145 YEARS
1879–2024

SARATOOLS.com
POWER TO PRODUCE
A BRAND OF SARTORIUS WERKZEUGE

01.07.2026

TOOL CATALOGUE

THAT'S POWER TO PRODUCE





Dear Customer,

The new SARTORIUS Tools Catalog 2026 has arrived: compact, practical, and consistently tailored to the requirements of your daily work.

Since our foundation in 1879, we have stood for reliability, quality, and strong partnerships. As a machining specialist, we understand the day-to-day challenges of manufacturing and know what truly matters in practice: precise results, efficient processes, and dependable solutions.

With more than 45,000 products, our own brands ATORN and ORION, and a comprehensive range of services, we offer you a powerful all-in-one solution. While ATORN represents the highest standards of quality and performance, we are gradually transforming our previous brand SARA into our new entry-level value brand, ORION.

We offer particular expertise in the fields of machining, workholding, metrology, and environmental technology. These areas are complemented by services such as calibration, regrinding, and repairs, ensuring you can rely on maximum support in your daily operations.

A special highlight is our SARABOT, our smart automation solution for part loading. It helps you streamline processes, save valuable time, and sustainably increase productivity.

We sincerely thank you for your trust and look forward to continuing to support you as a reliable partner, with expert knowledge, a strong product portfolio, and solutions that truly add value to your daily work.

SARTORIUS Werkzeuge GmbH & Co. KG

Özcan Esen
Managing Director

Karsten Bloch
Managing Director



WE ARE GLOBAL. BUT WE'RE LOCAL TOO.

POWER TO PRODUCE is for everyone. That is why we have built up a large network of sales partners throughout Europe, so that you can always rely on SARTORIUS. No matter where you are. No matter where you work.

OUR DISTRIBUTION PARTNERS:

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OUR PRODUCT PARTNERS

Professional products for almost any application. It's no coincidence – and it's all down to our many partners. Partners with high-quality, innovative products. Partners like:

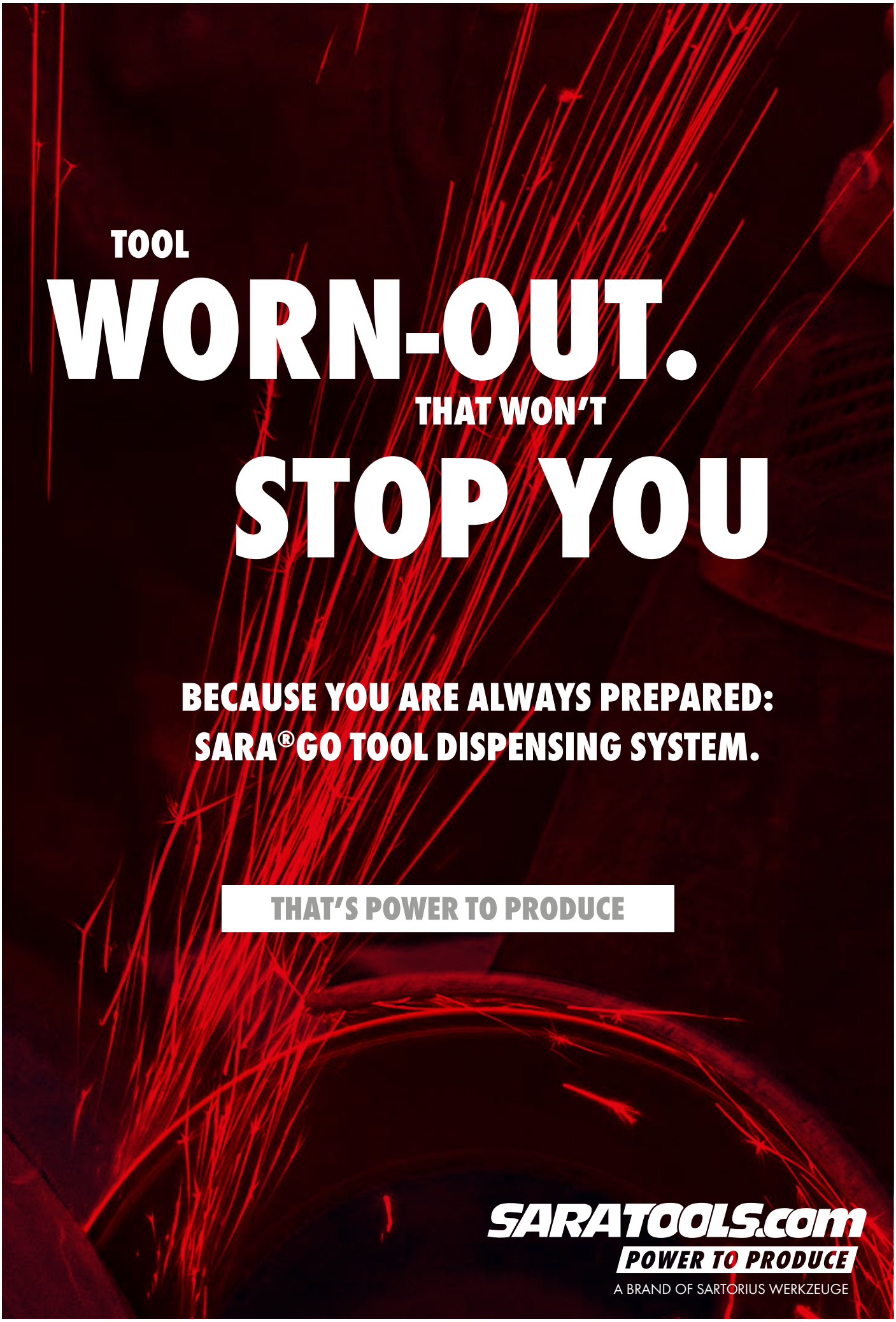
Mahr · GG · palbit CUTTING TOOLS SOLUTIONS · VAN HOORN CARBIDE · Mitutoyo

kitagawa EUROPE · ARIANA · BAUER SÜDLOHN · SAUTER · PFERD

RÖHM · Dümmel WERKZEUGFABRIK · FAHRION PRÄZISION · bedrunka+hirth

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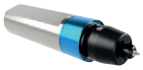

TOOL
WORN-OUT.
THAT WON'T
STOP YOU
BECAUSE YOU ARE ALWAYS PREPARED:
SARA® GO TOOL DISPENSING SYSTEM.
THAT'S POWER TO PRODUCE
SARATOOLS.com
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A BRAND OF SARTORIUS WERKZEUGE

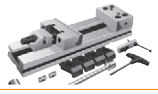
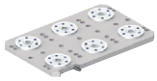
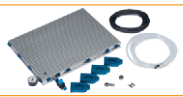
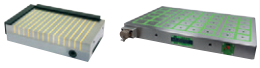
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Tool holders

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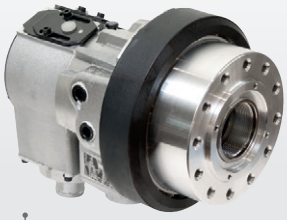
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ANYONE CAN DO STANDARD. WE HELP YOU FIND INDIVIDUAL SOLUTIONS.

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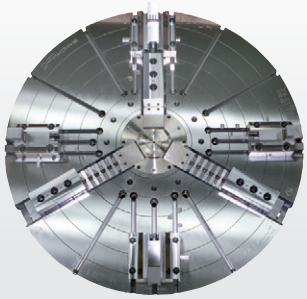
TOMBSTONES
with T-slot or hole matrix



STANDARD AND LONG-STROKE HYDRAULIC CYLINDER
for CNC lathes



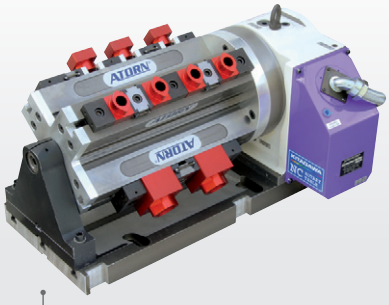
HYDRAULIC AND PNEUMATIC CLAMPS
for automation



CHUCKS
with box jaws



CLAMPING FORCE MEASURING INSTRUMENTS
for checking the pull-in forces of clamping systems in machining spindles



ROUND TABLES
for an additional fourth and fifth axis

RÖHM Fixed centre (centring point)

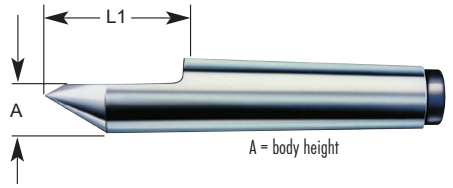
DIN 806

- **Morse taper, DIN 228**
- 60° point angle
- Ground surfaces
- **Versions:**
  Full centre made from WS steel, fully ground
  Full centre with carbide insert
  Half centre made from WS steel, fully ground
  Half centre with carbide insert



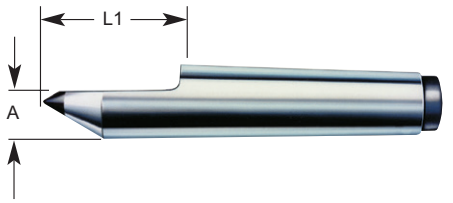
Full centre

Shank	D mm	L mm	D5 mm	WS steel art.no.	WS steel €	Carbide art.no.	Carbide €
MK1	12.2	80	-	401001 0001	43,60		
MK2	18	100	-	401001 0002	43,60		
MK2	18	100	7			401005 0002	110,–
MK3	24.1	125	-	401001 0003	58,30		
MK3	24.1	125	11			401005 0003	147,50
MK4	31.6	160	-	401001 0004	80,10		
MK4	31.6	160	14			401005 0004	204,–
MK5	44.7	200	-	401001 0005	147,50		
MK5	44.7	200	18			401005 0005	370,–
				4187		4187	



Half centre

Shank	D mm	L mm	L1 mm	Body height mm	WS steel art.no.	WS steel €	Carbide art.no.	Carbide €
MK2	18	100	30	11	401010 0002	65,40	401015 0002	163,–
MK3	24.1	125	38	15	401010 0003	87,40	401015 0003	218,–
MK4	31.6	160	50	21	401010 0004	121,50	401015 0004	308,–
MK5	44.7	200	63	29.4	401010 0005	218,–	401015 0005	559,–
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SARA® Live centres

- Excellent true-running accuracy thanks to reliable precision bearings
- Special lubrication for long service life and low maintenance costs
- 60° point angle

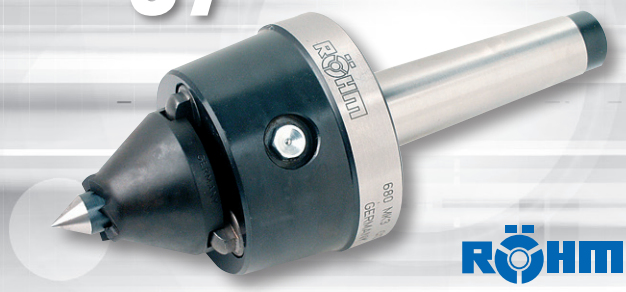


D5 = point Ø x point length

Shank	Head diameter x head length mm	D5 mm	Max. concentricity µm	Workpiece weight max. kg	Rotational speed max. r/min	art.no.	€
MT 2	45 x 65	20 x 41	0.005	200	4900	401516 0002	120,–
MT 3	60 x 79.5	25 x 48.5	0.005	500	3500	401516 0003	145,–
MT 4	70 x 102.5	32 x 61.5	0.005	800	2700	401516 0004	175,–
MT 5	90 x 129	40 x 78.5	0.005	2000	2100	401516 0005	298,–
						4111	

Clamping technology info

- **Front face driver for turning and milling work**
- for efficiently turning workpieces along their entire length with high accuracy and without reclamping
- simultaneously allows slots or toothing to be milled
- developed with a modular concept, making the driving discs and corresponding centring points universally replaceable
- **available on request**



Live lathe centres, spring-loaded

- **Replaceable centre inserts, straight shank**
- Spring-loaded version for axial longitudinal displacement when machining
- Fully hardened and ground
- Maintenance-free permanent lubrication
- Shaft sealing ring prevents the ingress of dirt and coolant

Spring stroke 2.4 mm

- Ejecting drift for replacing inserts
- Supplied without insert

Shank mount diameter mm	L4 mm	Head diameter x head length mm	Rotational speed max. r/min	Workpiece weight max. kg	Max. concentricity µm	art.no.	€
3/4"	52	40 x 38	4000	200	0.01	401525 0001	318,40
19	52	40 x 38	4000	200	0.01	401525 0002	318,40
20	52	40 x 38	4000	200	0.01	401525 0003	318,40

4110



L4 = shaft length

Spring stroke 3.0 mm

- Inserts are replaced by twisting in opposite directions using two open-end spanners on the flats of the axis and insert (AF size 17)

Shank mount diameter mm	L4 mm	Head diameter x head length mm	Rotational speed max. r/min	Workpiece weight max. kg	Max. concentricity µm	art.no.	€
15	67	44 x 51	3000	300	0.01	401525 0004	323,90
20	67	44 x 51	3000	300	0.01	401525 0005	323,90
25	67	44 x 51	3000	300	0.01	401525 0006	323,90

4110



L4 = shaft length

Spring travel 4.0 mm

- Replacement of inserts by reciprocal turning of on the flats of the axis and insert with two open-ended spanners (SW 27)

Shank mount diameter mm	L4 mm	Head diameter x head length mm	Rotational speed max. r/min	Workpiece weight max. kg	Max. concentricity µm	art.no.	€
32	60	66 x 95	5000	500	0.01	401525 0007	848,50
40	70	74 x 95	4000	700	0.01	401525 0008	934,10

4110



L4 = shaft length

Replaceable inserts

Designation	Head diameter x head length mm	suitable for	art.no.	€
Copying centre 60°	14 x 20		401530 1201	20,60
Centring point 60°	14 x 32		401530 1206	24,75
Copying centre 60°	22 x 27		401530 1301	27,50
Big copying centre 60°	32 x 40		401530 1303	33,10
Centring point 60°	22 x 43		401530 1306	34,80

4110



401530 1201



401530 1206



Conzella Live precision lathe centres

- High-performance design specially for CNC lathes
- Draw-off nut to company standards
- For high speeds and axial loads
- Excellent true-running accuracy thanks to the high-end bearing
- Fully hardened and ground
- Maintenance-free permanent lubrication
- Shaft sealing ring prevents the ingress of dirt and coolant
- With additional sealing, also suitable for grinding applications

Standard version

Shank	Head diameter x head length mm	D5 mm	Rotational speed max. r/min	Max. concentricity µm	Workpiece weight max. kg	art.no.	€
MK 3	52 x 57	25 x 30	12000	0.003	300	401520 0003	668,60
MK 4	60 x 63	28 x 35	10000	0.003	600	401520 0004	687,90
MK 5	72 x 82	35 x 43	8000	0.003	1200	401520 0005	878,30

4110



D5 = point Ø x point length

Slim version

Shank	Head diameter x head length mm	D5 mm	Rotational speed max. r/min	Max. concentricity µm	Workpiece weight max. kg	art.no.	€
MK 3	52 x 56	25 x 40	12000	0.003	200	401521 0003	689,60
MK 4	60 x 63	28 x 45	10000	0.003	300	401521 0004	706,20
MK 5	72 x 82	35 x 53	8000	0.003	800	401521 0005	973,30

4110



D5 = point Ø x point length

Ultra-slim version

- Includes withdrawal nut

Shank	Head diameter x head length mm	D5 mm	Rotational speed max. r/min	Max. concentricity µm	Workpiece weight max. kg	art.no.	€
MK 2	26 x 38	12 x 21	6000	0.005	250	401522 0002	326,–
MK 3	30 x 44	14 x 25	5000	0.005	500	401522 0003	373,70
MK 4	38 x 49	20 x 33	4000	0.005	900	401522 0004	415,10
MK 5	50 x 52	25 x 41	3000	0.005	1500	401522 0005	482,60

4110



D5 = point Ø x point length

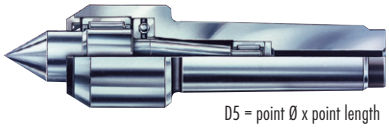
RÖHM Live centre

Slim version, 60° point angle

- Body hardened and ground
- Small head diameter prevents any impairment of supports, tool holders or lathe tools

