

- the clamping range of collet, article no. 4307, is to be applied as indicated. For intermediate sizes as i.e. for $\varnothing$ 6.3 mm (nom. size ER20) order collet $d_1 = 7.0$ mm - 6.0 mm (Order no. 7.020)
- concentricity error max. 10 μ m

clamping range:
 ER11: $\varnothing$ 0.5 - $\varnothing$ 7.0
 ER16: $\varnothing$ 0.5 - $\varnothing$ 10.0
 ER20: $\varnothing$ 0.5 - $\varnothing$ 13.0
 ER25: $\varnothing$ 0.5 - $\varnothing$ 16.0
 ER32: $\varnothing$ 0.5 - $\varnothing$ 20.0
 ER40: $\varnothing$ 0.5 - $\varnothing$ 26.0

Ordering example:

$\varnothing$ d_1 = 2.5
 nom. size = ER 20
 article no./Order no. = 4307 02,520
 ($d_1 = 7.0$ mm - 6.0 mm)



Series no.

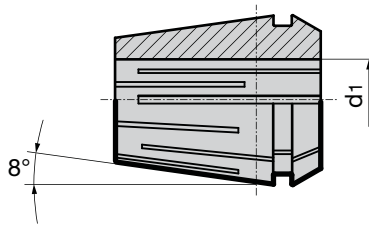
4307

nom. size	for clamping range d_1 mm	l_1 mm	Code no.	EDP Number
ER11	1.0-0.5	18.0	1.011	9043070010110
ER11	1.5-1.0	18.0	1.511	9043070015110
ER11	2.0-1.5	18.0	2.011	9043070020110
ER11	2.5-2.0	18.0	2.511	9043070025110
ER11	3.0-2.5	18.0	3.011	9043070030110
ER11	4.0-3.5	18.0	4.011	9043070040110
ER11	5.0-4.5	18.0	5.011	9043070050110
ER11	6.0-5.5	18.0	6.011	9043070060110
ER11	7.0-6.5	18.0	7.011	9043070070110
ER16	1.0-0.5	27.5	1.016	9043070010160
ER16	1.5-1.0	27.5	1.516	9043070015160
ER16	2.0-1.0	27.5	2.016	9043070020160
ER16	2.5-1.5	27.5	2.516	9043070025160
ER16	3.0-2.0	27.5	3.016	9043070030160
ER16	4.0-3.0	27.5	4.016	9043070040160
ER16	5.0-4.0	27.5	5.016	9043070050160
ER16	6.0-5.0	27.5	6.016	9043070060160
ER16	7.0-6.0	27.5	7.016	9043070070160
ER16	8.0-7.0	27.5	8.016	9043070080160
ER16	9.0-8.0	27.5	9.016	9043070090160
ER16	10.0-9.0	26.0	10.016	9043070100160
ER20	1.0-0.5	31.5	1.020	9043070010200
ER20	1.5-1.0	31.5	1.520	9043070015200
ER20	2.0-1.0	31.5	2.020	9043070020200
ER20	2.5-1.5	31.5	2.520	9043070025200
ER20	3.0-2.0	31.5	3.020	9043070030200
ER20	4.0-3.0	31.5	4.020	9043070040200
ER20	5.0-4.0	31.5	5.020	9043070050200
ER20	6.0-5.0	31.5	6.020	9043070060200
ER20	7.0-6.0	31.5	7.020	9043070070200
ER20	8.0-7.0	31.5	8.020	9043070080200
ER20	9.0-8.0	31.5	9.020	9043070090200
ER20	10.0-9.0	31.5	10.020	9043070100200
ER20	11.0-10.0	31.5	11.020	9043070110200
ER20	12.0-11.0	31.5	12.020	9043070120200
ER20	13.0-12.0	31.5	13.020	9043070130200
ER25	1.0-0.5	34.0	1.025	9043070010250
ER25	1.5-1.0	34.0	1.525	9043070015250
ER25	2.0-1.0	34.0	2.025	9043070020250
ER25	2.5-1.5	34.0	2.525	9043070025250
ER25	3.0-2.0	34.0	3.025	9043070030250
ER25	4.0-3.0	34.0	4.025	9043070040250
ER25	5.0-4.0	34.0	5.025	9043070050250
ER25	6.0-5.0	34.0	6.025	9043070060250
ER25	7.0-6.0	34.0	7.025	9043070070250
ER25	8.0-7.0	34.0	8.025	9043070080250

Series no.				4307
nom. size	for clamping range d ₁ mm	l ₁ mm	Code no.	EDP Number
ER25	9 to 8	34	9.025	9043070090250
ER25	10 to 9	34	10.025	9043070100250
ER25	11 to 10	34	11.025	9043070110250
ER25	12 to 11	34	12.025	9043070120250
ER25	13 to 12	34	13.025	9043070130250
ER25	14 to 13	34	14.025	9043070140250
ER25	15 to 14	34	15.025	9043070150250
ER25	16 to 15	34	16.025	9043070160250
ER32	2 to 1.5	40	2.032	9043070020320
ER32	2.5 to 2	40	2.532	9043070025320
ER32	3 to 2.5	40	3.032	9043070030320
ER32	4 to 3	40	4.032	9043070040320
ER32	5 to 4	40	5.032	9043070050320
ER32	6 to 5	40	6.032	9043070060320
ER32	7 to 6	40	7.032	9043070070320
ER32	8 to 7	40	8.032	9043070080320
ER32	9 to 8	40	9.032	9043070090320
ER32	10 to 9	40	10.032	9043070100320
ER32	11 to 10	40	11.032	9043070110320
ER32	12 to 11	40	12.032	9043070120320
ER32	13 to 12	40	13.032	9043070130320
ER32	14 to 13	40	14.032	9043070140320
ER32	15 to 14	40	15.032	9043070150320
ER32	16 to 15	40	16.032	9043070160320
ER32	17 to 16	40	17.032	9043070170320
ER32	18 to 17	40	18.032	9043070180320
ER32	19 to 18	40	19.032	9043070190320
ER32	20 to 19	40	20.032	9043070200320
ER40	4 to 3	46	4.040	9043070040400
ER40	5 to 4	46	5.040	9043070050400
ER40	6 to 5	46	6.040	9043070060400
ER40	7 to 6	46	7.040	9043070070400
ER40	8 to 7	46	8.040	9043070080400
ER40	9 to 8	46	9.040	9043070090400
ER40	10 to 9	46	10.040	9043070100400
ER40	11 to 10	46	11.040	9043070110400
ER40	12 to 11	46	12.040	9043070120400
ER40	13 to 12	46	13.040	9043070130400
ER40	14 to 13	46	14.040	9043070140400
ER40	15 to 14	46	15.040	9043070150400
ER40	16 to 15	46	16.040	9043070160400
ER40	17 to 16	46	17.040	9043070170400
ER40	18 to 17	46	18.040	9043070180400
ER40	19 to 18	46	19.040	9043070190400
ER40	20 to 19	46	20.040	9043070200400
ER40	21 to 20	46	21.040	9043070210400
ER40	22 to 21	46	22.040	9043070220400
ER40	23 to 22	46	23.040	9043070230400
ER40	24 to 23	46	24.040	9043070240400
ER40	25 to 24	46	25.040	9043070250400
ER40	26 to 25	46	26.040	9043070260400

Product information

- DIN ISO 15488
 - for application without sealing washer
 - concentricity error max. 6 µm
 - for high-performance tools with internal cooling
e.g. HR 500 reamers
 - metallic sealed up to 300 bar coolant pressure
 - ER-DM collets with restricted clamping range
- The tool must be clamped flush, or deeper into the collet chuck. A minimum clamping length of 2/3 as for standard collet chucks is not possible as there would be no other sealing.

Series no. **4175**

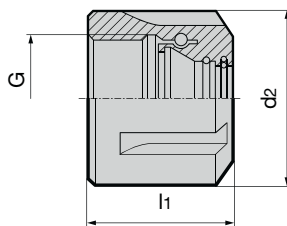
nom. size	clamping range d1 h9	Code no..	EDP Number
ER20	3.00	3.020	9041750030200
ER20	4.00	4.020	9041750040200
ER20	5.00	5.020	9041750050200
ER20	6.00	6.020	9041750060200
ER20	7.00 - 6.50	7.020	9041750070200
ER20	8.00 - 7.50	8.020	9041750080200
ER20	9.00 - 8.50	9.020	9041750090200
ER20	10.00 - 9.50	10.020	9041750100200
ER20	11.00 - 10.50	11.020	9041750110200
ER20	12.00 - 11.50	12.020	9041750120200
ER20	13.00 - 12.50	13.020	9041750130200
ER25	6.00	6.025	9041750060250
ER25	8.00 - 7.50	8.025	9041750080250
ER25	10.00 - 9.50	10.025	9041750100250
ER25	12.00 - 11.50	12.025	9041750120250
ER25	14.00 - 13.50	14.025	9041750140250
ER25	16.00 - 15.50	16.025	9041750160250
ER32	6.00	6.032	9041750060320
ER32	8.00 - 7.50	8.032	9041750080320
ER32	10.00 - 9.50	10.032	9041750100320
ER32	12.00 - 11.50	12.032	9041750120320
ER32	14.00 - 13.50	14.032	9041750140320
ER32	16.00 - 15.50	16.032	9041750160320
ER32	18.00 - 17.50	18.032	9041750180320
ER32	20.00 - 19.50	20.032	9041750200320

Product information

- for collets DIN ISO 15488
- for application with internal cooling IC/ER for sealing washer
- for increased clamping version ER or IC/ER with glide ring
- suitable for up to 150 bar coolant pressure

Scope of delivery

- version for internal cooling IC/ER: order sealing washer article no. 4335 separately
- IC/ER versions for internal cooling



Series no.

4306

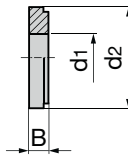
for sealing washer no. 4335	with glide ring	nom. size	d2 mm	l1 mm	G	max. torque Nm	EDP Number
–	–	ER16 mini	22	18.0	M19x1.0	55	9043060162000
–	–	ER20 mini	28	19.0	M24x1.0	75	9043060202000
–	–	ER25 mini	35	20.0	M30x1.0	100	9043060252000
–	–	ER11	19	11.3	M14x0.75	25	9043060110000
–	–	ER16	28	17.5	M22x1.5	55	9043060160000
–	–	ER20	34	19.0	M25x1.5	75	9043060200000
–	–	ER25	42	20.0	M32x1.5	100	9043060250000
–	–	ER32	50	22.5	M40x1.5	140	9043060320000
–	–	ER40	63	25.5	M50x1.5	200	9043060400000
x	–	IC/ER16 mini	22	22.0	M19x1.0	55	9043060163000
x	–	IC/ER20 mini	28	24.0	M24x1.0	75	9043060203000
x	–	IC/ER25 mini	35	25.0	M30x1.0	100	9043060253000
x	–	IC/ER16	28	22.5	M22x1.5	55	9043060166000
x	–	IC/ER20	34	24.0	M25x1.5	75	9043060206000
x	–	IC/ER25	42	25.0	M32x1.5	100	9043060256000
x	–	IC/ER32	50	27.5	M40x1.5	140	9043060326000
x	–	IC/ER40	63	30.5	M50x1.5	200	9043060406000
–	x	ER16	28	20.3	M22x1.5	55	9043060164000
–	x	ER20	34	21.8	M25x1.5	75	9043060204000
–	x	ER25	42	22.4	M32x1.5	100	9043060254000
–	x	ER32	50	25.0	M40x1.5	140	9043060324000
–	x	ER40	63	28.3	M50x1.5	200	9043060404000
x	x	IC/ER16	28	22.7	M22x1.5	55	9043060165000
x	x	IC/ER20	34	24.2	M25x1.5	75	9043060205000
x	x	IC/ER25	42	25.2	M32x1.5	100	9043060255000
x	x	IC/ER32	50	27.4	M40x1.5	140	9043060325000
x	x	IC/ER40	63	30.7	M50x1.5	200	9043060405000

Product information

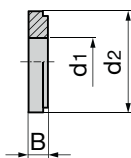
- the application range of sealing washer, article no. 4325, is from nom.-Ø d1 to the next dimension below, i.e. for Ø 6.3 mm (nom. size ER20) order sealing washer d1 = 6.5 mm (Order no. 6.520).
- suitable for up to 150 bar coolant pressure

Ordering example

Ø d1 = 3.5
nom. size = ER 20
article no./Order no. = 4335 3.520



Series no.						4335
nominal size	d1 mm	Sealing Range	d2 mm	B mm	Code no.	EDP Number
ER16	3	2.5 to 3	13	4	3.016	9043350030160
ER20	3	2.5 to 3	16	4	3.020	9043350030200
ER25	3	2.5 to 3	21	4	3.025	9043350030250
ER32	3	2.5 to 3	27	4	3.032	9043350030320
ER16	3.5	3 to 3.5	13	4	3.516	9043350035160
ER20	3.5	3 to 3.5	16	4	3.520	9043350035200
ER25	3.5	3 to 3.5	21	4	3.525	9043350035250
ER32	3.5	3 to 3.5	27	4	3.532	9043350035320
ER40	3.5	3 to 3.5	33.5	4	3.540	9043350035400
ER16	4	3.5 to 4	13	4	4.016	9043350040160
ER20	4	3.5 to 4	16	4	4.020	9043350040200
ER25	4	3.5 to 4	21	4	4.025	9043350040250
ER32	4	3.5 to 4	27	4	4.032	9043350040320
ER40	4	3.5 to 4	33.5	4	4.040	9043350040400
ER16	4.5	4 to 4.5	13	4	4.516	9043350045160
ER20	4.5	4 to 4.5	16	4	4.520	9043350045200
ER25	4.5	4 to 4.5	21	4	4.525	9043350045250
ER32	4.5	4 to 4.5	27	4	4.532	9043350045320
ER40	4.5	4 to 4.5	33.5	4	4.540	9043350045400
ER16	5	4.5 to 5	13	4	5.016	9043350050160
ER20	5	4.5 to 5	16	4	5.020	9043350050200
ER25	5	4.5 to 5	21	4	5.025	9043350050250
ER32	5	4.5 to 5	27	4	5.032	9043350050320
ER40	5	4.5 to 5	33.5	4	5.040	9043350050400
ER16	5.5	5 to 5.5	13	4	5.516	9043350055160
ER20	5.5	5 to 5.5	16	4	5.520	9043350055200
ER25	5.5	5 to 5.5	21	4	5.525	9043350055250
ER32	5.5	5 to 5.5	27	4	5.532	9043350055320
ER40	5.5	5 to 5.5	33.5	4	5.540	9043350055400
ER16	6	5.5 to 6	13	4	6.016	9043350060160
ER20	6	5.5 to 6	16	4	6.020	9043350060200
ER25	6	5.5 to 6	21	4	6.025	9043350060250
ER32	6	5.5 to 6	27	4	6.032	9043350060320
ER40	6	5.5 to 6	33.5	4	6.040	9043350060400
ER16	6.5	6 to 6.5	13	4	6.516	9043350065160
ER20	6.5	6 to 6.5	16	4	6.520	9043350065200
ER25	6.5	6 to 6.5	21	4	6.525	9043350065250
ER32	6.5	6 to 6.5	27	4	6.532	9043350065320
ER40	6.5	6 to 6.5	33.5	4	6.540	9043350065400
ER16	7	6.5 to 7	13	4	7.016	9043350070160
ER20	7	6.5 to 7	16	4	7.020	9043350070200
ER25	7	6.5 to 7	21	4	7.025	9043350070250
ER32	7	6.5 to 7	27	4	7.032	9043350070320
ER40	7	6.5 to 7	33.5	4	7.040	9043350070400



Series no. 4335

nominal size	d1 mm	Sealing Range	d2 mm	B mm	Code no.	EDP Number
ER16	7.5	7 to 7.5	13	4	7.516	9043350075160
ER20	7.5	7 to 7.5	16	4	7.520	9043350075200
ER25	7.5	7 to 7.5	21	4	7.525	9043350075250
ER32	7.5	7 to 7.5	27	4	7.532	9043350075320
ER40	7.5	7 to 7.5	33.5	4	7.540	9043350075400
ER16	8	7.5 to 8	13	4	8.016	9043350080160
ER20	8	7.5 to 8	16	4	8.020	9043350080200
ER25	8	7.5 to 8	21	4	8.025	9043350080250
ER32	8	7.5 to 8	27	4	8.032	9043350080320
ER40	8	7.5 to 8	33.5	4	8.040	9043350080400
ER16	8.5	8 to 8.5	13	4	8.516	9043350085160
ER20	8.5	8 to 8.5	16	4	8.520	9043350085200
ER25	8.5	8 to 8.5	21	4	8.525	9043350085250
ER32	8.5	8 to 8.5	27	4	8.532	9043350085320
ER40	8.5	8 to 8.5	33.5	4	8.540	9043350085400
ER16	9	8.5 to 9	13	4	9.016	9043350090160
ER20	9	8.5 to 9	16	4	9.020	9043350090200
ER25	9	8.5 to 9	21	4	9.025	9043350090250
ER32	9	8.5 to 9	27	4	9.032	9043350090320
ER40	9	8.5 to 9	33.5	4	9.040	9043350090400
ER16	9.5	9 to 9.5	13	4	9.516	9043350095160
ER20	9.5	9 to 9.5	16	4	9.520	9043350095200
ER25	9.5	9 to 9.5	21	4	9.525	9043350095250
ER32	9.5	9 to 9.5	27	4	9.532	9043350095320
ER40	9.5	9 to 9.5	33.5	4	9.540	9043350095400
ER16	10	9.5 to 10	13	4	10.016	9043350100160
ER20	10	9.5 to 10	16	4	10.020	9043350100200
ER25	10	9.5 to 10	21	4	10.025	9043350100250
ER32	10	9.5 to 10	27	4	10.032	9043350100320
ER40	10	9.5 to 10	33.5	4	10.040	9043350100400
ER20	10.5	10 to 10.5	16	4	10.520	9043350105200
ER25	10.5	10 to 10.5	21	4	10.525	9043350105250
ER32	10.5	10 to 10.5	27	4	10.532	9043350105320
ER40	10.5	10 to 10.5	33.5	4	10.540	9043350105400
ER20	11	10.5 to 11	16	4	11.020	9043350110200
ER25	11	10.5 to 11	21	4	11.025	9043350110250
ER32	11	10.5 to 11	27	4	11.032	9043350110320
ER40	11	10.5 to 11	33.5	4	11.040	9043350110400
ER20	11.5	11 to 11.5	16	4	11.520	9043350115200
ER25	11.5	11 to 11.5	21	4	11.525	9043350115250
ER32	11.5	11 to 11.5	27	4	11.532	9043350115320
ER40	11.5	11 to 11.5	33.5	4	11.540	9043350115400
ER20	12	11.5 to 12	16	4	12.020	9043350120200
ER25	12	11.5 to 12	21	4	12.025	9043350120250
ER32	12	11.5 to 12	27	4	12.032	9043350120320
ER40	12	11.5 to 12	33.5	4	12.040	9043350120400
ER20	12.5	12 to 12.5	16	4	12.520	9043350125200
ER25	12.5	12 to 12.5	21	4	12.525	9043350125250
ER32	12.5	12 to 12.5	27	4	12.532	9043350125320
ER40	12.5	12 to 12.5	33.5	4	12.540	9043350125400

Series no. 4335

nominal size	d ₁ mm	Sealing Range	d ₂ mm	B mm	Code no.	EDP Number
ER20	13	12.5 to 13	16	4	13.020	9043350130200
ER25	13	12.5 to 13	21	4	13.025	9043350130250
ER32	13	12.5 to 13	27	4	13.032	9043350130320
ER40	13	12.5 to 13	33.5	4	13.040	9043350130400
ER25	13.5	13 to 13.5	21	4	13.525	9043350135250
ER32	13.5	13 to 13.5	27	4	13.532	9043350135320
ER40	13.5	13 to 13.5	33.5	4	13.540	9043350135400
ER25	14	13.5 to 14	21	4	14.025	9043350140250
ER32	14	13.5 to 14	27	4	14.032	9043350140320
ER40	14	13.5 to 14	33.5	4	14.040	9043350140400
ER25	14.5	14 to 14.5	21	4	14.525	9043350145250
ER32	14.5	14 to 14.5	27	4	14.532	9043350145320
ER40	14.5	14 to 14.5	33.5	4	14.540	9043350145400
ER25	15	14.5 to 15	21	4	15.025	9043350150250
ER32	15	14.5 to 15	27	4	15.032	9043350150320
ER40	15	14.5 to 15	33.5	4	15.040	9043350150400
ER25	15.5	15 to 15.5	21	4	15.525	9043350155250
ER32	15.5	15 to 15.5	27	4	15.532	9043350155320
ER40	15.5	15 to 15.5	33.5	4	15.540	9043350155400
ER25	16	15.5 to 16	21	4	16.025	9043350160250
ER32	16	15.5 to 16	27	4	16.032	9043350160320
ER40	16	15.5 to 16	33.5	4	16.040	9043350160400
ER32	16.5	16 to 16.5	27	4	16.532	9043350165320
ER40	16.5	16 to 16.5	33.5	4	16.540	9043350165400
ER32	17	16.5 to 17	27	4	17.032	9043350170320
ER40	17	16.5 to 17	33.5	4	17.040	9043350170400
ER32	17.5	17 to 17.5	27	4	17.532	9043350175320
ER40	17.5	17 to 17.5	33.5	4	17.540	9043350175400
ER32	18	17.5 to 18	27	4	18.032	9043350180320
ER40	18	17.5 to 18	33.5	4	18.040	9043350180400
ER32	18.5	18 to 18.5	27	4	18.532	9043350185320
ER40	18.5	18 to 18.5	33.5	4	18.540	9043350185400
ER32	19	18.5 to 19	27	4	19.032	9043350190320
ER40	19	18.5 to 19	33.5	4	19.040	9043350190400
ER32	19.5	19 to 19.5	27	4	19.532	9043350195320
ER40	19.5	19 to 19.5	33.5	4	19.540	9043350195400
ER32	20	19.5 to 20	27	4	20.032	9043350200320
ER40	20	19.5 to 20	33.5	4	20.040	9043350200400
ER40	20.5	20 to 20.5	33.5	4	20.540	9043350205400
ER40	21	20.5 to 21	33.5	4	21.040	9043350210400
ER40	21.5	21 to 21.5	33.5	4	21.540	9043350215400
ER40	22	21.5 to 22	33.5	4	22.040	9043350220400
ER40	22.5	22 to 22.5	33.5	4	22.540	9043350225400
ER40	23	22.5 to 23	33.5	4	23.040	9043350230400
ER40	23.5	23 to 23.5	33.5	4	23.540	9043350235400
ER40	24	23.5 to 24	33.5	4	24.040	9043350240400
ER40	24.5	24 to 24.5	33.5	4	24.540	9043350245400
ER40	25	24.5 to 25	33.5	4	25.040	9043350250400
ER40	25.5	25 to 25.5	33.5	4	25.540	9043350255400
ER40	26	25.5 to 26	33.5	4	26.040	9043350260400

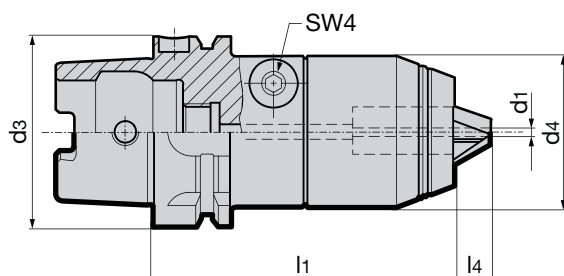
HSK-A drilling chucks with internal cooling

Product information

- for clamping all straight shank tools
- HSK-A to ISO 12164-1/DIN 69893-1
- continuous Ø-range
- high clamping force thanks to robust worm gear
- max. coolant pressure up to 50 bar
- limit speed 20,000 rpm
- balancing quality: G2,5 / 20.000 rev./min

Scope of delivery

- incl. clamping key
- order coolant supply set, article no. 4949 separately



GÜHROJET

Series no. 4346

HSK-A d ₃	clamping range d ₁ mm	d ₄ mm	l ₁ mm	l ₄ mm	kg	Code no.	EDP Number
50	1-16	50	107	12	1.60	16.050	9043460160500
63	1-16	50	98	12	1.90	16.063	9043460160630
80	1-16	50	101	12	2.70	16.080	9043460160800
100	1-16	50	104	12	3.30	16.100	9043460161000

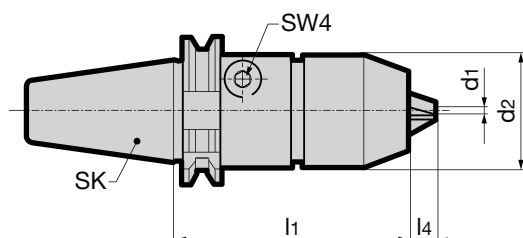
SK taper drilling chucks with internal cooling

Product information

- for clamping all straight shank tools
- ISO taper to DIN ISO 7388-1 form AD
- continuous Ø-range
- high clamping force thanks to robust worm gear
- max. coolant pressure up to 50 bar
- limit speed 20,000 rpm
- balancing quality: G2,5 / 20.000 rev./min
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. clamping key



GÜHROJET

Series no. 4242

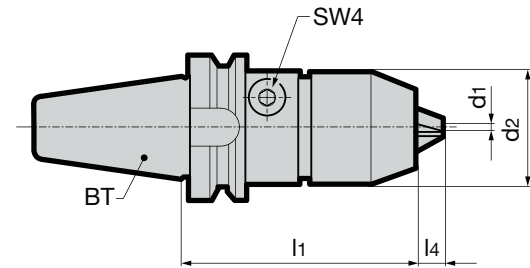
SK taper	clamping range d ₁ mm	d ₂ mm	l ₁ mm	l ₄ mm	Code no.	EDP Number
40	1.00 - 16.00	50	80	12		9042420160400
50	1.00 - 16.00	50	80	12		9042420160500

Product information

- for clamping all straight shank tools
- MAS/BT to DIN ISO 7388-2 form AD
- continuous Ø-range
- high clamping force thanks to robust worm gear
- max. coolant pressure up to 50 bar
- limit speed 20,000 rpm
- balancing quality: G2,5 / 20.000 rev./min
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. clamping key



GÜHROJET

Series no. **4240**

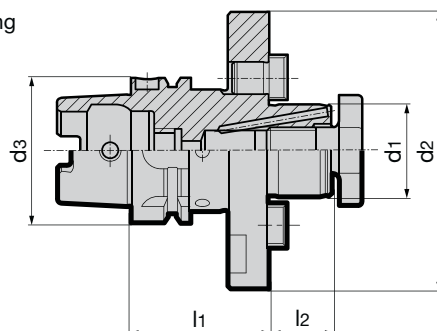
MAS/BT	clamping range d1 mm	d2 mm	l1 mm	l4 mm	Code no.	EDP Number
30	0.5 - 10	45	72	9	10.030	9042400100300
40	1 - 16	50	88	12	16.040	9042400160400
50	1 - 16	50	99	12	16.050	9042400160500

Product information

- HSK-A to ISO 12164-1/DIN 69893-1
- to hold face milling cutters
- balancing quality: G6.3 / 15,000 rev./min
- to DIN 69882-3
- for centralised or decentralised internal cooling, therefore process and tool life improvement
- bore-Ø 40 mm has four additional holes with internal thread for milling heads with tool attachment DIN 2079 and increased tight fitting diameter d2
- incl. balancing thread 6xM6

Scope of delivery

- incl. milling retainer screw
article no. 4908 and driving keys
- order coolant supply set article no. 4949 separately



GÜHROJET

Series no.