Shank	Head diameter x head length mm	D5 mm	Max. concentricity µm	Workpiece weight max. kg	Rotational speed max. r/min	art.no.	€
MK 2	32 x 62	15 x 18	0.005	200	7000	401501 0002	227,–
MK 3	34 x 62	15 x 18	0.005	400	7000	401501 0003	235,–
MK 4	42 x 76	20 x 25	0.005	800	6300	401501 0004	313,–
MK 5	58 x 106	30 x 34	0.01	1600	4300	401501 0005	455,–
MK 6	80 x 143	42 x 49	0.02	3500	3000	401501 0006	909,–

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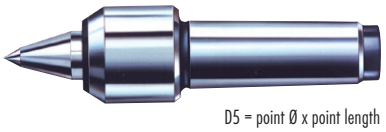
D5 = point Ø x point length

Slim version with extended running point, 60° point angle

- Body hardened and ground

Shank	Head diameter x head length mm	D5 mm	Max. concentricity µm	Workpiece weight max. kg	Rotational speed max. r/min	art.no.	€
MK 2	32 x 73	15 x 29	0.008	170	7000	401505 0002	273,–
MK 3	34 x 74	15 x 30	0.008	340	7000	401505 0003	283,–
MK 4	42 x 89	20 x 38	0.008	700	6300	401505 0004	380,–
MK 5	58 x 119	30 x 49	0.01	1400	4300	401505 0005	549,–
MK 6	80 x 164	42 x 70	0.02	3000	3000	401505 0006	1.089,–

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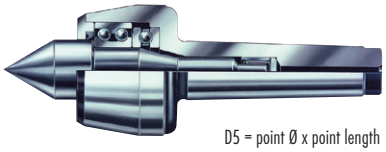


D5 = point Ø x point length

Standard version, 60° point angle

Shank	Head diameter x head length mm	D5 mm	Max. concentricity µm	Workpiece weight max. kg	Rotational speed max. r/min	art.no.	€
MK 1	34.5 x 60.5	15 x 17	0.005	100	7000	401510 0001	281,–
MK 2	43 x 65	20 x 24	0.005	200	7000	401510 0002	281,–
MK 3	58.5 x 79.5	25 x 31	0.005	500	5000	401510 0003	342,–
MK 4	68.5 x 102.5	32 x 41	0.005	800	3800	401510 0004	395,–
MK 5	88.5 x 129	40 x 50.5	0.005	2000	3000	401510 0005	569,–
MK 6	102.5 x 152	50 x 57.5	0.01	3500	2600	401510 0006	1.139,–

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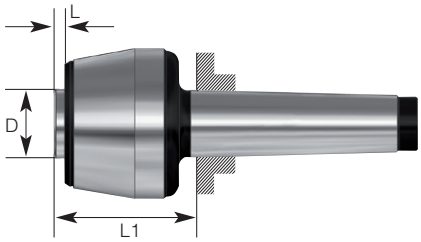
D5 = point Ø x point length

RÖHM Live centre

- **With replaceable inserts**

Live centre

- For replaceable inserts (supplied without inserts)



Shank	D mm	L mm	L1 mm	Workpiece weight max. kg	Max. concentricity µm	art.no.	€
MK 2	20	4	45	40	0.01	401550 0020	281,–
MK 3	22	4.5	48	130	0.01	401550 0030	291,–
MK 3	25	5	55	150	0.01	401550 0031	342,–
MK 4	32	5	67	250	0.01	401550 0040	395,–
MK 5	40	6	85	650	0.01	401550 0050	569,–

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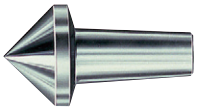
Replaceable inserts, 60°



Suitable for	Head diameter x head length mm	art.no.	€
Centres 401550 0020 (MK2)	16 x 20	401551 6020	36,20
Centres 401550 0030 (MK3)	20 x 24	401551 6030	43,60
Centres 401550 0031 (MK3)	24 x 27.5	401551 6031	50,90
Centres 401550 0040 (MK4)	28 x 31.5	401551 6040	58,30
Centres 401550 0050 (MK5)	38 x 43	401551 6050	72,80

4187

Replaceable inserts, 90°



Suitable for	Head diameter x head length mm	art.no.	€
Centres 401550 0020 (MK2)	16 x 14.5	401551 9020	36,20
Centres 401550 0030 (MK3)	20 x 16.5	401551 9030	43,60
Centres 401550 0031 (MK3)	24 x 19	401551 9031	50,90
Centres 401550 0040 (MK4)	28 x 21.5	401551 9040	58,30
Centres 401550 0050 (MK5)	38 x 29	401551 9050	72,80

4187

Set of 7 replaceable inserts in a wooden box

- **Contents**
  1x centring point, 60°, 90° insert (1 of each), 2 x hollow 60° internal taper, 1x blunt 60° external taper, 1x 60°/30° insert



Shank	Workpiece weight max. kg	art.no.	€
MK 2	40	401552 0200	709,–
MK 3	130	401552 0300	799,–
MK 3	150	401552 0301	909,–
MK 4	250	401552 0400	1.059,–
MK 5	650	401552 0500	1.389,–

4187

Conzella Präzisionswerkzeuge Live precision centring taper

- For machining tubes and hollow bodies with large bores and centres
- Fully hardened and ground
- Maintenance-free permanent lubrication
- Shaft sealing ring prevents the ingress of dirt and coolant



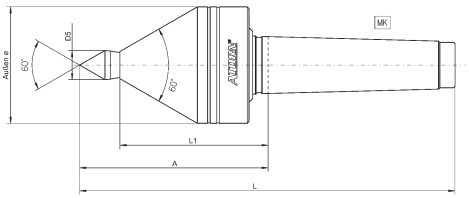
S = point angle

Shank	Head diameter x head length mm	Min. diameter mm	Max. diameter mm	S °	Rotational speed max. r/min	Workpiece weight max. kg	Max. concentricity µm	art.no.	€
MK 3	80 x 78	30	80	60°	3500	D=450 / d=250	0.005	401531 0003	246,50
MK 4	100 x 92	30	100	75°	3000	D=650 / d=300	0.005	401531 0004	334,30
MK 5	125 x 82	50	125	75°	3000	D=1800 / d=1400	0.007	401531 0005	411,50
MK 6	150 x 102	50	150	75°	2800	D=2800 / d=2000	0.1	401531 0006	563,90

4110

ATORN Live centre, extended running point

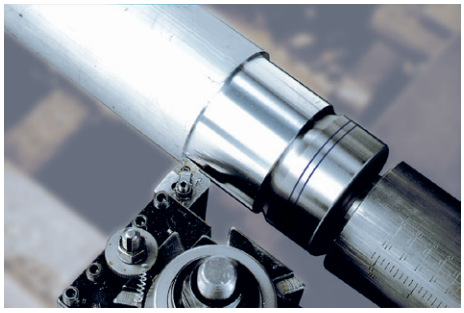
- **60° point angle**
- **Extended running point**
- Perfect all-purpose point for universal use on manual lathes
- Radial run-out: max. 0.005 mm
- Fully hardened and ground tool
- Bearing arrangement for high axial forces
- Shaft sealing ring prevents the ingress of dirt and coolant



Shank	External Ø mm	D5 mm	A mm	L mm	L1 mm	Rotational speed max. r/min	Workpiece weight max. kg	art.no.	€
MK 2	54	13	86.5	150.5	68.5	4200	170	401503 0002	349,–
MK 3	54	13	86.5	167.5	68.5	4200	170	401503 0003	376,–
MK 3	64	16	100	181	78	4200	330	401503 0013	399,–
MK 4	64	16	100	202.5	78	3800	330	401503 0004	442,–
MK 4	86	19	121.5	224	93.5	3800	550	401503 0014	540,–
MK 5	86	19	121.5	251	93.5	3200	550	401503 0005	599,–

4123

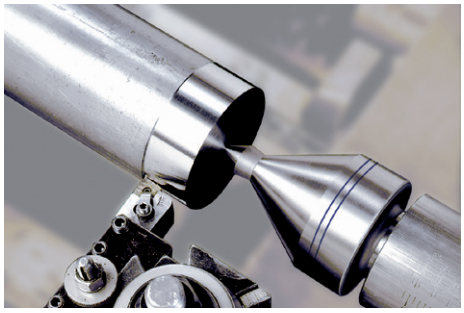




Easy to use for tubes with large diameters



The extended running point guarantees the required clearance angle for turning parts with small diameters.



Ideal for bar stock with large diameters

Clamping jaw finder

- Jaws for approx. 3,000 different chuck types
- Find the right jaws for your chuck quickly and easily.
- Easy to find and quick to order with lightning-fast delivery!







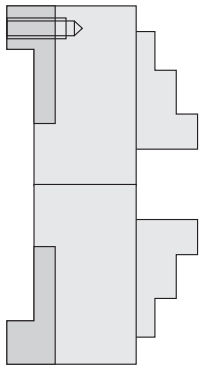
www.spannbackenfinder.de

Spindelköpfe mit zylindrischer Zentrieraufnahme und Zentrierkegel

INFO

DIN 6350 – zylindrische Zentrieraufnahme

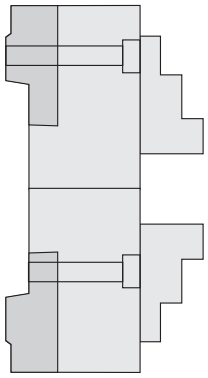
Futter-Ø mm	Zentrier-Ø H7 mm	Lochkreis-Ø mm	Gewinde
80	56 x 3	67 ±0,2	3 x M 6
100	70 x 3	83 ±0,25	3 x M 8
125	95 x 4	108 ±0,25	3 x M 8
160	125 x 4	140 ±0,30	3 x M10
200	160 x 4	176 ±0,30	3 x M10
250	200 x 5	224 ±0,35	3 x M12
315	260 x 5	286 ±0,40	3 x M16
400	330 x 5	362 ±0,40	3 x M16
500	420 x 5	458 ±0,40	6 x M16
630	545 x 7	586 ±0,50	6 x M16



DIN 55 026 – Zentrieraufnahme mit Zentrierkegel

Form A – Befestigungslöcher am äußeren Lochkreis
Form B – Befestigungslöcher am äußeren und inneren Lochkreis

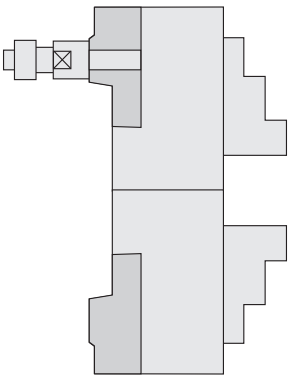
Kurzkegel Größe	Kegel-Ø mm Größtmaß	Kegel-Ø mm Kleinstmaß	Lochkreis-Ø mm Innen	Lochkreis-Ø mm Außen	Gewinde
3	53,988	54,5	-	70,6	M10
4	63,526	61,0	-	82,6	M10
5	82,578	79,6	61,9	104,8	M10
6	106,390	103,2	82,6	133,4	M12
8	139,734	136,2	111,1	171,4	M16
11	196,887	192,9	165,1	235,0	M20
15	285,795	281,5	247,6	330,2	M24



DIN 55 027 – Zentrieraufnahme mit Zentrierkegel und Bajonettscheibenbefestigung

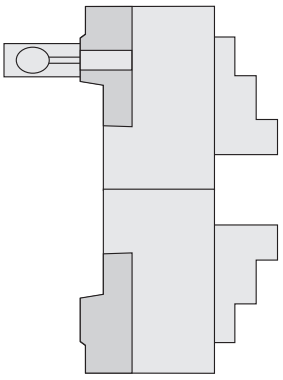
mit Stehbolzen und Bundmutter

Kurzkegel Größe	Kegel-Ø mm Größtmaß	Kegel-Ø mm Kleinstmaß	Anzahl mm Stehbolzen
3	53,988	54,5	3 x M10
4	63,526	61,0	3 x M10
5	82,578	79,6	4 x M10
6	106,390	103,2	4 x M12
8	139,734	136,2	4 x M16
11	196,887	192,9	6 x M20
15	285,795	281,5	6 x M24



DIN 55 029 – Zentrieraufnahme mit Zentrierkegel Camlock-Ausführung

Kurzkegel Größe	Kegel-Ø mm Größtmaß	Kegel-Ø mm Kleinstmaß	Anzahl Klemmnocken
3	53,988	54,5	3 x Ø 14,3
4	63,526	61,0	3 x Ø 15,9
5	82,578	79,6	6 x Ø 19,0
6	106,390	103,2	6 x Ø 22,2
8	139,734	136,2	6 x Ø 25,4
11	196,887	192,9	6 x Ø 30,2
15	285,795	281,5	6 x Ø 34,9



Flange for lathe chucks and face plates

- **DIN 55026 with through-hole for direct connection to the spindle head**
- **DIN 55027 for bayonet-type disc fastening with stay bolts and collar nut**
- **DIN 55029 Camlock version with Camlock bolt**
- Steel design
- Machined on the machine side
- Faced on the chuck side
- Other taper and chuck sizes available on request

DIN 55026

- Short taper holder machined in accordance with DIN 55026 (A2)
- Faced on the chuck side
- Without attachment screws



For chuck diameter	External Ø mm	Taper shank size	Clearance hole mm	Height mm	art.no.	€
160 mm	162	5	79.5	23	405026 1605	150,–
200 mm	203	5	79.5	23	405026 2005	214,–
200 mm	203	6	103	23	405026 2006	214,–
250 mm	253	6	103	28	405026 2506	278,–
250 mm	253	8	136.2	28	405026 2508	278,–
315 mm	318	6	103	35	405026 3106	495,–
315 mm	318	8	136.2	35	405026 3108	495,–
400 mm	405	6	103	35	405026 4006	779,–
400 mm	405	8	136.2	35	405026 4008	779,–

4174

DIN 55027

- Short taper holder machined in accordance with DIN 55026
- Faced on the chuck side
- Includes stay bolt and collar nut



For chuck diameter	External Ø mm	Taper shank size	Clearance hole mm	Height mm	art.no.	€
125 mm	127	3	51.4	20	405027 1203	141,50
125 mm	127	4	61	20	405027 1204	141,50
160 mm	162	4	61	23	405027 1604	150,–
160 mm	162	5	79.5	23	405027 1605	150,–
200 mm	203	5	79.5	23	405027 2005	214,–
200 mm	203	6	103	23	405027 2006	214,–
250 mm	253	6	103	28	405027 2506	278,–
250 mm	253	8	136.2	28	405027 2508	278,–
315 mm	318	6	103	35	405027 3106	495,–
315 mm	318	8	136.2	35	405027 3108	495,–
400 mm	405	8	136.2	35	405027 4008	799,–
400 mm	405	11	192.8	35	405027 4011	799,–

4174

DIN 55029 Camlock

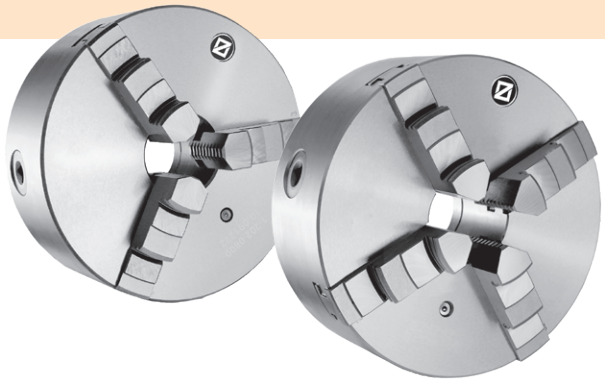
- Short taper holder machined in accordance with DIN 55029 Camlock
- Faced on the chuck side
- Includes Camlock bolt



For chuck diameter	External Ø mm	Taper shank size	Clearance hole mm	art.no.	€
125 mm	127	3	51.4	405029 1203	141,50
125 mm	127	4	61	405029 1204	141,50
160 mm	162	4	61	405029 1604	150,–
160 mm	162	5	79.5	405029 1605	150,–
200 mm	203	5	79.5	405029 2005	214,–
200 mm	203	6	103	405029 2006	214,–
250 mm	253	6	103	405029 2506	278,–
250 mm	253	8	136.2	405029 2508	278,–
315 mm	318	6	103	405029 3106	509,–
315 mm	318	8	136.2	405029 3108	509,–
400 mm	405	8	136.2	405029 4008	879,–
400 mm	405	11	192.8	405029 4011	999,–

4174

Universal lathe chuck



- **Chuck body made from cast iron or steel**
- Suitable for lathes as well as all types of milling and drilling devices
- Straight or with direct mounting
- Guides and wear surfaces ground
- Flat spiral ring made from high-quality alloy steel, die-forged and hardened
- **Supplied with:**
  Includes chuck key and attachment screws
  1 set of boring jaws (stepped outward)
  1 set of turning jaws (stepped inward)

Three-jaw chuck, cast design

- **DIN 6350** with straight centre mount

External Ø mm	Centring diameter	Chuck height (without jaws)	Clearance hole mm	Rotational speed max. r/min	Weight kg	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
100	70 x 3 mm	50	20	3500	2.8	405101 0100	304,–	405102 0100	329,–
125	95 x 4 mm	56	32	3200	5	405101 0125	322,–	405102 0125	360,–
160	125 x 4 mm	64	42	3000	10	405101 0160	351,–	405102 0160	425,–
200	160 x 4 mm	75	55	2500	17.5	405101 0200	432,–	405102 0200	509,–
250	200 x 5 mm	85	76	2000	29	405101 0250	584,–	405102 0250	759,–
315	260 x 5 mm	94	103	1500	50	405101 0315	892,–	405102 0315	1.049,–
						4113		4113	

Three-jaw chuck, steel design

- **DIN 6350** with straight centre mount

External Ø mm	Centring diameter	Chuck height (without jaws)	Clearance hole mm	Rotational speed max. r/min	Weight kg	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
100	70 x 3 mm	50	20	5200	2.8	405111 0100	442,–	405112 0100	549,–
125	95 x 4 mm	59.5	35.5	4800	5	405111 0125	505,–	405112 0125	639,–
160	125 x 4 mm	68	42	4500	10	405111 0160	580,–	405112 0160	739,–
200	160 x 4 mm	78	55	4000	17.5	405111 0200	749,–	405112 0200	959,–
250	200 x 5 mm	89	76	3500	29	405111 0250	985,–	405112 0250	1.239,–
315	260 x 5 mm	96.2	103	2800	50	405111 0315	1.549,–	405112 0315	1.919,–
						4113		4113	

Three-jaw chuck, steel design

- **DIN 55027** with short taper holder
- Includes stay bolt and collar nut

External Ø mm	Taper shank size	Chuck height (without jaws)	Clearance hole mm	Rotational speed max. r/min	Weight kg	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
125	3	59.5	35.5	4800	5	405113 3125	639,–	405114 3125	859,–
125	4	59.5	35.5	4800	5	405113 4125	639,–	405114 4125	859,–
160	4	68	42	4500	9	405113 4160	749,–	405114 4160	979,–
160	5	68	42	4500	9	405113 5160	719,–	405114 5160	979,–
200	5	78	55	4000	19	405113 5200	929,–	405114 6200	1.229,–
200	6	78	55	4000	19	405113 6200	929,–	405114 8200	1.229,–
250	6	89	76	3500	32	405113 6250	1.189,–	405114 6250	1.629,–
250	8	89	76	3500	32	405113 8250	1.239,–	405114 8250	1.629,–
315	6	96.2	103	2800	51	405113 6315	1.819,–	405114 6315	2.539,–
315	8	96.2	103	2800	51	405113 8135	1.819,–	405114 8315	2.539,–
						4113		4113	

Three-jaw chuck, steel design

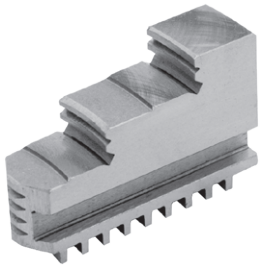
- **DIN 55029 (Camlock)** with short taper holder
- Includes Camlock bolt

External Ø mm	Taper shank size	Chuck height (without jaws)	Clearance hole mm	Rotational speed max. r/min	Weight kg	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
125	3	59.5	35.5	4800	5	405115 3125	699,–	405116 3125	859,–
125	4	59.5	35.5	4800	5	405115 4125	699,–	405116 4125	859,–
160	4	68	42	4500	9	405115 4160	819,–	405116 4160	989,–
160	5	68	42	4500	9	405115 5160	819,–	405116 5160	989,–
200	5	78	55	4000	19	405115 5200	999,–	405116 5200	1.259,–
200	6	78	55	4000	19	405115 6200	999,–	405116 6200	1.259,–
250	6	89	76	3500	32	405115 6250	1.329,–	405116 6250	1.629,–
250	8	89	76	3500	32	405115 8250	1.329,–	405116 8250	1.629,–
315	6	96.2	103	2800	51	405115 6315	2.049,–	405116 6315	2.429,–
315	8	96.2	103	2800	51	405115 8315	2.049,–	405116 8315	2.429,–
						4113		4113	

Turning jaws, hardened

- Price per set

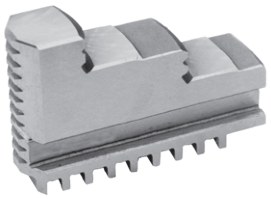
For chuck diameter	Length x width x height mm	Set of 3 jaws art.no.	€	Set of 4 jaws art.no.	€
100 mm	42 x 15 x 32	405103 3100	111,50	405103 4100	173,–
125 mm	51 x 20 x 40	405103 3125	116,50	405103 4125	184,50
160 mm	70 x 20 x 53	405103 3160	135,50	405103 4160	213,–
200 mm	85 x 25 x 54	405103 3200	144,50	405103 4200	227,–
250 mm	105 x 28 x 63	405103 3250	184,50	405103 4250	281,–
315 mm	125 x 32 x 73	405103 3315	291,–	405103 4315	470,–
		4113		4113	



Boring jaws, hardened

- Price per set

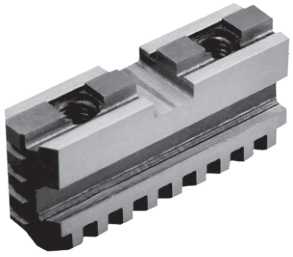
For chuck diameter	Length x width x height mm	Set of 3 jaws art.no.	€	Set of 4 jaws art.no.	€
100 mm	42 x 15 x 32	405104 3100	109,50	405104 4100	173,–
125 mm	51 x 20 x 40	405104 3125	114,–	405104 4125	184,50
160 mm	70 x 20 x 53	405104 3160	133,–	405104 4160	213,–
200 mm	85 x 25 x 54	405104 3200	141,50	405104 4200	227,–
250 mm	105 x 28 x 63	405104 3250	181,–	405104 4250	281,–
315 mm	125 x 32 x 73	405104 3315	285,–	405104 4315	470,–
		4113		4113	



Base jaws, hardened

- Price per set

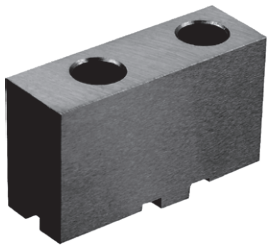
For chuck diameter	Length x width x height mm	Set of 3 jaws art.no.	€	Set of 4 jaws art.no.	€
125 mm	54 x 20 x 28	405105 3125	125,–	405105 4125	181,–
160 mm	65 x 20 x 29	405105 3160	127,–	405105 4160	201,–
200 mm	79 x 25 x 33	405105 3200	148,50	405105 4200	235,–
250 mm	92 x 28 x 36	405105 3250	176,–	405105 4250	283,–
315 mm	110 x 32 x 40	405105 3315	266,–	405105 4315	430,–
		4113		4113	



Soft top jaws

- Material 1.0503 (C45)
- Price per set

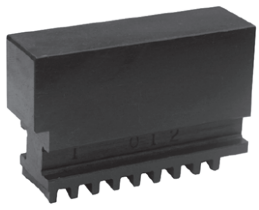
For chuck diameter	Length x width x height mm	Set of 3 jaws art.no.	€	Set of 4 jaws art.no.	€
125 mm	64 x 22 x 38.5	405106 3125	68,50	405106 4125	91,80
160 mm	78 x 25 x 41.5	405106 3160	77,50	405106 4160	106,–
200 mm	90 x 27 x 43.5	405106 3200	79,90	405106 4200	107,50
250 mm	106 x 32 x 51.5	405106 3250	111,50	405106 4250	151,50
315 mm	120 x 37 x 55	405106 3315	156,50	405106 4315	213,–
		4113		4113	



Unstepped block jaws

- Material 1.0503 (C45)
- Price per set

For chuck diameter	Length x width x height mm	Set of 3 jaws art.no.	€	Set of 4 jaws art.no.	€
100 mm	42 x 15 x 32	405107 3100	79,90	405107 4100	129,50
125 mm	51 x 20 x 40	405107 3125	79,90	405107 4125	129,50
160 mm	70 x 20 x 53	405107 3160	101,50	405107 4160	148,50
200 mm	78 x 25 x 58	405107 3200	120,50	405107 4200	178,–
250 mm	96 x 28 x 68	405107 3250	159,–	405107 4250	235,–
315 mm	118 x 32 x 78	405107 3315	225,–	405107 4315	350,–
		4113		4113	



RÖHM DURO-M universal lathe chuck



- Clamping of rotationally symmetrical parts for turning and milling operations
- Chuck body and all other components made of steel
- Extra low construction for minimal interference with contour
- Jaws in the chuck ground for concentricity
- Balanced and hardened
- **Supplied with insert spanner, drilling and turning jaws**
- **Other versions available on request**

Lathe chuck with straight holding fixture in accordance with DIN 6350

External Ø mm	Chuck height (without jaws)	Clearance hole mm	Centring diameter	Pitch circle diameter mm	Number of holes	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
80	39.5	19	56 x 3 mm	67	3xM6	407202 0080	529,–	409202 0080	649,–
100	50	20	70 x 3 mm	83	3xM8	407202 0100	579,–	409202 0100	689,–
125	56	32	95 x 4 mm	108	3xM8	407202 0125	689,–	409202 0125	849,–
160	65	42	125 x 4 mm	140	3xM10	407202 0160	749,–	409202 0160	1.039,–
200	73.5	55	160 x 4 mm	176	3xM10	407202 0200	929,–	409202 0200	1.169,–
250	82	76	200 x 4 mm	224	3xM12	407202 0250	1.259,–	409202 0250	1.489,–
315	95	103	260 x 5 mm	286	3xM16	407202 0315	2.049,–	409202 0315	2.379,–
						4104		4104	

Lathe chuck with stay bolts and collar nut according to DIN 55027

External Ø mm	Chuck height (without jaws)	Clearance hole mm	Taper shank size	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
125	69	32	4	407226 4125	789,–	409205 4125	939,–
160	66	42	4	407226 4160	829,–	409205 4160	1.119,–
160	66	42	5	407226 5160	829,–	409205 5160	1.119,–
200	74.5	55	5	407226 5200	999,–	409205 5200	1.239,–
200	74.5	55	6	407226 6200	999,–	409205 6200	1.239,–
250	83	76	6	407226 6250	1.299,–	409205 6250	1.799,–
250	83	76	8	407226 8250	1.299,–	409205 8250	1.799,–
315	96	103	6	407226 6315	2.109,–	409205 6315	2.669,–
315	96	103	8	407226 8315	2.109,–	409205 8315	2.669,–
315	104	103	11	407226 9315	2.109,–	409205 9315	2.669,–
				4104		4104	

Lathe chuck with stay bolts for Camlock according to DIN 55029

External Ø mm	Chuck height (without jaws)	Clearance hole mm	Taper shank size	3 jaw chucks art.no.	€	4 jaw chucks art.no.	€
125	69	32	4	407206 4125	789,–	409206 4125	909,–
160	66	42	4	407206 4160	879,–	409206 4160	1.089,–
160	66	42	5	407206 5160	879,–	409206 5160	1.089,–
200	74.5	55	5	407206 5200	1.019,–	409206 5200	1.279,–
200	74.5	55	6	407206 6200	1.019,–	409206 6200	1.279,–
250	83	76	6	407206 6250	1.509,–	409206 6250	1.659,–
250	83	76	8	407206 8250	1.509,–	409206 8250	1.659,–
315	96	103	6	407206 6315	2.329,–	409206 6315	2.799,–
315	96	103	8	407206 8315	2.329,–	409206 8319	2.799,–
315	104	103	11	407206 9315	2.329,–	409206 9315	2.799,–
				4104		4104	

Block jaws BL

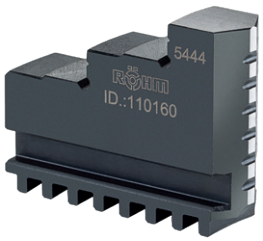
- **can be hardened**
- **Suitable for Röhm ZS and ZG lathe chucks**
- Material 16MnCr5
- Price per set

For chuck diameter	Length x width x height mm	Three-jaw chuck art.no.	€	Four-jaw chuck art.no.	€
80 mm	37 x 12 x 26	421210 0080	110,–	421211 0080	147,50
100 mm	48 x 14 x 33.5	421210 0100	110,–	421211 0100	147,50
125 mm	52 x 18 x 41.5	421210 0125	110,–	421211 0125	147,50
160 mm	61 x 18 x 47.5	421210 0160	119,–	421211 0160	158,–
200 mm	69 x 20 x 53.5	421210 0200	143,50	421211 0200	189,50
250 mm	90 x 24 x 67.5	421210 0250	163,–	421211 0250	221,–
315 mm	130 x 34 x 79.5	421210 0315	249,–	421211 0315	330,–
		4189		4189	



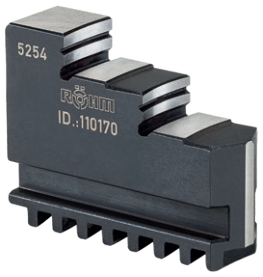
Boring jaws BB
- **hardened**
- **Suitable for Röhm ZS and ZG lathe chucks**
- Material 16MnCr5
- Price per set

For chuck diameter	Length x width x height mm	Three-jaw chuck art.no.	€	Four-jaw chuck art.no.	€
80 mm	37 x 12 x 26	421019 0080	162,–	421119 0080	217,–
100 mm	48 x 14 x 33.5	421019 0100	162,–	421119 0100	217,–
125 mm	52 x 18 x 41.5	421019 0125	162,–	421119 0125	217,–
160 mm	61 x 18 x 47.5	421019 0160	181,50	421119 0160	239,–
200 mm	69 x 20 x 53.5	421019 0200	212,–	421119 0200	283,–
250 mm	90 x 24 x 67.5	421019 0250	249,–	421119 0250	330,–
315 mm	130 x 34 x 79.5	421019 0315	375,–	421119 0315	495,–
		4189		4189	



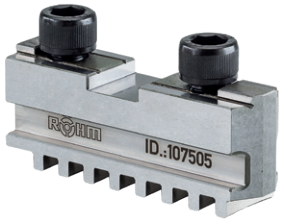
Turning jaws DB
- **hardened**
- **Suitable for Röhm ZS and ZG lathe chucks**
- Material 16MnCr5
- Price per set

For chuck diameter	Length x width x height mm	Three-jaw chuck art.no.	€	Four-jaw chuck art.no.	€
80 mm	37 x 12 x 26	421018 0080	162,–	421118 0080	217,–
100 mm	48 x 14 x 33.5	421018 0100	162,–	421118 0100	217,–
125 mm	52 x 18 x 41.5	421018 0125	162,–	421118 0125	217,–
160 mm	61 x 18 x 47.5	421018 0160	181,50	421118 0160	239,–
200 mm	69 x 20 x 53.5	421018 0200	212,–	421118 0200	283,–
250 mm	90 x 24 x 67.5	421018 0250	249,–	421118 0250	330,–
315 mm	130 x 34 x 79.5	421018 0315	375,–	421118 0315	495,–
		4189		4189	



Base jaws GB
- **hardened**
- **Suitable for Röhm ZS and ZG lathe chucks**
- including cylinder screws DIN 912-12.9
- Material 16MnCr5
- Price per set