4362

HSK-A d ₃	arbor-Ø d ₁ h6 mm	d ₂ mm	l ₁ mm	l ₂ mm	kg	Code no.	EDP Number
63	22	50	50	19	1.1	22.063	9043620220630
63	27	60	60	21	1.3	27.063	9043620270630
63	32	78	60	24	1.5	32.063	9043620320630
63	40	120	60	27	2.7	40.063	9043620400630
63	40	89	60	27	2.7	140.063	9043621400630
80	27	60	50	21	1.8	27.080	9043620270800
80	32	78	50	24	2.1	32.080	9043620320800
80	40	120	60	27	3.3	40.080	9043620400800
80	40	89	60	27	3.3	140.080	9043621400800
80	60	160	70	40	6.3	60.080	9043620600800
100	27	60	50	21	2.9	27.100	9043620271000
100	32	78	50	24	3.3	32.100	9043620321000
100	40	120	60	27	4.2	40.100	9043620401000
100	40	89	60	27	4.2	140.100	9043621401000
100	60	160	70	40	7.2	60.100	9043620601000

Product information

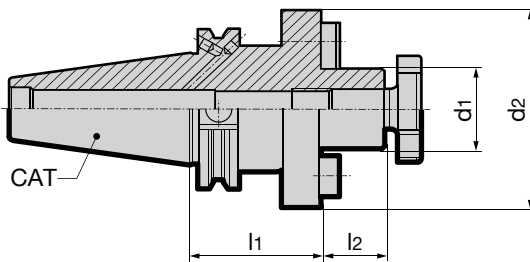
- for the mounting of face milling cutters
- balancing quality: G6,3 / 15,000 rpm
- CAT according to ASME B5.50
- for central internal cooling
- coolant supply form AD/AB
- bore-Ø 40 mm has four additional holes with internal thread for milling heads with tool attachment DIN 2079 and increased tight fitting diameter d2

Scope of delivery

- incl. cylinder screw DIN EN ISO 4762
art. no. 4907
- incl. retaining screws art. no. 4908
and driving keys



GÜHROJET

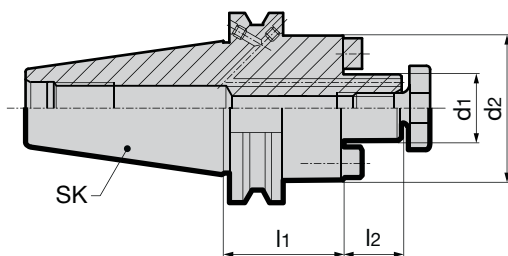
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Product information

- to hold face milling cutters
- balancing quality: G6.3 / 15,000 rev./min
- ISO taper to DIN ISO 7388-1 form AD/B
- for centralized or decentralised internal cooling, therefore process and tool life improvement
- coolant supply form AD/B
- bore-Ø 40 mm has four additional holes with internal thread for milling heads with tool attachment DIN 2079 and increased tight fitting diameter d2
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. milling retainer screw,
article no. 4908, and driving keys

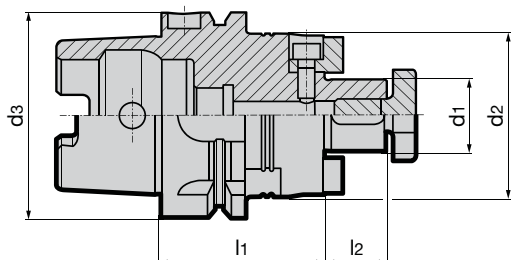
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Product information

- to hold shell mills DIN 841, arbor-type single angle cutters DIN 842 with keyway, shell mills DIN 1880 with keyway and milling cutters with inserts DIN 1830
- bore-Ø 40 and 50 mm has four additional holes with internal thread for milling heads with tool attachment DIN 2079
- HSK-A to ISO 12164-1/DIN 69893-1
- for central coolant supply

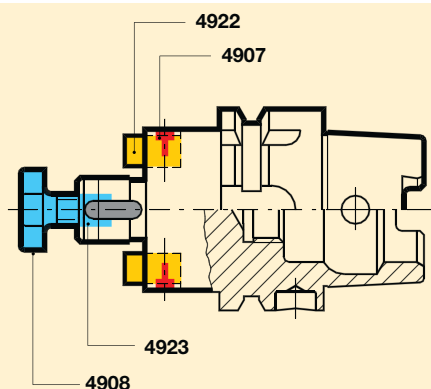
Scope of delivery

- completely assembled with milling cutter retaining screw, article no. 4908, drive dogs, article no. 4922 and feather key article no. 4923
- order coolant supply set article no. 4949 separately



						Series no.	4361
HSK-A d3	arbor-Ø d1 h6 mm	d2 mm	l1 mm	l2 mm	kg	Code no.	EDP Number
32	16	40	45	17	0.27	16.032	9043610160320
32	22	50	50	19	0.40	22.032	9043610220320
40	16	40	45	17	0.40	16.040	9043610160400
40	22	50	50	19	0.50	22.040	9043610220400
50	16	40	45	17	0.60	16.050	9043610160500
50	22	50	50	19	0.80	22.050	9043610220500
50	27	60	55	21	1.00	27.050	9043610270500
63	16	40	45	17	0.90	16.063	9043610160630
63	22	50	50	19	1.00	22.063	9043610220630
63	27	60	55	21	1.30	27.063	9043610270630
63	32	78	55	24	1.60	32.063	9043610320630
63	40	89	60	27	2.10	40.063	9043610400630
80	16	40	45	17	2.10	16.080	9043610160800
80	22	50	50	19	2.30	22.080	9043610220800
80	27	60	55	21	2.50	27.080	9043610270800
80	32	78	55	24	2.60	32.080	9043610320800
80	40	89	60	27	3.40	40.080	9043610400800
100	22	50	50	19	2.50	22.100	9043610221000
100	27	60	55	21	2.80	27.100	9043610271000
100	32	78	55	24	3.10	32.100	9043610321000
100	40	89	60	27	3.70	40.100	9043610401000
100	50	120	70	30	5.60	50.100	9043610501000

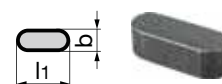
Positioning of accessories



Feather keys DIN 6885 A

Scope of delivery

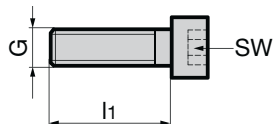
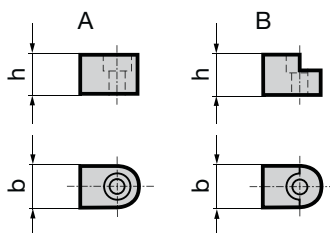
- minimum order quantity 10



			Series no.	4923
for arbor-Ø mm	l1 mm	b mm	EDP Number	
16	14	4	9049230040160	
22	16	6	9049230060220	
27	19	7	9049230070270	
32	22	8	9049230080320	
40	25	10	9049230100400	
50	28	12	9049230120500	

Scope of delivery

- minimum order quantity 10



Series no. 4922

for arbor-Ø mm	Form	h mm	b mm	EDP Number
16	B	9.25	8	9049220160000
22	B	11.00	10	9049220220000
27	A	12.75	12	9049220270000
32	A	16.50	14	9049220320000
40	A	20.00	16	9049220400000
50	A	27.50	18	9049220500000

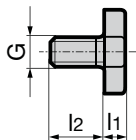
Series no. 4907

G	l1 mm	SW	strength	EDP Number
M4	10	3	8.8	9049070041000
M5	12	4	8.8	9049070051200
M6	16	5	8.8	9049070061600
M6	20	5	8.8	9049070062000
M8	25	6	8.8	9049070082500
M12	65	10	10.9	9049070126500

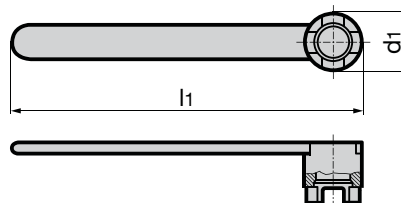
Milling cutter retaining screws

Product information

- to DIN 6367
- on request with internal cooling



Socket wrenches for retaining screws



Series no. 4908

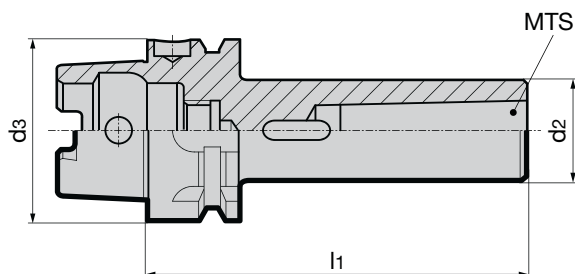
for arbor-Ø mm	G	l1 mm	l2 mm	torque Nm	EDP Number
16	M8	6	16	40	9049080160000
22	M10	7	18	60	9049080220000
27	M12	8	22	80	9049080270000
32	M16	9	26	95	9049080320000
40	M20	10	30	100	9049080400000
50	M24	12	36	135	9049080500000
60	M30	14	45	160	9049080600000

Series no. 4909

for arbor-Ø mm	d1 mm	l1 mm	EDP Number
16	22	180	9049090160000
22	28	200	9049090220000
27	35	225	9049090270000
32	42	250	9049090320000
40	52	280	9049090400000
50	63	315	9049090500000
60	76	355	9049090600000

Product information

- for holding Morse tapers with tang to DIN 228-1 form B,
- HSK-A to ISO 12164-1/DIN 69893-1



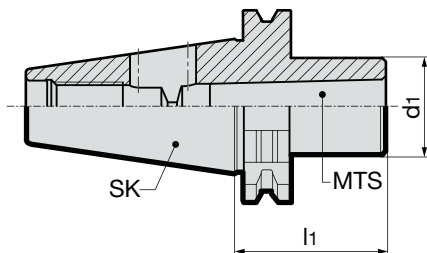
Series no. 4320

HSK-A d3 mm	MTS	d2 mm	l1 mm	kg	Code no.	EDP Number
50	1	25	100	0.8	1.050	9043200010500
50	2	32	120	0.8	2.050	9043200020500
50	3	40	140	1.2	3.050	9043200030500
63	1	25	100	0.9	1.063	9043200010630
63	2	32	120	1.1	2.063	9043200020630
63	3	40	140	1.5	3.063	9043200030630
63	4	48	160	1.9	4.063	9043200040630
80	1	25	110	1.5	1.080	9043200010800
80	2	32	120	1.7	2.080	9043200020800
80	3	40	150	2.0	3.080	9043200030800
80	4	48	170	2.6	4.080	9043200040800
100	1	25	110	2.3	1.100	9043200011000
100	2	32	120	2.5	2.100	9043200021000
100	3	40	150	2.8	3.100	9043200031000
100	4	48	170	4.2	4.100	9043200041000
100	5	63	200	4.5	5.100	9043200051000

SK taper morse taper holders

Product information

- for holding Morse tapers with tang to DIN 228-1 form B
- ISO taper to DIN ISO 7388-1 form AD
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob



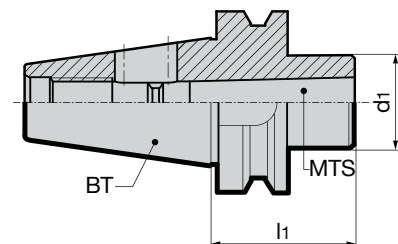
Series no. **4238**

SK taper	MTS	d ₁ mm	l ₁ mm	Code no.	EDP Number
40	1	25	50	1.040	9042380010400
40	2	32	50	2.040	9042380020400
40	3	40	70	3.040	9042380030400
40	4	48	95	4.040	9042380040400
50	1	25	45	1.050	9042380010500
50	2	32	60	2.050	9042380020500
50	3	40	65	3.050	9042380030500
50	4	48	95	4.050	9042380040500
50	5	63	105	5.050	9042380050500

BT morse taper holders

Product information

- for holding Morse tapers with tang to DIN 228-1 form B
- MAS/BT to DIN ISO 7388-2 form AD
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob



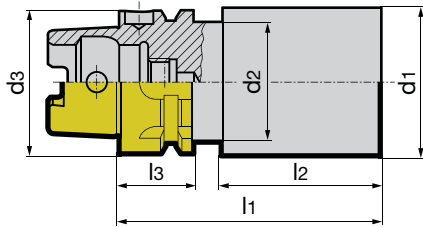
Series no. **4239**

BT	MTS	d ₁ mm	l ₁ mm	Code no.	EDP Number
30	1	25	45	1.030	9042390010300
30	2	32	60	2.030	9042390020300
30	3	40	75	3.030	9042390030300
40	1	25	50	1.040	9042390010400
40	2	32	50	2.040	9042390020400
40	3	40	70	3.040	9042390030400
40	4	48	95	4.040	9042390040400
50	1	25	45	1.050	9042390010500
50	2	32	60	2.050	9042390020500
50	3	40	65	3.050	9042390030500
50	4	48	95	4.050	9042390040500
50	5	63	105	5.050	9042390050500

HSK-A blanks

Product information

- material: nitrided steel, hardened and ground taper (yellow in scale drawing), blank unhardened for further machining
- HSK-A to ISO 12164-1/DIN 69893-1



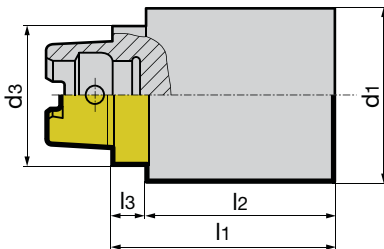
Series no. 4983

HSK-A d ₃	d ₁ mm	d ₂ mm	l ₁ mm	l ₂ mm	l ₃ mm	kg	Code no.	EDP Number
32	41	26	175	140	20	1.62	150.063	9049831500630
40	51	34	205	170	20	3.02	175.032	9049831750320
50	64	42	235	193	26	5.42	205.040	9049832050400
63	63	53	150	108	26	3.55	235.050	9049832350500
63	81	53	235	193	26	8.71	235.063	9049832350630
80	101	67	235	193	26	13.63	235.080	9049832350800
100	126	85	250	205	29	22.71	250.100	9049832501000

HSK-C blanks

Product information

- material: nitrided steel, hardened and ground taper (yellow in scale drawing), blank unhardened for further machining
- machining not permitted in l₃ area
- HSK-C to ISO 12164-1/DIN 69893-1



Series no. 4982

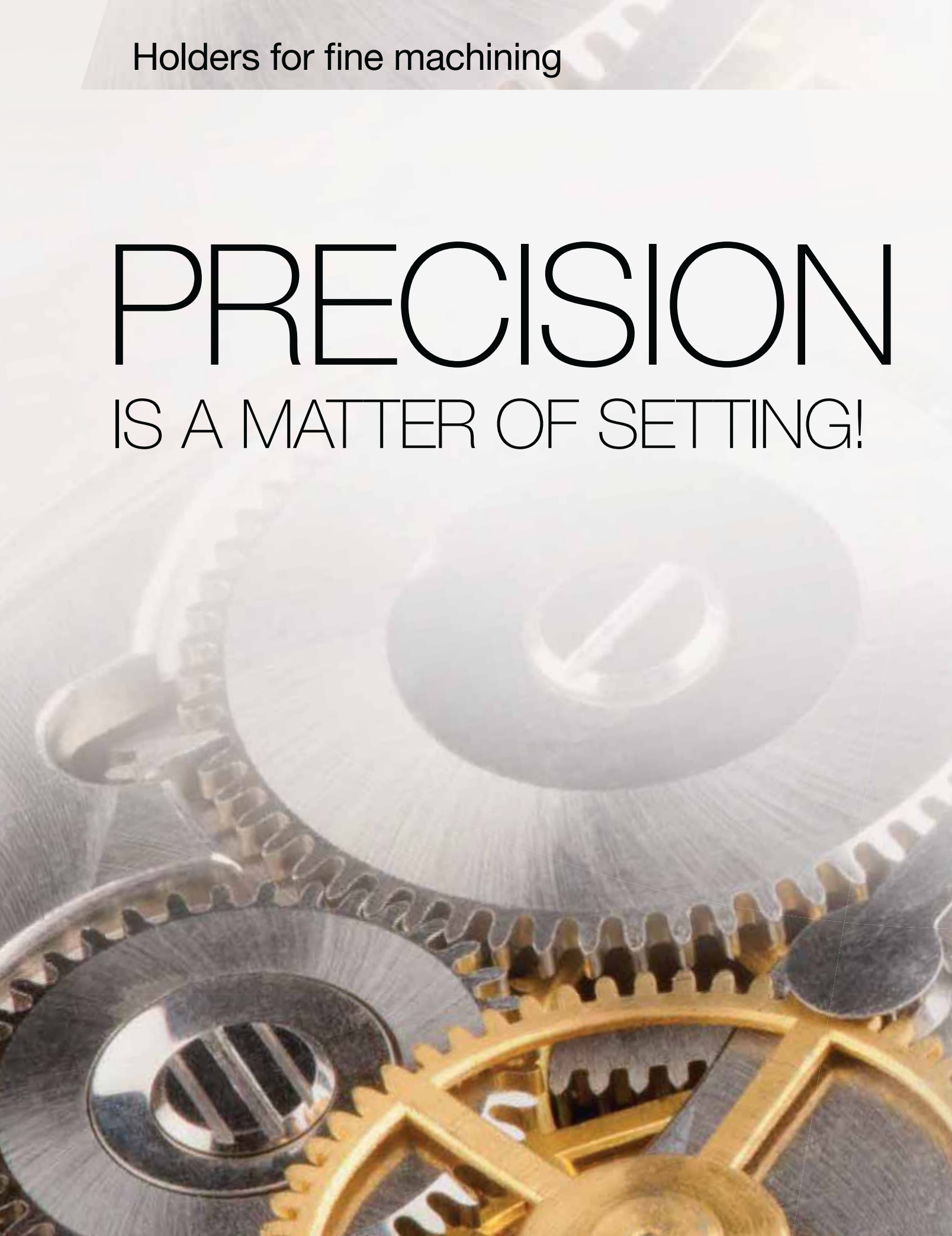
HSK-C d ₃	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	kg	Code no.	EDP Number
25	30	100	90	10	0.54	87.025	9049820870250
32	41	150	139	11	1.50	50.032	9049820500320
40	51	180	169	11	2.81	63.040	9049820630400
50	64	200	186	14	4.92	80.050	9049820800500
50	64	90	76	14	2.15	100.050	9049821000500
63	81	200	186	14	7.90	112.063	9049821120630
63	81	100	86	14	3.89	120.080	9049821200800
80	101	210	193	17	12.90	125.063	9049821250630
100	124	225	208	17	21.70	145.100	9049821451000

HOLDERS FOR FINE MACHINING



Holders for fine machining

PRECISION IS A MATTER OF SETTING!





**QUICK + SIMPLE
ADJUSTMENT**



**AXIAL + RADIAL
 μ -ACCURATE SETTING**



**CONCENTRICITY AND
ALIGNMENT ERROR
COMPENSATION**



MQL SUITABLE



4949

Coolant supply
set HSK-A
(conventional)



4939

MQL 1-channel
coolant supply
set HSK-A



4940

MQL 1-channel
coolant supply
set HSK-A (filler)



4723

Module
HSK-A
alignment adaptor



4725

Module
SK taper
alignment adaptor



4712

Module
taper
alignment adaptor BT



machine spindle
direct installation



Intermediate sleeve



4716

Intermediate sleeve



4363

Module
HSK adaptor
flange



4722

Module
hydraulic chuck
flange



4717

Module
shrink fit chuck
flange



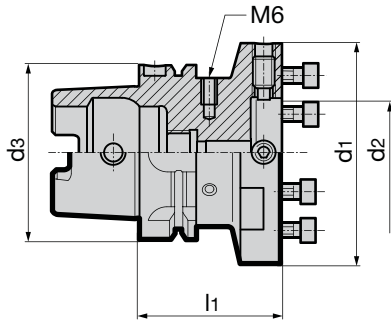
4714

Module
HPC clamping chuck
flange



Product information

- for the highly accurate alignment of all modular flanges 6x6
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- suitable for MQL and conventional cooling
- balancing quality G6.3 / 15,000 rev./min
- 6 balancing threads M6
- HSK-A to ISO 12164-1/DIN 69893-1



Scope of delivery

- incl. 6 screws for radial adjustment
- incl. 6 clamping screws
- order intermediate tube Series no. 4716 separately
- order coolant supply set Series no. 4949, MQL coolant supply set Series no. 4939 or 4940 separately
- further dimensions on request

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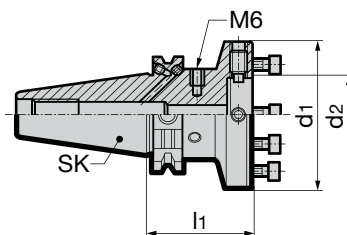
Module 6x6 SK taper alignment adaptor

Product information

- ISO taper to DIN ISO 7388-1 form AD/B
- for the highly accurate alignment of all modular flanges 6x6
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- suitable for MQL and conventional cooling
- balancing quality G6.3 / 15,000 rev./min
- 6 balancing threads M6
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. 6 screws for radial adjustment
- incl. 6 clamping screws



Series no.

4725

SK	d ₁ mm	d ₂ mm	l ₁ mm	Code no.	EDP Number
40	60	30	50	60.040	9047250600400
40	70	35	50	70.040	9047250700400
40	80	40	55	80.040	9047250800400
40	100	50	60	100.040	9047251000400
50	60	30	50	60.050	9047250600500
50	70	35	50	70.050	9047250700500
50	80	40	50	80.050	9047250800500
50	100	50	60	100.050	9047251000500
50	117	60	60	117.050	9047251170500
50	140	80	60	140.050	9047251400500

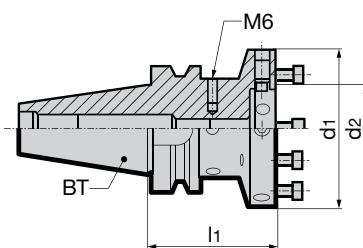
Module 6x6 taper alignment adaptor BT

Product information

- MAS/BT to DIN ISO 7388-2 form AD
- for the highly accurate alignment of all modular flanges 6x6
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- suitable for MQL and conventional cooling
- balancing quality G6.3 / 15,000 rev./min
- 6 balancing threads M6
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. 6 screws for radial adjustment
- incl. 6 clamping screws



Series no.

4712

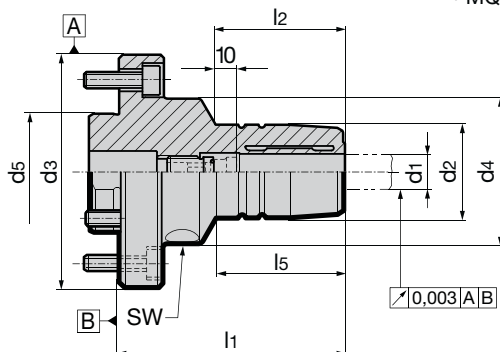
BT	d ₁ mm	d ₂ mm	l ₁ mm	Code no.	EDP Number
30	60	30	50	60.030	9047120600300
30	70	35	50	70.030	9047120700300
40	60	30	55	60.040	9047120600400
40	70	35	55	70.040	9047120700400
40	80	40	65	80.040	9047120800400
40	100	50	70	100.040	9047121000400
50	60	30	70	60.050	9047120600500
50	70	35	70	70.050	9047120700500
50	80	40	70	80.050	9047120800500
50	100	50	70	100.050	9047121000500
50	117	60	80	117.050	9047121170500
50	140	80	80	140.050	9047121400500

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- balancing quality G6.3 / 15,000 rev./min
- for tool shank tolerance h6

Scope of delivery

- incl. adjustment screw Series no. 4941 for conventional cooling
- incl. angular alignment set Series no. 4715
- incl. 6 clamping screws
- incl. hexagon chuck key Series no. 4912
- order intermediate tube Series no. 4716 separately
- for other clamping Ø apply reduction bushes Series no. 4368 or 4369
- MQL version on request

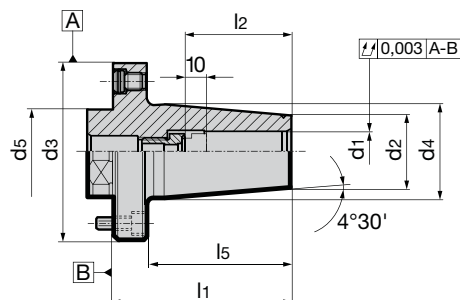
[illegible]

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- balancing quality G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- with axial damping screw for optimal concentricity

Scope of delivery

- incl. adjustment screw with axial force
- damping Series no. 4941
- incl. 6 angular alignment sets Series no. 4715
- incl. 6 clamping screws
- order intermediate tube Series no. 4716 separately
- further dimensions on request



Series no. 4717

Modul-Ø d3 mm	für Schaft-Ø d1 h6 mm	d2 mm	d4 mm	d5 mm	l1 mm	l2 mm	l5 mm	incl. setting screw art. no. 4941	intermediate sleeve tube art. no. 4716	Code no.	EDP Number
60	6	21	27	30	70	36	56	6.100	14.010	6.060	9047170060600
60	8	21	27	30	70	36	56	8.100	14.010	8.060	9047170080600
60	10	24	32	30	70	40	56	10.100	14.020	10.060	9047170100600
60	12	24	32	30	70	45	56	12.100	14.030	12.060	9047170120600
70	12	24	32	35	75	45	60	12.100	14.020	12.070	9047170120700
70	14	27	34	35	75	45	60	14.100	14.020	14.070	9047170140700
70	16	27	34	35	75	48	60	16.100	14.040	16.070	9047170160700
80	18	33	42	40	80	48	65	18.100	14.050	18.080	9047170180800
80	20	33	42	40	80	50	65	20.100	14.040	20.080	9047170200800
100	25	44	52	50	80	56	61	25.100	20.010	25.100	9047170251000
100	32	44	52	50	80	60	61	32.100	20.020	32.100	9047170321000

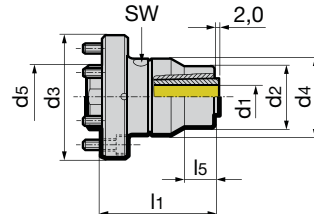
Module 6x6 HPC clamping chuck flange

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- highest concentricity, clamping force and rigidity thanks to mech. tension gearing
- suitable for internal cooling up to 80 bar
- positive damping characteristics
- for tool shank tolerance h6

Scope of delivery

- incl. hexagon chuck key Series no. 4912
- incl. 6 angular alignment sets Series no. 4715
- incl. 6 clamping screws
- order intermediate tube Series no. 4716 separately
- order clamping sleeves article nos. 4302, 4235, 4236, 4237 separately



Series no. 4714											EDP Number
Module-Ø d3 mm	nom. size	for shank Ø d1 h6 mm	d2 mm	d4 mm	d5 mm	l1 mm	l5 mm	intermediate sleeve tube Series no. 4716	SW	Code no.	
70	20	3 - 20	40	53	35	87	20	20.030	4	20.070	9047140200700
80	20	3 - 20	40	53	40	73	20	20.030	4	20.080	9047140200800
100	25	16-32	53	63	50	118	-	20.030	4	25.100	9047140251000

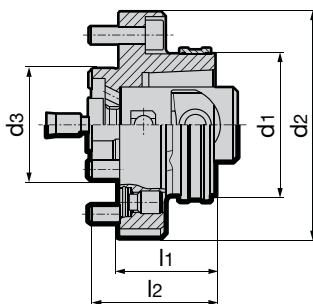
Module 6x6 HSK adaptor flange

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- suitable for MQL and conventional cooling
- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- incl. MQL 4-point clamping set Series no. 4930
- incl. clamping screw Series no. 4935
- incl. brass lock ring Series no. 4953
- incl. 6 angular alignment sets Series no. 4715
- incl. 6 clamping screws
- incl. intermediate tube Series no. 4716



Holders for
fine machining



Series no. 4363								EDP Number
HSK-C d1 mm	Module-Ø d2 mm	d3 mm	kg	l1 mm	l2 mm	intermediate sleeve tube Series no. 4716	Code no.	
32	60	30	0.4	26	36	24.060	24.060	9043630240600
40	70	35	0.6	30	40	30.070	30.070	9043630300700
50	80	40	1.0	35	45	238.080	38.080	9043630380800
63	100	50	1.8	43	55	48.100	48.100	9043630481000
80	117	60	2.9	50	62	60.117	60.110	9043630601100
100	140	80	5.8	75	87	75.140	75.140	9043630751400



Holders for fine machining

-
- Technical drawing of a mechanical component (Fig. 10.10) showing a cross-section. The drawing includes the following dimensions and features:
- d1**: Dimension across the top flange.
 - d2**: Dimension across the bottom flange.
 - d3**: Dimension across the central body.
 - l1**: Dimension across the bottom flange.
 - M6**: Thread specification for the top flange.

- further dimensions on request



Holders for
fine machining

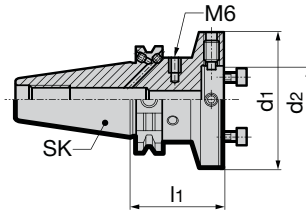
Module 4x4 SK taper alignment adaptor

Product information

- ISO taper to DIN ISO 7388-1 form AD/B
- for highly accurate alignment of all modular flanges 4x4
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- suitable for MQL and conventional cooling
- balancing quality G6.3 / 15,000 rev./min
- 6 balancing threads M6
- SK40 - M16 x 2.0 retention knob
- SK50 - M24 x 3.0 retention knob

Scope of delivery

- incl. 4 screws for radial adjustment
- incl. 4 clamping screws
- order intermediate tube Series no. 4716 separately



Series no.

4724

SK	d ₁ mm	d ₂ mm	l ₁ mm	Code no.	EDP Number
40	60	30	50	60.040	9047240600400
40	70	35	50	70.040	9047240700400
40	80	40	55	80.040	9047240800400
40	100	50	60	100.040	9047241000400
50	60	30	50	60.050	9047240600500
50	70	35	50	70.050	9047240700500
50	80	40	50	80.050	9047240800500
50	100	50	60	100.050	9047241000500
50	117	50	60	117.050	9047241170500
50	140	80	60	140.050	9047241400500

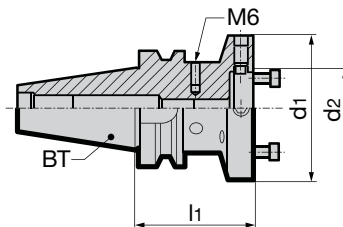
Module 4x4 taper alignment adaptor BT

Product information

- MAS/BT to DIN ISO 7388-2 form AD
- for highly accurate alignment of all modular flanges 4x4
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- suitable for MQL and conventional cooling
- balancing quality G6.3 / 15,000 rev./min
- 6 balancing threads M6
- BT30 - M12 x 1.75 retention knob
- BT40 - M16 x 2.0 retention knob
- BT50 - M24 x 3.0 retention knob

Scope of delivery

- incl. 4 screws for radial adjustment
- incl. 4 clamping screws
- incl. set screws



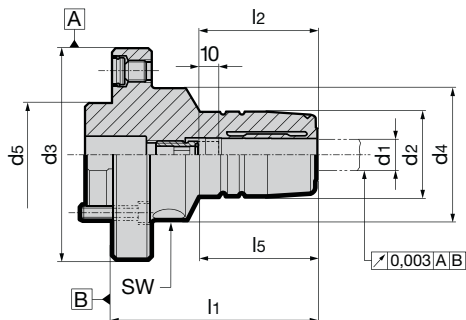
Series no.

4709

BT	d ₁ mm	d ₂ mm	l ₁ mm	Code no.	EDP Number
30	60	30	50	60.030	9047090600300
30	70	35	50	70.030	9047090700300
40	60	30	55	60.040	9047090600400
40	70	35	55	70.040	9047090700400
40	80	40	65	80.040	9047090800400
40	100	50	70	100.040	9047091000400
50	60	30	70	60.050	9047090600500
50	70	35	70	70.050	9047090700500
50	80	40	70	80.050	9047090800500
50	100	50	70	100.050	9047091000500
50	117	60	80	117.050	9047091170500
50	140	80	80	140.050	9047091400500

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- balancing quality G6.3 / 15,000 rev./min
- for tool shank tolerance h6



Scope of delivery

- incl. adjustment screw Series no. 4941 for conventional cooling
- incl. angular alignment set Series no. 4715
- incl. 4 clamping screws
- incl. hexagon chuck key Series no. 4912
- order intermediate tube Series no. 4716 separately
- for other clamping Ø apply reduction bushes Series no. 4368 or 4369
- MQL version on request



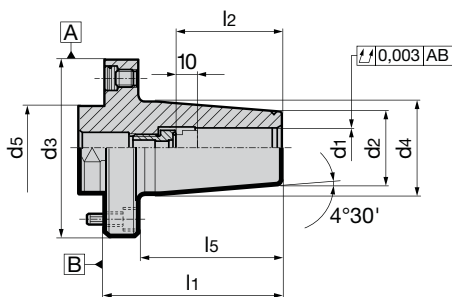
Series no. 4360

Module-Ø d3 mm	for shank Ø d1 h6 mm	d2 mm	d4 mm	d5 mm	l1 mm	l2 mm	l5 mm	incl. setting screw art. no. 4941	intermediate sleeve tube art. no. 4716	SW	Code no.	EDP Number
70	12	32	40	35	75.0	45	45.0	12.100	14.020	4	12.070	9043600120700
80	12	32	50	40	77.5	45	44.3	12.100	14.050	5	12.080	9043600120800
80	20	42	50	40	82.5	50	51.5	20.100	14.040	5	20.080	9043600200800
100	32	64	64	50	103.0	60	84.0	32.100	14.020	6	32.100	9043600321000

Module 4x4 shrink fit chuck flange

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- cooling lubricant without loss and flow-disruption thanks to the use of an intermediate tube
- balancing quality G6.3 / 15,000 rev./min
- for tool shank tolerance h6
- with axial damping screw for optimal concentricity



Scope of delivery

- incl. adjustment screw with axial force
- damping Series no. 4941
- incl. angular alignment seten Series no. 4715
- incl. 4 clamping screws
- order intermediate tube Series no. 4716 separately
- further dimensions on request



Series no. 4760

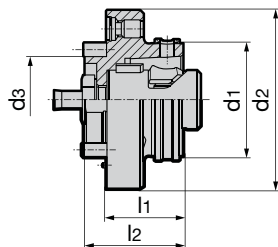
Module-Ø d3 mm	for shank Ø d1 h6 mm	d2 mm	d4 mm	d5 mm	l1 mm	l2 mm	l5 mm	incl. setting screw art. no. 4941	intermediate sleeve tube art. no. 4716	Code no.	EDP Number
60	6	21	27	30	70	36	56	6.100	14.010	6.060	9047600060600
60	8	21	27	30	70	36	56	8.100	14.010	8.060	9047600080600
60	10	24	32	30	70	40	56	10.100	14.020	10.060	9047600100600
60	12	24	32	30	70	45	56	12.100	14.030	12.060	9047600120600
70	12	24	32	35	75	45	60	12.100	14.020	12.070	9047600120700
70	14	27	34	35	75	45	60	14.100	14.020	14.070	9047600140700
70	16	27	34	35	75	48	60	16.100	14.040	16.070	9047600160700
80	18	33	42	40	80	48	65	18.100	14.050	18.080	9047600180800
80	20	33	42	40	80	50	65	20.100	14.040	20.080	9047600200800
100	25	44	52	50	80	56	61	25.100	20.010	25.100	9047600251000
100	32	44	52	50	80	60	61	32.100	20.020	32.100	9047600321000

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- suitable for MQL and conventional cooling
- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- incl. MQL 4-point clamping set Series no. 4930
- incl. clamping screw Series no. 4935
- incl. brass lock ring Series no. 4953
- incl. 6 angular alignment sets Series no. 4715
- incl. 6 clamping screws
- incl. intermediate tube Series no. 4716



MQL
BY GÜHRING

Series no. **4713**

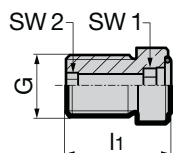
HSK-C d ₁ mm	Module-Ø d ₂ mm	d ₃ mm	l ₁ mm	l ₂ mm	intermediate sleeve tube art. no. 4716	Code no.	EDP Number
32	60	30	26	36	24.060	24.060	9047130240600
40	70	35	30	40	30.070	30.070	9047130300700
50	80	40	35	45	238.080	38.080	9047130380800
63	100	50	43	55	48.100	48.100	9047130481000
80	117	60	50	62	60.117	60.117	9047130601170
100	140	80	75	87	75.140	75.140	9047130751400

Length adjustment screw for conventional cooling

Product information

- to adapt MQL tool holders to meet the requirements of conventional wet machining. For plain end shanks. The height of screw head compensates the height of MQL taper

- for MQL HSK-A shrink fit and hydraulic chucks
- for use with shank according to DIN 6535 with plain shank end for conventional cooling
- with the patented face orientated O ring axial force damping is provided which prevents concentricity errors.