For chuck diameter	Length x width x height mm	Three-jaw chuck art.no.	€	Four-jaw chuck art.no.	€
100 mm	46 x 14 x 19.5	421015 0100	268,–	421115 0100	360,–
125 mm	55 x 18 x 24	421015 0125	268,–	421115 0125	360,–
160 mm	65 x 18 x 27	421015 0160	268,–	421115 0160	360,–
200 mm	78 x 20 x 28	421015 0200	281,–	421115 0200	375,–
250 mm	92 x 24 x 35	421015 0250	295,–	421115 0250	395,–
315 mm	108 x 34 x 40	421015 0315	445,–	421115 0315	599,–
		4189		4189	



Unstepped top jaws AB
- **can be hardened, with cross tenon**
- **Suitable for Röhm ZS and ZG lathe chucks**
- Material 16MnCr5
- Price per set

For chuck diameter	Length x width x height mm	Three-jaw chuck art.no.	€	Four-jaw chuck art.no.	€
100 mm	53 x 22.5 x 30	421016 0100	82,40	421116 0100	111,–
125 mm	62 x 26.5 x 38	421016 0125	82,40	421116 0125	111,–
160 mm	74 x 28.5 x 42	421016 0160	50,90	421116 0160	67,80
200 mm	87 x 30.5 x 43	421016 0200	53,50	421116 0200	72,10
250 mm	103 x 36.5 x 53	421016 0250	82,40	421116 0250	111,–
315 mm	120 x 42.5 x 58	421016 0315	123,50	421116 0315	163,–
		4189		4189	



Reversible top jaws UB
- **hardened**
- **Suitable for Röhm ZS and ZG lathe chucks**
- Material 16MnCr5
- Price per set

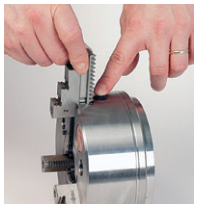
For chuck diameter	Length x width x height mm	Three-jaw chuck art.no.	€	Four-jaw chuck art.no.	€
100 mm	47 x 22 x 29.5	421017 0100	226,–	421117 0100	299,–
125 mm	56 x 26 x 37.5	421017 0125	226,–	421117 0125	299,–
160 mm	66.7 x 28 x 41.5	421017 0160	226,–	421117 0160	299,–
200 mm	79.5 x 30 x 42.5	421017 0200	234,–	421117 0200	312,–
250 mm	95.3 x 36 x 52.5	421017 0250	249,–	421117 0250	330,–
315 mm	109.5 x 42 x 57.5	421017 0315	375,–	421117 0315	495,–
		4189		4189	



RÖHM Wedge bar chuck *DURO-T*

DIN 6350A DIN 55027

- **With jaw safety mechanism, centric clamping**
- Higher clamping forces
- Stiffer chuck body (guaranteed accuracy at higher loads)
- Chuck body fully surface-hardened
- High jaw change repeatability
- Optimised wearing parts (e.g. safety shut-off valve)
- True running and axial run-out tolerance twice as accurate as specified by DIN accuracy class 1
- Enhanced corrosion protection
- Compatible with base and top jaws from other manufacturers
- **Supplied with safety key (as demanded by EN 1550), set of reversible one-piece jaws or set of base jaws with reversible top jaws**





With straight centre mount, DIN 6350 A

External Ø mm	Clamping range	Clearance hole mm	Chuck height (without jaws)	Centring diameter	Weight kg	Pitch circle diameter mm	with reversible jaws art.no.	€	Sliding + top jaws. art.no.	€
160	5-161	42	63	145 x 5	9.5	125	405012 0160	2.609,–	405013 0160	2.769,–
200	7-207	52	81	185 x 5	20	160	405012 0200	2.809,–	405013 0200	2.959,–
250	8-253	62	92	235 x 6	35	200	405012 0250	3.679,–	405013 0250	3.859,–
315	12-323	87	111	300 x 6	64	250	405012 0315	5.479,–	405013 0315	6.299,–
							4189		4189	

With short taper holding fixture, DIN 55027

External Ø mm	Clamping range	Clearance hole mm	Chuck height (without jaws)	Taper shank size	Weight kg	with reversible jaws art.no.	€	Sliding + top jaws. art.no.	€
160	5-161	42	63	5	9.5	405014 1160	2.729,–	405015 1160	3.159,–
200	7-207	52	81	5	20	405014 0200	2.959,–	405015 0200	3.399,–
200	7-207	52	81	6	20	405014 1200	2.959,–	405015 1200	3.399,–
250	8-253	62	92	6	35	405014 0250	3.849,–	405015 0250	4.459,–
250	8-253	62	92	8	35	405014 1250	3.849,–	405015 1250	4.459,–
315	12-323	87	111	8	64	405014 1315	5.759,–	405015 1315	6.609,–
						4189		4189	

One-piece block jaw, unstepped, can be hardened

- Suitable for RÖHM-DURO, FORKARDT-F and SCHUNK-ROTA-S
- Price per 3-piece set

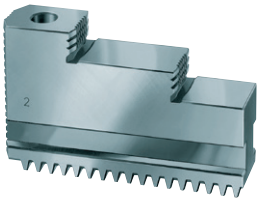
For chuck diameter	Length x width x height mm	art.no.	€
160 mm	84.4 x 20 x 45	420130 0160	297,–
200 mm	98.4 x 22 x 60	420130 0200	312,–
250 mm	118.7 x 26 x 70	420130 0250	329,–
315 mm	136.6 x 32 x 79	420130 0315	495,–
		4189	



One-piece reversible jaw, hardened

- Suitable for RÖHM-DURO, FORKARDT-F and SCHUNK-ROTA-S
- Price per 3-piece set

For chuck diameter	Length x width x height mm	Step height mm	Type	art.no.	€
160 mm	77.7 x 20 x 45	7.5	Three-level	420180 0160	445,–
200 mm	94.7 x 22 x 60	10	Three-level	420180 0200	470,–
250 mm	114 x 26 x 70	14	Two-level	420180 0250	495,–
315 mm	130 x 32 x 79	15	Two-level	420180 0315	749,–
				4189	



Reversible top jaw, hardened

- Suitable for RÖHM-DURO, FORKARDT-F and SCHUNK-ROTA-S
- Price per 3-piece set

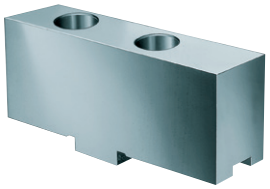


For chuck diameter	Length x width x height mm	Hole distance mm	Step height mm	Groove width mm	art.no.	€
200 mm	70.5 x 24.4 x 38	40	10	10	420145 0200	234,–
250 mm	92 x 34.4 x 50	40	14	12	420145 0250	249,–
315 mm	107 x 35.7 x 56	54	15	12	420145 0315	375,–

4189

Top jaw, unstepped, can be hardened

- Suitable for RÖHM-DURO, FORKARDT-F and SCHUNK-ROTA-S
- Price per 3-piece set

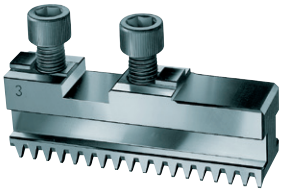


For chuck diameter	Length x width x height mm	Hole distance mm	Weight kg	Groove width mm	art.no.	€
160 mm	85 x 20 x 40	32	1.2	8	420215 0160	67,50
200 mm	105 x 22 x 51	40	2	10	420215 0200	94,50
250 mm	125 x 30 x 55	40	3.6	12	420215 0250	113,–
315 mm	145 x 40 x 60	54	5.8	12	420215 0315	151,–

4166

Base jaw, hardened

- Suitable for RÖHM-DURO, FORKARDT-F and SCHUNK-ROTA-S
- Price per 3-piece set

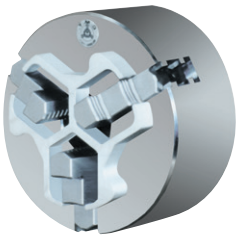


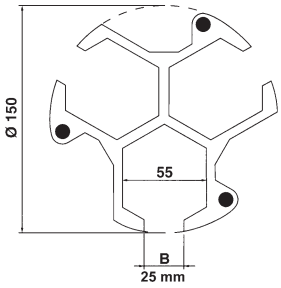
For chuck diameter	Length x width x height mm	Hole distance mm	Groove width mm	art.no.	€
160 mm	74 x 20 x 29.5	32	8	420260 0160	268,–
200 mm	90 x 22 x 35	40	12	420260 0200	281,–
250 mm	110 x 26 x 40	40	12	420260 0250	295,–
315 mm	125 x 32 x 46	54	12	420260 0315	445,–

4166

Workpiece stop

- **For three-jaw chucks, for clamping short parts**
- Material: Aluminium
- Three magnets for easy attachment to the lathe chuck
- Ground supporting surfaces
- Suitable for three-jaw chucks with jaw widths up to 55 mm, for Ø 15 - 130 mm workpieces
- The dimension W=25mm, must be milled in accordance with the jaw width







Individual

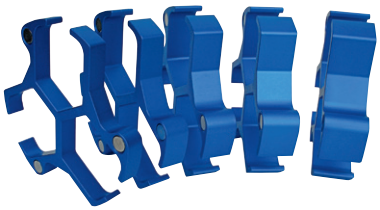
Height mm	art.no.	€
15	421300 0015	80,–
20	421300 0020	80,–
25	421300 0025	93,50
30	421300 0030	91,50
35	421300 0035	94,50

4153

Set in a wooden box

Contents	art.no.	€
one workpiece stop each H = 15, 20, 25, 30, 35 mm	421301 1535	410,–

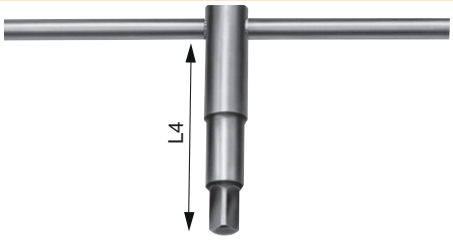
4153



AMF Square pin key

DIN 905

- Special steel
- Shank and cross bar hardened and tempered to a burnished shade
- Pressed-in cross bar



Wr. width	L4 mm	art.no.	€
4 mm	60	401574 0004	25,30
5 mm	60	401574 0005	23,40
6 mm	80	401574 0006	24,30
7 mm	80	401574 0007	29,80
8 mm	80	401574 0008	27,40
9 mm	80	401574 0009	30,20
10 mm	100	401574 0010	32,40

4159

Wr. width	L4 mm	art.no.	€
11 mm	100	401574 0011	33,70
12 mm	100	401574 0012	35,20
13 mm	100	401574 0013	39,70
14 mm	120	401574 0014	42,30
17 mm	160	401574 0017	66,50
19 mm	200	401574 0019	78,90

4159

RÖHM Safety square pin key

DIN 905

- Special steel
- Shank and cross bar hardened and tempered to a burnished shade
- Designed to avoid being accidentally left in the lathe chuck



Wr. width	L4 mm	For chuck diameter	art.no.	€
6 mm	110	80 mm	401571 0006	57,40
8 mm	130	100 mm	401571 0008	57,40
9 mm	130	125 mm	401571 0009	57,40
10 mm	160	160 mm	401571 0010	72,10
11 mm	160	200 mm	401571 0011	72,10

4189

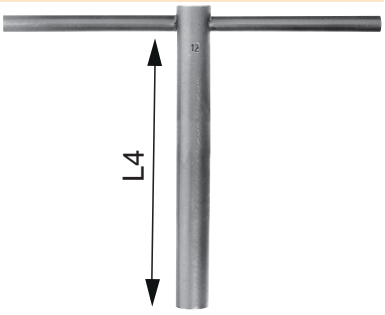
Wr. width	L4 mm	For chuck diameter	art.no.	€
12 mm	160	250 mm	401571 0012	86,80
14 mm	200	315 mm	401571 0014	102,–
17 mm	250	400 mm	401571 0017	147,50
19 mm	250	500 mm	401571 0019	204,–

4189

AMF Square socket key

DIN 904

- Special steel
- Shank and cross bar hardened and tempered to a burnished shade
- Pressed-in cross bar



Wr. width	Head diameter mm	L4 mm	art.no.	€
4 mm	12	60	401572 0004	29,70
5 mm	12	60	401572 0005	29,80
6 mm	12	80	401572 0006	30,20
7 mm	14.6	80	401572 0007	31,60
8 mm	16	80	401572 0008	31,90
9 mm	18	100	401572 0009	34,20

4159

Wr. width	Head diameter mm	L4 mm	art.no.	€
10 mm	20	100	401572 0010	34,70
12 mm	24	100	401572 0012	40,60
14 mm	28	120	401572 0014	53,30
17 mm	34	160	401572 0017	78,80
19 mm	36	200	401572 0019	87,70

4159

Square ring spanner

DIN 248



- Special steel
- Hardened, tempered to a burnished tone
- Continuous interior quadratic

Wr. width	Head diameter mm	L mm	art.no.	€
8 mm	17	160	401576 0008	42,–
10 mm	21	195	401576 0010	44,20
12 mm	24	235	401576 0012	47,40
14 mm	27	270	401576 0014	55,–

4159

Wr. width	Head diameter mm	L mm	art.no.	€
17 mm	31	315	401576 0017	82,–
19 mm	35	345	401576 0019	89,–
22 mm	39	385	401576 0022	111,–
24 mm	43	415	401576 0024	117,50

4159

SARA Hollow spindle stop

- **Not suitable for NC machines**
- Comprising clamping body, extension and special key
- For lathes
- For limiting lengths during one-off and mass production
- Special key for clamping in and releasing from the machine spindle



Min./max. clamping width	art.no.	€
20 - 27 mm	421302 2027	159,–
25 - 33 mm	421302 2533	182,50
32 - 41 mm	421302 3241	195,–
40 - 50 mm	421302 4050	229,–

4166

Min./max. clamping width	art.no.	€
48 - 60 mm	421302 4860	259,–
58 - 76 mm	421302 5876	299,–
75 - 96 mm	421302 7596	370,–
94 - 110 mm	421302 9411	455,–

4166

Unscrewing device for 3 jaw chucks

- For internal turning of soft turning jaws
- For regrinding hard turning jaws
- For external and internal workpiece clamping
- Infinitely variable adjusting range
- Quick diameter adjustment



For manual chucks

For chuck diameter	External Ø mm	Internal diameter	Height mm	Clamping range	Rotational speed max. r/min	art.no.	€
125 - 200	170	100	26	56-124 / 134-200	800	421306 0006	689,–
160 - 250	200	125	26	85-150 / 170-230	700	421306 0008	749,–
200 - 315	248	160	31	100-190 / 220-300	600	421306 0010	899,–

4114



For power chucks

For chuck diameter	External Ø mm	Internal diameter	art.no.	€
135 mm	140	60	421307 1005	272,–
175 mm	168	80	421307 1006	303,–
210 mm	218	115	421307 1008	332,–
254 mm	258	150	421307 1010	360,–
315 mm	316	188	421307 1012	559,–
400 mm	380	230	421307 1015	1.059,–

4114

Kitagawa EUROPE Wedge hook power chuck *BR*



- **Model BR / successor model to the BB-200 series**
- **Enlarged clearance**
- **Repetition precision of below 10 µm**
  Repetition precision of below 10 µm can be achieved when used with T-Nut-Plus slot nuts and Kitagawa SB jaws. Turned soft jaws for different clamping diameters can thus be exchanged with accuracy. This saves time and money!
- **Patented base jaw: up to 10 % increased clamp force at maximum rotational speeds**
- Solid steel design
- Hardened and ground guides
- High true running accuracy
- Lubrication nipple in every base jaw
- Centre mount in accordance with DIN 6353
- Supplied without flange, **without top jaws;** supplied with 1.5 mm x 60° toothed base jaws, standard T-slot nuts, chuck and jaw fastening screws, unthreaded drawbar nuts and a special assembly key
- **Threaded drawbar nuts and BR 12 available on request**