Series no. **4941**

for HSK-A	clamping- Ø	G	d ₁ mm	l ₁ mm	SW1	SW2	Code no.	EDP Number
40	6	M5	6.0	14.9	2.5	-	6.0400	9049410060400
40	6	M7x1	5.8	15.0	2.5	-	6.0410	9049410060410
40	8	M7x1	5.8	18.0	3	-	6.0500	9049410060500
50	6	M8x1	5.8	14.0	2.5	-	6.1000	9049410061000
50	8	M8x1	6.8	18.0	3	-	8.0400	9049410080400
40 / 50	10	M8x1	9.8	17.7	4	-	8.0500	9049410080500
63/ 80/ 100	6	M10x1	5.8	17.0	2.5	-	8.1000	9049410081000
63/ 80/ 100	8	M10x1	7.8	17.0	3	-	10.0500	9049410100500
63/ 80/ 100	10	M10x1	9.8	16.2	4	-	10.1000	9049410101000
40/ 50/ 63/ 80/ 100	12	M10x1	9.8	16.0	5	-	12.1000	9049410121000
40/ 50/ 63/ 80/ 100	14	M10x1	9.8	17.2	5	-	14.1000	9049410141000
50/ 63/ 80/ 100	16	M12x1	15.8	18.2	6	-	16.1000	9049410161000
50/ 63/ 80/ 100	18	M12x1	15.8	19.2	6	-	18.1000	9049410181000
50/ 63/ 80/ 100	20	M16x1	15.8	19.2	6	8	20.1000	9049410201000
63/ 80/ 100	25	M16x1	15.8	22.7	6	8	25.1000	9049410251000
63/ 80/ 100	32	M16x1	15.8	26.7	6	8	32.1000	9049410321000

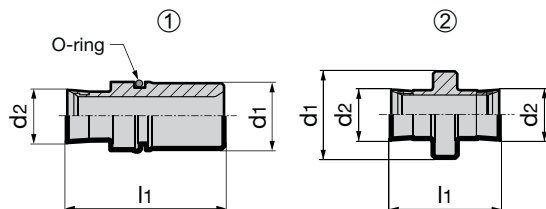
Intermediate sleeves for module flange and alignment adaptor 6x6 and 4x4

Product information

- for sealing when machining with either coolant or MQL
- Design without O-ring for HSK module adaptor flange art. no. 4363 and art. no. 4713

Scope of delivery

- with O-ring and sealing lip
- Series no. 4617 1.140



Series no. 4716

d ₁ mm	for d ₂ mm	l ₁ mm	O-ring	type	Code no.	EDP Number
14	10.5	47.5	10x1.5	1	14.01	9047160140100
14	10.5	32.0	10x1.5	1	14.02	9047160140200
14	10.5	37.5	10x1.5	1	14.03	9047160140300
14	10.5	26.5	10x1.5	1	14.04	9047160140400
14	10.5	31.5	10x1.5	1	14.05	9047160140500
20	10.5	28.0	17x1.5	1	20.01	9047160200100
20	10.5	25.5	17x1.5	1	20.02	9047160200200
20	10.5	16.5	17x1.5	1	20.03	9047160200300
4	10.5	26.1	–	1	24.060	9047160240600
5	10.5	21.9	–	1	30.070	9047160300700
6	10.5	21.9	–	1	238.080	9047162380800
7	10.5	31.7	–	1	48.100	9047160481000
10	10.5	28.6	–	1	60.117	9047160601170
12	10.5	36.4	–	1	75.140	9047160751400
17.8	10.5	22.3	–	2	60.100	9047160601000
17.8	10.5	26.3	–	2	117.140	9047161171400

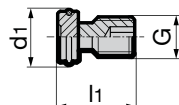
Angle alignment units for module flange and alignment adaptor 6x6 and 4x4

Product information

- for accurate angle alignment of module flanges

Scope of delivery

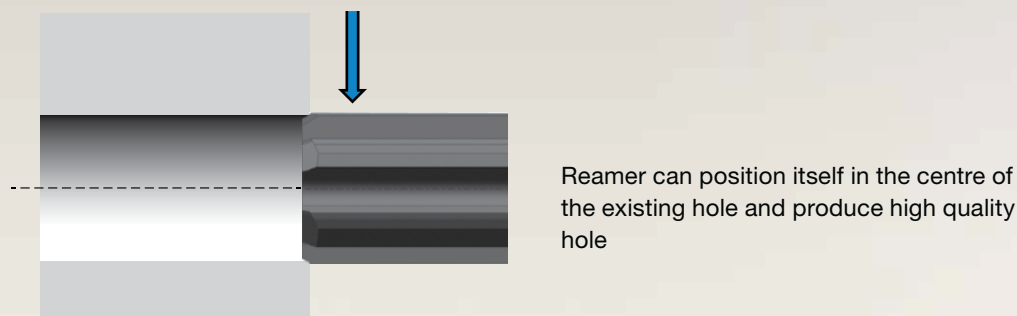
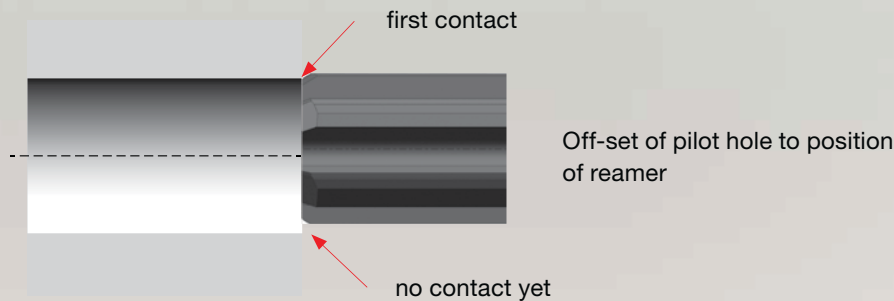
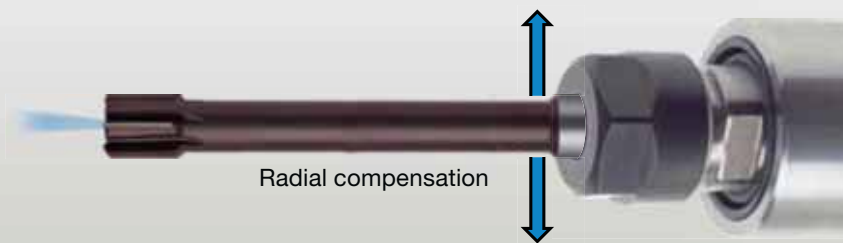
- pressure disc, threaded pin and snap ring



Series no. 4715

for module	G	d ₁ mm	l ₁ mm	Code no.	EDP Number
60 / 70 / 80	M8x1	11.5	13	8.01	9047150080100
100 / 117 / 140	M10x1	13.6	19	10.01	9047150100100

Holders for
fine machining



Floating holder for perfect HPC reaming

For the fine machining of holes the matching of pilot hole with the tool axis is a pre-requisite for the perfect functioning of the reamer. Floating holders serve to compensate the lateral off-set between tool and pilot hole. This off-set is usually created by machining with multiple clamping operations, cycle and positioning errors during tool and workpiece changes as well as by alignment errors on turning machines. As our floating holders have been designed for high-speed reaming operations, we consciously dispense of angle compensation. This improves the clamping rigidity. When the radial play is excessive upon entry into the pilot hole the reamer is subjected to high stresses. Crumbling of the edges is the consequence. Limited radial play on our floating holders compensates for any possible vibration even at high speeds.

Coolant ducts integrated in the floating holder ensure the reamer is optimally supplied with cooling lubricant. Longer hole tolerance compliancy and tool life are the result. Higher economic efficiency thanks to cost and time saving is guaranteed.

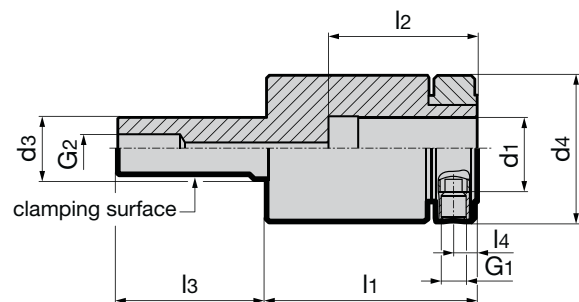
Floating holders with side lock holder

Product information

- straight shank d3 with whistle notch flat
- suitable for conventional and high performance multi-fluted reamers, because of no angle compensation
- central coolant supply max. 80 bar
- drive flat on tool shank necessary
- for tool shank tolerance h6

Scope of delivery

- for other shank Ø order reduction sleeves Series no. 4095 separately
- order hexagon chuck key Series no. 4912 separately
- further sizes with differing radial play are available on request
- compensates lateral deviation between tool and workpiece
- vibration-free compensation of concentricity and misalignment



Series no.	4167
Code no.	EDP Number
20.020	9041670200200
25.025	9041670250250
32.032	9041670320320

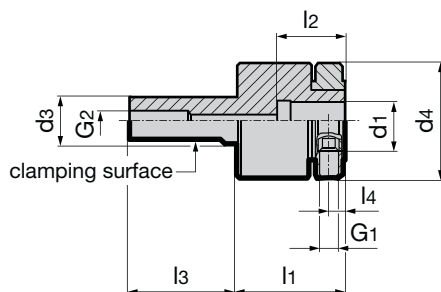
Short floating holders with side lock holder

Product information

- straight shank d3 with whistle notch flat
- suitable for conventional and high performance multi-fluted reamers, because of no angle compensation
- central coolant supply max. 80 bar
- drive flat on tool shank necessary
- for tool shank tolerance h6

Scope of delivery

- for other shank Ø order reduction sleeves Series no. 4095 separately
- order hexagon chuck key Series no. 4912 separately
- further sizes with differing radial play are available on request
- compensates lateral deviation between tool and workpiece
- vibration-free compensation of concentricity and misalignment



Holders for
fine machining

Series no.	4169	
Code no.	EDP Number	
10.020	9041690100200	
16.020	9041690160200	
20.020	9041690200200	

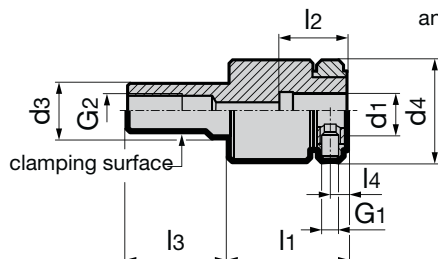
Mini floating holders with side lock holder

Product information

- holder shank with lateral clamping surface
- suitable for conventional and high performance multi-fluted reamers, because of no angle compensation
- very compact design for restricted space
- central coolant supply max. 80 bar
- drive flat on tool shank necessary
- for tool shank tolerance h6

Scope of delivery

- for other shank Ø order reduction sleeves Series no. 4097 separately
- order hexagon chuck key Series no. 4912 separately
- further sizes with differing radial play are available on request
- compensates lateral deviation between tool and workpiece
- vibration-free compensation of concentricity and misalignment



Series no.

4174

d ₃ g6 mm	for holder d ₁ h6 mm	recommen- ded tool-Ø	d ₄ mm	l ₁ mm	l ₂ mm	l ₃ mm	l ₄ mm	G ₁	G ₂	radial play	Code no.	EDP Number
16	10	to Ø 14	30	35	20	30	5	M5	1/8	0.12	10.016	9041740100160

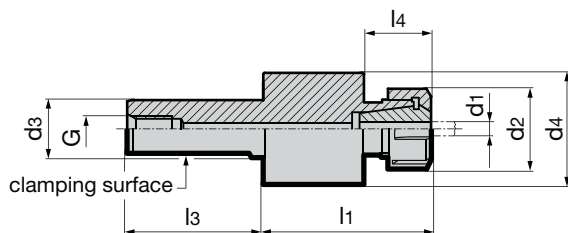
Floating holder with ER collet holder

Product information

- straight shank d3 with whistle notch flat
- suitable for conventional and high performance multi-fluted reamers, because of no angle compensation
- for the application of internally cooled reamers use metallic sealed collets type DM Series no. 4175
- central coolant supply max. 80 bar

Scope of delivery

- incl. retaining nut
- order collet Series no. 4175 or 4307 as well as clamping key Series no. 4913 separately
- further sizes with differing radial play are available on request
- compensates lateral deviation between tool and workpiece
- vibration-free compensation of concentricity and misalignment



Series no.

4098

d ₃ g6 mm	recommended tool-Ø d1 mm	clamping range	d ₂ mm	d ₄ mm	l ₁ mm	l ₃ mm	l ₄ mm	G	radial play	Code no.	EDP Number
16	up to Ø 16	ER20 Ø 1-13	34	49.5	74	40	29.5	1/8	0.06	20.016	9040980200160
20	Ø 4- Ø 24	ER25 Ø 2-16	42	59	84	50	35	1/8	0.06	25.020	9040980250200
25	up to Ø 16	ER20 Ø 1-13	34	49.5	74	60	29.5	1/4	0.08	20.025	9040980200250
25	Ø 4- Ø 24	ER25 Ø 2-16	42	59	84	60	35	1/4	0.08	25.025	9040980250250
32	Ø 6 - Ø 30	ER32 Ø 3-20	50	64	91	80	35.5	3/8	0.10	32.032	9040980320320
40	Ø 6 - Ø 30	ER32 Ø 3-20	50	64	91	80	35.5	1/2	0.12	32.040	9040980320400

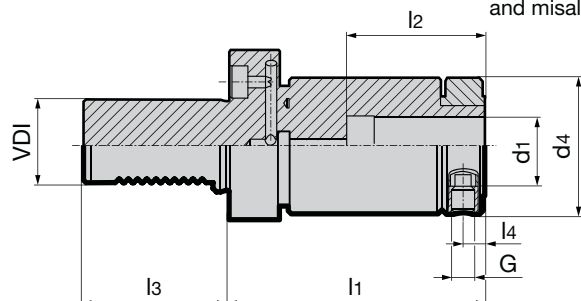
Floating side lock holder VDI DIN 69880-1

Product information

- VDI holder shank with teeth
- suitable for conventional and high performance multi-fluted reamers, because of no angle compensation
- central coolant supply max. 80 bar
- tool shank with special whistle notch flat necessary
- drive flat on tool shank necessary
- for tool shank tolerance h6

Scope of delivery

- for other shank $\varnothing$ order reduction sleeves Series no. 4095 separately
- order hexagon chuck key Series no. 4912 separately
- further dimensions available on request
- compensates lateral deviation between tool and workpiece
- vibration-free compensation of concentricity and misalignment



Series no. 4117

VDI	holder d1 h6 mm	clamping range	d4 mm	l1 mm	l2 mm	l3 mm	l4 mm	M	radial play	Code no.	EDP Number
30	25	Ø 16-25	59	111	59	55	9.5	M10	0.12	25.030	9041170250300
40	25	Ø 16-25	59	111	59	63	9.5	M10	0.12	25.040	9041170250400
40	32	Ø 20-32	80	117	63	63	12.5	M12	0.12	32.040	9041170320400
50	25	Ø 16-25	59	111	59	78	9.5	M10	0.12	25.050	9041170250500
50	32	Ø 20-32	80	117	63	78	12.5	M12	0.12	32.050	9041170320500

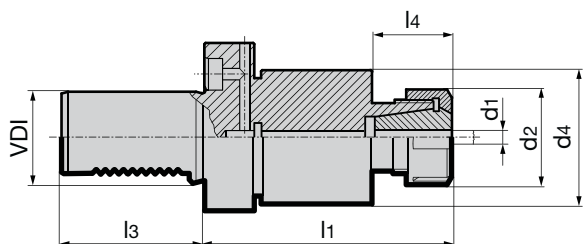
Floating ER Collet holder VDI DIN 69880-1

Product information

- VDI holder shank with teeth
- suitable for conventional and high performance multi-fluted reamers, because of no angle compensation
- for the application of internally cooled reamers use metallic sealed collets type DM Series no. 4175
- with coolant supply max. 80 bar

Scope of delivery

- incl. retaining nut
- order collet Series no. 4175 or 4307 as well as clamping key Series no. 4913 separately
- further sizes with differing radial play are available on request
- compensates lateral deviation between tool and workpiece
- vibration-free compensation of concentricity and misalignment



Series no. 4116

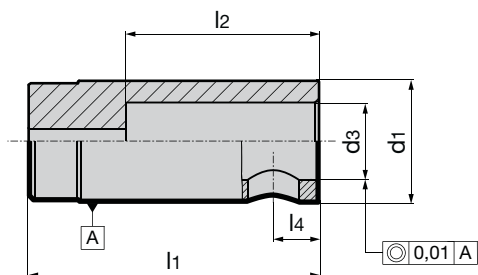
VDI	recommended tool-Ø	clamping range	d2 mm	d4 mm	l1 mm	l3 mm	l4 mm	radial play	Code no.	EDP Number
30	up to Ø 20	ER25 Ø 2-16	42	59	109	55	35	0.08	25.030	9041160250300
40	up to Ø 20	ER25 Ø 2-16	42	59	109	63	35	0.10	25.040	9041160250400
40	Ø 6- Ø 32	ER32 Ø 3-20	50	64	116	63	35.5	0.10	32.040	9041160320400
50	up to Ø 20	ER25 Ø 2-16	42	59	109	78	35	0.12	25.050	9041160250500
50	Ø 6- Ø 32	ER32 Ø 3-20	50	64	116	78	35.5	0.12	32.050	9041160320500

Holders for
fine machining

Reduction sleeves for floating holder

Product information

- for reducing the clamping diameter in floating holders
 - central coolant supply
 - drive flat on tool shank necessary
 - applicable in floating holders
- Series no. 4167 and 4117



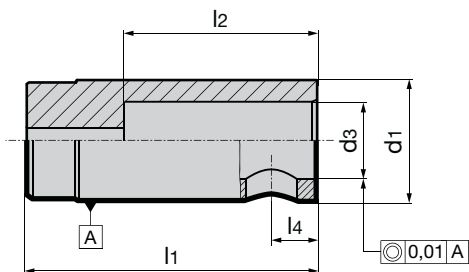
Series no. 4095

d1 mm	for shank Ø d3 h6 mm	l1 mm	l2 mm	l4 mm	Code no.	EDP Number
20	14	50	40	9.5	14.020	9040950140200
20	16	50	40	9.5	16.020	9040950160200
25	16	60	40	9.5	16.025	9040950160250
25	18	60	40	9.5	18.025	9040950180250
25	20	60	50	9.5	20.025	9040950200250
32	20	63	50	12.5	20.032	9040950200320
32	25	63	60	12.5	25.032	9040950250320

Reduction sleeves for short floating holder

Product information

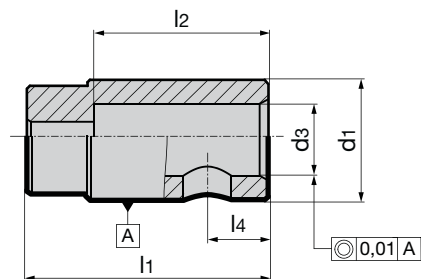
- for reducing the clamping diameter in floating holders
 - central coolant supply
 - drive flat on tool shank necessary
 - applicable in short floating holders
- Series no. 4169



Series no. 4096

d1 mm	for shank Ø d3 h6 mm	l1 mm	l2 mm	l4 mm	Code no.	EDP Number
10	4	25	10	6.0	4.010	9040960040100
10	6	25	-	6.0	6.010	9040960060100
10	8	25	20	6.0	8.010	9040960080100
16	10	29	25	7.0	10.016	9040960100160
16	12	29	25	7.0	12.016	9040960120160
20	12	29	25	7.0	12.020	9040960120200
20	14	29	25	7.0	14.020	9040960140200
20	16	29	25	7.0	16.020	9040960160200

- 



Series no. 4097

Holders for
 fine machining

MODULE 6x6
PCD

HIGHEST PRECISION

Module 6x6 and
PCD tools



-
- ⇒ perfect concentricity
 - ⇒ axial and radial μ -accurate setting
 - ⇒ targeted balancing
 - ⇒ quick tool pre-setting

HSK



HSK CLAMPING TECHNOLOGY

HSK Clamping technology

ONE CLAMPING SET
MANY NEW
POSSIBILITIES!





**SUITABLE FOR DIFFERENT
SPINDLE CONTOURS**



**MAXIMUM
CLAMPING FORCE**



**OPTIMAL COOLING
SUPPLY – MQL &
CONVENTIONAL**



**STRAIGHT-
LINE COOLANT
THROUGHFLOW**



4-POINT CLAMPING TECHNOLOGY FOR MQL

TECHNICAL INFORMATION AND ADVANTAGES

GÜHRCLAMP



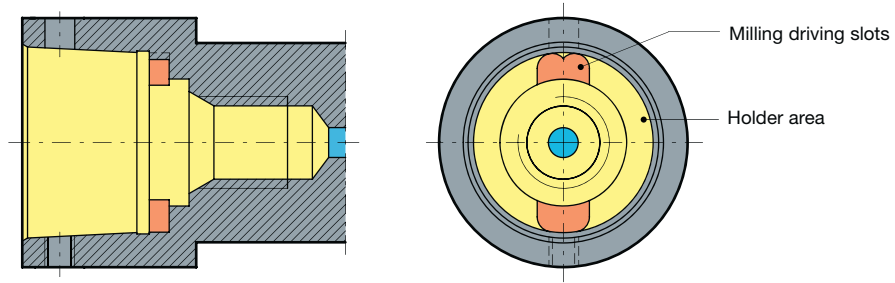
Our 4-point clamping system is suitable for radial manual clamping. Primarily designed for installation in spindles (short drilling spindles, multiple-spindle drilling heads).



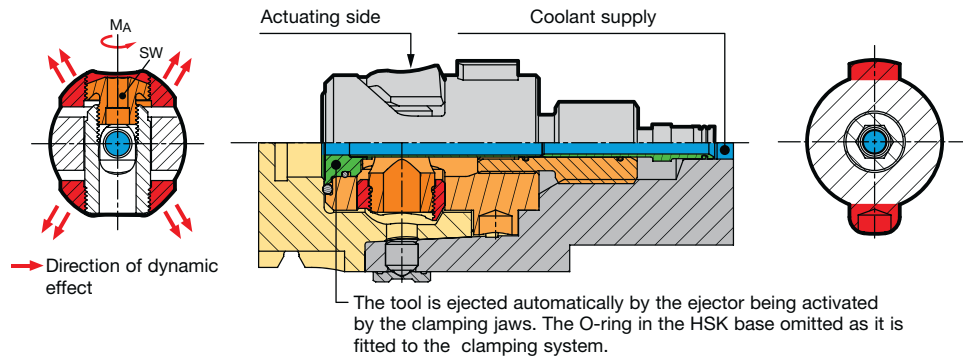
Advantages:

- simple and hence more economic spindle manufacture
- short, small diameter spindles with constricted spindle bearing spacing
- suitable for a pressure up to 160 bar (for conventional internal cooling)
- fast response time thanks to uninterrupted MQL supply
- compatible installation contour and application of our 4-point clamping set for conventional cooling
- fixed installation through screwed joint, prebalanced, and good rotation symmetry, suitable for high-speed processes

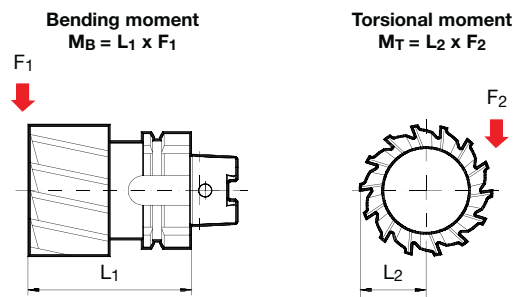
Internal contour of spindle



Installation and principle of operation



Bending, torsional and tightening moment for 4-point clamping sets for MQL



- ① We recommend M_A max. for rough machining and milling operations. For drilling and reaming operations a lower deviation of M_A max. up to 30% is permissible. Please check the torque with a torque wrench.
- ② Depending on temperature and lubricating conditions these values can be up to 15% lower.
- ③ Due to the screwed connection. M_T max. can be lower with adaptors.

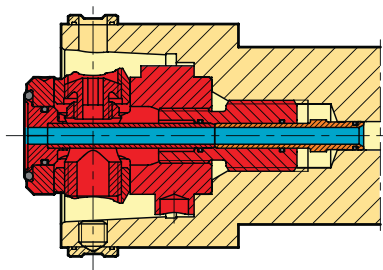
HSK-C	max. torque M_A [Nm] ①	Key size	max. drawing force [kN] ②	max. linear bending moment M_B [Nm] ②	max. transferrable torsional moment M_T [Nm] ② ③
32	3.0	2.5	8.5	72	105
40	6.0	3.0	12.5	135	180
50	12.0	4.0	24.0	330	390
63	24.0	5.0	32.0	570	680
80	40.0	6.0	45.0	1000	1570
100	60.0	8.0	53.0	1620	4200

General notes: Our manual clamping sets must not be operated with motor-driven tools (impulse screwdriver or similar). The hexagonal key should not exceed the key size over its entire length, this largely prevents excessive torque being transferred. We recommend the T-handle hexagonal key, Series no. 4912. For accurate setting of the maximum torque and achieving the maximum interface rigidity, we recommend the application of a torque wrench, Series no. 4915 with hexagonal sockets, Series no. 4916. Production drawings of the spindle contour to suit direct installation are available on request, including .dxf.

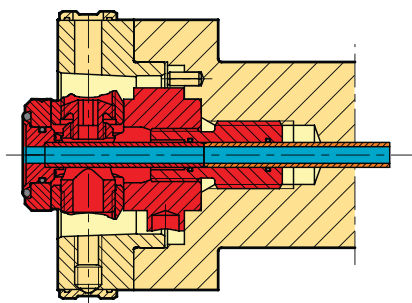


MQL 4-point clamping set connection dimensions for new designs

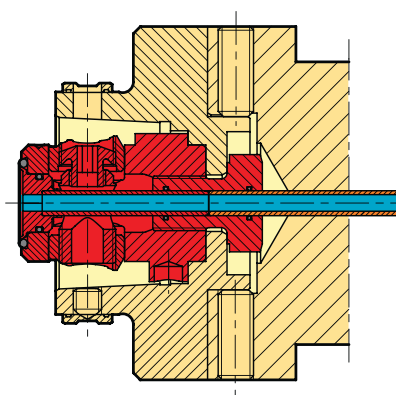
Direct installation in spindle with MQL adaptor



Short spindle adaptor with MQL supply pipe



Adaptor (in front) with MQL supply pipe



GÜHROCLAMP MQL 4-point clamping sets for MQL and IC

Product information

- for radial manual HSK tool clamping
- universal application for MQL and high-pressure IC
- the central and coaxial MQL supply with constant internal diameter prevents coolant from consolidating to DIN 69090-2
- for a coolant pressure up to 160 bar
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- complete as shown in illustration
- installation and operating instructions



GÜHROCLAMP

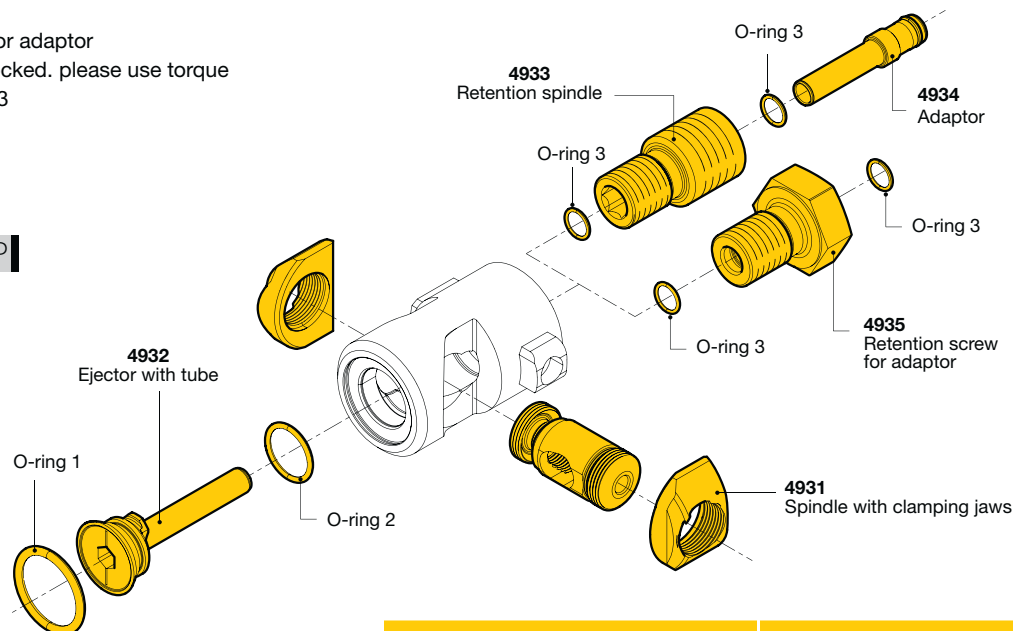
Series no. **4930**

HSK-C	d1 mm	d2 mm	d3 mm	l1 mm	G	SW1	SWA	kg	Code no.	EDP Number
32	16.7	3	4.1	41.75	M10	2.5	3	0.05	24.100	9049300241000
40	20.6	4	5.1	43.90	M12	3	4	0.09	30.100	9049300301000
50	25.5	5	7.1	54.20	M16	4	5	0.18	38.100	9049300381000
50	25.5	5	6.1	54.20	M16	4	5	0.18	38.200	904930038200
63	33.0	6	7.1	72.20	M20	5	6	0.37	48.100	9049300481000
80	41.0	8	10.1	90.20	M24	6	8	0.70	60.100	9049300601000
100	52.0	10	12.1	107.10	M24	8	10	1.30	75.100	9049300751000

GÜHROCLAMP component parts for MQL 4-point clamping sets Series no. 4930

- retention screw only for adaptor
- if spindle cannot be locked, please use torque socket Series no. 4963

GÜHROCLAMP



Series no. **4931** **4932**

HSK-C	O-ring 1	O-ring 2	O-ring 3	Spindle with clamping jaws	Ejector with tube
	mm	mm	mm	EDP Number	EDP Number
32	10.5x2.0	6.0x1.5	3.5x1/4x1	9049310240000	9049320241000
40	13.0x2.0	7.0x1.5	4.5x1.0/5.0x1.0	9049310300000	9049320301000
50	16.0x2.0	10.0x1.5	5.5x1.0/7x1.0	9049310380000	9049320381000
63	20.3x2.4	14.0x1.5	7.0x1.0	9049310480000	9049320481000
80	23.4x3.53	16.0x2.0	10.0x1.5	9049310600000	9049320601000
100	28.17x3.53	22.0x2.0	12.0x1.70	9049310750000	9049320751000

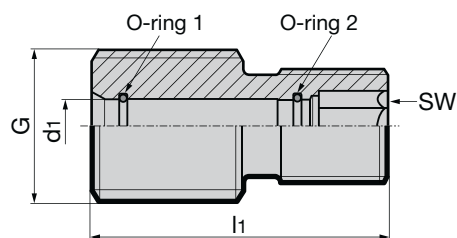
Retention spindles for GÜHROCLAMP MQL 4-point clamping sets

Product information

- retention spindle for direct installation in spindle

Scope of delivery

- complete as shown in illustration



Series no.

4933

for HSK-C	d1 mm	l1 mm	G	SW	O-ring 1	O-ring 2	EDP Number
32	4.1	22.5	M10	4	3.5x1.0	4.0x1.0	9049330241000
40	5.1	23.2	M 12	5	4.5x1.0	5.0x1.0	9049330301000
50	7.1	27.0	M 16	6	5.5x1.0	7.0x1.0	9049330381000
50	6.1	27.0	M 16	6	5.5x1.0	5.5x1.0	9049330382000
63	7.1	39.0	M 20	8	7.0x1.0	7.0x1.0	9049330481000
80	10.1	50.0	M 24	10	10.0x1.5	10.0x1.5	9049330601000
100	12.1	60.0	M 24	12	12.0x1.70	12.0x1.70	9049330751000

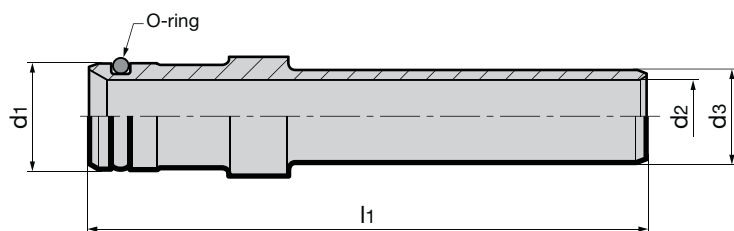
Adaptor for GÜHROCLAMP MQL 4-point clamping sets

Product information

- adaptor for direct installation in spindle and spindle adaptor (integrated) for coolant supply and sealing

Scope of delivery

- complete as shown in illustration



Series no.