3-jaw version

Designation	Centring diameter	Clearance hole mm	Chuck height (without jaws)	Pitch circle diameter mm	Jaw lift distance mm	Piston stroke mm	Rotational speed max. r/min	Max. tension force kN	Clamping range	Max. operating force	Connection thread (for tie rod)	Weight kg	art.no.	€
BR06 Ø170 mm	140 H6	53	81 mm	104.8	5.5 / Ø	12	6000	58.5	16 - 170 mm	23 kN	max. M60 x 2	12.8	410102 1006	2.959,–
BR08 Ø210 mm	170 H6	66	91 mm	133.4	7.4 / Ø	16	5000	90	22 - 210 mm	35 kN	max. M75 x 2	22.2	410102 1008	3.309,–
BR10 Ø254 mm	220 H6	81	100 mm	171.4	8.8 / Ø	19	4500	123	31 - 254 mm	49 kN	max. M90 x 2	35.8	410102 1010	3.829,–
BR12 Ø315 mm	300 H6	106	108 mm	235	10.6 / Ø	23	3500	153	46 -315 mm	59 kN	max. M115 x 2	58.3	410102 1012	4.329,–

4114

Kitagawa EUROPE Wedge hook power chuck *B/BT-200*

DIN 6353



- **Model B/BT-200**
- **Large through-hole**
- All-steel design
- Hardened and ground guides
- High true-running accuracy
- Lubrication fitting in every base jaw
- Centre mount in accordance with DIN 6353
- Supplied without flange and **without top jaws**; includes 1.5 mm x 60° toothed base jaws, T-slot nuts, chuck and jaw fastening screws, unthreaded drawbar nuts, special assembly key
- Further sizes and models available on request
- **Threaded drawbar nuts available on request**

2-jaw version

Designation	Centring diameter	Clearance hole mm	Chuck height (without jaws)	Pitch circle diameter mm	Jaw lift distance mm	Piston stroke mm	Rotational speed max. r/min	Max. tension force kN	Clamping range	Max. operating force	Connection thread (for tie rod)	Weight kg	art.no.	€
BT206 Ø169 mm	140 H6	45	81 mm	104.8	5.5 / Ø	12	6000	38	14 - 169 mm	14.5 kN	max. M55 x 2	11.5	410110 0206	3.519,–
BT208 Ø210 mm	170 H6	52	91 mm	133.4	7.4 / Ø	16	5000	57.3	14 - 210 mm	23.2 kN	max. M60 x 2	21.3	410110 0208	3.349,–
BT210 Ø254 mm	220 H6	75	100 mm	171.4	8.8 / Ø	19	4200	74	31 - 254 mm	28.5 kN	max. M85 x 2	33.5	410110 0210	3.619,–
BT212 Ø304 mm	220 H6	91	110 mm	171.4	10.6 / Ø	23	3300	96	34 - 304 mm	36.7 kN	max. M100 x 2	52	410110 0212	4.749,–

4114

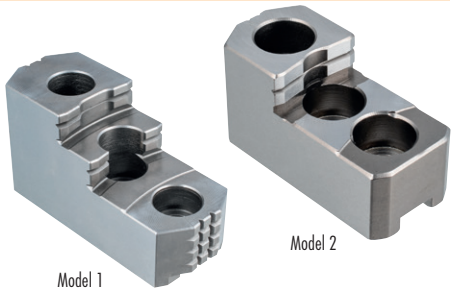
3-jaw version

Designation	Centring diameter	Clearance hole mm	Chuck height (without jaws)	Pitch circle diameter mm	Jaw lift distance mm	Piston stroke mm	Rotational speed max. r/min	Max. tension force kN	Clamping range	Max. operating force	Connection thread (for tie rod)	Weight kg	art.no.	€
B204 Ø100 mm	85 H6	26	59 mm	70.6	5.4 / Ø	10	8000	28.5	7 - 110 mm	14 kN	max. M32 x 1,5	4	410101 0204	2.649,–
B205 Ø135 mm	110 H6	33	60 mm	82.6	5.4 / Ø	10	7000	36	12 - 135 mm	17.5 kN	max. M40 x 1,5	6.7	410101 0205	2.719,–
B206 Ø169 mm	140 H6	45	81 mm	104.8	5.5 / Ø	12	6000	57	16 - 168 mm	22 kN	max. M55 x 2	11.9	410101 0206	2.129,–
B208 Ø210 mm	170 H6	52	91 mm	133.4	7.4 / Ø	16	5000	86	13 - 210 mm	34.8 kN	max. M60 x 2	22.3	410101 0208	2.249,–
B210 Ø254 mm	220 H6	75	100 mm	171.4	8.8 / Ø	19	4200	111	31 - 254 mm	43 kN	max. M85 x 2	34.5	410101 0210	2.609,–
B212 Ø304 mm	220 H6	91	110 mm	171.4	10.6 / Ø	23	3300	144	34 - 304 mm	55 kN	max. M100 x 2	55.3	410101 0212	3.629,–

4114

kitagawa EUROPE Reversible top jaws, 1.5 mm x 60°

- **For chuck types: BT200 / B200 / BR**
- **hardened**
- material 16 MnCr 5
- price per set of 3 units
- **No reversible jaws available for BT204, BT205 and BT212**
- **other sizes can be found via the clamping jaw finder on our website**



Reversible top jaw set for BT/B/BB 200 / BR series

For chuck diameter	Length x width x height mm	Hole distance mm	Groove width mm	for thread	Weight kg	Model	art.no.	€
165 mm	67 x 31 x 36	20	12	M10	1	2	420240 0006	309,–
210 mm	87 x 35 x 51	25	14	M12	2.5	1	420240 0008	445,–
254 mm	101 x 40 x 54	30	16	M12	3.5	1	420240 0010	495,–
315 mm	103 x 50 x 52	30	21	M16	4.3	2	420240 0212	465,–

4166

Reversible top jaw set for KFJ/KFJB

For chuck diameter	Length x width x height mm	Hole distance mm	Model	art.no.	€
169 mm	67 x 31 x 36	20	2	420241 0206	470,–
210 mm	87 x 35 x 51	25	1	420241 0208	669,–
254 mm	101 x 40 x 54	30	1	420241 0210	729,–
304 mm	103 x 50 x 52	30	2	420241 0212	1.089,–

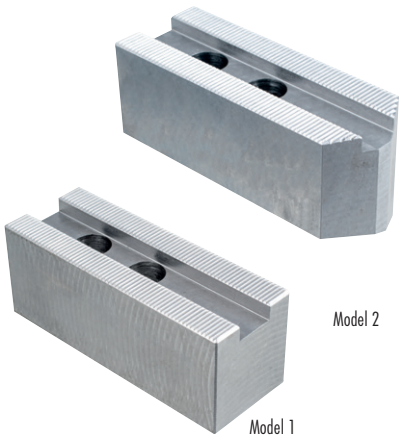
4166

kitagawa EUROPE Top jaws, 1.5 mm x 60°

- **For chuck types: BT200 / B200 / BR**
- material C15
- price per set of 3 units
- **aluminium jaws and other sizes can be found via the clamping jaw finder on our website**

For chuck diameter	Length x width x height mm	Hole distance mm	Groove width mm	for thread	Weight kg	Model	art.no.	€
110 / 135 mm	52 x 24 x 50	14	10	M8	1.1	2	420210 2055	57,–
169 mm	72 x 30 x 31	20	12	M10	1.2	1	420210 0006	51,50
169 mm	82 x 30 x 31	20	12	M10	1.2	2	420210 0601	67,50
169 mm	72 x 30 x 50	20	12	M10	2	2	420210 0650	73,–
210 mm	95 x 35 x 37	25	14	M12	2.2	2	420210 0008	60,50
210 mm	95 x 35 x 37	25	14	M12	2.2	1	420210 0108	60,50
210 mm	102 x 35 x 37	25	14	M12	2.9	2	420210 0801	71,–
210 mm	95 x 35 x 79	25	14	M12	5	2	420210 0810	76,–
254 mm	110 x 40 x 42	30	16	M12	3.5	2	420210 0010	64,–
254 mm	125 x 40 x 42	30	16	M12	4.1	2	420210 1001	75,50
254 mm	90 x 40 x 60	30	16	M12	4.2	1	420210 1010	93,50
254 mm	110 x 40 x 60	30	16	M12	5.2	2	420210 1060	91,–
254 mm	110 x 40 x 79	30	16	M12	8.1	1	420210 1080	108,–
304 mm	129 x 50 x 50	30	21	M16	6	1	420210 0212	83,50
304 mm	145 x 50 x 50	30	21	M16	6.7	2	420210 2121	122,–
304 mm	129 x 50 x 79	30	21	M16	9.7	1	420210 2128	169,–

4166



kitagawa EUROPE T-slot Plus for BR series

- Including cap screws DIN 912-12.9
- Price per set of 3

T-Nut Plus for BR power chucks

For chuck diameter	Height mm	For T-slot width mm	for thread	art.no.	€
175 mm	18.5	12	M10	420605 0006	176,–
210 mm	20.5	14	M12	420605 0008	189,–
254 mm	21.5	16	M12	420605 0010	202,–
315 mm	28	21	M16	420605 0012	242,–

4166



kitagawa EUROPE Wedge hook power chuck KFJ / KFJB-200



- **Model KFJ/KFJB-200**
- **With large through-hole**
- All-steel design
- Hardened and ground guides
- High true-running accuracy
- Lubrication fitting in every base jaw
- Centre mount in accordance with DIN 6353
- Supplied **without top jaws**, with 1.5 mm x 60° toothed base jaws, T-slot nuts, chuck and jaw fastening screws, unthreaded drawbar nuts and a special assembly key
- **Threaded drawbar nuts available on request**

KFJ-200 4-jaw version

- With flow

Designation	Clearance hole mm	Centring diameter	Rotational speed max. r/min	Taper shank size	Connection thread (for tie rod)	art.no.	€
KFJ206 Ø169 mm	45	140	4500	-	max. M55 x 2,0	410104 0006	3.609,–
KFJ206-A5 Ø169 mm	45	-	4500	5	max. M55 x 2,0	410104 5006	3.759,–
KFJ208 Ø210 mm	52	170	3600	-	max. M60 x 2,0	410104 0008	4.239,–
KFJ208-A5 Ø210 mm	52	-	3600	5	max. M60 x 2,0	410104 5008	4.489,–
KFJ208-A6 Ø210 mm	52	-	3600	6	max. M60 x 2,0	410104 6008	4.339,–
KFJ210 Ø254 mm	75	220	3200	-	max. M85 x 2,0	410104 0010	5.669,–
KFJ210-A6 Ø254 mm	75	-	3200	6	max. M85 x 2,0	410104 6010	6.159,–
KFJ210-A8 Ø254 mm	75	-	3200	8	max. M85 x 2,0	410104 8010	5.999,–
KFJ212 Ø304 mm	91	220	2500	-	max. M100 x 2,0	410104 0012	8.629,–
KFJ212-A8 Ø304 mm	91	-	2500	8	max. M100 x 2,0	410104 8012	9.079,–
KFJ212-A11 Ø304 mm	91	-	2500	11	max. M100 x 2,0	410104 1112	9.459,–

4114

KFJB-200 4-jaw version

- With large flow

Designation	Clearance hole mm	Centring diameter	Rotational speed max. r/min	Taper shank size	Connection thread (for tie rod)	art.no.	€
KFJB206 Ø170 mm	52	140	4500	-	max. M60 x 2,0	410204 0006	3.999,–
KFJB206-A5 Ø170 mm	52	-	4500	5	max. M60 x 2,0	410204 5006	4.149,–
KFJB208 Ø215 mm	66	170	3600	-	max. M75 x 2,0	410204 0008	4.819,–
KFJB208-A6 Ø215 mm	66	-	3600	6	max. M75 x 2,0	410204 6008	4.909,–
KFJB210 Ø254 mm	81	220	3200	-	max. M90 x 2,0	410204 0010	6.689,–
KFJB210-A8 Ø254 mm	81	-	3200	8	max. M90 x 2,0	410204 8010	7.299,–

4114

ATORN Slot nuts

- **For chuck types: BT200 / B200 / BR**
- Including cheese-head screws DIN 912-12.9
- Price per 3-piece set



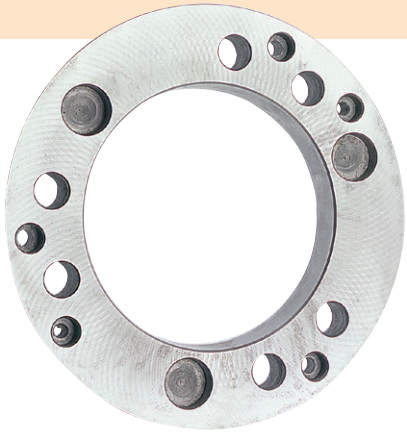
For chuck diameter	Height mm	For T-slot width mm	for thread	art.no.	€
135 mm	15	10	M8	420603 0005	98,50
169 mm	18.5	12	M10	420603 0020	105,–
210 mm	20.5	14	M12	420603 0030	109,–
254 mm	21.5	16	M12	420603 0040	119,–
304 mm	28	21	M16	420603 0050	149,–
381 mm	45.5	22/24	M20	420603 0055	257,–

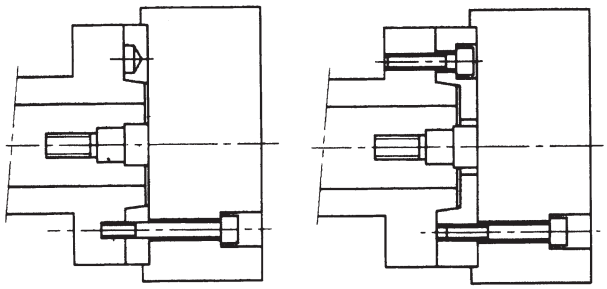
4166



kitagawa EUROPE Power chuck flange

- Precision flange featuring an all-steel design
- **For chucks with centre mounts in accordance with DIN 6353**
- **Spindle-side design: Short taper in accordance with DIN 55026 and DIN 55021**
- **Compatible with: BT200 / B200 / BB200**
- Supplied without flange fastening screws





Direct chuck mounting Indirect chuck mounting

Designation	Flange diameter	Taper shank size	Min. diameter mm	Max. diameter mm	For 2-jaw chucks art.no.	€	For 3-jaw chucks art.no.	€
BT-206 / B-206 / BR-06	140	5	79.7	82.563	413010 1005	296,–	413001 1005	307,–
BT-206 / B-206 / BR-06	140	6	103	106.375	413010 1006	307,–	413001 1006	307,–
BT-208 / B-208 / BR-08	170	5	79.7	82.563	413010 2005	380,–	413001 2005	380,–
BT-208 / B-208 / BR-08	170	6	103	106.375	413010 2006	380,–	413001 2006	380,–
BT-210-212 / B-210-212 / BR-10-12	220	6	103	106.375	413010 3006	519,–	413001 3006	519,–
BT-210-212 / B-210-212 / BR-10-12	220	8	136	139.719	413010 3008	500,–	413001 3008	519,–
BT-215 / B-215 / BR-15	300	8	140	139.719	413010 4008	729,–	413001 4008	729,–
BT-215 / B-215 / BR-15	300	11	192.1	196.869	413010 4011	729,–	413001 4011	729,–
					4114		4114	

Lubricant



410199 0010



410199 0013



410199 0012



Grease gun

Contents	art.no.	€
200 ml	410199 0011	39,90
400 g	410199 0010	89,–
	4114	

Chuck grease

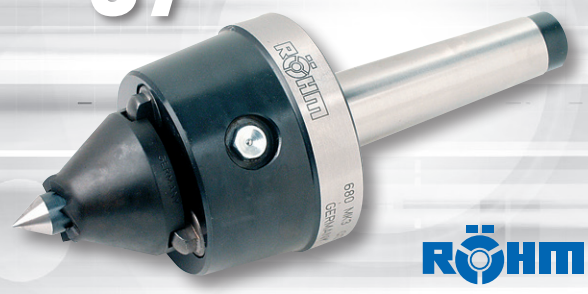
Contents	art.no.	€
1 kg	410199 0012	107,50
400 g	410199 0013	45,70
	4114	

Lubrication fitting

Designation	art.no.	€
For Kitagawa power chucks	410199 0002	6,60
	4114	

Clamping technology info

- **Front face driver for turning and milling work**
- for efficiently turning workpieces along their entire length with high accuracy and without reclamping
- simultaneously allows slots or toothing to be milled
- developed with a modular concept, making the driving discs and corresponding centring points universally replaceable
- **available on request**