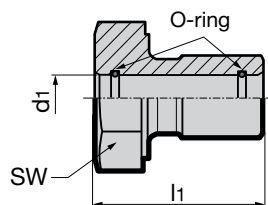
4934

for HSK-C	d1 mm	d2 mm	d3 mm	l1 mm	O-ring	Code no.	EDP Number
32	4.0	2.0	4.0	14	2.0 x 1.0	24.100	9049340241000
40	5.0	3.0	5.0	28	3.0 x 1.0	30.100	9049340301000
50	6.0	4.0	6.0	28	4.0 x 1.0	38.200	9049340382000
50	6.0	4.0	7.0	28	4.0 x 1.0	38.100	9049340381000
63	8.0	5.5	7.0	42	6.0 x 1.0	48.100	9049340481000
80	10.2	7.5	10.0	56	8.0 x 1.0	60.100	9049340601000
100	12.0	9.5	12.0	60	10.0 x 1.0	75.100	9049340751000

Retention screw for GÜHROCLAMP MQL 4-point clamping sets

Product information

- necessary for installation of MQL 4-point clamping set in spindle adaptors and module adaptor flange Series no. 4363, 4386, 4387 and 4713
- change against standard retention bolt



Scope of delivery

- complete as shown in illustration



Series no.							4935
for HSK-C	d_1 mm	l_1 mm	SW	O-ring 1	O-ring 2	torque Nm	EDP Number
32	4.1	23.5	13	4x1.0	4x1.0	14	9049350240000
40	5.1	21	16	4.5x1.0	5x1.0	30	9049350300000
50	6.1	25	18	5.5x1.0	6x1.0	60	9049350380000
50	7.1	25	18	5.5x1.0	7x1.0	60	9049350381000
63	7.1	29	24	7x1.0	7x1.0	110	9049350480000
80	10.1	36	24	10x1.5	10x1.5	180	9049350600000
100	12.1	46.5	32	12x1.7	12x1.7	200	9049350750000

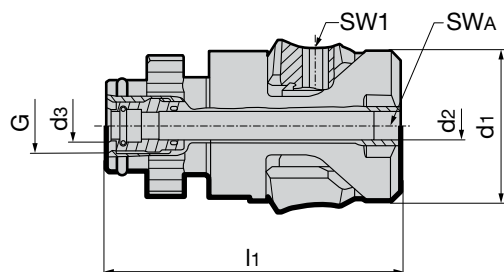
M contour clamping sets for MQL and IC

Product information

- HSK clamping sets compatible with M contour spindles and adaptors
- universal application for MQL and high-pressure IC
- the central coaxial MQL supply with constant internal diameter ensures a uninterrupted coolant supply to DIN 69090-2
- for a coolant pressure up to 160 bar
- for radial manual HSK tool clamping
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- incl. adaptor with through hole for uninterrupted coolant supply
- including installation and operating instructions
- order adaptor with spigot connection Series no. 4616 separately
- spindle connection dimensions on request
- order clamping set assembly/disassembly tool series no. 4624 separately
- order ejector assembly/disassembly tool series no. 4986 separately

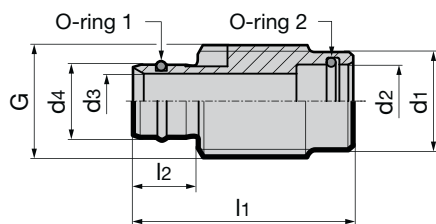


Series no.								4615
HSK-C	d_1 mm	d_2 mm	d_3 mm	l_1 mm	G	SW1	SWA	EDP Number
32	16.7	3.0	4.1	43.4	M8x1	2.5	3	9046150240000
40	20.6	4.0	5.1	48.3	M10x1	3	4	9046150300000
50	25.5	5.0	6.1	55.3	M12x1	4	5	9046150381000
50	25.5	5.0	7.1	55.3	M12x1	4	5	9046150380000
63	33.0	6.0	7.1	64.7	M12x1	5	6	9046150480000
80	41.0	8.0	10.1	75.3	M16x1	6	8	9046150600000
100	52.0	10.0	12.1	94.5	M18x1	8	10	9046150750000

Adaptor with spigot transition for M contour clamping set

Product information

- application on M contour clamping sets
Series no. 4615 instead of adaptor with coolant transfer hole
- universal application for MQL and high-pressure IC
- for a coolant pressure up to 160 bar
- adaptor for spindles without coolant tube for uninterrupted coolant supply
- spindle connection dimensions on request

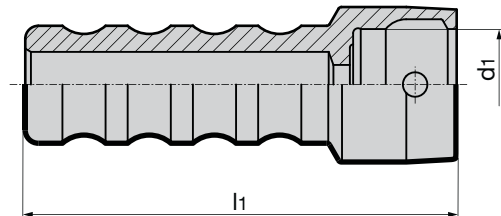


Series no.										4616
for HSK-C	d1 mm	d2 mm	d3 mm	d4 mm	l1 mm	l2 mm	O-ring 1	O-ring 2	G	EDP Number
32	-	3.5	3	5.00	14.4	5.4	3.5x1	3x1	M8x1	9046160240000
40	7.7	4.5	4	6.00	22.0	6.5	4.0x1	4x1	M10x1	9046160300000
50	8.5	5.5	5	8.00	23.0	7.5	5.5x1	6x1	M12x1	9046160380000
63	10.6	7.0	6	8.00	24.0	7.0	7.0x1	6x1	M12x1	9046160480000
80	-	10.0	8	11.30	23.3	8.3	10x1.5	8x1.5	M12x1	9046160600000
100	-	12.0	10	13.80	30.6	9.6	12x1.5	12x1.5	M18x1	9046160750000

Tool for the assembly / disassembly of M contour clamping sets

Product information

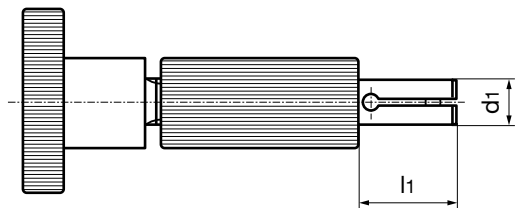
- for the assembly and disassembly of M contour clamping sets
Series no. 4615



Series no.			4624
for HSK	d1 mm	l1 mm	EDP Number
32	17	118.7	9046240320000
40	21	121.6	9046240400000
50	26	127.5	9046240500000
63	34	132	9046240630000
80	42	143	9046240800000
100	53	152	9046241000000

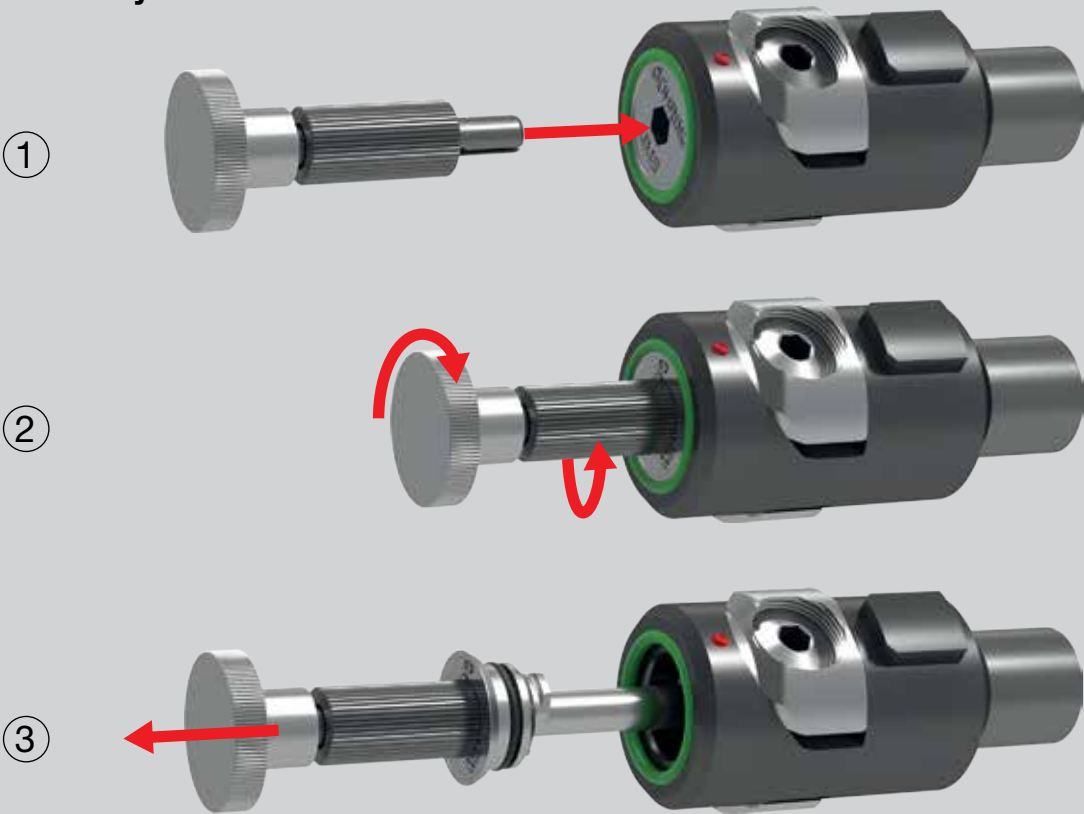
Product information

- for assembly and disassembly of ejectors of MQL clamping sets, Series no. 4930, and M contour clamping sets, Series no. 4615



Series no.			4986
for HSK	d_1 mm	l_1 mm	EDP Number
32	3	9	9049860030320
40	4	9	9049860040400
50	5	11	9049860050500
63	6	12	9049860060630
80	8	15	9049860080800
100	10	15	9049860100000

Assembly instructions



THE 4-POINT CLAMPING TECHNOLOGY FOR CONVENTIONAL COOLING

TECHNICAL INFORMATION AND ADVANTAGES

Conventional 4-point clamping sets offer enormous clamping force and optimal cooling lubricant supply. They are suitable for radial manual HSK tool clamping.



Advantages:

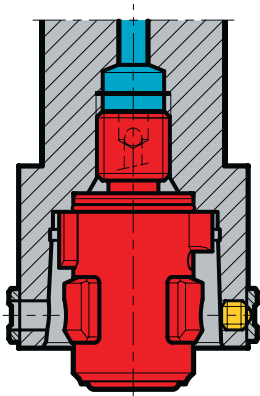
- simple and hence more economic spindle manufacture
- short, small diameter spindles with constricted spindle bearing spacing
- suitable for a pressure up to 80 bar

General notes: Our manual clamping sets must not be operated with motor-driven tools (impulse screwdriver or similar). The hexagonal key should not exceed the key size over its entire length. This largely prevents excessive torque being transferred. We recommend the T-handle hexagonal key, Series no. 4912. For accurate setting of the maximum torque and achieving the maximum interface rigidity, we recommend the application of a torque wrench, Series no. 4915 with hexagonal sockets, Series no. 4916. Removal of the locking ring is made by releasing the pressure ball screw. This is achieved with the use of an Allen key inserted through the opposite access hole and through the hollow threaded spindle and turned anticlockwise. Once released, the locking ring will slide axially off. Production drawings of the spindle contour to suit direct installation are available on request, including .dxf.

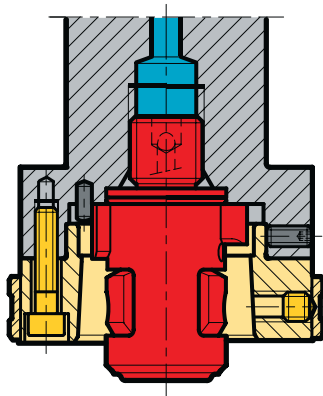
Application examples

Spindle interface

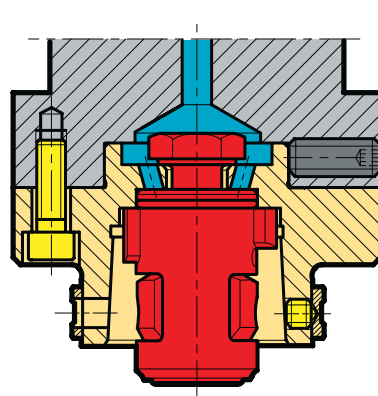
Direct installation in spindle



Spindle adaptor (integrated)

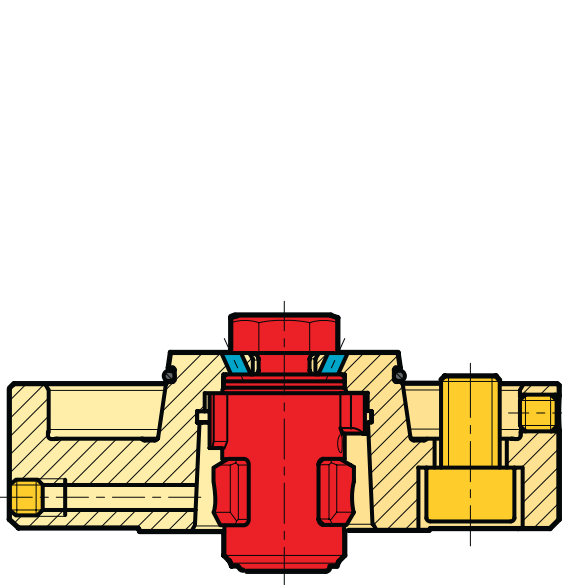


Spindle adaptor (in front)

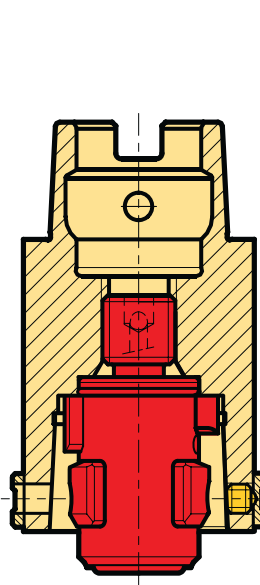


Adaptor

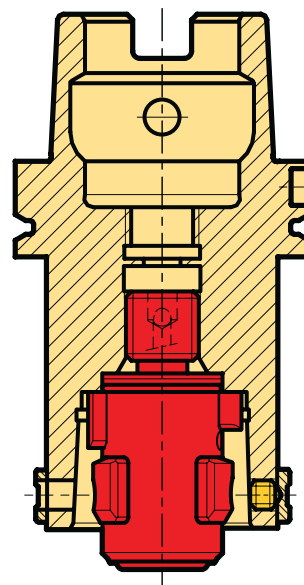
Basic adaptor for ISO taper spindles



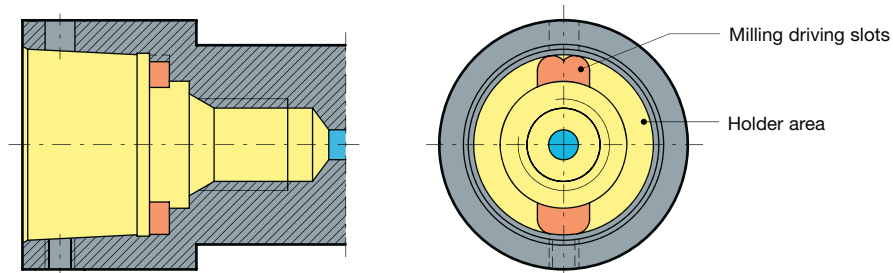
HSK-C extension



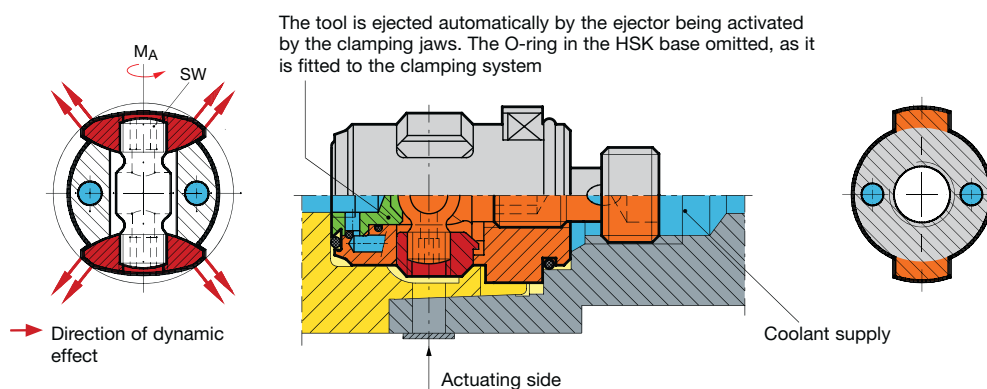
HSK-A reduction



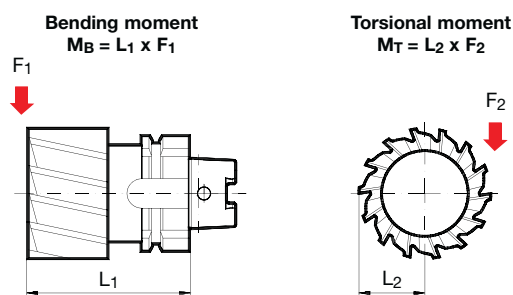
Internal contour of spindle



Installation and principle of operation



Bending torsional and tightening moment for 4-point clamping sets for conventional cooling



- ① We recommend M_A max. for rough machining and milling operations. For drilling and reaming operations a lower deviation of M_A max. up to 30% is permissible. Please check the torque with a torque wrench.
- ② Depending on temperature and lubricating conditions these values can be up to 15% lower.
- ③ Due to the screwed connection. M_T max. can be lower with adaptors.

HSK-C	max. torque M_A [Nm] ①	Key size	max. drawing force [kN] ②	max. linear bending moment M_B [Nm] ②	max. transferrable torsional moment M_T [Nm] ② ③
25	1.5	2.5	4.5	30	30
32	3.0	2.5	7.0	60	100
40	6.0	3.0	12.0	130	170
50	14.0	4.0	20.0	280	350
63	27.0	5.0	28.0	500	640
80	54.0	6.0	40.0	900	1330

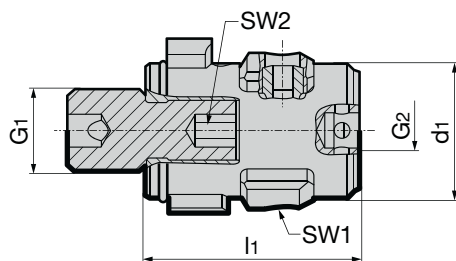
4-point clamping sets for conventional cooling

Product information

- for a coolant pressure up to 80 bar
- for radial manual HSK tool clamping
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

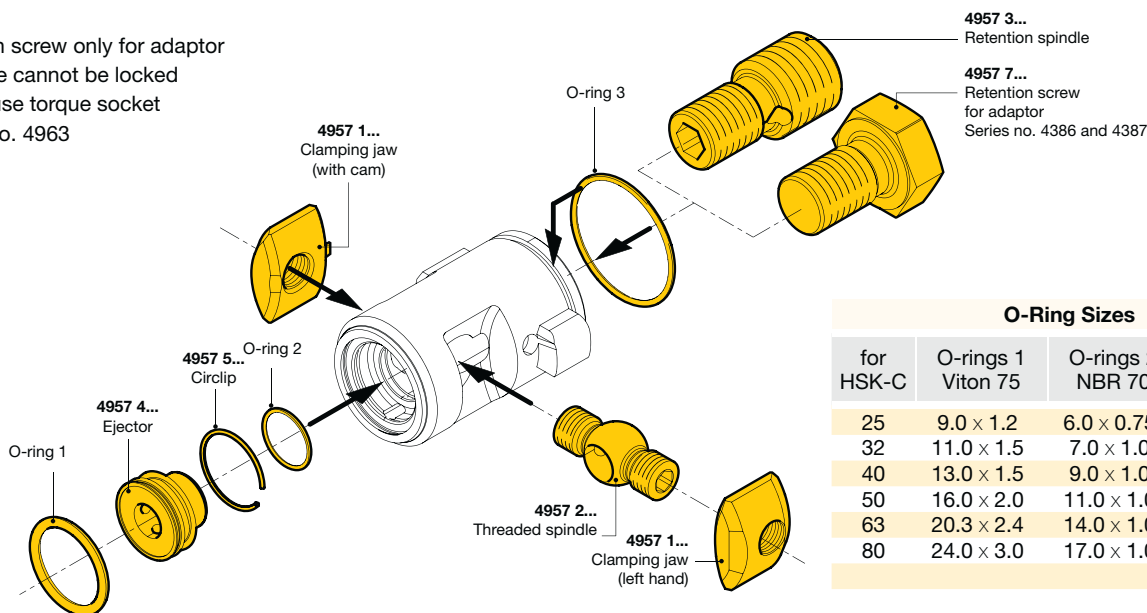
- including installation and operating instructions



Series no.	4958
Code no.	EDP Number
25	9049580190000
32	9049580240000
40	9049580300000
50	9049580380000
63	9049580480000
80	9049580600000

Component parts for 4-point clamping set Series no. 4958. separate or set

- retention screw only for adaptor
- if spindle cannot be locked please use torque socket Series no. 4963



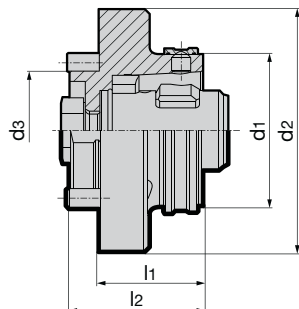
O-Ring Sizes			
for HSK-C	O-rings 1 Viton 75	O-rings 2 NBR 70	O-rings 3 NBR 70
25	9.0 × 1.2	6.0 × 0.75	11.0 × 1.0
32	11.0 × 1.5	7.0 × 1.0	14.0 × 1.0
40	13.0 × 1.5	9.0 × 1.0	17.0 × 1.0
50	16.0 × 2.0	11.0 × 1.0	22.0 × 1.5
63	20.3 × 2.4	14.0 × 1.0	28.0 × 1.5
80	24.0 × 3.0	17.0 × 1.0	35.0 × 1.5

EDP Numbers for Series 4957							Set no. 4959
for HSK-C	Clamping jaw set	Threaded spindle	Retention spindle	Ejector	Circlip	Retention screw	EDP Numbers
25	9049570010190	9049570020190	9049570030190	9049570040190	9049570050190	9049570070190	9049590190000
32	9049570010240	9049570020240	9049570030240	9049570040240	9049570050240	9049570070240	9049590240000
40	9049570010300	9049570020300	9049570030300	9049570040300	9049570050300	9049570070300	9049590300000
50	9049570010380	9049570020380	9049570030380	9049570040380	9049570050380	9049570070380	9049590380000
63	9049570010480	9049570020480	9049570030480	9049570040480	9049570050480	9049570070480	9049590480000
80	9049570010600	9049570020600	9049570030600	9049570040600	9049570050600	9049570070600	9049590600000

HSK spindle adaptors (in front)

Product information

- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration
- radially alignable
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893



Scope of delivery

- incl. clamping set Series no. 4958 for conventional cooling
- incl. brass lock ring Series no. 4953
- incl. indexing pin and retention screws
- for MQL application order Series no. 4713

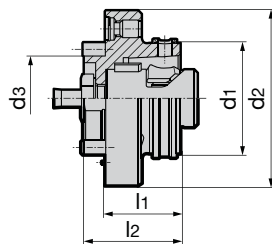


							Series no.	4386
HSK-C d ₁	d ₂ mm	d ₃ mm	l ₁ mm	l ₂ mm	SW	kg	Code no.	EDP Number
25	45	23	20	28	2.5	0.22	19.000	9043860190000
32	60	30	26	36	2.5	0.38	24.000	9043860240000
40	70	35	30	40	3.0	0.60	30.000	9043860300000
50	80	40	35	45	4.0	0.92	38.000	9043860380000
63	100	50	43	55	5.0	1.75	48.000	9043860480000
80	117	60	50	62	6.0	2.79	60.000	9043860600000

Modul 4x4 HSK adaptor flange

Product information

- for the highly accurate radial and axial alignment on alignment adaptors or machine spindles
- suitable for MQL and conventional cooling
- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893



Scope of delivery

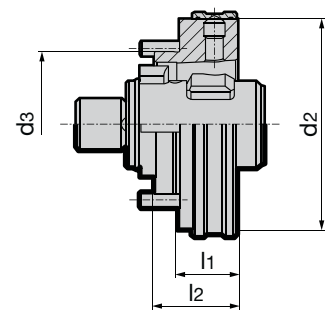
- incl. MQL 4-point clamping set Series no. 4930
- incl. clamping screw Series no. 4935
- incl. brass lock ring Series no. 4953
- incl. 6 angular alignment sets Series no. 4715
- incl. 6 clamping screws
- incl. intermediate tube Series no. 4716



						Series no.	4713
HSK-C d ₁ mm	Module-Ø d ₂ mm	d ₃ mm	l ₁ mm	l ₂ mm	intermediate sleeve tube art. no. 4716	Code no.	EDP Number
32	60	30	26	36	24.060	24.060	9047130240600
40	70	35	30	40	30.070	30.070	9047130300700
50	80	40	35	45	238.080	38.080	9047130380800
63	100	50	43	55	48.100	48.100	9047130481000
80	117	60	50	62	60.117	60.117	9047130601170
100	140	80	75	87	75.140	75.140	9047130751400

Product information

- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration
- radially alignable
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893



Scope of delivery

- incl. clamping set Series no. 4958 for conventional cooling (nom. Size 100 Series no. 4930)
- incl. brass lock ring Series no. 4953
- incl. indexing pin and retention screws
- for MQL design order code no. xxx.100



Series no. 4385								EDP Number
for HSK-C	d2 mm	d3 mm	l1 mm	l2 mm	SW	kg	Code no.	
32	40	27.0	12.5	16	2.5	0.14	24.000	9043850240000
40	50	33.5	15.0	20	3.0	0.26	30.000	9043850300000
50	63	42.0	17.5	25	4.0	0.48	38.000	9043850380000
63	80	55.0	22.5	32	5.0	0.99	48.000	9043850480000
80	100	68.0	27.5	40	6.0	1.88	60.000	9043850600000
100	125	88.0	30.0	50.5	8.0	3.50	75.000	9043850750000

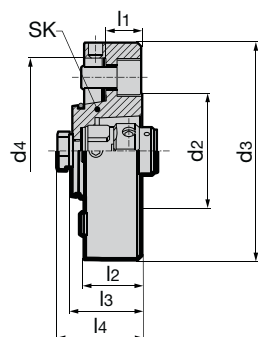


with MQL clamping set Series no. 4930

32	40	27.0	12.5	16	2.5	0.14	24.100	9043850241000
40	50	33.5	15.0	20	3.0	0.26	30.100	9043850301000
50	63	42.0	17.5	25	4.0	0.48	38.100	9043850381000
63	80	55.0	22.5	32	5.0	0.99	48.100	9043850481000
80	100	68.0	27.5	40	6.0	1.88	60.100	9043850601000
100	125	88.0	30.0	50.5	8.0	3.50	75.100	9043850751000

Product information

- for the conversion of SK to HSK-A/C interfaces to ISO 12163-1/DIN 69893-1



Scope of delivery

- incl. clamping set Series no. 4958 for conventional cooling
- incl. retention screws



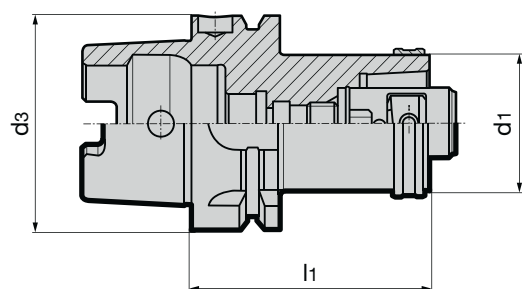
Series no. 4387

for ISO taper	HSK-C	d2 mm	d3 mm	d4 mm	l1 mm	l2 mm	l3 mm	l4 mm	SW	kg	Code no.	EDP Number
30	40	50	85	69.83	25	35	37.0	39.0	3	1.08	30.030	9043870300300
40	50	63	100	88.88	20	30	39.5	46.5	4	1.40	40.038	9043870400380
50	63	80	150	128.57	25	40	48.5	58.5	5	1.96	50.048	9043870500480
50	80	100	150	128.57	40	55	61.1	71.1	6	2.20	50.060	9043870500600

HSK-A/HSK-C reductions

Scope of delivery

- incl. clamping set Series no. 4958 for conventional cooling
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1



Series no. 4355

HSK-A d3	HSK-C d1	l1 mm	SW	kg	Code no.	EDP Number
40	32	60	2.5	0.42	32.040	9043550320400
50	32	60	2.5	0.54	32.050	9043550320500
50	40	70	3.0	0.69	40.050	9043550400500
63	32	60	2.5	1.08	32.063	9043550320630
63	40	70	3.0	1.15	40.063	9043550400630
63	50	80	4.0	1.23	50.063	9043550500630
80	50	90	4.0	2.00	50.080	9043550500800
80	63	100	5.0	2.69	63.080	9043550630800
100	50	90	4.0	2.80	50.100	9043550501000
100	63	100	5.0	3.31	63.100	904355063.000
100	80	120	6.0	5.20	80.100	9043550801000

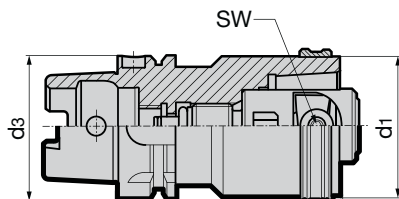
HSK-A/HSK-C extensions with MQL 4-point clamping sets

Product information

- suitable for MQL
- for single channel systems
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. MQL 4-point clamping set Series no. 4930 and adaptor for extensions
- incl. brass lock ring Series no. 4953
- order coolant supply set Series no. 4949 separately:
- order MQL coolant supply set separately:
 - for automatic tool change Series no. 4939 (HSK32 Series no. 4508)
 - for manual tool change Series no. 4940 (HSK32 Series no. 4513)



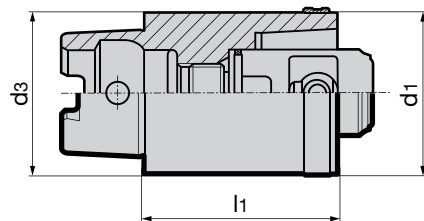
Series no. 4350

HSK-A/HSK-C d ₁ / d ₃	l ₁ mm	SW	kg	Code no.	EDP Number
32	60	2.5	0.30	60.032	9043500600320
40	80	3.0	0.70	80.040	9043500800400
50	80	4.0	1.00	80.050	9043500800500
50	100	4.0	1.30	100.050	9043501000500
63	100	5.0	2.10	100.063	9043501000630
63	140	5.0	3.10	140.063	9043501400630
80	120	6.0	4.20	120.080	9043501200800
80	160	6.0	5.70	160.080	9043501600800
100	140	8.0	7.70	140.080	9043501401000

HSK-C extensions

Product information

- incl. clamping set Series no. 4958 for conventional cooling
- incl. brass lock ring Series no. 4953
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1

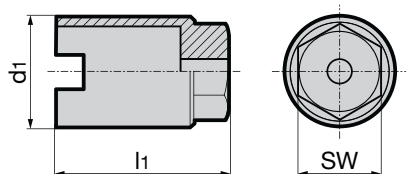


Series no. 4351

HSK-C d ₁ / d ₃	l ₁ mm	SW	kg	Code no.	EDP Number
25	40	2.5	0.14	40.025	9043510400250
32	40	2.5	0.22	40.032	9043510400320
40	50	3.0	0.44	50.040	9043510500400
50	60	4.0	0.81	60.050	9043510600500
63	80	5.0	1.74	80.063	9043510800630

Product information

- for the installation of 4-point clamping sets, if there are difficulties locking the spindle

[illegible]

PROCESS RELIABILITY RATHER THAN NERVE TINGLING

Gühring inspection and measuring instruments



- ⇒ simple, quick and accurate measuring of the clamping force of your chucks
- ⇒ direct measuring of the coolant flow pressure and volume
- ⇒ wireless determination of the MQL response times

Please request our "GM 300 inspection and measuring instruments" brochure.

POWERCLAMP

TECHNICAL INFORMATION AND ADVANTAGES

Gühring's PowerClamp system is designed for universal applications in transfer lines, machining centres, turning centres and setting equipment.

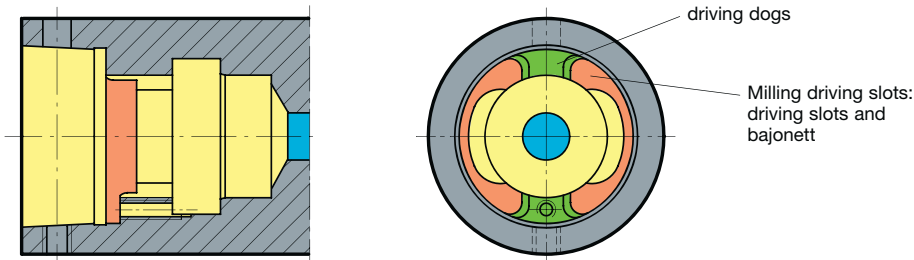
Due to high pull forces the PowerClamp is suitable for low-speed operations in heavy machining.



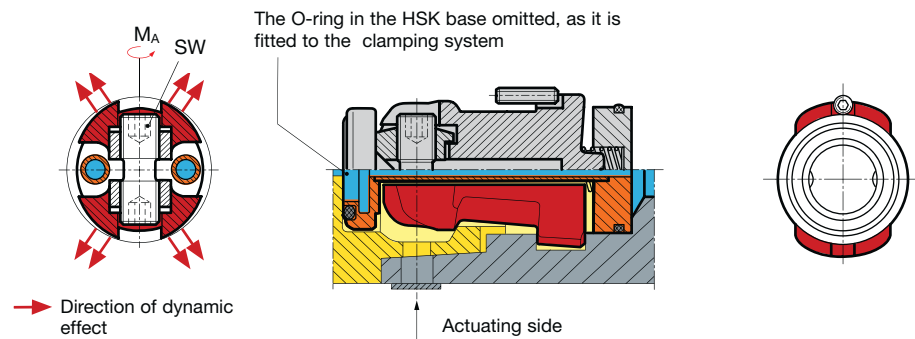
Advantages:

- simple assembly thanks to uncomplicated spindle contour
- few moving components, therefore optimal force transmission
- high clamping force, therefore excellent bending resistance
- secure ejector function
- internal coolant supply
- coolant sealing from $p > 6$ bar to max. 80 bar

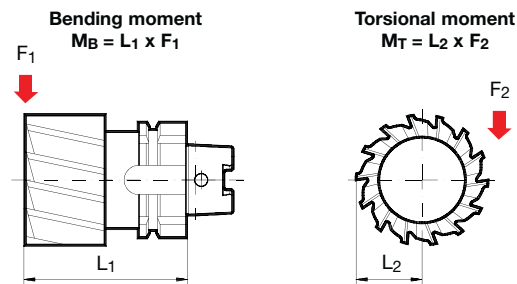
Internal contour of spindle



Installation and principle of operation



Bending torsional and tightening moment for PowerClamp



- ① We recommend M_A max. for rough machining and milling operations. For drilling and reaming operations a lower deviation of M_A max. up to 30% is permissible. Please check the torque with a torque wrench.
- ② Depending on temperature and lubricating conditions these values can be up to 15% lower.
- ③ Due to the screwed connection. M_T max. can be lower with adaptors.

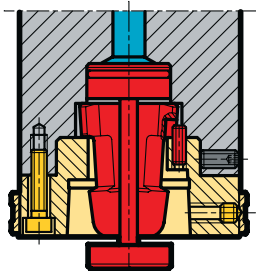
HSK-C	max. torque M_A [Nm] ①	Key size	max. drawing force [kN] ②	max. linear bending moment M_B [Nm] ②	max. transferrable torsional moment M_T [Nm] ② ③
25	1.5	2.0	5	45	50
32	2.5	2.5	8	74	120
40	6.0	3.0	18	213	360
50	10.0	4.0	27	431	1000
63	15.0	5.0	35	703	1300
80	25.0	6.0	50	1100	2800
100	50.0	8.0	60	1620	4800

General notes: Our manual clamping sets must not be operated with motor-driven tools (impulse screwdriver or similar). The hexagonal key should not exceed the key size over its entire length. This largely prevents excessive torque being transferred. We recommend the T-handle hexagonal key, Series no. 4912. For accurate setting of the maximum torque and achieving the maximum interface rigidity, we recommend the application of a torque wrench, Series no. 4915 with hexagonal sockets, Series no. 4916. Production drawings of the spindle contour to suit direct installation are available on request, including .dxf.

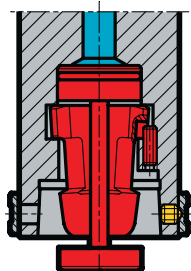
Application examples

Spindle interface

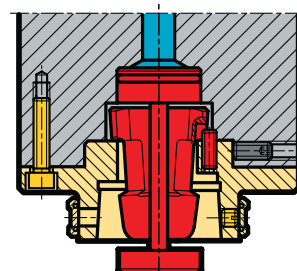
integrated spindle adaptor



Direct installation in spindle

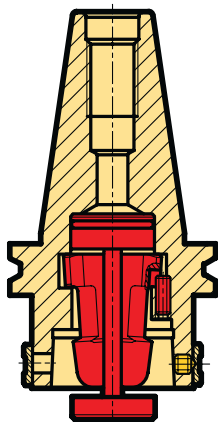


Spindle adaptor (in front)

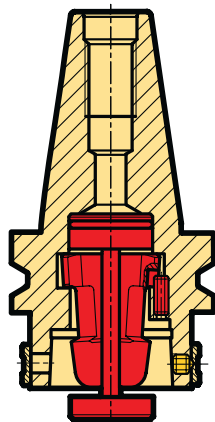


Adaptor

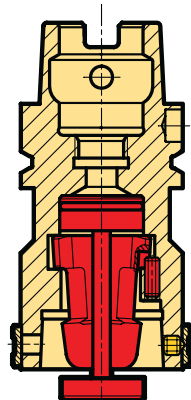
DIN ISO 7388-1 form AD



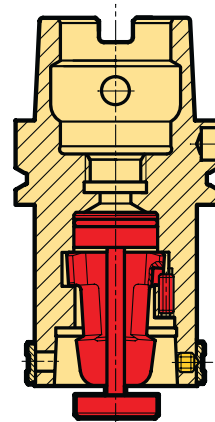
MAS/BT



HSK-A extension

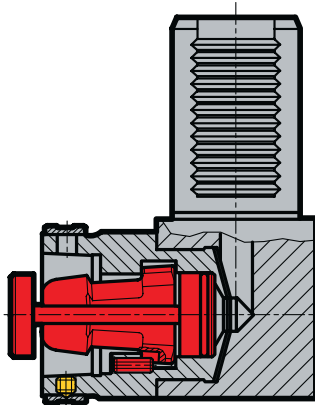


HSK-A reduction

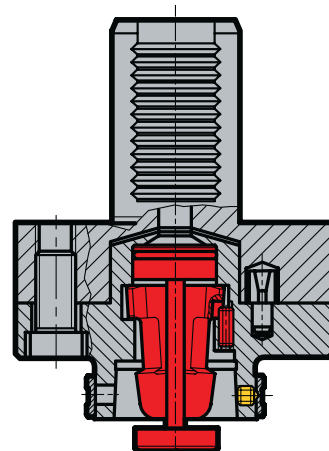


Tool holder for turning centers

adaptor (in front) on VDI angle holder



adaptor (in front) on VDI vertical holder

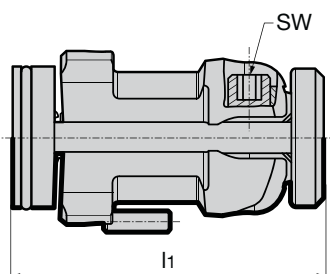


Product information

- the internal coolant supply is via the cage. It is floating mounted and ensures a coolant seal above 6 bar pressure.
- for a coolant pressure up to 80 bar
- the coolant sets are not suitable for MQL
- for clamping HSK-A/C shanks to ISO 12164-1/DIN 69893

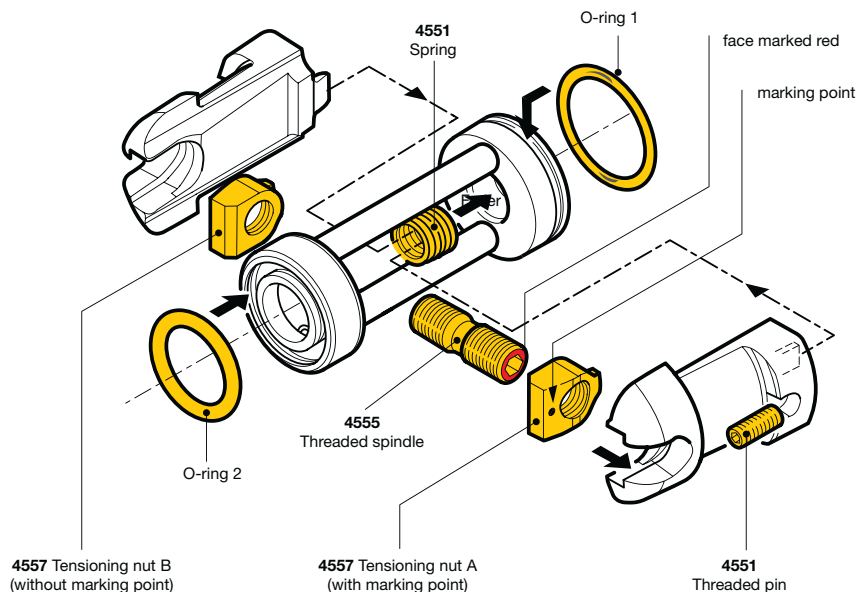
Scope of delivery

- including installation and operating instructions
- incl. threaded pin Series no. 4551



Series no. 4554					EDP Number
HSK-C	l_1 mm	SW	kg	Code no.	
25	32.1	2.0	0.02	19.000	9045540190000
32	41.6	2.5	0.05	24.000	9045540240000
40	49.7	3.0	0.09	30.000	9045540300000
50	62.2	4.0	0.18	38.000	9045540380000
63	74.1	5.0	0.37	48.000	9045540480000
80	96.1	6.0	0.73	60.000	9045540600000
100	117.0	8.0	1.36	75.000	9045540750000

Component parts for PowerClamp sets Series no. 4554

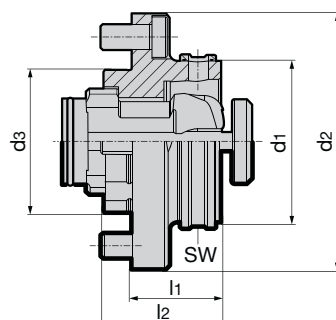


Series no.			4557	4555	4551
HSK-C	O-ring 1	O-ring 2	Tensioning nut set	Threaded spindle	Spring and threaded pin
	mm	mm	EDP Number	EDP Number	EDP Number
25	11.5 × 1.0	7.0 × 2.0	9045570010190	9045550020190	9045510030190
32	14.0 × 1.5	10.0 × 2.5	9045570010240	9045550020240	9045510030240
40	18.0 × 1.5	12.5 × 2.5	9045570010300	9045550020300	9045510030300
50	22.0 × 1.5	16.0 × 3.0	9045570010380	9045550020380	9045510030380
63	28.0 × 2.0	21.0 × 3.0	9045570010480	9045550020480	9045510030480
80	36.0 × 3.0	25.0 × 4.0	9045570010600	9045550020600	9045510030600
100	45.0 × 3.0	32.0 × 5.0	9045570010750	9045550020750	9045510030750

HSK adaptors (in front)

Product information

- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration.
- for conventional cooling from 6 to max. 80 bar
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893
- radially alignable



Scope of delivery

- incl. clamping set Series no. 4554
- incl. brass lock ring Series no. 4953
- incl. indexing pin and retention screws



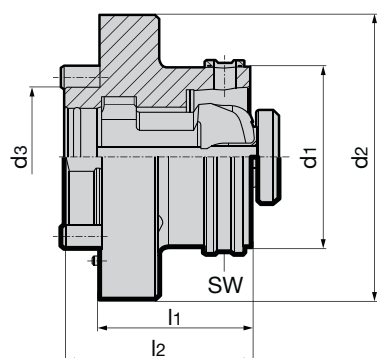
Series no. 4581

HSK-C d1	d2 mm	d3 mm	l1 mm	l2 mm	SW	kg	Code no.	EDP Number
25	45	23	20.0	26.5	2.0	0.17	19.000	9045810190000
32	55	28	17.5	23.0	2.5	0.22	24.000	9045810240000
40	63	36	22.5	29.0	3.0	0.40	30.000	9045810300000
50	80	46	27.5	36.0	4.0	0.74	38.000	9045810380000
63	100	56	35.0	46.0	5.0	1.50	48.000	9045810480000
80	125	66	45.0	58.0	6.0	2.94	60.000	9045810600000
100	160	86	57.0	72.0	8.0	5.90	75.000	9045810750000

HSK spindle adaptors (in front)

Product information

- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration.
- for conventional cooling from 6 to max. 80 bar
- radially alignable
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893



Scope of delivery

- incl. clamping set Series no. 4554
- incl. brass lock ring Series no. 4953
- incl. indexing pin and retention screws

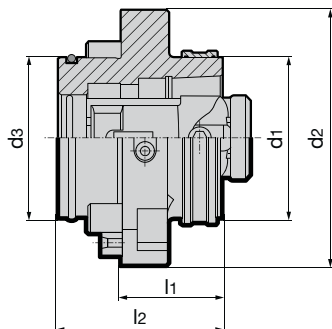


Series no. 4586

HSK-C d1	d2 mm	d3 mm	l1 mm	l2 mm	SW	kg	Code no.	EDP Number
40	70	35	32.5	42.5	3	0.55	30.000	9045860300000
50	80	40	43.0	53.0	4	1.00	38.000	9045860380000
63	100	50	53.0	65.0	5	1.90	48.000	9045860480000
80	117	60	73.0	85.0	6	3.60	60.000	9045860600000
100	140	80	94.0	106.0	8	7.20	75.000	9045860750000

Product information

- for fixed tools
- incl. setting element to eliminate drive play with vertical tools
- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration.
- for conventional cooling from 6 to max. 80 bar
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1



Scope of delivery

- incl. clamping set Series no. 4554
- incl. brass lock ring Series no. 4953
- incl. indexing pin and retention screws



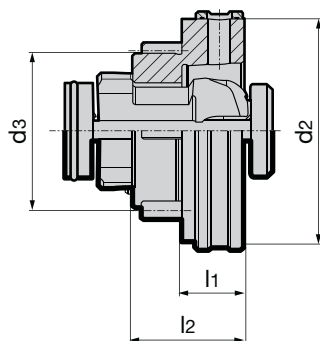
Series no. 4582

HSK-C d1	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	SW	kg	Version	Code no.	EDP Number
50	84	50	35	55.0	55	4	0.98	left	38.100	9045820381000
50	84	50	35	55.0	55	4	0.98	right	38.200	9045820382000
63	100	63	40	64.5	70	5	1.74	left	48.100	9045820481000
63	100	63	40	64.5	70	5	1.74	right	48.200	9045820482000

Short HSK spindle adaptors (integrated)

Product information

- with larger axial plane
- for the transferable torsional moment the interface between spindle and flange has to be taken into consideration.
- for conventional cooling from 6 to max. 80 bar
- radially alignable
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1



Scope of delivery

- incl. clamping set. Series no. 4554
- incl. brass lock ring Series no. 4953
- incl. threaded pin Series no. 4551 and tensioning screws

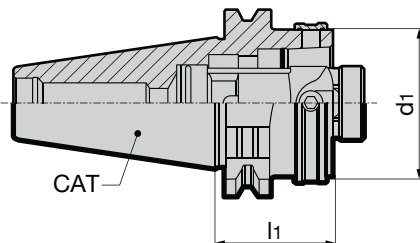


Series no. 4584

for HSK-C	d2 mm	d3 mm	l1 mm	l2 mm	SW	kg	Code no.	EDP Number
32	40	27.0	12.5	21.10	2.5	0.16	24.000	9045840240000
40	50	33.5	15.0	25.70	3.0	0.28	30.000	9045840300000
50	63	42.0	17.5	32.10	4.0	0.55	38.000	9045840380000
63	80	55.0	22.5	40.05	5.0	1.14	48.000	9045840480000
80	100	68.0	27.5	51.40	6.0	2.20	60.000	9045840600000
100	125	88.0	30.0	64.00	8.0	4.00	75.000	9045840750000

Product information

- ISO taper to DIN 69871 form AD
- Form AF on request
- EDP Number 50.100 only applies to pre-setting unit
- for conventional cooling from 6 to max. 80 bar
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1


Scope of delivery

- incl. clamping set Series no. 4554
- incl. brass lock ring Series no. 4953



Series no. 4512

SK taper	HSK-C d ₁	l ₁ mm	SW	kg	Code no.	EDP Number
40	32	40	2.5	0.89	40.032	9045120400320
40	40	40	3.0	0.90	40.040	9045120400400
40	50	40	4.0	0.91	40.050	9045120400500
40	63	70	5.0	1.38	40.063	9045120400630
50	32	40	2.5	2.65	50.032	9045120500320
50	40	40	3.0	2.67	50.040	9045120500400
50	50	40	4.0	2.71	50.050	9045120500500
50	63	40	5.0	2.73	50.063	9045120500630
50	80	70	6.0	3.70	50.080	9045120500800
50	100	100	8.0	4.87	50.100	9045120501000

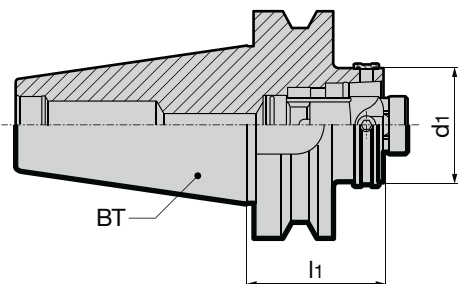
MAS/BT / HSK-C basic adaptors

Product information

- MAS/BT to DIN ISO 7388-2 form JD
- for conventional cooling from 6 to max. 80 bar
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893-1

Scope of delivery

- incl. clamping set Series no. 4554
- incl. brass lock ring Series no. 4953

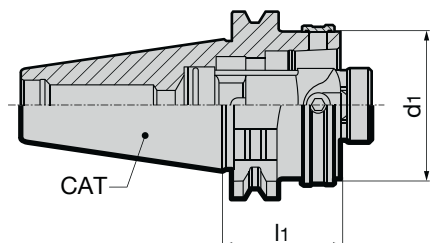


Series no. 4514

BT	HSK-C d ₁	l ₁ mm	SW	kg	Code no.	EDP Number
40	40	40	3	0.92	40.040	9045140400400
40	50	40	4	0.95	40.050	9045140400500
40	63	80	5	2.00	40.063	9045140400630
50	40	50	3	2.90	50.040	9045140500400
50	50	60	4	3.15	50.050	9045140500500
50	63	60	5	3.69	50.063	9045140500630

- ### Scope of delivery

- 



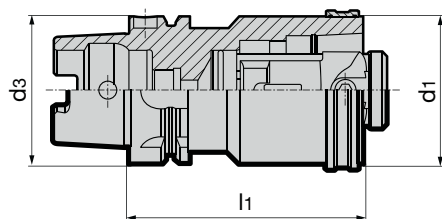
HSK clamping technology

Product information

- incl. clamping set Series no. 4554
- incl. brass lock ring Series no. 4953
- for conventional cooling from 6 to max. 80 bar
- HSK-A to ISO 12164-1/DIN 69893
- for holding HSK-A/C shanks to ISO 12164-1/DIN 69893

Scope of delivery

- order coolant supply set Series no. 4949 separately



Series no.					4549
HSK-A/ HSK-C d ₁ / d ₃	l ₁ mm	SW	kg	Code no.	EDP Number
32	60	2.5	0.26	60.032	9045490600320
40	80	3.0	0.65	80.040	9045490800400
50	80	4.0	0.90	80.050	9045490800500
50	100	4.0	1.13	100.050	9045491000500
63	100	5.0	1.84	100.063	9045491000630
63	140	5.0	2.30	140.063	9045491400630
80	120	6.0	3.90	120.080	9045491200800
80	160	6.0	5.40	160.080	9045491600800
100	140	8.0	7.80	140.100	9045491401000
100	200	8.0	10.54	200.100	9045492001000

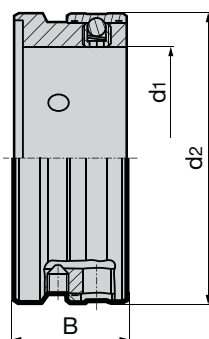
Skid rings for short spindles to DIN 69002-3

Product information

- for short spindles to DIN 69002-3

Scope of delivery

- incl. clamping screws and brass locking ring



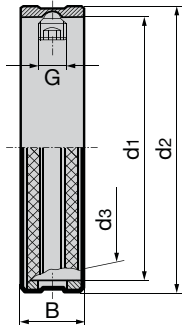
Series no.					4976
nom. size	d ₁ mm	DIN 69002-1 revolution n min ⁻¹ max.	d ₂ mm	B	EDP Number
25x20	25	10.000	35.0	15.7	9049760200150
32x25	32	9.000	42.5	19.7	9049760250190
32x30	32	9.000	43.5	19.7	9049760300190
40x35	40	8.000	54.0	21.7	9049760350210
50x45	50	7.000	68.0	24.7	9049760450240
63x55	63	6.000	82.0	31.7	9049760550310

Product information

- the pressure ball screw must be secured with Loctite 222

Scope of delivery

- incl. pressure ball screw
Series no. 4961

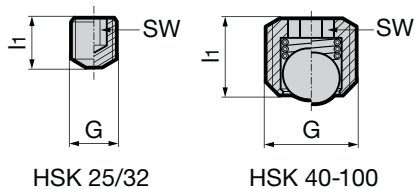


Series no. 4953								EDP Number
HSK-form	for HSK-size d1 mm	taper nom.-Ø d3 mm	d2 mm	B mm	incl. pressure ball screw art. no.4961	G	rev. limit	
C	25	19	28.0	7	3.500	M3.5	38.000	9049530250000
C	32	24	35.0	7	4.000	M4	28.000	9049530320000
C	40	30	43.5	9	5.000	M5	22.500	9049530400000
C	50	38	54.0	11	6.000	M6	17.350	9049530500000
C	63	48	68.0	14	8.000	M8	13.750	9049530630000
C	80	60	85.0	17	10.000	M10	11.850	9049530800000
C	100	75	105.0	23	12.000	M12	9.250	9049531000000
D	32	19	35.0	7	3.500	M3.5	28.000	9049530320190
D	40	24	43.5	9	4.000	M4	22.500	9049530400240
D	50	30	54.0	11	5.000	M5	17.350	9049530500300
D	63	38	68.0	14	6.000	M6	13.750	9049530630380
D	80	48	85.0	17	8.000	M8	11.850	9049530800480
D	100	60	105.0	23	10.000	M10	9.250	9049531000600
D	125	75	130.0	23	12.000	M12	6.100	9049531250750

Pressure ball screws

Product information

- Minimum order quantity 5



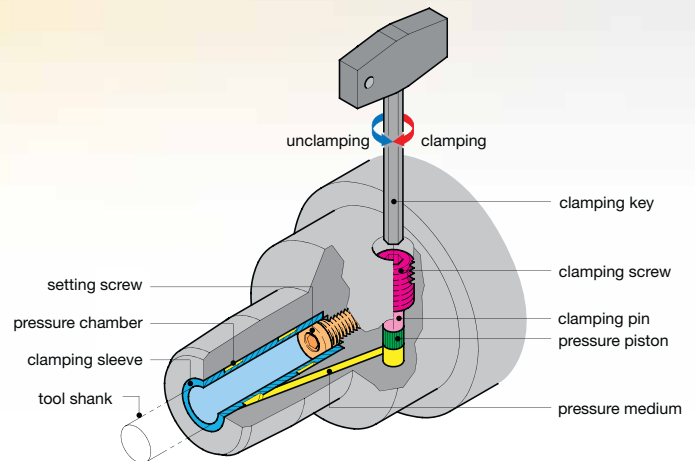
Series no. 4961				EDP Number
for HSK	l1 mm	G	SW	
25	3.4	M3.5	2.0	9049610035000
32	4.3	M4	2.0	9049610040000
32	4.0	M4	2.0	9049610040010
40	4.6	M5	2.5	9049610050000
50	5.4	M6	3.0	9049610060000
63	7.0	M8	4.0	9049610080000
80	9.2	M10	5.0	9049610100000
100	11.4	M12	6.0	9049610120000

Hydraulic Chuck Repair Service

Losing Your Grip?

If your hydraulic chuck is leaking fluid or allowing the cutting tool to turn even slightly within the chuck, it's time to have it repaired. Guhring repairs hydraulic chucks - both our competitors' chucks and our own - at our facility in Brookfield, Wisconsin. Guhring can repair or replace the hydraulic components within most hydraulic chucks, restoring them to like-new functionality.

A worn out toolholder can result in excessive runout, premature tool wear and even broken tools or damaged work pieces. Don't wait until damage has occurred - check your hydraulic clamping pressure with a gauge such as the Guhring Senso 3000 (or other gauge).

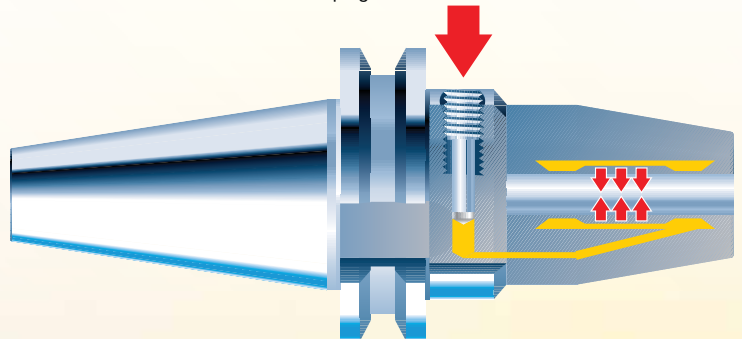


Hydraulic chucks create clamping pressure by increasing the hydraulic force around the sleeve (in blue), which causes the sleeve to tighten around the shank of the cutting tool. This forms a secure and even grip on the cutting tool in the chuck.



Guhring's Senso 3000 offers a quick and precise measurement of the clamping force of hydraulic chucks.

Consistent operation: Hydraulic oil is compressed via a screw and pressure piston ensuring accurate and consistent clamping of the tool.

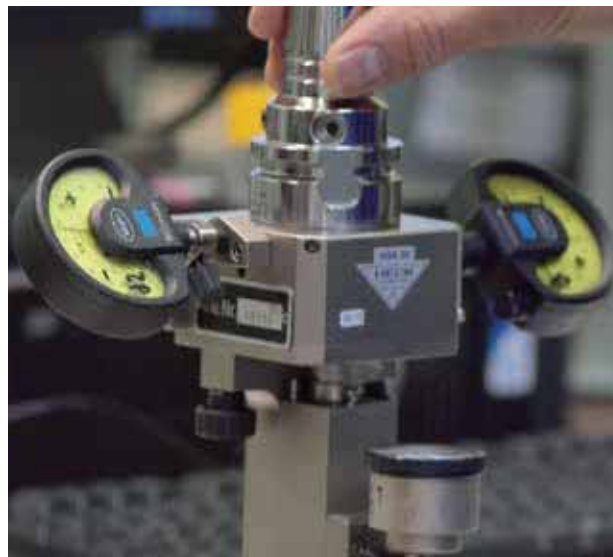


MEASURING INSTRUMENTS AND GENERAL ACCESSORIES



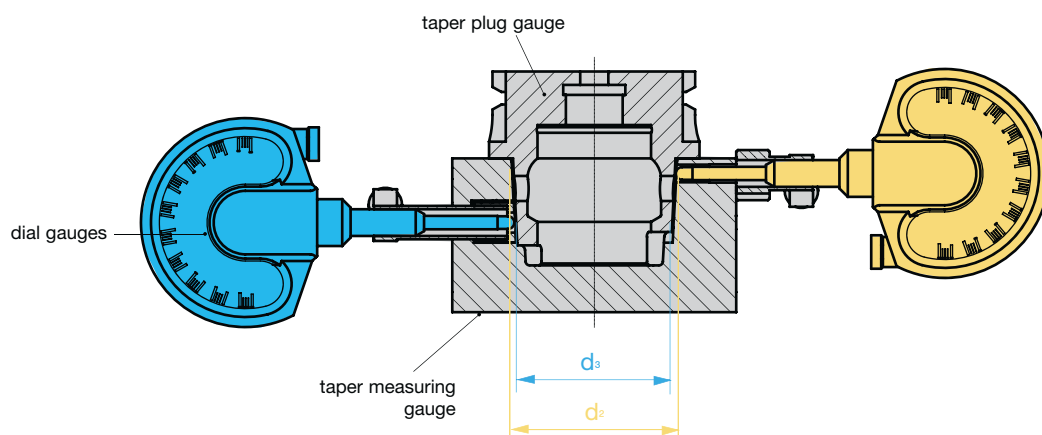
Measuring gauges for HSK tool shanks

To ensure sustained accuracy at HSK interfaces, we recommend comparison measuring of the geometry of HSK tool shanks and spindles at regular intervals. These checks should become more frequent with an increased change rate at the interface.



Measuring gauges for HSK tool shanks

for nominal taper diameter d_2 and d_3



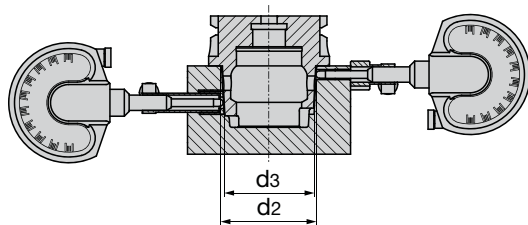
Taper measuring gauges for HSK tool shanks

Product information

- calibration on request

Scope of delivery

- incl. calibrated taper plug gauge and measuring instructions
- supplied in wooden case with inspection protocol



Series no.