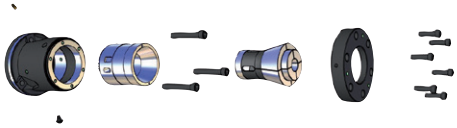


ROHM

kitagawa EUROPE CRL power-operated collet chuck



- All-steel design, hardened and precision-ground
- For multi-range and steel collets in accordance with DIN 6343, 173 E or 185 E
- 2 sizes: up to material Ø 42 mm, or up to material Ø 60 mm
- Other sizes for a maximum material Ø 36 mm, 54 mm and 66 mm are available on request
- Equipped for use with a length stop, but only in combination with multi-range collets.
- For bar work on CNC lathes
- Especially for high speeds and true-running accuracies
- Supplied with chuck fastening screws and thrust collar (unthreaded)
- Without collets
- **Threaded drawbar nuts available on request**



CRL-42 for 173E dead-length collets

Designation	Taper shank size	D mm	L mm	Rotational speed max. r/min	Max. tension force kN	Max. operating force	Connection thread (for tie rod)	Weight kg	Straight holding fixture art.no.	€	Short taper art.no.	€
CRL-42/5	5	110	143	7100	55	25 kN	max. M55 x 1,5	8.4			415010 0005	1.150,–
CRL-42/6	6	110	145	7100	55	25 kN	max. M55 x 1,5	10			415010 0006	1.150,–
CRL-42/Ø140	-	110	133	7100	55	25 kN	max. M55 x 1,5	8.8	415001 0001	1.090,–		
									4114		4114	

CRL-60 for 185E dead-length collets

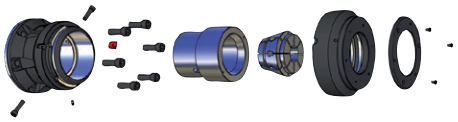
Designation	Taper shank size	D mm	L mm	Rotational speed max. r/min	Max. tension force kN	Max. operating force	Connection thread (for tie rod)	Weight kg	Straight holding fixture art.no.	€	Short taper art.no.	€
CRL-60/6	6	138	160	6300	60	30 kN	max. M70 x 1,5	14.2			415030 0006	1.560,–
CRL-60/8	8	138	156	6300	60	30 kN	max. M70 x 1,5	17.7			415030 0008	1.560,–
CRL-60/Ø170	-	138	148	6300	60	30 kN	max. M70 x 1,5	14.2	415020 0001	1.560,–		
									4114		4114	

kitagawa EUROPE QCRL / QD-CRL power-operated collet chuck

- **Model QD-CRL comes without a flange - direct short taper holding fixture included**
- **Bayonet fixing allows collets to be changed quickly**
- For Ø 42 mm (173E) up to Ø 60 mm (185E), version up to Ø 80 mm (193E) and
- collet reducer from 185E to 173E available on request
- For bar work on CNC lathes, especially for high speeds and true-running accuracies
- Supplied with chuck fastening screws and thrust collar (unthreaded), without collets
- **Threaded drawbar nuts available on request**







QCRL-42 for 173E dead-length collets

- Rod seal, 3-piece set, Article no. 4152103175

Designation	Taper shank size	D mm	L mm	Rotational speed max. r/min	Max. tension force kN	Max. operating force	Connection thread (for tie rod)	Weight kg	Straight holding fixture art.no.	€	Short taper art.no.	€
QCRL-42/Ø140	0 - not applicable	113	149	7100	55	25 kN	max. M58 x 1,5	13.5	415101 0001	1.249,–		
QD-CRL-42/5	5	113	143	7100	55	25 kN	max. M58 x 1,5	13.5			415110 1005	1.239,–
QCRL-42/6	6	113	143	7100	55	25 kN	max. M58 x 1,5	13.5			415110 0006	1.360,–
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QCRL-60 for 185E dead-length collets

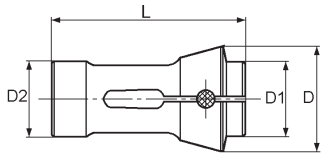
- Rod seal set 3 pieces Article no. 4152103185

Designation	Taper shank size	D mm	L mm	Rotational speed max. r/min	Max. tension force kN	Max. operating force	Connection thread (for tie rod)	Weight kg	Straight holding fixture art.no.	€	Short taper art.no.	€
QCRL-60/Ø170	0 - not applicable	143	177	6300	60	30 kN	max. M75 x 1,5	29	415120 0001	1.570,–		
QD-CRL-60/6	6	143	171	6300	60	30 kN	max. M75 x 1,5	29			415130 1006	1.639,–
QCRL-60/8	8	143	171	6300	60	30 kN	max. M75 x 1,5	29			415130 0008	1.795,–
									4114		4114	

FAHRION® Dead-length collets

DIN 6343

- Hardened and ground
- True running accuracy:
  Ø 1-10 mm ≤ 20 µm
  Ø 11-30 mm ≤ 30 µm
  Ø 31-60 mm ≤ 40 µm
- Collapse maximum 0.1 mm of nominal diameter
- Smooth bore up to Ø 8 mm, transverse grooves from Ø 9 mm
- Square/hex.: up to 12 mm = smooth bore, from 13 mm = with transverse grooves
- Collets with longitudinal and transverse grooving available on request, as well as multi-range collets in a variety of designs





Nominal dimension mm	173E round D=60 mm D1=50 mm D2=48 mm L=94 mm art.no.	€	173E square D=60 mm D1=50 mm D2=48 mm L=94 mm art.no.	€	173E hexagonal D=60 mm D1=50 mm D2=48 mm L=94 mm art.no.	€	185E round D=84 mm D1=73 mm D2=66 mm L=110 mm art.no.	€	185E square =84 mm D1=73 mm D2=66 mm L=110 mm art.no.	€	185E hexagonal D=84 mm D1=73 mm D2=66 mm L=110 mm art.no.	€
1	433035 0010	137,–										
1.5	433035 0015	90,80										
2	433035 0020	90,80										
2.5	433035 0025	90,80										
3	433035 0030	68,10										
3.5	433035 0035	68,10										
4	433035 0040	68,10					433041 0040	143,50				
4.5	433035 0045	68,10										
5	433035 0050	68,10					433041 0050	143,50				
5.5	433035 0055	68,10										
6	433035 0060	68,10	433037 0060	119,50	433039 0060	119,50	433041 0060	143,50				
6.5	433035 0065	68,10										
7	433035 0070	68,10	433037 0070	101,50	433039 0070	101,50	433041 0070	143,50	433043 0070	177,–		
7.5	433035 0075	68,10										
8	433035 0080	68,10	433037 0080	101,50	433039 0080	101,50	433041 0080	143,50	433043 0080	177,–	433045 0080	177,–
9	433035 0090	68,10	433037 0090	101,50	433039 0090	101,50	433041 0090	143,50	433043 0090	177,–	433045 0090	177,–
10	433035 0100	68,10	433037 0100	101,50	433039 0100	101,50	433041 0100	143,50	433043 0100	177,–	433045 0100	177,–
11	433035 0110	68,10	433037 0110	101,50	433039 0110	101,50	433041 0110	143,50	433043 0110	177,–	433045 0110	177,–
12	433035 0120	68,10	433037 0120	101,50	433039 0120	101,50	433041 0120	143,50	433043 0120	177,–	433045 0120	177,–
13	433035 0130	68,10	433037 0130	101,50	433039 0130	101,50	433041 0130	143,50	433043 0130	177,–	433045 0130	177,–
14	433035 0140	68,10	433037 0140	101,50	433039 0140	101,50	433041 0140	143,50	433043 0140	177,–	433045 0140	177,–
15	433035 0150	68,10			433039 0150	101,50	433041 0150	143,50			433045 0150	177,–
16	433035 0160	68,10	433037 0160	101,50	433039 0160	101,50	433041 0160	143,50	433043 0160	177,–	433045 0160	177,–
17	433035 0170	68,10			433039 0170	101,50	433041 0170	143,50			433045 0170	177,–
18	433035 0180	68,10	433037 0180	101,50			433041 0180	143,50	433043 0180	177,–		
19	433035 0190	68,10			433039 0190	101,50	433041 0190	143,50			433045 0190	177,–
20	433035 0200	68,10	433037 0200	126,50			433041 0200	143,50	433043 0200	201,–		
21	433035 0210	68,10					433041 0210	143,50				
22	433035 0220	68,10	433037 0220	126,50	433039 0220	101,50	433041 0220	143,50	433043 0220	201,–	433045 0220	177,–
23	433035 0230	68,10					433041 0230	143,50				
24	433035 0240	68,10			433039 0240	101,50	433041 0240	143,50			433045 0240	177,–
25	433035 0250	68,10	433037 0250	126,50			433041 0250	143,50	433043 0250	201,–		
26	433035 0260	68,10					433041 0260	143,50				
27	433035 0270	68,10			433039 0270	101,50	433041 0270	143,50			433045 0270	177,–
28	433035 0280	68,10	433037 0280	126,50			433041 0280	143,50	433043 0280	201,–		
29	433035 0290	68,10					433041 0290	143,50				
30	433035 0300	68,10			433039 0300	126,50	433041 0300	143,50	433043 0300	233,–	433045 0300	201,–
31	433035 0310	68,10					433041 0310	143,50				
32	433035 0320	68,10			433039 0320	126,50	433041 0320	143,50	433043 0320	233,–	433045 0320	201,–
33	433035 0330	68,10					433041 0330	143,50				
34	433035 0340	68,10					433041 0340	143,50				
35	433035 0350	68,10					433041 0350	143,50				
36	433035 0360	68,10			433039 0360	126,50	433041 0360	143,50	433043 0360	233,–	433045 0360	201,–
37	433035 0370	68,10					433041 0370	143,50				
38	433035 0380	68,10					433041 0380	143,50			433045 0380	233,–
39	433035 0390	68,10					433041 0390	143,50				
	4119		4119		4119		4119		4119		4119	

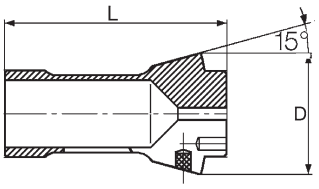
Nominal dimension mm	173E round D=60 mm D1=50 mm D2=48 mm L=94 mm		173E square D=60 mm D1=50 mm D2=48 mm L=94 mm		173E hexagonal D=60 mm D1=50 mm D2=48 mm L=94 mm		185E round D=84 mm D1=73 mm D2=66 mm L=110 mm		185E square =84 mm D1=73 mm D2=66 mm L=110 mm		185E hexagonal D=84 mm D1=73 mm D2=66 mm L=110 mm	
	art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€
40	433035 0400	68,10					433041 0400	143,50	433043 0400	233,–		
41	433035 0410	68,10					433041 0410	143,50			433045 0410	233,–
42	433035 0420	68,10					433041 0420	143,50				
43							433041 0430	143,50				
44							433041 0440	143,50				
45							433041 0450	143,50				
46							433041 0460	143,50			433045 0460	244,–
47							433041 0470	143,50				
48							433041 0480	143,50				
49							433041 0490	143,50				
50							433041 0500	143,50			433045 0500	244,–
51							433041 0510	143,50				
52							433041 0520	143,50				
53							433041 0530	143,50				
54							433041 0540	143,50				
55							433041 0550	143,50				
56							433041 0560	143,50				
57							433041 0570	143,50				
58							433041 0580	143,50				
59							433041 0590	143,50				
60							433041 0600	143,50				
	4119		4119		4119		4119		4119		4119	

FAHRION® Emergency dead-length collets

DIN 6343

- **For internal turning**
- Hardened and tempered to approx. 45 HRC and fully ground
- Can be clamped in chucks using three removable alignment pins at the front, and can be machine-finished to the required bore diameter or with a stepped hole

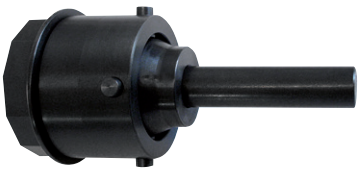




Designation	Nominal dimension mm	D mm	L mm	art.no.	€
173 E	pre-drilled to Ø 3	60	94	433047 0030	84,90
185 E	pre-drilled to Ø 4	84	110	433049 0040	174,–
				4119	

SARA® Internal stop for dead-length collets

- **For dead length collets in accordance with DIN 6343**
- No collet shank deformation or impact on clamping behaviour
- Can also be used as a limit stop for hollow parts
- Can be used with round, hexagonal and square collets



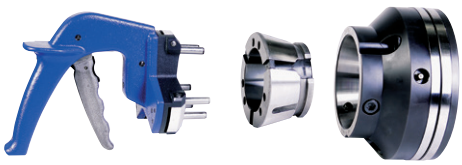
Suitable for collet type	art.no.	€
173E	433052 0173	185,–
185E	433052 0185	199,–
	4120	

kitagawa EUROPE *DHP* power-operated collet chuck

- **Model DHP65**
- Compact design
- High accuracy
- Ideal for use in initial machining due to axial tension
- Fully compatible with commercially available 65 mm clamping heads
- Easily adaptable to existing machinery
- DHP65 chucks are lightweight and can be fitted quickly
- Supplied without collets or changing fixtures; includes blank unthreaded drawbar nut
- Additional chucks available on request
- **Threaded drawbar nuts available on request**



d4 = head diameter



Clamping Ø max. 65 mm

- for clamping head size 65

Designation	Taper shank size	D mm	L mm	d4 mm	Connection thread (for tie rod)	art.no.	€
DHP-65/5	5	165	95	130	max. M70 x 2	415201 0005	1.299,–
DHP-65/6	6	165	95	130	max. M85 x 2	415201 0006	1.249,–
DHP-65/8	8	210	95	130	max. M85 x 2	415201 0008	1.459,–

4114

kitagawa EUROPE Power-operated collet chuck *DKF*

- **Model DKF65: clamp Ø max. 65 mm**
- Compact design
- High precision
- **Clamping without changing the axial position of the clamping head**
- Ideal for bar stock, secondary machining or inserts on a main or counter spindle
- Fully compatible with commercially available 65 mm clamping heads
- Easily adaptable to existing machinery
- Supplied without collets and switching equipment, includes blank unthreaded drawbar nut
- Threaded drawbar nuts available on request



d4 = head diameter



DKF 65

- For clamping head size 65

Designation	Taper shank size	D mm	L mm	d4 mm	Connection thread (for tie rod)	art.no.	€
DKF65/Ø140	-	167	137.5	123	max. M75 x 2	415204 6514	2.370,–
DKF65/A5	5	167	137.5	123	max. M75 x 2	415204 6505	2.279,–
DKF65/A6	6	167	137.5	123	max. M75 x 2	415204 6506	2.340,–
DKF65/A8	8	201.5	161.5	123	max. M75 x 2	415204 6508	2.370,–

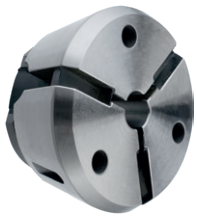
4114

SARA® Clamping heads *SK*

- For all common axial clamping systems on lathes and vices
- Tried and tested, exceptionally stable rubber-metallic compound
- High holding forces
- Best possible conservation and corrosion protection with special coating
- **Version with crosswise grooves and for multi-spindle lathes available on request**

Clamping heads with smooth bore
Please indicate clamping head Ø in mm as three-digit figure
- Order example SK42 **Ø 8.5** = 433060 1 **085**
- Order example SK65 **Ø 39.0** = 433060 4 **390**

for min./max. workpiece diameter	**433060.... SK 42** €	**433060.... SK 65** €
4 - 5.5	179,–	
6 - 42	179,–	229,–
42.5 - 65		229,–
	4196	4196



Clamping heads with longitudinal and transverse grooves
Please indicate clamping head Ø in mm as three-digit figure
- Order example SK42 **Ø 11.5** = 433060 3 **115**
- Order example SK65 **Ø 48.0** = 433060 6 **480**

for min./max. workpiece diameter mm	**433060.... SK 42** €	**433060.... SK 65** €
10	179,–	
11 - 42	179,–	229,–
43 - 65		229,–
	4196	4196