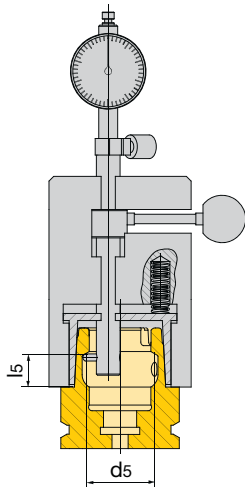
4968

for HSK	d_2 mm	d_3 mm	EDP Number
25	19	18.4	9049680191000
32	24	23.2	9049680241000
40	30	29.0	9049680301000
50	38	36.9	9049680381000
63	48	46.5	9049680481000
80	60	58.1	9049680601000
100	75	72.6	9049680751000

Measuring gauges for HSK clamping shoulders

Product information

- calibration on request



Scope of delivery

- incl. calibrated setting gauge and measuring instructions
- supplied in plastic case with inspection protocol

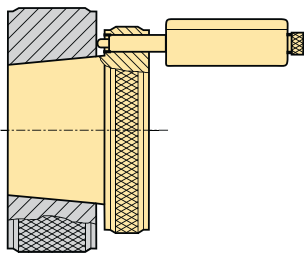


Series no.			4978
for HSK A/C/E	l ₅ mm	d ₅ mm	EDP Number
25	7.21	15	9049780190000
32	8.92	19	9049780240000
40	11.42	23	9049780300000
50	14.13	29	9049780380000
63	18.13	37	9049780480000
80	22.85	46	9049780600000
100	28.56	58	9049780750000

Measuring gauges for HSK spindles

Product information

- calibration on request



Scope of delivery

- incl. calibrated setting gauge and measuring instructions
- supplied in a sturdy case with inspection protocol



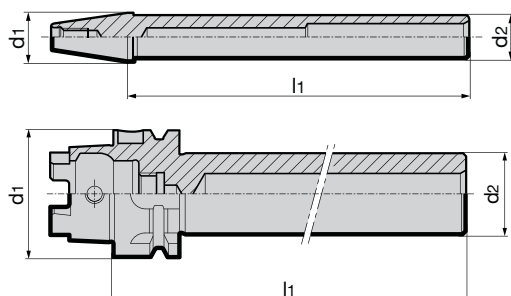
Series no.		4969
for HSK	kg	EDP Number
25	0.60	9049690190000
32	0.91	9049690240000
40	1.13	9049690300000
50	1.60	9049690380000
63	3.02	9049690480000
80	4.94	9049690600000
100	8.10	9049690750000

Product information

- for concentricity testing at machine spindles
- calibration on request
- Series no. 4971 125,025 only in form E
- HSK-A shank similar to ISO 12164-1/DIN 69893
- SK shank similar to DIN ISO 7388-1

Scope of delivery

- supplied in wooden case for vertical storage with inspection protocol
- order pull studs separately



Series no.			4970	4971
d1	d2 mm	l1 mm	EDP Number	EDP Number
SK-40	40	320	9049703000400	
SK-50	40	320	9049703000500	
HSK-E25	20	140		9049711250250
HSK-E32	24	180		9049711500320
HSK-A40	24	180		9049711500400
HSK-A50	32	236		9049712000500
HSK-A63	40	346		9049713000630
HSK-A80	40	346		9049713000800
HSK-A100	40	349		9049713001000

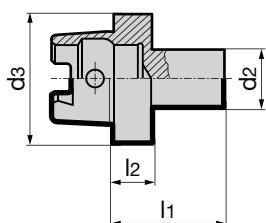
Balancing masters for HSK spindles

Product information

- for balancing HSK spindles clamping systems: holds the clamping elements in the clamped position
- balancing quality: G2.5 / 30,000 rev./min or $U < 0.5$ gmm
- HSK-C to ISO 12164-1/DIN 69893-1
- calibration on request

Scope of delivery

- supplied in wooden case with inspection protocol



Series no.				4975
HSK-C d3	d2 mm	l1 mm	l2 mm	EDP Number
25	12	23	8	9049750250000
32	12	25	10	9049750320000
40	12	25	10	9049750400000
50	20	37.50	12.5	9049750500000
63	20	37.50	12.5	9049750630000
80	20	46	16	9049750800000
100	20	46	16	9049751000000

Clamping force measuring instrument for HSK / SK clamping systems

The accuracy of the HSK connection does not only depend on the geometry but also on the drawing force of the HSK clamping system which plays an important part in ensuring a powerful and dimensionally accurate connection.

To ensure operational safety, a regular clamping force check of the HSK interface is recommended. An entirely mechanical clamping force measuring instrument is now available from Gühring. Its operation is based on components, which are linear adjustable in length and positioned proportional to the force.

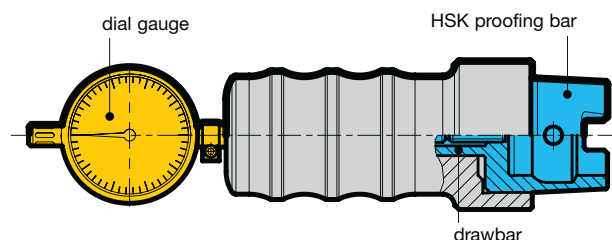
A force is associated with the alteration in length which is displayed via an analogue dial gauge.

Specifications:

- few components, therefore cost-efficient
- robust design
- battery or mains connection not required
- patented operating principle which is also adaptable to other spindle designs

Min. required pull forces for clamping systems

taper size HSK25	2.8 kN
taper size HSK32	5 kN
taper size HSK40	6.8 kN
taper size HSK50	11 kN
taper size HSK63	18 kN
taper size HSK80	28 kN
taper size HSK100	45 kN
taper size SK/BT/CAT30	6 kN
taper size SK/BT/CAT40	12 kN
taper size SK/BT/CAT50	25 kN



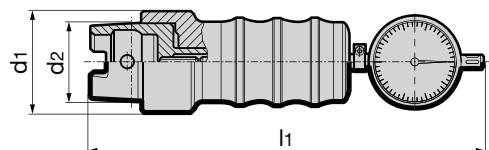
Clamping force measuring instrument

Product information

- mechanical clamping force inspection instrument for HSK/SK/BT/CAT clamping systems in machine tool spindles
- calibration on request

Scope of delivery

- supplied in wooden case with inspection protocol, calibrated, with measuring instructions
- order pull studs separately



Series no.					4973	4974
HSK-A/C/E d1	HSK-B/D/F d1	ISO taper/ BT/CAT	d2 mm	l1 mm	EDP Number	EDP Number
		30	32	216	9049730300000	
		40	44	248	9049730400000	
		50	69	285	9049730500000	
25	-	-	19	187		9049740190000
32	40	-	24	192		9049740240000
40	50	-	30	196		9049740300000
50	63	-	38	203		9049740380000
63	80	-	48	235		9049740480000
80	100	-	60	250		9049740600000
100	125	-	75	260		9049740750000

Clamping force proofing instrument Senso 3000

The hydraulic clamping technology is a well-known, proven and reliable method for the clamping of tools. Thanks to its completely closed design the system is sealed and impervious, requires extremely low maintenance and guarantees longevity. Following many years of general use, however, thermal and mechanical influences can lead to a reduction in clamping force. The result can be a poor tool life and a diminished surface quality including expensive tool breakages during machining operations.

Determining the loss of clamping force was until now extremely costly and inaccurate. It involved either determining the number of clamping screw rotations or the torque with the assistance of a proofing bar and a torque key or the expansion rate applying an accurate internal measuring instrument.

The new Gühring SENSO 3000 measuring instrument offers a precise, quick and simple as well as consistent method of measuring the clamping force. An added advantage is the mobility of the system, i.e. for measuring within machines and fixtures.

SENSO 3000 determines the clamping force of the hydraulic chuck via a pressure sensitive plug gauge. The entire length of the plug gauge is clamped in the hydraulic chuck so that when tightening the clamping screw the clamping pressure of the chuck is optimally applied. The clamping force measurement instrument displays the clamping force as a percentage value in relation to the Gühring Master recording.

- The delivery scope includes the following components:
- clamping force measuring instrument with pressure sensitive plug gauge
 - operation instructions
 - CR 2430 type battery
 - Master record for review on request



Senso 3000

Scope of delivery

- Clamping force measuring instrument with pressure sensitive plug gauge
- Operation instructions
- CR 2430 type battery
- Master recording on request
- Inch sizes available upon request



Series no.		4038
clamping diameter mm		EDP Number
6.0		9040380060000
8.0		9040380080000
10.0		9040380100000
12.0		9040380120000
14.0		9040380140000
16.0		9040380160000
18.0		9040380180000
20.0		9040380200000
25.0		9040380250000
32.0		9040380320000

Measuring instruments
and general accessories

Flow rate measuring instrument PQ 3000

Gühring's PQ 3000 enables quick and simple measuring of pressure and volume of coolant flow directly in the machine using the actual tool applied.

Gühring has developed the PQ 3000 instrument for quick, simple and direct measuring of the existing coolant pressure and rate of flow for tools with internal cooling.



PQ 3000 enables the measuring of pressure and rate of flow of coolant when the actual tool is clamped directly in the stationary tool spindle. This way, it is possible to establish the real conditions of the relevant machine and tool configuration and measure the resulting actual rate of flow.

PQ 3000 provides the following information:

- pressure and volume flow of the coolant pump, the so-called P/Q characteristic curve
- possible pump or seal wear as well as rotary transmission losses
- possible narrowed cross sections in the line through machine, spindle and tool holder
- possible blocked filters
- possible narrowed cross sections resulting from deposits on the surface of the coolant ducts in the tool
- the coolant duct layout in the tool.

to identify and rectify possible weak points in the overall system, this way, the tool life of the applied tool can be optimised preventing tool breakage as well as chip congestion and jamming!

PQ 3000 provides data of sensors and indicates the measuring results on the display fixture. A data interface enables an evaluation via software on your PC (interface and software are available on request).

PQ 3000

Product information

- pressure checking range: 1 to 120 bar
- rate of flow checking range: 2 to 40 l/min
- diameter holder shank: 16 mm
- diameter range tool holder: ER 32 / 6 to 20 mm
- display for existing pressure P in bar also rate of flow volume Q in l/min

Scope of delivery

- clamping fixture and checking instrument
- display fixture with grip and connection socket
- checking data cable with connector plug, length 3 m
- ER 32 collet holder and sealing washer set for standard shanks with collets from 6 to 20 mm diameter
- clamping key for tensioning nut



Series no.		4068
		EDP Number
case complete		9040680100000
interface and PC-Software		

Coolant supply measuring instrument CC 3000

With Gühring's CC 3000 you can quickly and simply check the filtering efficiency of the coolant system.

Gühring has developed the CC 3000 inspection instrument for quick, simple and direct check of the coolant filtering efficiency.

Thanks to replaceable stainless steel filters, the user can adapt the instrument specifically to the filtering of the coolant system. CC 3000 establishes the present condition of the individual system and displays the actual filter efficiency.

In order to analyse and rectify possible weak points of the filter system, the following information is provided:

- perfect operation of the coolant filtering system
- defective filters
- insufficient filtering for the applied tool

In addition, it is possible to determine the oil concentration of the applied soluble oil with the included refractometer.

Thus, it is possible to optimize the tool life of the applied tool, to prevent tool breakage and subsequent production downtime!



CC 3000

Product information

- Master recording range of application 50 - 500 min-1
- suitable for coolant pressure up to 80 bar

Scope of delivery

- Measuring instrument with straight shank 16h6 and HB/HE clamping surfaces
- inspection instrument with HSK 63-A interface
- high-grade steel filter sizes 100, 200 and 300 µm
- refractometer including accessories
- magnifying glass, 8-fold magnification
- order high-grade steel filter size 60 µm separately
- in addition to the HSK holder we can also offer a tool holder with a 16 mm shank as a special



	Series no.	4076	4077
		EDP Number	EDP Number
case complete		9040760100630	
high-grade steel filter size 60, Series no. 4077			9040770600000
high-grade steel filter size 100, Series no. 4077			9040771000000
high-grade steel filter size 200, Series no. 4077			9040772000000
high-grade steel filter size 300, Series no. 4077			9040773000000

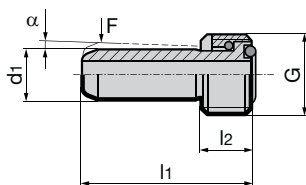
Coolant supply sets for conventional cooling

Product information

- leak-proof screwed connection tested to 80 bar
- to DIN 69895
- F = angle movability $\pm 1^\circ$
- for HSK-A and HSK-E shanks

Scope of delivery

- incl. union nut and O-rings



Series no.

4949

for HSK-A	d ₁ mm	α°	F	G	l ₁ mm	l ₂ mm	EDP Number
32	6	1.2	5N	M10x1.0	26.0	5.5	9049490100320
40	8	1.4	5N	M12x1.0	29.5	7.5	9049490120400
50	10	1.3	6N	M16x1.0	33.0	9.5	9049490160500
63	12	1.3	6N	M18x1.0	36.5	11.5	9049490180630
80	14	1.4	7N	M20x1.5	40.0	13.5	9049490200800
100	16	1.4	7N	M24x1.5	44.0	15.5	9049490241000

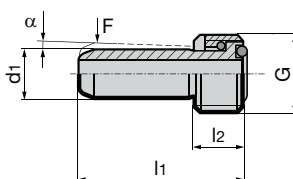
Coolant supply sets for conventional cooling with filter

Product information

- leak-proof screwed connection tested to 80 bar
- similar DIN 69895
- with filter for contamination-free cooling
- protects against tool breakage and eases error analysis
- F = angle movability $\pm 1^\circ$
- for HSK-A and HSK-E shanks

Scope of delivery

- incl. union nut and O-rings
- 100μ stainless steel fabric filter



Series no.

4979

for HSK-A	d ₁ mm	α°	F	G	l ₁ mm	l ₂ mm	EDP Number
32	6	1.2	5N	M10x1	26.0	5.5	9049790100320
40	8	1.4	5N	M12x1	29.5	7.5	9049790120400
50	10	1.3	6N	M16x1	33.0	9.5	9049790160500
63	12	1.3	6N	M18x1	36.5	11.5	9049790180630
80	14	1.4	7N	M20x1.5	40.0	13.5	9049790200800
100	16	1.4	7N	M24x1.5	44.0	15.5	9049790241000

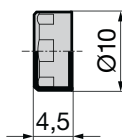
Data coding chip

Product information

- Identification systems BIS C
- for installation space to DIN 69 873
- data carrier read/write
- 511 bytes
- operating temperature 0...+70
- protection class to IEC
- product data exchange acc. to DIN 4000
- glued in bore Ø10 H11

Scope of delivery

- data coding chip
- installation in chuck and additional balancing can be ordered separately



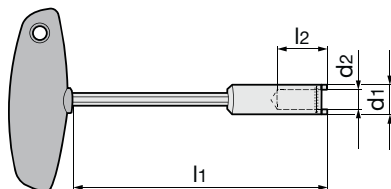
Series no.

4955

coding chip BIS C-122-04/L	EDP Number
10 x 4.5	9049550100000

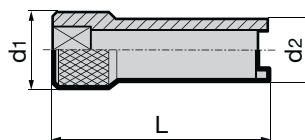
Product information

- with T-handle
- for coolant supply sets for conventional cooling and MQL coolant supply unit



Product information

- suitable for torque wrench
Series no. 4915, drive 3/8"
- for coolant supply sets



Series no. 4911

for HSK	d1 mm	d2 mm	l1 mm	l2 mm	EDP Number
32	11,0	6,1	128	23,0	9049110240000
40	13,0	8,1	134	26,0	9049110300000
50	15,0	10,1	134	28,0	9049110380000
63	17,0	12,1	135	31,5	9049110480000
80	20,0	14,1	138	32,0	9049110600000
100	22,5	16,1	138	35,0	9049110750000

Series no. 4910

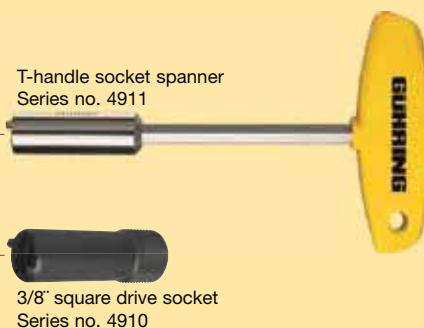
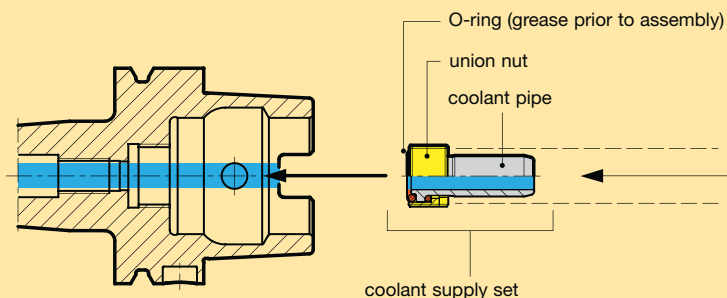
for HSK	MA Nm	d1 mm	d2 mm	L mm	EDP Number
32	7	20	14	60	9049100240000
40	11	20	16	60	9049100300000
50	15	20	18	60	9049100380000
63	20	20	18	60	9049100480000
80	25	20	20	75	9049100600000
100	30	22	22	80	9049100750000

Installation of coolant supply sets 4949/4979

1. The HSK holder must be clean, free of swarf and undamaged.
2. Grease the O-rings prior to assembly.
3. Centrally insert the complete coolant supply set (coolant pipe, union nut and 2 O-rings) in the HSK with the assistance of the socket spanner.
4. Screw in the coolant supply set/coolant supply unit and tighten (see table for torque figures)
5. Check coolant pipe for radial mobility.

Torque figures

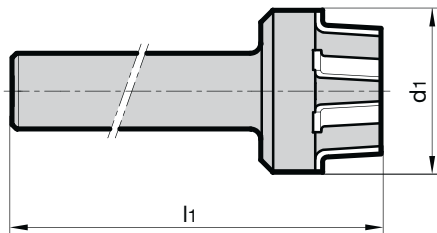
for HSK	MA Nm
32	7
40	11
50	15
63	20
80	25
100	30



HSK cleaning mandrels

Product information

- for cleaning internal tapers and the end faces on HSK
- by cleaning the contact surfaces accuracy, clamping torque and tool life of interfaces are improved
- the taper wipers are available in 3 designs, suitable for HSK and SK spindles and HPC precision chucks



Series no.

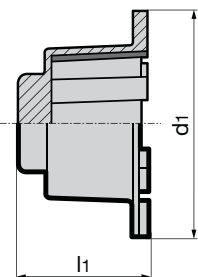
4914

taper type	d1 mm	l1 mm	EDP Number
HSK-A/C-25	33	114	9049140190000
HSK-A/C-32	35	138	9049140240000
HSK-A/C-40	45	142	9049140300000
HSK-A/C-50	53	152	9049140380000
HSK-A/C-63	66	168	9049140480000
HSK-A/C-80	93	178	9049140600000
HSK-A/C-100	103	199	9049140750000
HPC 14	24	160	9049140140000
HPC 20	24	156	9049140200000
HPC 25	40	195	9049140250000
HPC 32	42	170	9049140320000
SK/BT30	35	168	9049140300300
SK/BT40	48	188	9049140400000
SK/BT50	75	240	9049140500000

HSK cleaning caps

Product information

- for cleaning the external taper and face



Series no.

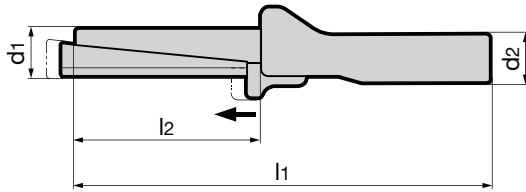
4947

for HSK-A/C/E	d1 mm	l1 mm	EDP Number
40	53	36	9049470010400
50	66	42	9049470010500
63	83	53	9049470010630
80	103	58	9049470010800
100	125	77	9049470011000

Cylindrical cleaning mandrels

Product information

- for cleaning the bore of the tool holder
- i.e. hydraulic, shrink fit and HPC clamping chucks



Series no.

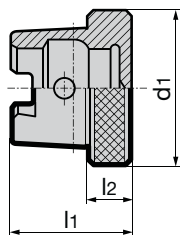
4918

d ₁ mm	d ₂ mm	l ₂ mm	l ₁ mm	EDP Number
6	24	37	158	9049180060000
8	24	37	158	9049180080000
10	24	47	168	9049180100000
12	24	47	168	9049180120000
14	24	47	168	9049180140000
16	24	70	176	9049180160000
18	24	70	176	9049180180000
20	24	70	176	9049180200000
25	24	80	186	9049180250000
32	30	100	221	9049180320000
40	30	105	226	9049180400000

HSK-C sealing plugs

Product information

- with high coolant pressure applications, it is imperative to seal the spindle with the sealing plug for safety reasons when the machine spindle is not fitted with a tool.
- The sealing plug protects the spindle from contamination.



Series no.

4985

HSK-C	d ₁ mm	l ₁ mm	l ₂ mm	kg	EDP Number
32	34	26.0	10.0	0.07	9049850320000
40	42	30.0	10.0	0.11	9049850400000
50	52	37.5	12.5	0.23	9049850500000
63	65	44.5	12.5	0.39	9049850630000
80	82	56.0	16.0	0.81	9049850800000
100	102	66.0	16.0	1.36	9049851000000

Tool setting fixture

Product information

- for HSK shanks HSK 32, 40, 50 and 63, form A, C, E and F
- the HSK shanks are clamped vertically and horizontally at the collar. Therefore, all tapers with the same diameter of the collar can be clamped with one fixture.

Scope of delivery

- incl. holder adaptors



Series no.					4946
for shanks	length mm	width mm	height mm	kg	EDP Number
HSK-32-A+C+E	260	130	160	9	9049464500320
HSK-40-A+C+E+F	260	130	160	9	9049464500400
HSK-50-A+C+E+F	260	130	160	9	9049464500500
HSK-63-A+C+E+F	260	130	160	9	9049464500630

Tool setting fixture

Product information

- the HSK shank remains in vertical position in the tool setting fixture by its own weight. The torque is transmitted through tang at the end of the taper.
- All taper types of equal size, as e.g. DIN 69871 / DIN 2080 / MASBT and D-BT can be clamped without changing the adaptors only through axial adjusting of the clamping spindle

Scope of delivery

- incl. interchangeable discs
Series no. 4991



Product information

- for tool setting fixture,
Series no. 4990

Scope of

- 1 pair



Series no.					4990
for shanks	length mm	width mm	height mm	kg	EDP Number
BT-/SK-40	260	130	160	9	9049904000400
BT-/SK-50	260	130	160	9	9049904000500
HSK-63-A+C	260	130	160	9	9049904500630
HSK-80-A+C	260	130	160	9	9049904500800
HSK-100-A+C	260	130	160	9	9049904501000

Series no.			4991
for shanks	for Series no.	kg	EDP Number
BT-/SK-40	4990	1.50	9049914001000
BT-/SK-50	4990	1.50	9049914002000
HSK-32-A+C+E+F	4946	0.82	9049914501000
HSK-32-A+C+E+F	4946	0.85	9049914502000
HSK-32-A+C+E+F	4946	0.09	9049914503000
HSK-63-A+C	4990	0.12	9049914504000
HSK-80-A+C	4990	0.27	9049914505000
HSK-100-A+C	4990	0.46	9049914506000

Torque wrenches

Product information

- with ratchet
- torque range 1...200 Nm; with automatic short distance release; can be heard, seen and felt when the set value is reached.
Release accuracy $\pm 4\%$ of the scale value.
- type "D" is pre-set to 10 Nm suitable for our HPC chucks Series no. 4300, 4301, 4243, 4244



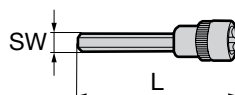
Series no.				4915	4987	4988	4989
type	drive	L mm	torque Nm	EDP Number	EDP Number	EDP Number	EDP Number
A	1/4"	–	0.4-1	9049150010010			
A	1/4"	142	0.5-2	9049150020000			
A	1/4"	–	1.5-3	9049150030000*			
A	1/4"	160	0.8-5	9049150050010			
A	1/4"	–	2.0-7	9049150080000			
D	1/4"	–	10		9049870100000		
E	1/4"	–	0.4-14			9049880140000	
B	3/8"	390	10-50				9049890500000
C	1/2"	514	40-200				9049892000000

*Includes 4mm hex wrench

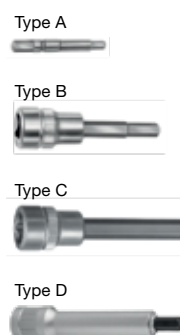
Socket/attachments

Product information

- for hexagon socket screws
- Type D for HPC clamping chuck



Type A: 1/4"-hexagon drive
Type B: 3/8"-square drive
Type C: 1/2"-square drive
Type D: 1/4"-square drive

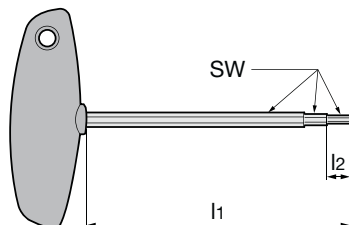


Series no.				4916
SW	drive	L mm	torque wrenches type	EDP Number
2	1/4"	50	A	9049160020190
2.5	1/4"	50	A	9049160025240
3	1/4"	50	A	9049160030300
3	3/8"	52	B	9049160030380
4	1/4"	55	D	9049160040000
4	3/8"	100	B	9049160040380
5	3/8"	100	B	9049160050480
6	3/8"	100	B	9049160060600
8	3/8"	100	B	9049160080750
6	1/2"	120	C	9049160060380
8	1/2"	120	C	9049160080480
10	1/2"	140	C	9049160100600
12	1/2"	140	C	9049160120000

Hexagon clamping keys

Product information

- for hexagon socket screws
- with ergonomic handle for the safe handling of our clamping devices
- special key EDP Number 4912 4.600 for HPC clamping chuck



Series no.				4912
SW	l1 mm	l2 mm	Type	EDP Number
2.0	100	100	A	9049120020000
2.5	100	100	A	9049120025000
3.0	100	100	A	9049120030000
3/4/5/6	100	100	C	9049120034560
4.0	100	100	A	9049120040000
4/6	100	100	C	9049120046000
5.0	100	100	A	9049120050000
6.0	100	100	A	9049120060000
8.0	100	100	A	9049120080000
10.0	100	100	A	9049120100000
12.0	100	100	A	9049120120000
2.5	200	200	A	9049120025010
3.0	200	200	A	9049120030010
4.0	200	200	A	9049120040010
5.0	200	200	A	9049120050010
6.0	200	200	A	9049120060010
7.0	200	200	A	9049120070010
8.0	200	200	A	9049120080010
1.5	150	2.5	B	9049120015000
2.0	150	2.5	B	9049120020010
2.5	120	3.0	B	9049120025020
3.0	150	3.8	B	9049120030020
4.0	150	4.5	B	9049120040020
2.5	57	57	C	9049120025090

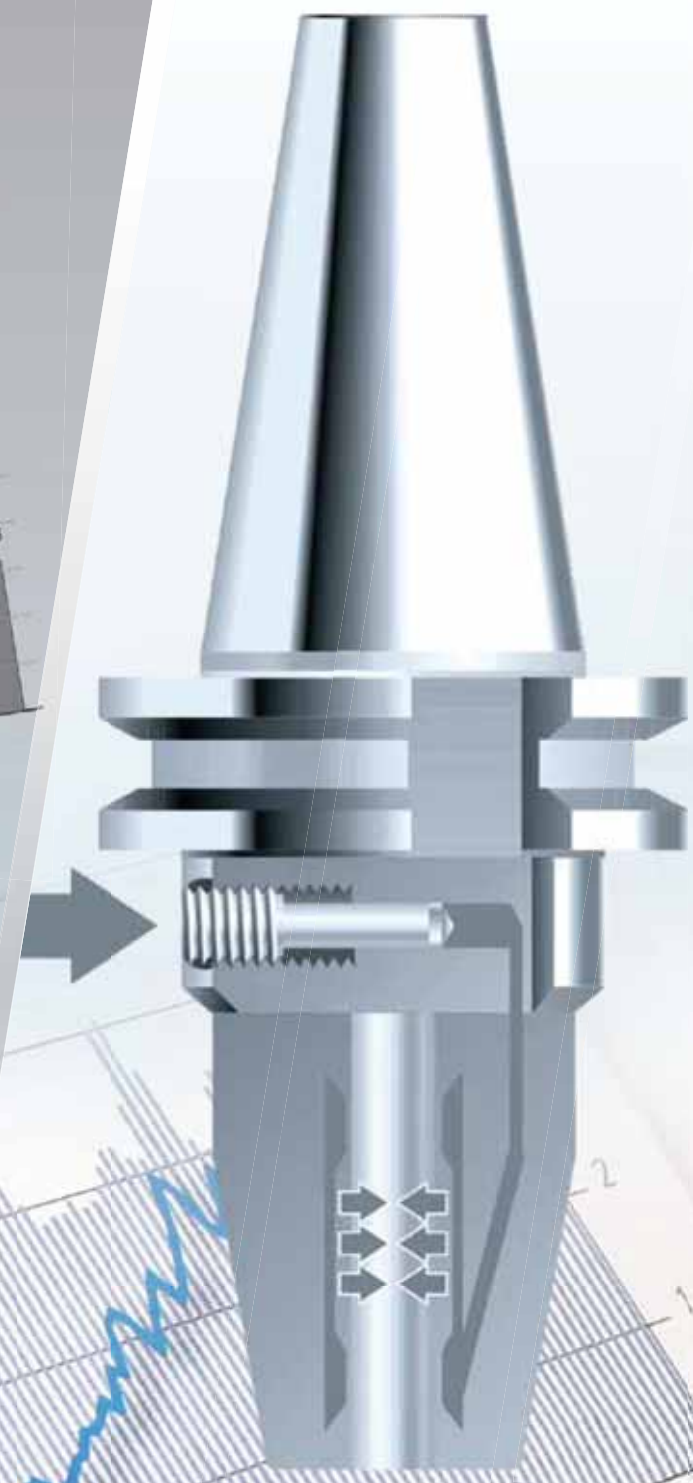
Hexagon clamping key

Product information

- for hexagon socket screws



Series no.			4921
for threaded pin Series no. 4551	SW	EDP Number	
HSK 25	0.9	9049210009000	
HSK 32	1.3	9049210013000	
HSK 40	1.5	9049210015000	



TECHNICAL INFORMATION



Comparison of tool holder characteristics

Clamping chucks / tool holders for straight shank tools	TSG 3000 / shrink fit chucks / shrink fit extensions	Hydraulic chucks / HMC 3000 / reduction sleeves
		
Characteristics	maximum concentricity; very slender non-interference; good rigidity; high clamping force; modular lengthening; patented dampening screw ensures concentricity	high dampening with maximum concentricity; simple handling; flexible application thanks to reduction bushes also with GÜHROJET
Main application	drilling, countersinking, milling, reaming, universal and HSC applicatio	reaming, drilling, countersinking, HSC application, light milling
Main feature	accurate and universal; slender; high clamping force	simple handling
Concentricity	< 3µm	< 3µm
with 5xD	< 5µm	< 5µm
Clamping force	very high	very high
Rigidity	very high	high
Dampening	low	very high
Interference contour	small / minimal	medium
Handling	good	very good / very flexible
Actuation	shrink fit device e.g. GSS 2000 Series no. 4742	hexagon key e.g. Series no. 4912

HPC precision power chucks / clamping sleeves	Straight shank holders “Weldon” / “Whistle-Notch”	Collet chucks ER
		
maximum clamping force and rigidity thanks to mechanical clamping transmission; high accuracy and balancing quality; flexible application thanks to clamping sleeves also with GÜHROJET	robust, cost-efficient clamping chuck for heavy machining in the lower speed and accuracy range	very flexible clamping chuck for various shank dimensions and tolerances; for lower level machining tasks
heavy HPC and fast accurate HSC milling, drilling, universal application	roughing, milling, drilling	light machining, centering, chamfering, drilling, threading; intermediate shank dimensions
highest clamping force and rigidity	simple operation; secure clamping	highly flexible
< 3µm	< 10µm	< 10µm
< 8µm	< 25µm	< 20µm
extremely high	very safe	medium
extremely high	very high	low
high	low	high
medium	large	large (mini = small)
very good / flexible	good	good
hexagon key / torque wrench e.g. Series no. 4915 + 4916 type D	hexagon key torque: information at clamping screw Series no. 4903	hook spanner max. torque: information at clamping screw Series no. 4903

The HSK interface

TECHNICAL INFORMATION AND ADVANTAGES

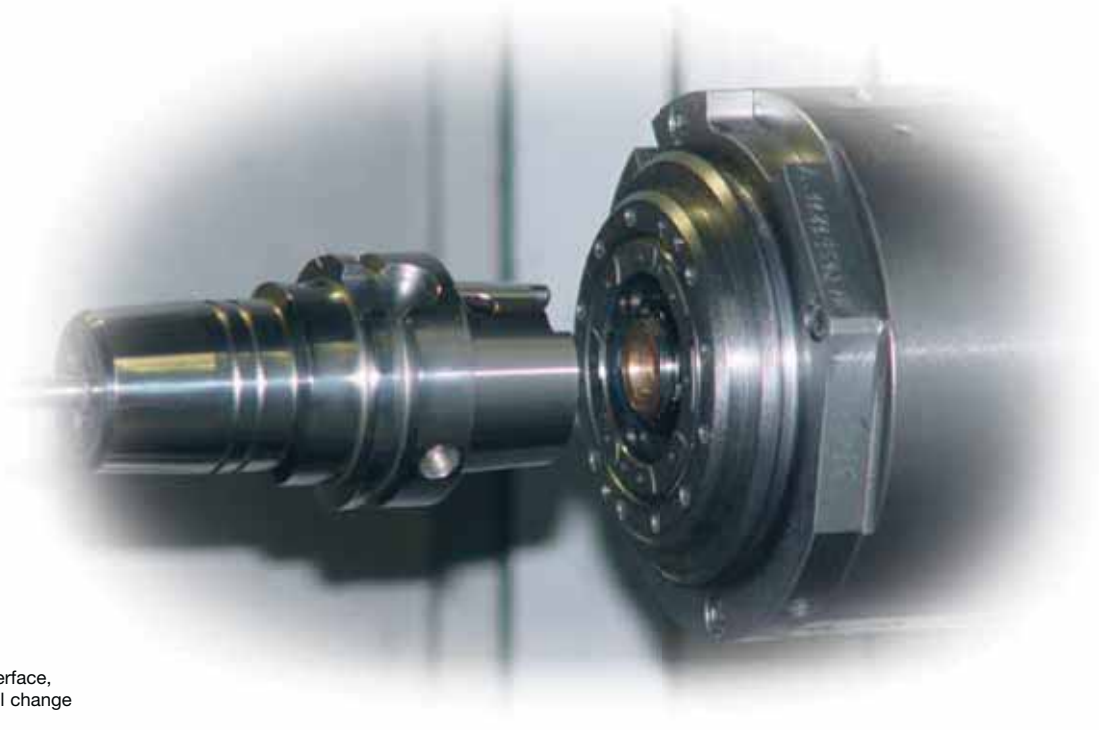


Fig. 1:
HSK-A 63 interface,
automatic tool change

The HSK interface of our GM 300 modular tooling system was developed for both rotating and static tooling applications in 1987. Standardization was obtained in 1991 (DIN 69893) and 2001 (ISO 12164-1/-2). The unique design is an ideal interface for both automatic clamping in a machine spindle (fig 1), as well as manual clamping in a tooling system or tool holder.

HSK Advantages are as follows:

- High Rigidity in both static and dynamic applications
- Radial and axial forces generated in clamping provide extreme rigidity (fig 2)

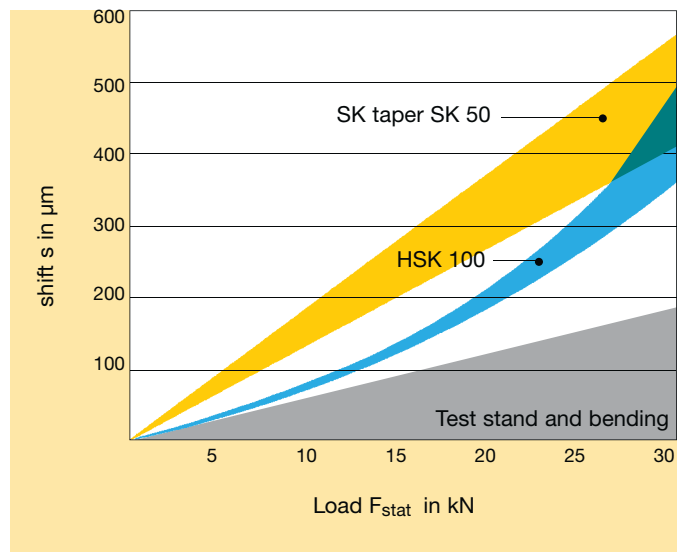
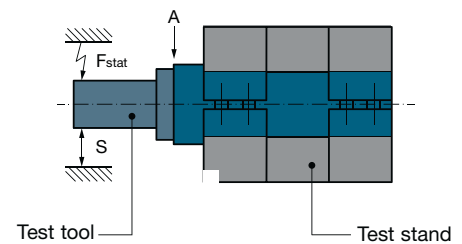


Fig. 2
Static deflection: Comparison between ISO taper 50
and automatic interface HSK-A 100 (A)

SK taper DIN 2080 DIN ISO 7388-1	HSK form A/C/(E) DIN 69893 part 1	HSK form B/D/(F) DIN 69893 part 2
–	HSK 40	HSK 50
SK30	HSK 50	HSK 63
SK40	HSK 63	HSK 80
SK45	HSK 80	HSK 100
SK50	HSK 100	HSK 125

The HSK interface

TECHNICAL INFORMATION AND ADVANTAGES

High Torque transmission and accurate radial positioning

- Drive keys engage tool holder for no-slip torque transmission
- Centrifugal force increases clamping force by design
- Interference fit in pre-clamped position eliminates radial play (fig. 3)

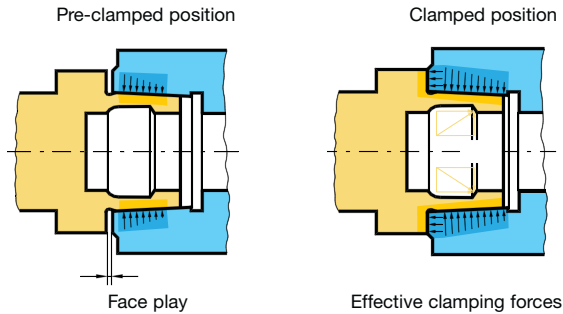
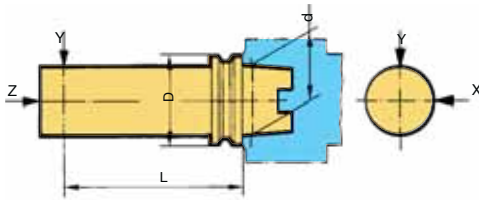


Fig. 3
Prestressing and frictional forces of hollow taper shank at the interface.

Short tool change time due to:

- Short tool shank (1/3 of steep taper tooling)
- Light weight (50% of steep taper tooling)



HSK-size D	d mm	L mm	X mm	Y mm	Z mm
32	24	50	0.002	0.002	0.002
40	30	60	0.002	0.002	0.002
50	38	75	0.002	0.002	0.002
63	48	100	0.002	0.002	0.002
100	75	150	0.002	0.002	0.002

Fig. 4
Radial and axial repeatability of interface for manual and automatic clamping

Simple, cost effective shank design

Coding and identification

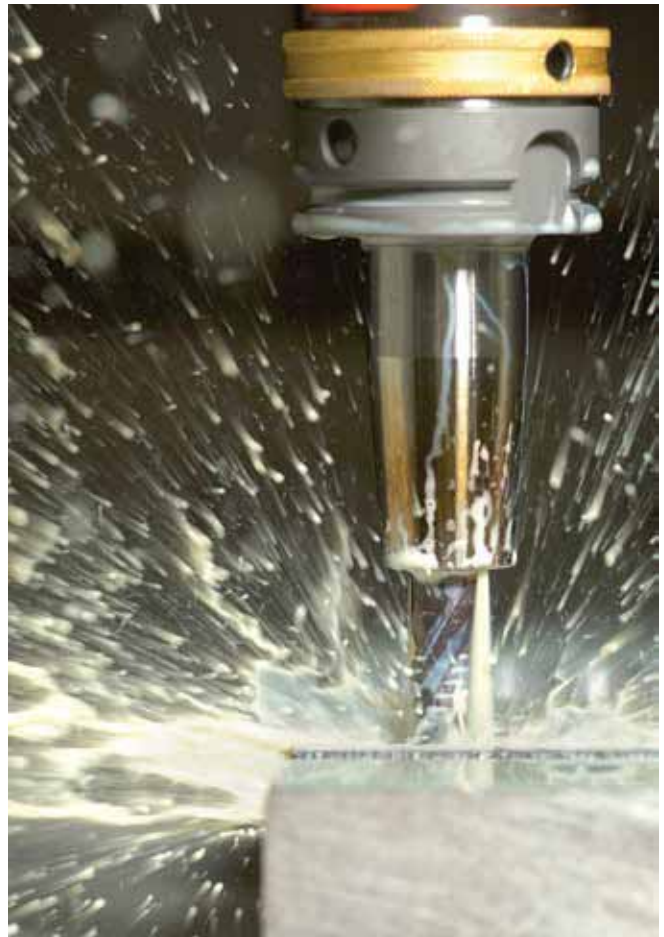
- 10MM diameter x 4.5mm deep pocket for data coding chips

Standardization

- Hollow taper shanks (HSK) conform to ISO 12164-1 and DIN 698936 standards
- Form "E" with access hole for manual clamping

Coolant feed

- Automatic tool change applications use a coolant tube. Manual tool change applications to be used with coolant filler. Both systems provide sealing to prevent coolant and debris from contaminating clamping surfaces.
- Coolant supply sets must be ordered separately and installed by the customer

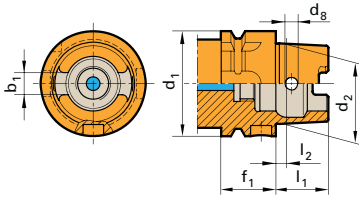


The HSK interface

GENERAL OVERVIEW OF HSK SHANKS ISO 12164-1/DIN 69893

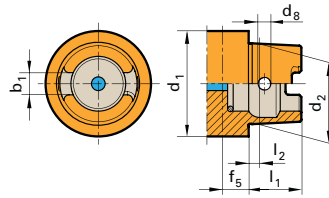
Form A ISO 12164-1/DIN 69893-1

HSK-sizes 25...160



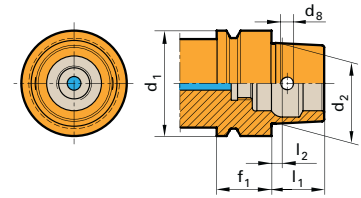
Form C ISO 12164-1/DIN 69893-1

HSK-sizes 25...160



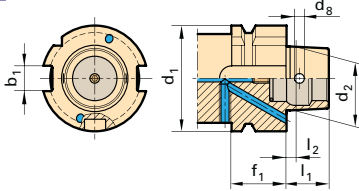
Form E DIN 69893-5

HSK-sizes 20...63



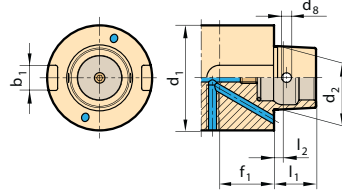
Form B DIN 69893-2

HSK-sizes 40...160



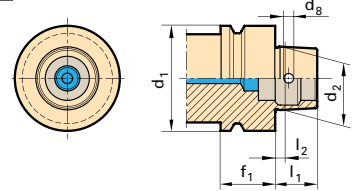
Form D DIN 69893-2

HSK-sizes 40...160



Form F DIN 69893-6

HSK-sizes 50...80



HSK for automatic tool change with gripper groove and index notch. Manual operation is via access hole in taper. Form B relies on driving dogs on the joint face as shank isn't slotted. Torque is transmitted through highly accurate connection.

HSK for manual tool change. Operation is via access hole in taper. Form D relies on driving dogs on the joint face as shank isn't slotted. Torque is transmitted through highly accurate connection.

HSK for automatic tool change. Torque is transmitted through highly accurate connection. Version with access hole acc. to DIN 69893-1 by arrangement. HSK-E/F by Gühring are supplied with access holes.

HSK form A C E								
Nominal Ø ¹		d ₂ mm	l ₁ mm	l ₂ mm	f ₁ mm	f ₅ mm	d ₈ mm	b ₁ mm
20	A	15.203	10	2.0	8	-	-	-
25		19.006	13	2.5	10	-	-	-
32		24.007	16	3.2	20	10.0	4.0	7.05
40		30.007	20	4.0	20	10.0	4.6	8.05
50		38.009	25	5.0	26	12.5	6.0	10.54
63		48.010	32	6.3	26	12.5	7.5	12.54
80		60.012	40	8.0	26	16.0	8.5	16.04
100		75.013	50	10.0	29	16.0	12.0	20.02
125		95.016	63	12.5	29	-	-	25.02
160		120.016	90	16.0	31	-	-	30.02

HSK form B F							
Nominal Ø							
d ₁ mm		d ₂ mm	l ₁ mm	l ₂ mm	f ₁ mm	d ₈ mm	b ₁ mm
25		-	-	-	-	-	-
32		-	-	-	-	-	-
40	B	24.007	16	3.2	20	4.0	10
50		30.007	20	4.0	26	4.6	12
63		38.009	25	5.0	26	6.0	16
80		48.010	32	6.3	26	7.5	18
100		60.012	40	8.0	29	8.5	20
125		75.013	50	10.0	29	12.0	25
160		95.016	63	12.5	31	12.0	32

The chart to the right lists max RPM guidelines of the different HSK system sizes :

HSK-A/C 25	to 60.000 rev./min
HSK-A/C 32	to 50.000 rev./min
HSK-A/C 40	to 42.000 rev./min
HSK-A/C 50	to 30.000 rev./min
HSK-A/C 63	to 25.000 rev./min
HSK-A/C 80	to 20.000 rev./min
HSK-A/C 100	to 16.000 rev./min

The HSK interface

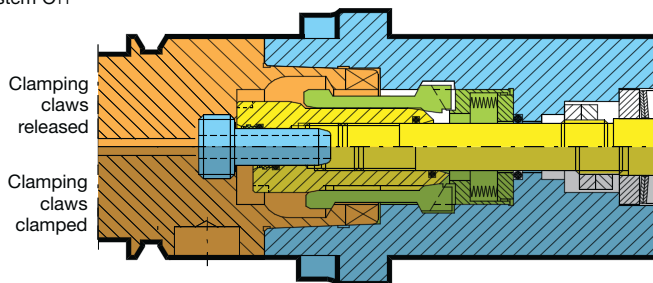
AUTOMATIC TOOL CLAMPING

In automatic tool clamping, the clamping forces are applied axially via a draw bar inside the machine spindle. A taper simultaneously applies radial movement of the clamping jaws, which engage on the internal clamping shoulder of the tool shank. When the tool holder has been pulled completely into the spindle connection, the result is rigid and without any free play. The geometry on the clamping mechanism and HSK interface increase drawbar force by a factor of 3.5.

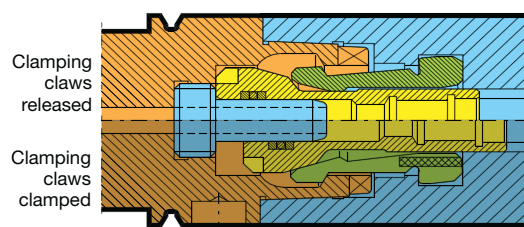
Below are some examples of Automatic HSK spindle interfaces (Fig 6).

Fig. 6
Spindle interfaces with clamping devices

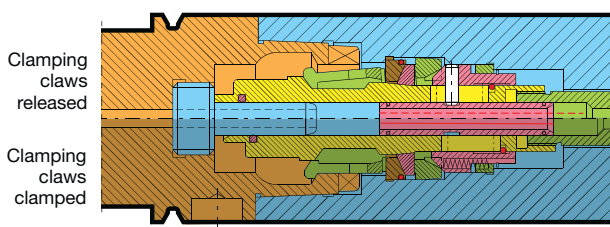
System OTT



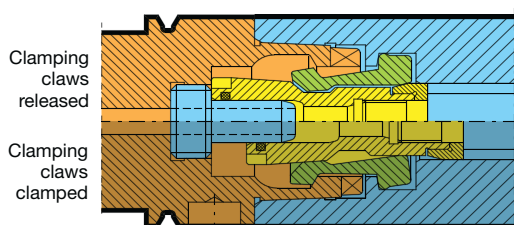
System ORTLIEB (licence Fa. Gühring)



System BERG (licence Fa. Gühring)

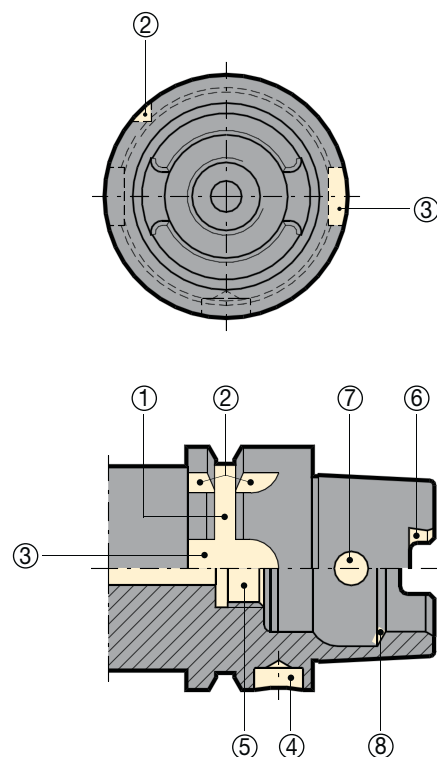


System RÖHM (licence Fa. Gühring)



Term definitions of HSK-A interface for automatic tooling systems

- ① Gripper groove: circular groove
- ② Index notch: sickle-shaped notch across gripper groove
- ③ Keyway on collar: index notch or for attachment in tool magazine or grippers. With HSK-B/D also provides form closed torque transmission to spindle
- ④ Coding/identification: bore in collar for attachment of identification system (coding chip)
- ⑤ Thread for coolant supply set
- ⑥ Keyway on taper shank for torque transmission to spindle
- ⑦ Radial bore in taper shank: necessary for manual clamping systems
- ⑧ Clamping shoulder: circular chamfer for drawing in the tool



Note:

We like to point out, that HSK-A can be used alternatively to HSK-C with manual clamping systems e.g. 4-point clamping set or PowerClamp. The only difference is the overall length, which is slightly longer. That is why we have decided to have certain tool holders only as form A as standard.

The HSK interface

MANUAL TOOL CLAMPING

Operating instructions for manual tool clamping

- Do not exceed the maximum torque figures for the clamping screw of the 4-point clamping set and the PowerClamp system.
- The thread of the clamping screw of the manual clamping set is supplied pre-greased. Following prolonged operating periods it may be necessary grease otherwise the require clamping force cannot be obtained.
- At tool changing the plane surface and spindle has to be cleaned. Dirt will restrain the perfect function of the tool system. The inner taper of the spindle can be cleaned with cleaning unit, Series no. 4914.
- The spindle should be sealed with a plug, Series no. 4985, when running without tool to prevent impurities in the clamping sets and HSK tool systems.

Exemplary interface design



Spindle connection dimensions see page 296/297

Detailed drawings of the spindle connection contours are available on request for the following:

Series no. 4385 Short HSK adaptor		Series no. 4554 PowerClamp clamping set	
Series no. 4386 HSK adaptor (in front)		Series no. 4958 4-point clamping set	
Series no. 4582 HSK adaptor (in front) for turning centres		Series no. 4930 MQL 4-point clamping set	
Series no. 4584 HSK adaptors (integrated axial plane)		Series no. 4953 Brass collar	
Series no. 4586 HSK adaptor (in front)		Series no. 4953 Brass collar	

SK taper DIN ISO 7388-1 and MAS/BT DIN ISO 7388-2

TECHNICAL INFORMATION AND ADVANTAGES

ISO taper and MAS-BT tool holders are produced in a special, alloyed case hardened steel with a minimum tensile strength at the core of 900 N/mm², hardened in a low distortion hardening process to HRC 58 at a case hardening depth of 0.8 to 1.0 mm. For reasons of longevity, the surface of the tool holder is subjected to an abrasive blasting process and protected against corrosion.

Quality through precision

Gühring's demand for highest precision also applies to tool holders. Therefore, SK taper and MAS-BT chucks are precision ground: in the vicinity of the ISO taper to $R_a \leq 0.2$, at the holder face to $R_a \leq 0.4$. The taper tolerance is better than AT 3 with a measuring accuracy of $\leq 1 \mu\text{m}$.

Detailed information regarding the form and positional tolerances can be found for the individual tool holders on the respective pages in the catalogue. The tolerances of the holder bore and the spigot are approximately 2/3 of the DIN tolerance.

Balancing

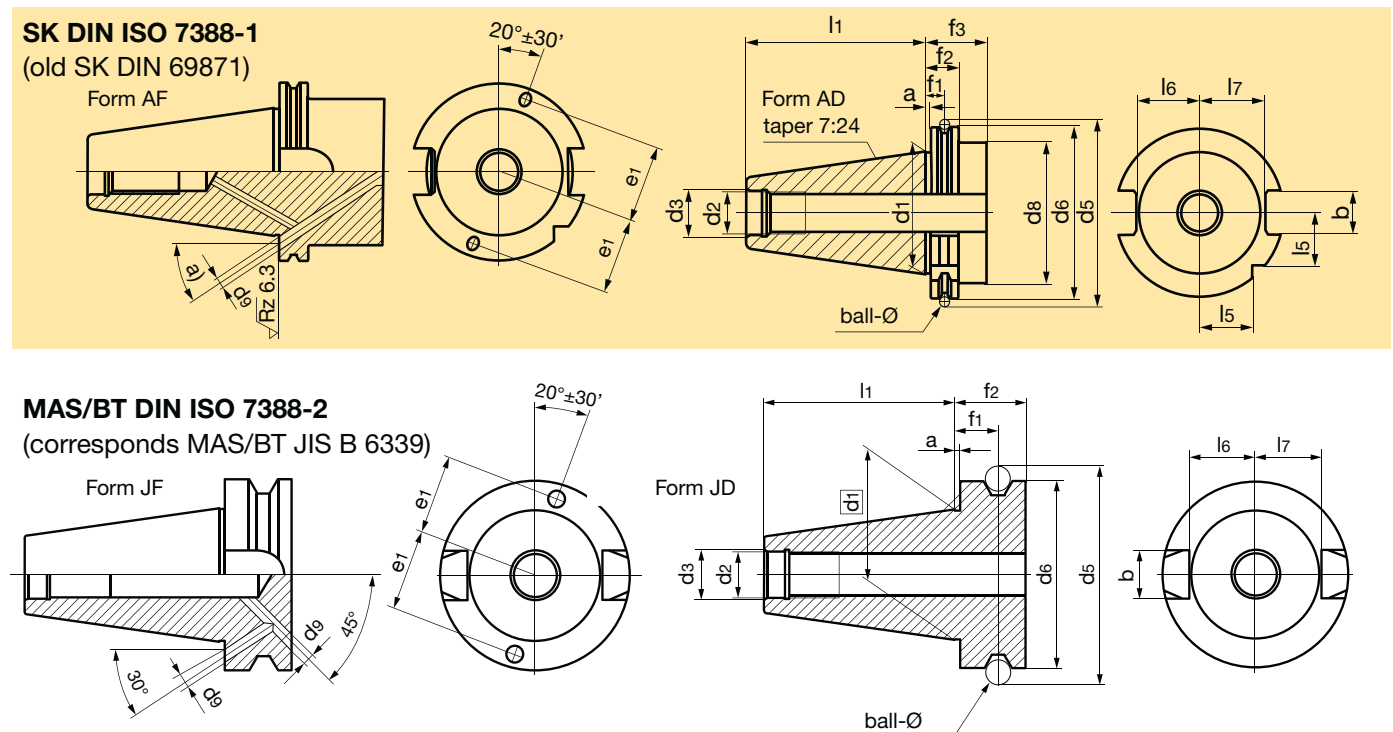
Tool holders suitable for increased speeds are generally pre-balanced. For this purpose, we have determined the imbalance and entered the balancing areas as well as balancing bores on the drawings. This levels out the imbalance to a large extent and up to approximately 8000 rev./min precision balancing is unnecessary. For higher revolutions, the pre-balanced tool holders must be precision balanced to G 6.3 or G 2.5 respectively.

Type AD/B

ISO taper tool holders generally produced are type AD/B. Supplied is type AD, the coolant bores at the collar are sealed with screws.

General dimensions and tolerances

The following dimensions apply to our ISO taper and MAS-BT tool holders:



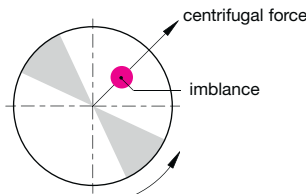
ISO taper	a mm	ball-Ø mm	b mm	d1 mm	d2 mm	d3 mm	d5 mm	d6 mm	d8 mm	d9 mm	e1 mm	f1 mm	f2 mm	f3 mm	l1 mm	l5 mm	l6 mm	l7 mm
SK30	3.2	7	16.1	31.75	M12	13	59.3	50.00	45	4	21	11.1	19.1	35	47.80	15.00	16.4	19.0
SK40	3.2	7	16.1	44.45	M16	17	72.3	63.55	50	4	27	11.1	19.1	35	68.40	18.5	22.8	25.0
SK50	3.2	7	25.7	69.85	M24	25	107.25	97.50	80	6	42	11.1	19.1	35	101.75	30.0	35.5	37.7
BT30	2.0	8	16.1	31.75	M12	12.5	56.03	46.00	—	—	—	13.6	22.0	—	48.40	—	16.3	16.3
BT40	2.0	10	16.1	44.45	M16	17	75.56	63.00	—	4	27	16.6	27.0	—	65.4	—	22.6	22.6
BT50	3.0	15	25.7	69.85	M24	25	118.89	100.00	—	5.4	42	23.2	38.0	—	101.8	—	35.4	35.4

Imbalance

An imbalance produces a centrifugal force during the rotation of the spindle impeding the smooth running of the tool. This imbalance influences the working process and the life span of the spindle bearings.

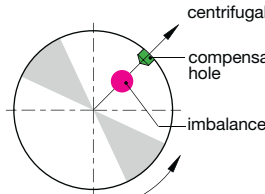
The centrifugal force F increases linear with the imbalance U and squared with the number of revolutions according to the formula below.

$$c = U \cdot \omega^2$$



Counter balancing

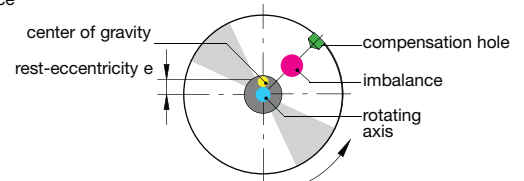
To compensate for unwanted centrifugal forces, the symmetrical distribution of mass must be restored with the aim of eliminating any centrifugal forces influencing the spindle bearing. Tool holders generally have compensation holes or areas which assist in directing the total amount of all centrifugal forces influencing the axis towards zero (see DIN ISO 21940-11).



Eccentricity of center of gravity

The imbalance of a spindle causes its center of gravity to deviate a certain distance from the rotating axis in direction of the imbalance. This distance is called rest-eccentricity e or eccentricity of center of gravity. The heavier the weight of the balance body mass m , the greater the rest-imbalance U permissible.

$$e = \frac{U}{m}$$



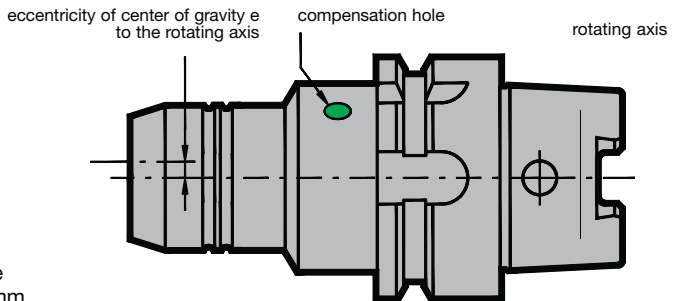
Calculation imbalance

Imbalance is a measure, specifying how much unsymmetrical distributed mass deviates radially from the rotating axis.

Imbalance is measured in gmm. The measure of distance e determines the distance of the center of gravity of an element to the rotating axis. Imbalance is calculated as follows:

$$U = m \cdot e$$

- c = centrifugal force
- U = imbalance in gmm
- e = eccentricity of center of gravity in μm
- m = mass in kg
- s = speed min^{-1}
- ω = angular velocity ($\omega = 2 \cdot \pi \cdot n$)



Balancing limits

In accordance with DIN ISO 21940-11 the balance grade is denoted with G as well as the units gmm/kg or μm respectively and is relative to the number of revolutions. At a speed of 15,000 rev./min and a weight of 1 kg, G6.3 corresponds with a permissible center deviation between rotational axis and center of gravity axis of the spindle of 4 μm .

At twice the speed of 30,000 rev./min it would be 2 μm . If the tool holder was only half the weight, i.e. 0.5 kg, the permissible counter balancing tolerance is also halved.

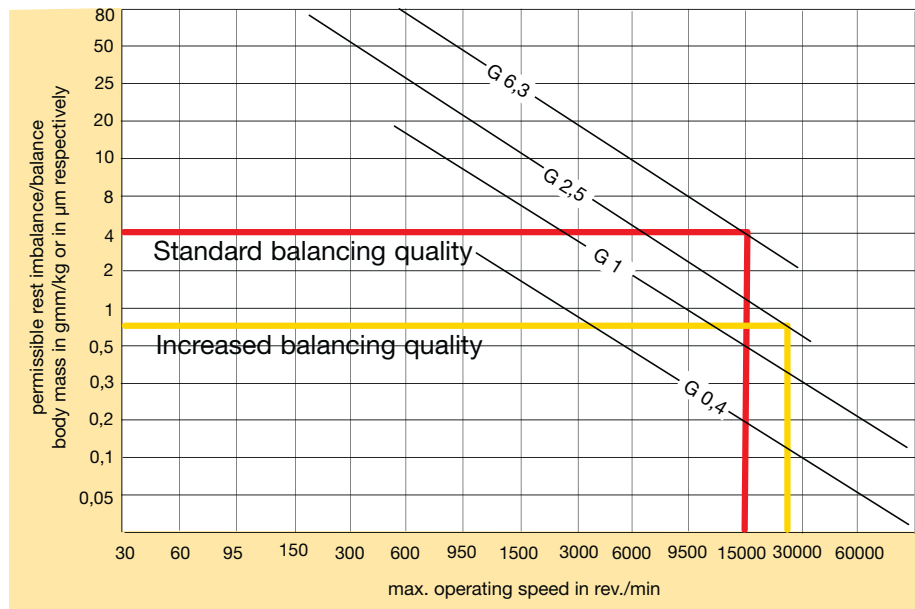
Aim of counter balancing is to find a compromise between the technically feasible and the economically efficient. Because the radial interchange accuracy for a brand-new HSK holder can be 2 to 3 μm and for an ISO taper shank holder

can be 5 to 10 μm , it means an initial quality limit of G2.5 or G6.3 respectively at 10,000 rev./min.

The following diagram shows the quality grades to DIN ISO 21940-11, i.e. the permissible rest imbalance in relation to the balance body mass for different counter balance qualities G relative to the maximum operating speed.



Balancing machine



Gühring tool holders are balanced to G6.3/15,000 rev./min. As an option, i.e. when specified by the machine tool manufacturer, it is possible to precision balance including balancing protocol to a rest imbalance of 0.3 gmm.

Calculation the balancing grade total of the assembled system:

Spindle - tool holder - tool

Illustration of balancing grade total

$$IB_{total} = IB_{Spindle} + IB_{tool\ holder} + IB_{tool}$$

Example:

$$IB_{total} = IB_{Spindle} (G\ 0.4) + IB_{tool\ holder} (G\ 2.5) + IB_{tool} (G\ 6.3)$$

Calculation of rest imbalance

$$U = \frac{G \cdot 60}{2 \cdot \pi \cdot n} \cdot m$$

$$IB_{Spindle} = \frac{0.4 \cdot 60}{2 \cdot \pi \cdot 30.000} \cdot 15.000 = 1.910$$

$$IB_{tool\ holder} = \frac{2.5 \cdot 60}{2 \cdot \pi \cdot 30.000} \cdot 1125 = 0.895$$

$$IB_{tool} = \frac{6.3 \cdot 60}{2 \cdot \pi \cdot 30.000} \cdot 215 = 0.431$$

$$m_{total} \text{ in g: } 16.340$$

$$IB_{total} \text{ in gmm: } 3.236$$

Balancing grade conversion of the total system

$$G = IB_{total} \cdot 2 \cdot \pi \cdot \frac{n}{60 \cdot m_{total}}$$

Example:

$$G = 3.236 \text{ gmm} \cdot 2 \cdot \pi \cdot \frac{30.000 \cdot \frac{U}{\text{min}}}{60 \text{ s} \cdot 16.340 \text{ g}} = 0.62$$

Spindle with 4-point clamping set
Series no. 4958,
code no. 48,000

2.25 gmm
2 µm

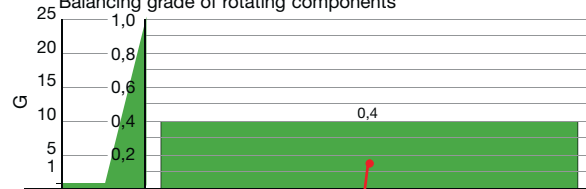
Hydraulic chuck
Series no. 4699
code no. 12,063

0.65 gmm
3 µm

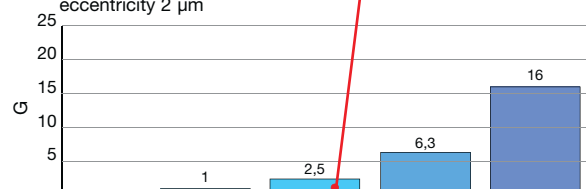
Die sinking cutter
Series no. 1942
code no. 12,000

Sum of total system

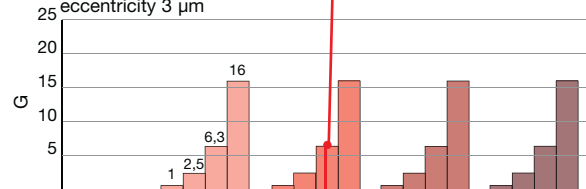
Spindle
Balancing grade of rotating components



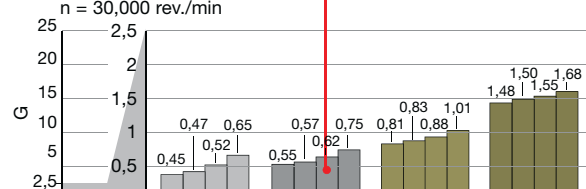
Tool holder
eccentricity 2 µm



Tool
eccentricity 3 µm



Balancing grade total
n = 30,000 rev./min



Shrink fit chucks and shrink fit systems

TECHNICAL INFORMATION AND ADVANTAGES

Gühring's shrink fit chucks ensure an optimal connection between shrink fit chuck and shank tool.