SARA® Accessories for SARA clamping heads SK

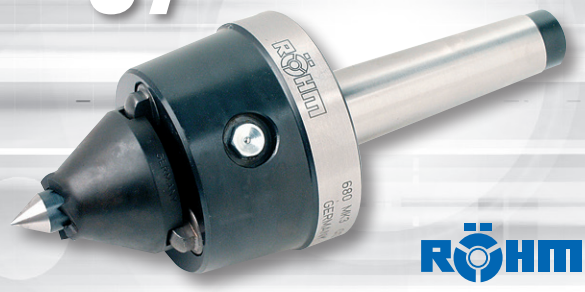
Manual changing fixture

Designation	art.no.	€
For clamping head SK 42	433061 0042	465,–
For clamping head SK 65	433061 0065	465,–
	4196	



Clamping technology info

- **Front face driver for turning and milling work**
- for efficiently turning workpieces along their entire length with high accuracy and without reclamping
- simultaneously allows slots or toothing to be milled
- developed with a modular concept, making the driving discs and corresponding centring points universally replaceable
- **available on request**

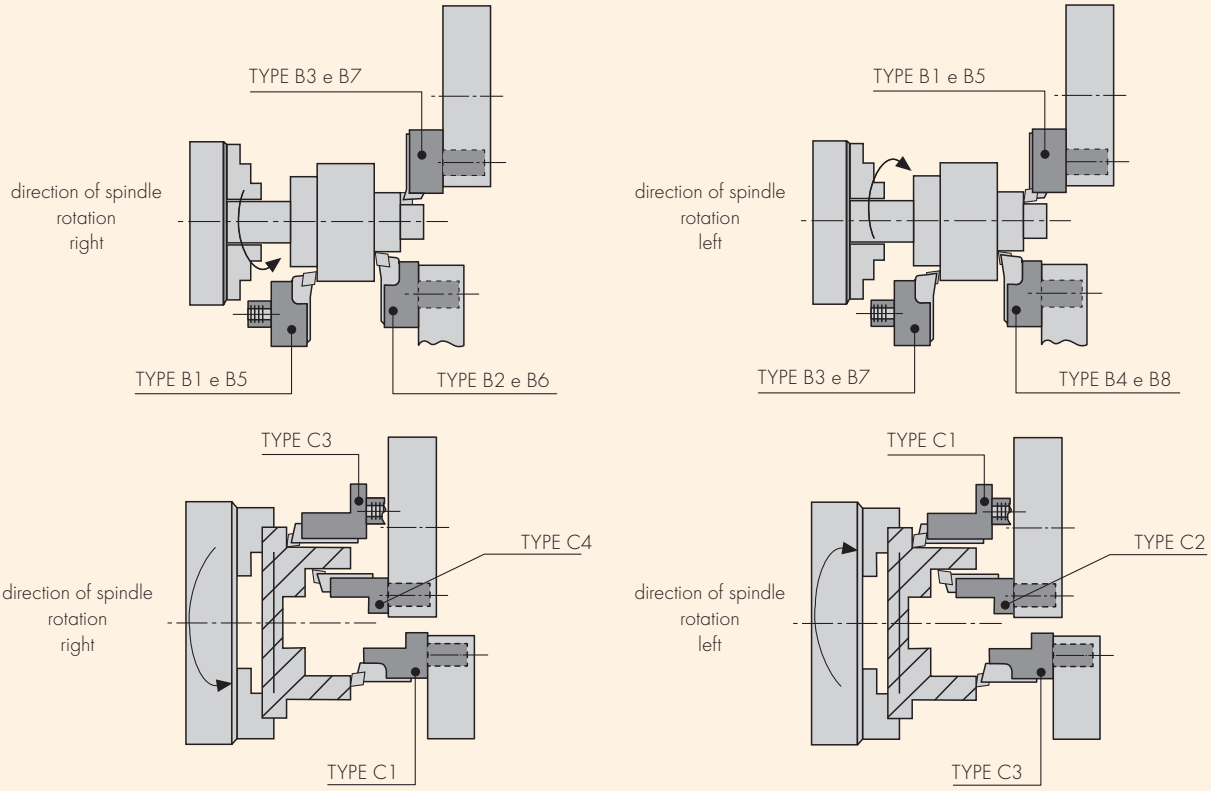


ROHM

Overview and possible uses of DIN 69880-compliant VDI tool holder

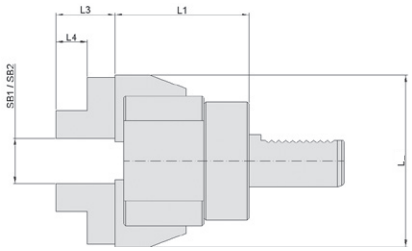
INFO

with straight shank
and internal coolant supply for NC lathes



Bar gripper

- Indexable jaws for several clamping ranges
- Wide clamping range
- Quick and easy setting
- Large range of clamping shanks



DIN 69880 (VDI)

VDI mount diameter	Min./max. clamping width	Min./max. clamping width 2	L mm	L1 mm	L3 mm	l4 mm	art.no.	€
VDI 20	6 - 45 mm	45 - 100 mm	99	77	34	18	461070 0020	709,–
VDI 30	6 - 45 mm	45 - 100 mm	99	77	34	18	461070 0030	819,–
VDI 40	6 - 56 mm	56 - 110 mm	111	79	34	18	461070 0040	879,–
VDI 50	6 - 56 mm	56 - 110 mm	111	79	34	18	461070 0050	1.159,–

4136



With straight shank

Adapter diameter mm	Min./max. clamping width	Min./max. clamping width 2	L mm	L1 mm	L3 mm	l4 mm	art.no.	€
20	6 - 45 mm	45 - 100 mm	99	77	34	18	461071 0020	839,–
25	6 - 45 mm	45 - 100 mm	99	77	34	18	461071 0025	839,–
32	6 - 45 mm	45 - 100 mm	99	77	34	18	461071 0032	839,–
40	6 - 56 mm	56 - 110 mm	111	79	34	18	461071 0040	949,–

4136



Indexable jaw set

Designation	art.no.	€
for VDI and straight shank	461072 0001	342,–

4136

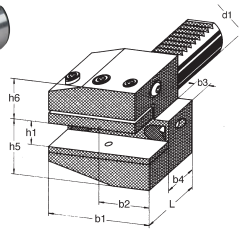
SARA® Square-axial holding fixtures

- Surface hardness 58 - 60 HRC
- Core strength HV 950 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground

Type B1, right, short

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	55	30	7	30	25	30	16	446005 0020	94,–
30	20	70	35	10	40	28	38	22	446005 0030	94,–
40	25	85	42.5	12.5	44	32.5	48	22	446005 0040	106,–
50	32	100	50	16	55	35	60	30	446005 0050	140,–

4134

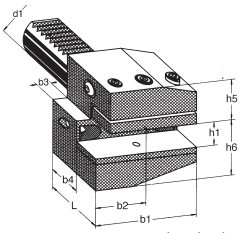



h1 = height
b1 = width

Type B2, left, short

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	55	30	7	30	25	30	16	446007 0020	94,–
30	20	70	35	10	40	28	38	22	446007 0030	94,–
40	25	85	42.5	12.5	44	32.5	48	22	446007 0040	106,–
50	32	100	50	16	55	35	60	30	446007 0050	140,–

4134

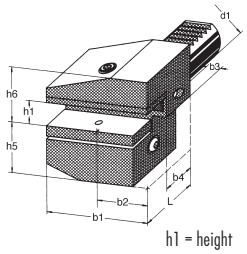



h1 = height
b1 = width

Type B3, overhead right, short

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	55	30	7	30	25	30	16	446009 0020	94,–
30	20	70	35	10	40	35	38	22	446009 0030	96,–
40	25	85	42.5	12.5	44	42.5	48	22	446009 0040	110,–
50	32	100	50	16	55	50	60	30	446009 0050	152,–

4134

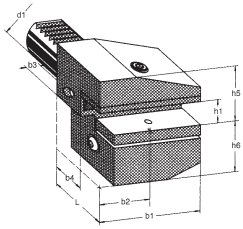



h1 = height
b1 = width

Type B4, overhead left, short

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	55	30	7	30	25	30	16	446011 0020	94,–
30	20	70	35	10	40	35	38	22	446011 0030	96,–
40	25	85	42.5	12.5	44	42.5	48	22	446011 0040	110,–
50	32	100	50	16	55	50	60	30	446011 0050	152,–

4134

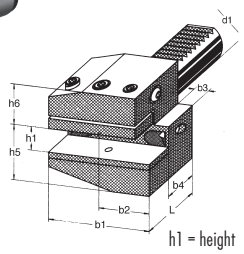



h1 = height
b1 = width

Form B5, radial right, long version

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
30	20	100	65	10	22	28	38	40	446205 0030	148,50
40	25	118	75.5	12.5	22	32.5	48	44	446205 0040	160,50
50	32	130	80	16	30	35	60	55	446205 0050	231,–
60	32	145	82.5	16	30	42.5	62.5	60	446205 0060	325,–

4134

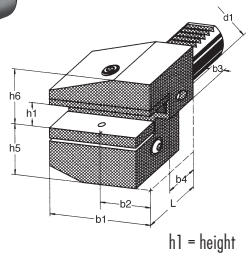



h1 = height
b1 = width

Type B7, overhead right, long

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
30	20	100	65	10	22	35	38	40	446209 0030	148,50
40	25	118	75.5	12.5	22	42.5	48	44	446209 0040	172,50
50	32	130	80	16	30	50	60	55	446209 0050	266,–
60	32	145	82.5	16	30	62.5	62.5	60	446209 0060	360,–

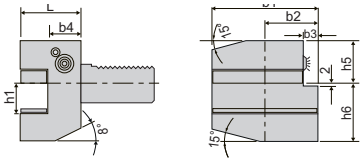
4134

h1 = height
b1 = width

SARA® Square radial holding fixture with internal coolant supply

h1 = height b1 = width



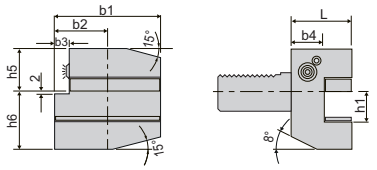
Form B1, right-hand, short version

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	70	35	10	22	31.5	38.5	40	446105 0020	115,50
30	20	70	35	10	22	28	38	40	446105 0030	124,–
40	25	85	42.5	12.5	22	32.5	48	44	446105 0040	139,50
50	25	85	42.5	12.5	22	32.5	48	44	446105 0050	223,–

4194



h1 = height b1 = width



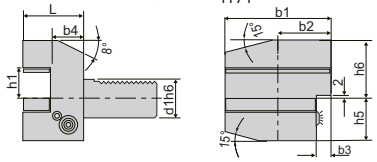
Form B2, left-hand, short version

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	70	35	10	22	31.5	38.5	40	446107 0020	131,50
30	20	70	35	10	22	28	38	40	446107 0030	139,50
40	25	85	42.5	12.5	22	32.5	48	44	446107 0040	151,–
50	25	85	42.5	12.5	22	32.5	48	44	446107 0050	223,–

4194



h1 = height b1 = width



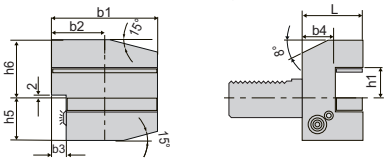
Form B3, overhead right-hand, short version

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	70	35	10	22	35	38.5	40	446109 0020	115,50
30	20	70	35	10	22	35	38	40	446109 0030	124,–
40	25	85	42.5	12.5	22	42.5	48	44	446109 0040	139,50
50	25	85	42.5	12.5	22	42.5	48	44	446109 0050	223,–

4194



h1 = height b1 = width



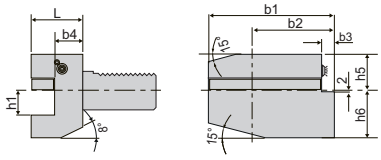
Form B4, overhead left-hand, short version

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	70	35	10	22	35	38.5	40	446111 0020	131,50
30	20	70	35	10	22	35	38	40	446111 0030	139,50
40	25	85	42.5	12.5	22	42.5	48	44	446111 0040	151,–
50	25	85	42.5	12.5	22	42.5	48	44	446111 0050	223,–

4194



h1 = height b1 = width



Form B5, right-hand, long version

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
30	25	118	75.5	12.5	22	32.5	48	60	446112 0030	221,–
40	32	130	80	16	30	35	60	44	446112 0040	265,–
50	32	145	82.5	16	30	42.5	62.5	55	446112 0050	385,–

4194



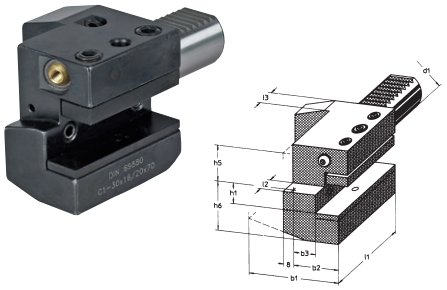
SARA® Square-axial holding fixtures

- Surface hardness 58 - 60 HRC
- Core strength HV 950 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground

Type C1, right

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	52	27	13	7	25	30	50	446021 0020	120,–
30	20	70	35	17	10	28	38	70	446021 0030	128,–
40	25	85	42.5	21	12.5	32.5	48	85	446021 0040	142,–
50	32	100	50	26	16	35	60	100	446021 0050	198,–

4134

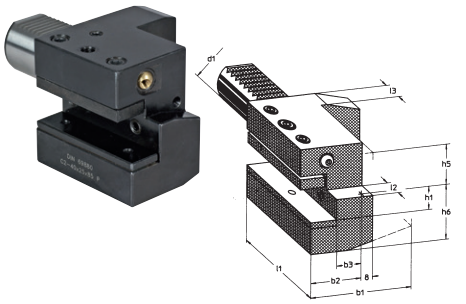


Height = h1 width = b1

Type C2, left

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	65	40	26	7	25	30	50	446023 0020	108,–
30	20	76	41	23	10	28	38	70	446023 0030	116,–
40	25	90	47.5	25.5	12.5	32.5	48	85	446023 0040	128,–
50	32	105	55	30.5	16	35	60	100	446023 0050	198,–

4134

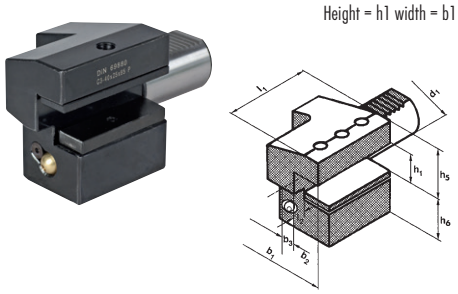


Height = h1 width = b1

Type C3, overhead right

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	52	27	13	7	30	25	50	446025 0020	108,–
30	20	70	35	17	10	38	35	70	446025 0030	116,–
40	25	85	42.5	21	2.5	48	42.5	85	446025 0040	128,–
50	32	100	50	26	16	60	50	100	446025 0050	236,–

4134

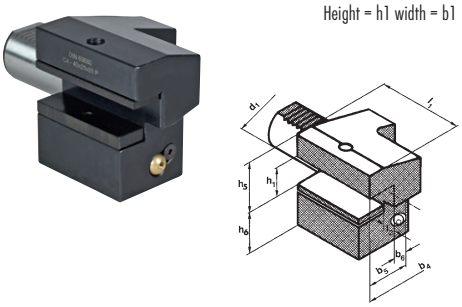


Height = h1 width = b1

Type C4, overhead left

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	16	65	40	26	65	30	25	50	446027 0020	108,–
30	20	76	41	23	76	38	35	70	446027 0030	116,–
40	25	90	47.5	25.5	90	48	42.5	85	446027 0040	128,–
50	32	105	55	30.5	105	60	50	100	446027 0050	236,–

4134

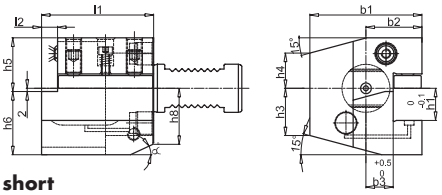


Height = h1 width = b1

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SARA® Square axial holding fixture, double toothed with internal coolant supply



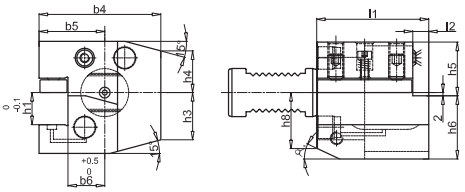
Form C1, right-hand and C4 overhead left-hand, short