While some manufacturers use conventional case hardened steel, Gühring applies a special, application orientated tool steel. The result is an increased expansion rate as well as improved temperature adaptability. There is no limit to the number of shrink fit insertion or withdrawal operations.

Advantages:

- short shrink fit times
- maximum clamping force
- shrink fit chucks available for tool shank diameters from 3 mm to 32 mm
- longevity

These advantages are of particular interest in the field of HSC milling, difficult and rough cutting operations, drilling, reaming and internal grinding operations as well as for woodworking.

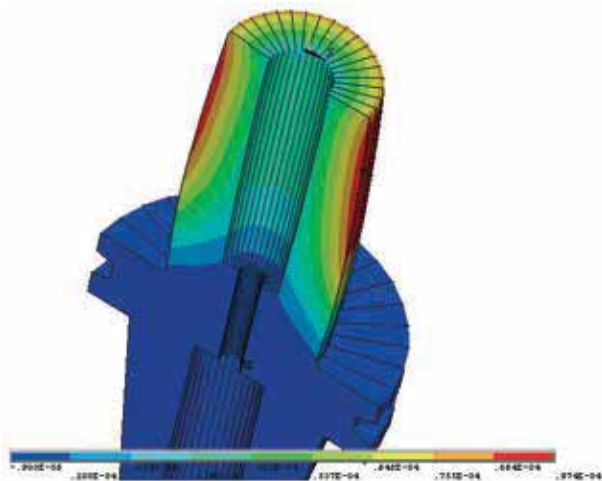
Convincing characteristics:

- excellent concentricity
- extreme clamping force and rigidity
- improved tool life
- insignificant imbalance through rotation symmetry
- economic efficiency

A gripping principle

When shrink fitting tools in shrink fit chucks, the decisive factors for ensuring the safe clamping of the tool in the tool holder are solely the heating and cooling of the tool holder. The heating process expands the shrink fit chuck enabling a tool to be inserted or withdrawn respectively. During the cooling process it contracts again and clamps the inserted tool with maximum clamping force.

Because the shrink fit chucks can become extremely hot in localised areas during the heating process and the tools shrink fitted for insertion or withdrawal respectively possess very sharp cutting edges, it is paramount that the operator wears Kevlar gloves during the shrink fit operation to prevent burns and cuts to the hands.



Shrink fit extensions: Increase performance

Shrink fit extensions increase the scope of a tool's performance and reduce tool surface imperfections. As with shrink fit chucks, the tool is clamped in the shrink fit extension and ideally in an hydraulic chuck. Naturally, shrink fit extensions can also be clamped in shrink fit chucks.

Perfect team: Gühring shrink fit chucks and shrink fit systems

For the shrink fitting for withdrawal and insertion of tools in our shrink fit chucks we offer various shrink fit systems to satisfy individual customer requirements: From high-tech solutions with integrated, highly accurate length pre-setting and special shrink fit systems for extra long tools to the multi-faceted GSS 2000 with various equipment options:

- GSS 5000
- GSS 3001
- GSS 2000

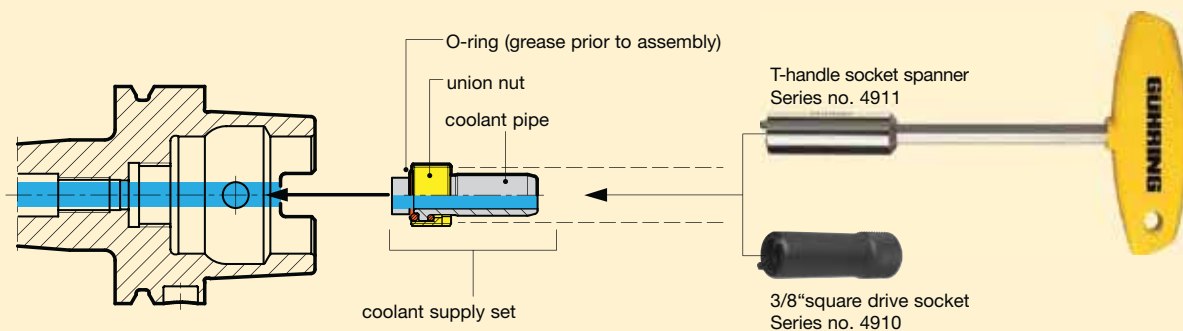


1. The HSK holder must be clean, free of swarf and undamaged.
2. Grease the O-rings prior to assembly.
3. Centrally insert the complete coolant supply set (coolant pipe, union nut and 2 O-rings) in the HSK with the assistance of the socket spanner.
When inserting the MQL coolant supply unit, it is paramount to ensure that the MQL pipe is inserted centrally and undamaged into the MQL length setting screw (do not kink).
4. Screw in the coolant supply set/coolant supply unit and tighten (see table for torque figures)
5. Check coolant pipe for radial mobility.

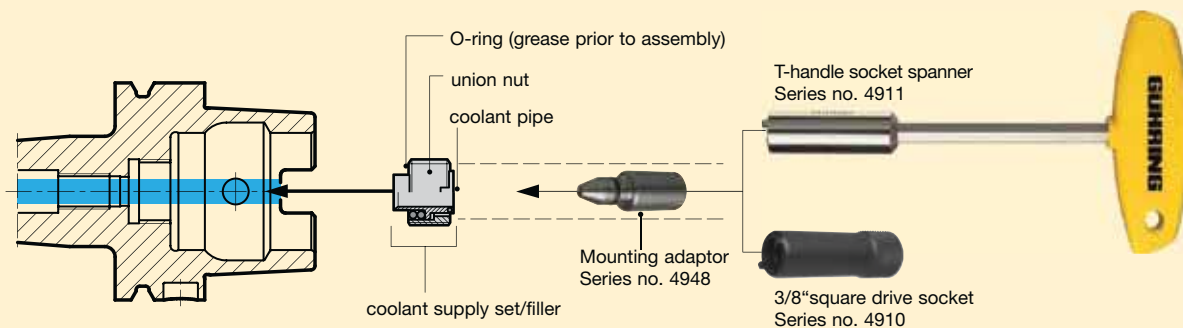
Torque figures

for HSK	MA Nm
32	7
40	11
50	15
63	20
80	25
100	30

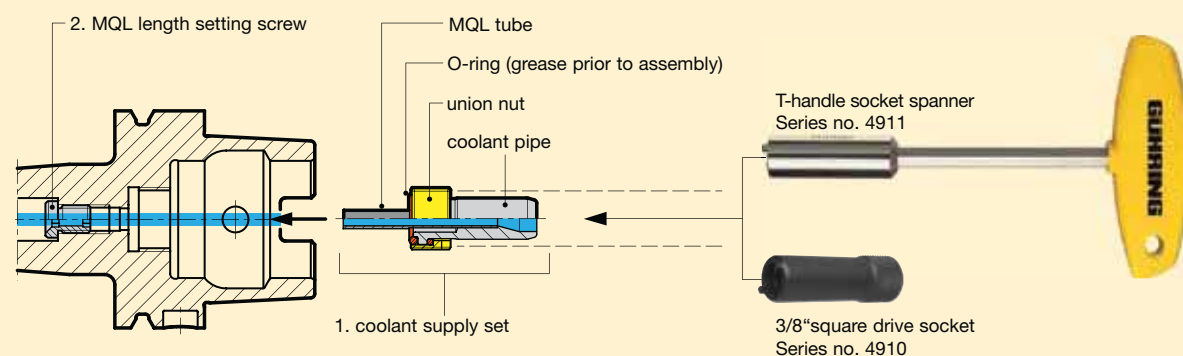
Installation of MQL coolant supply set Series no. 4939



Installation of MQL coolant supply set filler Series no. 4940



Installation of MQL coolant supply unit Series no. 4623/4924



Operating instructions for Hydraulic chucks

TECHNICAL INFORMATION AND ADVANTAGES

Clamping standard tool shanks to DIN 6535 in hydraulic chucks

Direct clamping
of tool preferred
run-out ≤ 0.003 mm

Form HA $\varnothing 6 \dots 20$ mm



Form HA $\varnothing 25 \dots 32$ mm



Form HB $\varnothing 6 \dots 20$ mm

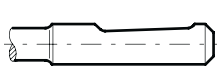


Clamping of tool shank
only with reduction bushes
run-out ≤ 0.005 mm

Form HB $\varnothing 25 \dots 32$ mm



Form HE $\varnothing 6 \dots 20$ mm



Form HE $\varnothing 25 \dots 32$ mm



General notes:

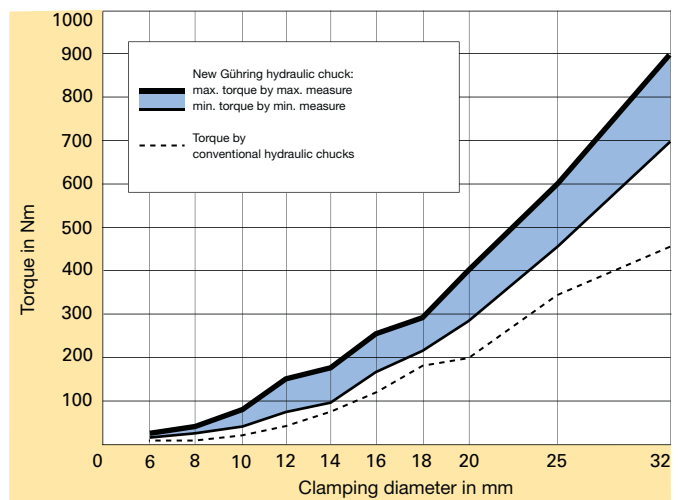
Our hydraulic chucks must not be operated with motor-driven tools (impulse screwdrivers or similar). The hexagonal key should not exceed the key size over its entire length, this largely prevents excessive torque being transferred. We recommend the hexagon clamping key, Series no. 4912. A tightening moment of 10 Nm must not be exceeded.

Gühring Hydraulic chucks with increased clamping force

Hydraulic chucks are suitable for clamping rotary symmetrical tools or workpieces. Straight shank tools without drive flats may be clamped up to $\varnothing 32$ mm, but also shanks according to DIN 6535 form HA and HB up to $\varnothing 20$ mm without reduction sleeves. The given values in the table below are not to be exceeded. If the inserted length is less than the given minimum insertion depth or other tool shanks than specified above are applied, lower accuracy and breakage may occur!

Above all it is the high revolutions with High-Speed-Cutting operations that puts special demands on the tool holder. The clamping of the tool in a hydraulic chuck is, therefore, especially significant. Gühring has developed a hydraulic chuck that offers reliable and powerful clamping with higher torque figures, guaranteeing excellent tool clamping in the tool holder.

Combined with precise concentricity (max. $3 \mu\text{m}$ deviation from concentricity), a very fast and simple tool change as well as the vibration cushioning effect of the pressure chamber, the new hydraulic chuck can tackle the most demanding of machining tasks. The result is optimal tool life and excellent surface qualities or dimensional accuracy of the workpiece respectively.

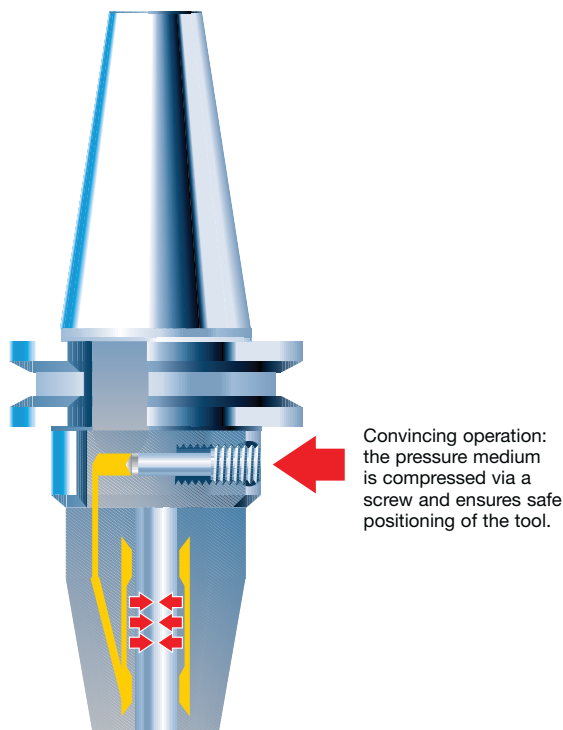
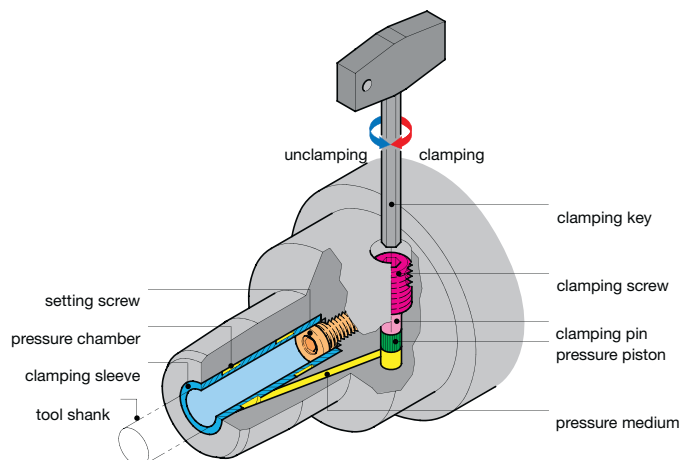


Considerably higher:
The clamping force of Gühring's new HSK-A hydraulic chuck in comparison to conventional chucks.

Modern machining processes place heavy demands on tool holding. Hydraulic chucks provide excellent clamping characteristics combined with precise concentricity. Furthermore, they enable a simple and fast tool change, with the assistance of a special extraction key. Turning the pressure screw generates sufficient pressure in the pressure chamber resulting in an elastic deformation of the clamping bush, providing powerful tool clamping and precise concentricity. A safe and powerful fit is guaranteed. If reduction sleeves are applied that are able to hold varying tool diameters, the tool application may be extended without problem. If such bushes are not applied, it is essential to observe the minimum clamping length!

A summary of the advantages:

- precise tool clamping with a maximum 3 µm deviation from concentricity
- transmission of high torque through (excellent clamping) optimised bush clamping system
- high speed compatibility (no centrifugal forces from clamping segments)
- precise concentricity, therefore excellent surface qualities and dimensional accuracy of the workpiece
- rapid tool change thanks to simple operation of the clamping screw
- optimal tool life
- hydraulic cushioning has vibration absorbing effect

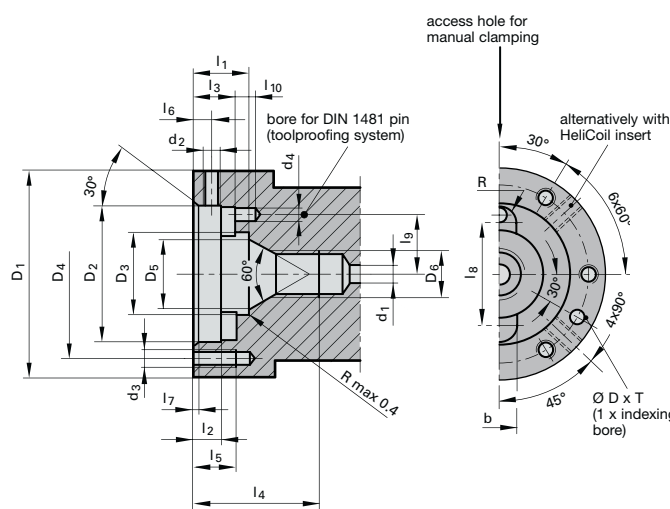


for shank-Ø in mm	max. r.p.m. in 1/min	max. transferable torque in Nm	min. insertion depth in mm	max. adjustment l ₃ mm	max. rad. force F on chuck with 50 mm from the nose in N	operating temperature in °C	max. coolant pressure in bar
3 h6	50 000	2.5	27	7	25	20 - 50	80
4 h6	50 000	6	27	7	40	20 - 50	80
5 h6	50 000	10	27	7	65	20 - 50	80
6 h6	50 000	16	27	10	225	20 - 50	80
8 h6	50 000	26	27	10	370	20 - 50	80
10 h6	50 000	50	31	10	540	20 - 50	80
12 h6	50 000	82	36	10	650	20 - 50	80
14 h6	50 000	125	36	10	900	20 - 50	80
16 h6	50 000	190	39	10	1410	20 - 50	80
18 h6	50 000	275	39	10	1580	20 - 50	80
20 h6	50 000	310	41	10	1860	20 - 50	80
25 h6	25 000	520	47	10	4400	20 - 50	80
32 h6	25 000	770	51	10	6500	20 - 50	80

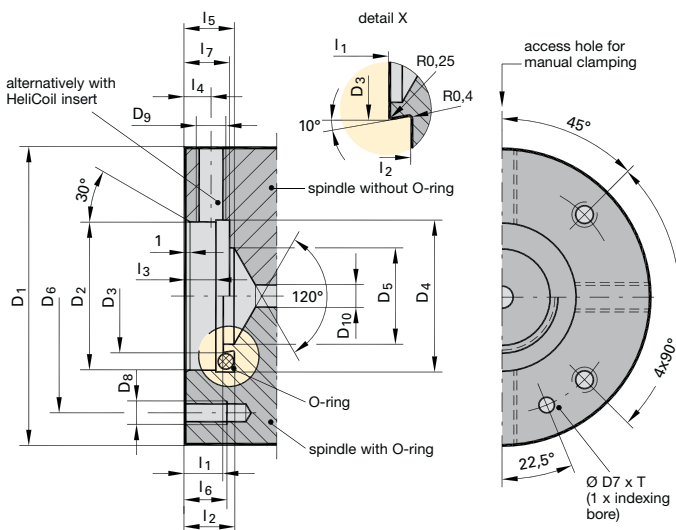
INSTALLATION DIMENSIONS FOR HSK ADAPTOR

Detailed production drawing on request

Short spindle adaptor (integr.) series no. 4385



HSK adaptor (in front) series no. 4386/4586



Short spindle adaptor (integr.) series no. 4385

for HSK/Code no.	D1	D2	D3	D4	D5	D6	d1	d2	d3	d4
32 24,000	40	27.0	16.7	32.0	12.5	M 10	4.0	M 3	M 3	2
40 30,000	50	33.5	20.6	40.5	16.0	M 12	5.0	M 4	M 4	3
50 38,000	63	42.0	25.5	52.0	20.0	M 16	6.0	M 5	M 5	4
63 48,000	80	55.0	33.0	66.0	25.0	M 20	8.0	M 6	M 6	4
80 60,000	100	68.0	41.0	82.0	32.0	M 24	10.2	M 8	M 8	5

Short spindle adaptor (integr.) series no. 4385 continuation

for HSK/Code no.	clamping depth l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	l ₈	l ₉	l ₁₀	b	R	D	T	locating pin DIN 1481
32 24,000	9.0	4.0	6.5	22	10	2.5	0.6	20.5	11.5	3.5	7.0	3.0	3.5	3.0	2 x 6
40 30,000	12.0	5.5	8.7	30	11	3.5	0.6	25.0	14.5	5.0	8.0	4.0	4.0	3.5	3 x 8
50 38,000	16.0	8.0	12.0	36	12	5.0	0.8	31.5	18.3	6.0	10.5	5.0	4.0	3.5	4 x 10
63 48,000	20.0	10.0	15.0	48	15	6.0	1.0	41.0	22.5	5.0	12.5	6.0	4.0	3.5	4 x 10
80 60,000	25.6	13.0	19.3	60	14	7.5	1.0	50.0	28.0	6.0	16.0	7.5	5.0	4.5	5 x 12

HSK adaptor (in front) series no. 4386

for HSK/Code no.	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	T	O- ring
25 19,000	45	23	16.5	24	—	35	—	M5	M5	3.2	8.2	9.5	6.2	4.5	—	14	9	—	16x2
32 24,000	60	30	23.5	31	—	44	5	M5	M8x1	4.0	10.3	12.4	8.3	7.0	—	11	12	3.5	23x3
40 30,000	70	35	28.5	36	22	53	5	M6	M8x1	5.0	10.3	12.4	8.3	7.0	12	14	12	3.5	28x3
50 38,000	80	40	30.5	41	26	63	5	M6	M8x1	6.0	10.3	13.3	8.3	7.0	12	14	12	3.5	30x4
63 48,000	100	50	38.5	51	34	79	5	M8	M10x1	8.0	12.3	16.1	10.3	8.0	15	15	14	3.5	38x5
80 60,000	117	60	47.5	61	38	96	6	M8	M10x1	10.2	12.3	16.1	10.3	8.0	20	15	14	4.5	47x5

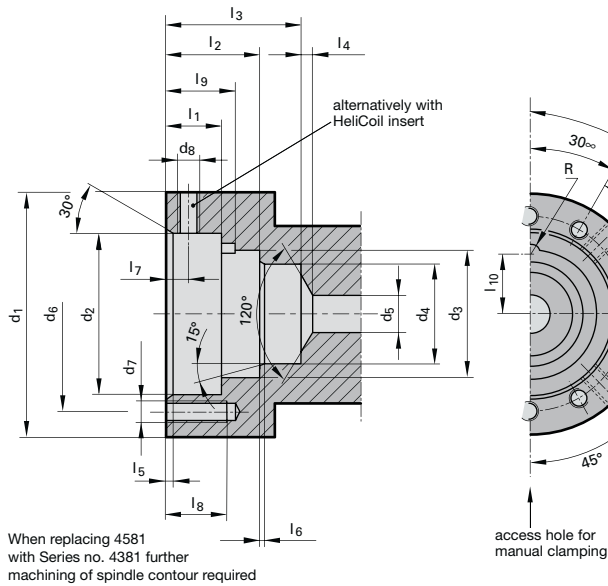
HSK adaptor (in front) series no. 4586

for HSK/Code no.	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	T	O- ring
40 30,000	70	35	28.5	36	22	53	5	M6	M8x1	5.0	10.3	12.4	8.3	7.0	12	14	12	3.5	28x3
50 38,000	80	40	30.5	41	26	63	5	M6	M8x1	6.0	10.3	13.3	8.3	7.0	12	14	12	3.5	30x4
63 48,000	100	50	38.5	51	34	79	5	M8	M10x1	8.0	12.3	16.1	10.3	8.0	15	15	14	3.5	38x5
80 60,000	117	60	47.5	61	38	96	6	M8	M10x1	10.2	12.3	16.1	10.3	8.0	20	15	14	4.5	47x5
100 75,000	140	80	65.0	81	53	119	6	M10	M10x1	12.0	12.3	16.1	10.3	8.0	20	18	14	4.5	45x5

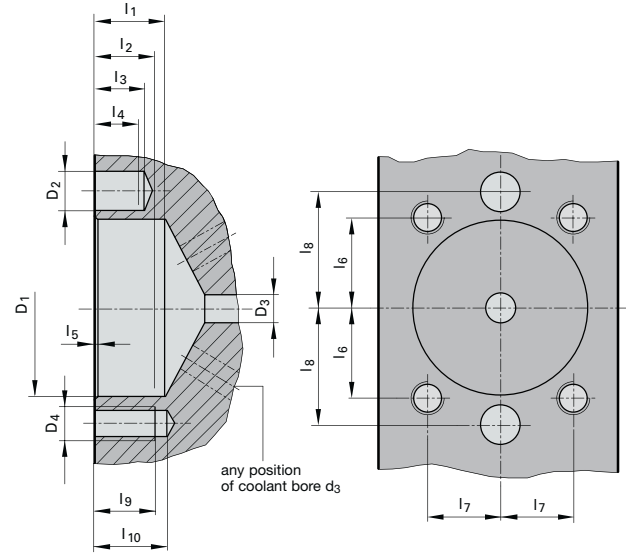
INSTALLATION DIMENSIONS FOR HSK ADAPTOR

Detailed production drawing on request

HSK adaptor (in front) series no. 4581/4584



HSK adaptor (in front) series no. 4582



HSK adaptor (in front) series no. 4581

for HSK/Code no.	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	l ₈
25 19,000	45	23	-	-	5	35	M5	M4	6.8	-	-	1.5	1	-	3.5	min.8
32 24,000	55	28	21.12	17	6.4	43.5	M6	M4	6	9.75	16.75	2	1	0.6	3.5	11
40 30,000	63	36	26.4	21	8	51.5	M6	M4	7	11.3	19.9	2.5	1	1	4	12
50 38,000	80	46	33	26	10	65	M8	M5	9	14.7	25.5	3	1.5	1	5	12
63 48,000	100	56	42.5	34	16	81.5	M10	M6	12	17.8	30	3.5	1.5	1	6	16
80 60,000	125	66	52.8	42	16	103	M12	M8	14	22.7	39.8	4	2	1.5	8	16
100 75,000	160	86	66	53	20	130	M16	M10	16	27.4	49	4.5	2	2	10	16

HSK adaptor (in front) series no. 4584

for HSK/Code no.	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	l ₈	l ₉	l ₁₀	R
32 24,000	40	27.0	21.12	17	6.4	32.0	M 3	M 4	8.8	14.80	21.75	2.0	1.0	0.6	3.5	10.0	11.9	10.10	2.0
40 30,000	50	33.5	26.40	21	8.0	40.5	M 4	M 4	11.0	18.85	27.40	2.5	1.0	1.0	4.0	12.0	13.9	12.40	2.0
50 38,000	63	42.0	33.00	26	10.0	52.0	M 5	M 5	15.0	24.75	35.50	3.0	1.5	1.0	5.0	12.0	18.4	15.50	2.5
63 48,000	80	55.0	42.50	34	16.0	66.0	M 6	M 6	17.9	30.35	42.50	3.5	1.5	1.0	6.0	16.0	23.9	20.00	3.0
80 60,000	100	68.0	52.80	42	16.0	82.0	M 8	M 8	24.3	40.25	57.30	4.0	2.0	1.5	8.0	16.0	32.9	24.80	3.5
100 75,000	125	88.0	66.00	53	20.0	106.0	M10	M10	34.4	54.45	76.00	4.5	1.5	2.0	10.0	16.0	42.4	31.40	4.5

HSK adaptor (in front) series no. 4582

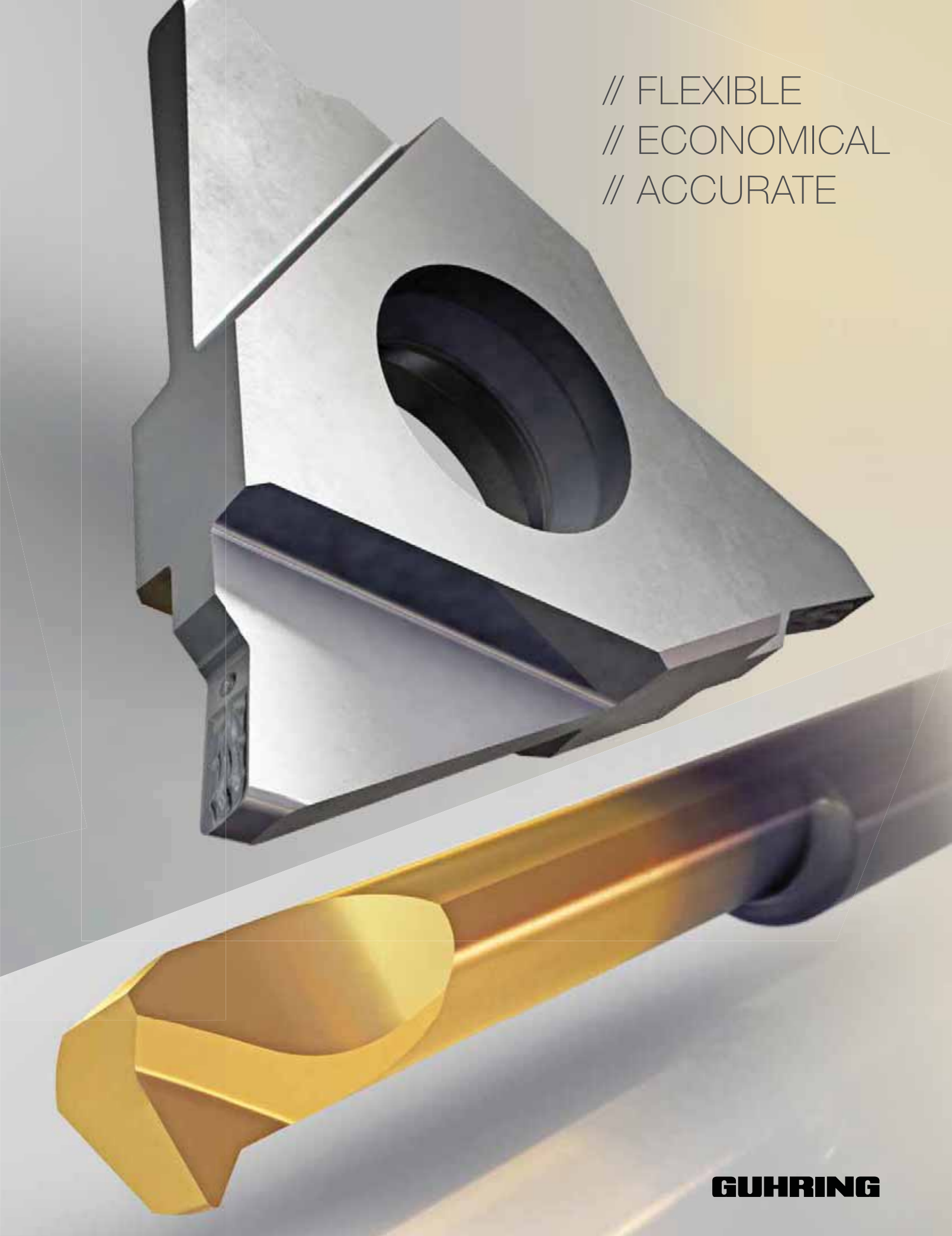
for HSK/Code no.	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	l ₈	l ₉	l ₁₀
50 38,000	50	7.95	10	M10	20.55	20	15	11	1	27.44	19.22	33.5	20	25
63 48,000	63	14.00	10	M12	25.00	21	18	16	1	31.70	26.00	41.0	22	26

The image is a composite advertisement for Guhring's Grooving Systems. It features several high-precision metal components. In the upper left, a large, polished cylindrical metal part is shown in motion, with a small, intricate grooving tool bit cutting into its end. Below this, two different types of grooving tool holders are displayed. One is a dark, L-shaped holder with a yellow-tipped tool bit. The other is a long, dark cylindrical holder with a yellow-tipped tool bit protruding from its end. In the bottom left corner, there is a 3D rendering of a complex, angular metal part. The overall aesthetic is industrial and technical, with a focus on precision engineering.

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GROOVING SYSTEMS

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// ECONOMICAL
// ACCURATE

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