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	20	58	33	15	7	30	36	55	446221 0020	206,–
30	20	70	35	17	10	32	38	70	446221 0030	221,–
40	25	85	42.5	21	12.5	38	48	85	446221 0040	247,–
50	25	90.5	48	26	12.5	44	48	85	446221 0050	314,–

4194



Height = h1 width = b1



Form C2 left-hand and C3 overhead right-hand, short

VDI mount diameter	Height mm	Width mm	b2 mm	b3 mm	b4 mm	h5 mm	h6 mm	L mm	art.no.	€
20	20	62	37	19	7	30	36	55	446223 0020	206,–
30	20	60	41	23	10	32	38	70	446223 0030	221,–
40	25	90	47.5	25.5	12.5	38	48	85	446223 0040	247,–
50	25	95	52.5	30.5	12.5	44	48	85	446223 0050	314,–

4194



Height = h1 width = b1

Coolant hose set

- Up to 150 bar coolant pressure

Designation	L mm	art.no.	€
Coolant hose with adapter G1/8 inch-M12 x 1.5	200	446312 0200	40,20
Coolant hose with adapter G1/8 inch-M12 x 1.5	300	446312 0300	45,80

4194

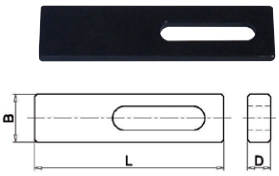


Spacer

- Allows reduction to the next-smallest indexable insert holder without wearing the nut
- Ground version
- Metallic sealing

Suitable for tool holding device	Length x width x thickness mm	art.no.	€
VDI 30	69 x 17 x 4	446313 0030	20,70
VDI 40	84 x 21 x 5	446313 0040	22,10

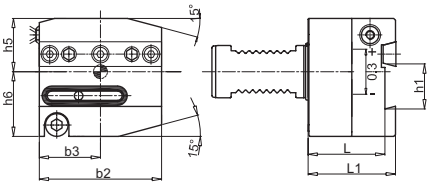
4194



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SARA® Cutting tool holder double toothed with internal coolant supply



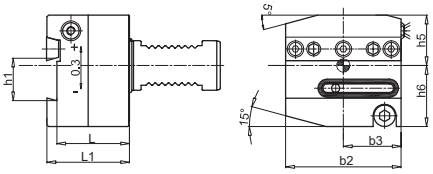
Cutting tool holder AL left-hand and ARU right-hand overhead

VDI mount diameter	L1 mm	L mm	b2 mm	b3 mm	Height mm	h5 mm	h6 mm	art.no.	€
30	50	44	70	35	26	32	37	446310 3026	480,–
30	50	44	85	42.5	32	32	40	446310 3032	549,–
40	50	44	85	42.5	26	43	40	446310 4026	549,–
40	50	44	85	42.5	32	43	40	446310 4032	549,–
50	50	44	100	50	32	43	45	446310 5032	569,–

4194



Height = h1



Cutting tool holder AR right-hand and ALU left-hand overhead

VDI mount diameter	L1 mm	L mm	b2 mm	b3 mm	Height mm	h5 mm	h6 mm	art.no.	€
30	50	44	70	35	26	32	37	446311 3026	480,–
30	50	44	85	42.5	32	32	40	446311 3032	549,–
40	50	44	85	42.5	26	43	40	446311 4026	549,–
40	50	44	85	42.5	32	43	40	446311 4032	549,–
50	50	44	100	50	32	43	45	446311 5032	569,–

4194



Height = h1

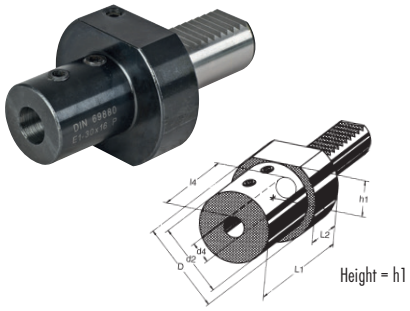
Seal for cutting tool holder with internal coolant supply

Designation	art.no.	€
For cutting tool holder 446310 and 446311	446314 2632	8,35

4194

SARA® Tool holders for drilling tools

- Surface hardness 58 - 60 HRC
- Core strength HV 950 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground



Height = h1

Type E1, for straight shank drilling tools with an internal coolant supply

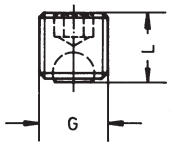
VDI mount diameter	D mm	d2 mm	d4 mm	Height mm	L1 mm	L2 mm	l4 mm	art.no.	€
20	50	40	20	18	67	16	49	446031 2020	99,50
20	50	45	25	18	71	16	53	446031 2025	99,90
30	68	40	20	28	67	22	45	446031 3020	102,–
30	68	45	25	28	71	22	49	446031 3025	102,–
30	68	50	32	28	75	22	53	446031 3032	102,–
30	68	60	40	28	95	22	73	446031 3040	102,–
40	83	40	20	32.5	67	22	45	446031 4020	108,–
40	83	45	25	32.5	75	22	53	446031 4025	108,–
40	83	52	32	32.5	75	22	53	446031 4032	108,–
40	83	60	40	32.5	90	22	68	446031 4040	108,–
50	98	45	25	35	80	30	50	446031 5025	138,–
50	98	52	32	35	80	30	50	446031 5032	138,–
50	98	65	40	35	90	30	60	446031 5040	138,–
50	98	75	50	35	100	30	70	446031 5050	138,–

4134

Whistle-notch clamping screws, DIN 1835 E

- Version with ball
- For clamping DIN 1835 E straight shanks (with suitable clamping surface) in DIN 6359/1835 Part 2 - 3 milling cutter arbours (Weldon jaw chuck)
- Clamping screws for short chuck versions (Ø 16/20/25 A = 35 mm, Ø 32 A = 65 mm) available on request





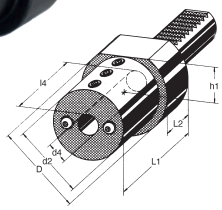
Suitable for thread	L mm	Suitable for shaft diameter mm	art.no.	€
M16	16	20	431013 0016	20,30
M18 x 2	20	25	431013 0018	25,40
M20 x 2	20	32 - 40	431013 0020	27,80

4117

Type E2, for straight shank turning tools with an internal and external coolant supply



Height = h1



VDI mount diameter	D mm	d2 mm	d4 mm	Height mm	L1 mm	L2 mm	l4 mm	art.no.	€
20	50	50	8	23	50	18	32	446033 2008	93,–
20	50	50	10	23	50	18	32	446033 2010	93,–
20	50	50	12	23	50	18	32	446033 2012	93,–
20	50	50	16	23	50	18	32	446033 2016	93,–
20	50	50	20	23	50	18	32	446033 2020	93,–
20	50	50	25	23	60	18	42	446033 2025	93,–
30	68	68	8	28	60	22	38	446033 3008	93,–
30	68	68	10	28	60	22	38	446033 3010	93,–
30	68	68	12	28	60	22	38	446033 3012	93,–
30	68	68	16	28	60	22	38	446033 3016	93,–
30	68	68	20	28	60	22	38	446033 3020	93,–
30	68	68	25	28	60	22	38	446033 3025	93,–
30	68	68	32	28	75	22	53	446033 3032	93,–
30	68	68	40	28	90	22	68	446033 3040	93,–
40	83	83	8	32.5	75	22	53	446033 4008	96,–
40	83	83	10	32.5	75	22	53	446033 4010	96,–
40	83	83	12	32.5	75	22	53	446033 4012	96,–
40	83	83	16	32.5	75	22	53	446033 4016	96,–
40	83	83	20	32.5	75	22	53	446033 4020	96,–
40	83	83	25	32.5	75	22	53	446033 4025	96,–
40	83	83	32	32.5	75	22	53	446033 4032	96,–
40	83	83	40	32.5	90	22	68	446033 4040	96,–
50	98	98	12	35	90	30	60	446033 5012	132,–
50	98	98	16	35	90	30	60	446033 5016	132,–
50	98	98	20	35	90	30	60	446033 5020	132,–
50	98	98	25	35	90	30	60	446033 5025	132,–
50	98	98	32	35	90	30	60	446033 5032	132,–
50	98	98	40	35	90	30	60	446033 5040	132,–
50	98	98	50	35	100	30	70	446033 5050	132,–

4134

ECOGRIP ER

- **Simple, quick and precise**
- **Turns your ER collet system into a hydraulic expansion chuck with adjustable true running accuracy to 0.003 mm**

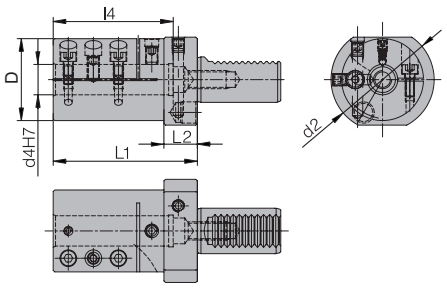
Video on YouTube

Form E2S, for straight shank turning tools, slotted

- Vibration-damping clamping of solid carbide and vibration-dampened boring bars due to large clamping length
- No shortening of boring bars necessary
- Internal and external cooling
- Easy height adjustment of the indexable insert using EASY-FIX screw for the V-groove and clamping screw for the surface

VDI mount diameter	D mm	d2 mm	d4 mm	L1 mm	L2 mm	Length, open mm	l4 mm	Model	art.no.	€
30	46	68	10	88	22	40	65	1	446133 3010	171,–
30	46	68	12	88	22	40	65	1	446133 3012	171,–
30	50	68	16	88	22	48	70	1	446133 3016	171,–
30	54	68	20	96	22	56	80	2	446133 3020	171,–
30	58	68	25	112	22	62.5	100	2	446133 3025	171,–
30	63	68	32	142	22	80	128	2	446133 3032	179,–
30	73	68	40	174	22	100	150	2	446133 3040	200,–
40	46	83	10	88	22	40	65	1	446133 4010	179,–
40	46	83	12	88	22	40	65	1	446133 4012	179,–
40	50	83	16	88	22	48	70	1	446133 4016	179,–
40	54	83	20	96	22	56	80	1	446133 4020	179,–
40	58	83	25	112	22	62.5	100	2	446133 4025	179,–
40	63	83	32	142	22	80	128	2	446133 4032	187,–
40	73	83	40	174	22	100	150	2	446133 4040	200,–
40	83	98	50	182	30	160	160	2	446133 4050	249,–

4194





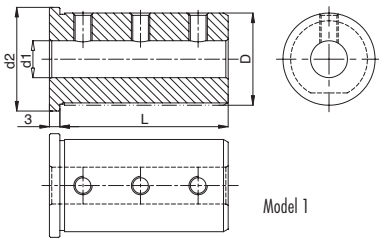
Model 1 = drilled through

SARA® Reducing bush for boring bar holders

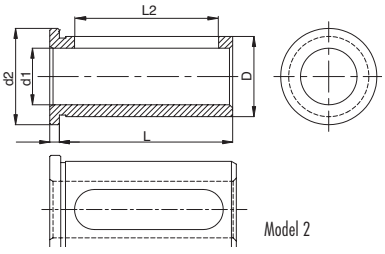
With clamping screws or slotted hole design

D mm	d1 mm	d2 mm	L mm	L2 mm	Groove width mm	Model	art.no.	€
25	8	30	50	-	-	1	446134 2508	63,–
25	10	30	50	-	-	1	446134 2510	63,–
25	12	30	50	-	-	1	446134 2512	63,–
25	16	30	50	45.5	13	2	446134 2516	63,–
25	20	30	50	45.5	13	2	446134 2520	63,–
32	8	37	59	-	-	1	446134 3208	66,–
32	10	37	59	-	-	1	446134 3210	66,–
32	12	37	59	-	-	1	446134 3212	66,–
32	16	37	59	-	-	1	446134 3216	66,–
32	20	37	59	51	13	2	446134 3220	66,–
32	25	37	59	51	13	2	446134 3225	66,–
40	8	45	69	-	-	1	446134 4008	72,–
40	10	45	69	-	-	1	446134 4010	72,–
40	12	45	69	-	-	1	446134 4012	72,–
40	16	45	69	-	-	1	446134 4016	72,–
40	20	45	69	-	-	1	446134 4020	72,–
40	25	45	69	-	-	1	446134 4025	72,–
40	32	45	69	61	17	2	446134 4032	72,–

4194



Model 1



Model 2

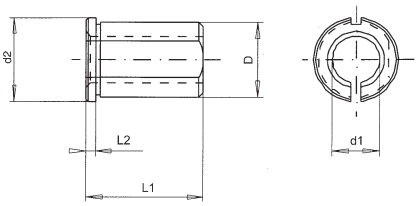
Slotted design

D mm	d1 mm	d2 mm	L1 mm	L2 mm	art.no.	€
20	8	24	50	4	446135 2008	44,20
20	10	24	50	4	446135 2010	44,20
20	12	24	50	4	446135 2012	44,20
20	14	24	50	4	446135 2014	44,20
20	16	24	50	4	446135 2016	44,20
25	8	29	50	4	446135 2508	49,90
25	10	29	50	4	446135 2510	49,90
25	12	29	50	4	446135 2512	49,90
25	14	29	50	4	446135 2514	49,90
25	16	29	50	4	446135 2516	49,90
25	18	29	50	4	446135 2518	49,90
25	20	29	50	4	446135 2520	49,90
32	8	36	60	4	446135 3208	54,–
32	10	36	60	4	446135 3210	54,–
32	12	36	60	4	446135 3212	54,–
32	14	36	60	4	446135 3214	54,–
32	16	36	60	4	446135 3216	54,–
32	18	36	60	4	446135 3218	54,–

4194

D mm	d1 mm	d2 mm	L1 mm	L2 mm	art.no.	€
32	20	36	60	4	446135 3220	54,–
32	25	36	60	4	446135 3225	54,–
40	10	75	75	4	446135 4010	56,60
40	12	75	75	4	446135 4012	56,60
40	14	75	75	4	446135 4014	56,60
40	16	75	75	4	446135 4016	56,60
40	18	75	75	4	446135 4018	56,60
40	20	75	75	4	446135 4020	56,60
40	25	75	75	4	446135 4025	56,60
40	32	75	75	4	446135 4032	56,60
50	20	75	75	4	446135 5020	75,60
50	25	75	75	4	446135 5025	75,60
50	32	75	75	4	446135 5032	75,60
50	40	75	75	4	446135 5040	75,60
60	25	75	75	4	446135 6025	102,50
60	32	75	75	4	446135 6032	102,50
60	40	75	75	4	446135 6040	102,50
60	50	75	75	4	446135 6050	102,50

4194





SARA® Hydraulic clamping system *HYDRO-FIX*

powered by ETP

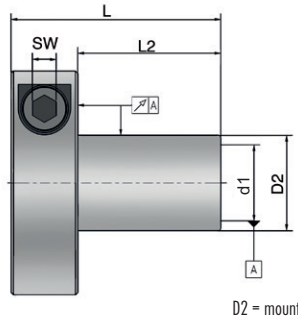
Hydraulic clamping system for boring bars and powered tools

The system is attached and clamped with just one screw. The clamp engages evenly with the workpiece and this increases the tool service life. The hydraulic clamping system absorbs and reduces vibrations, and thus increases the surface quality.

The equal and complete clamping of the shank significantly reduces the vibration amplitude.

HYDRO-FIX clamps simultaneously in both directions, the tool and in the tool holder.

- Reduced vibrations
- Increased cutting speeds and/or feed rates
- Improved surface quality
- Increased tool life
- Quick and easy to handle
- Recommended shank tolerance h7
- Recommended bore tolerance H7



D2 = mounting diameter





For boring bars

d1 mm	Adapter diameter mm	Head diameter mm	L mm	L2 mm	Wr. width	art.no.	€
12	16	43.5	38	24	5 mm	433805 1216	415,–
16	20	47	44	30	5 mm	433805 1620	415,–
20	25	52	44	30	5 mm	433805 2025	415,–
25	32	59	48	34	5 mm	433805 2532	444,–
32	40	69.5	53	39	5 mm	433805 3240	474,–

4130

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SARA® Protective plugs

Type Z2, plastic

VDI mount diameter	Designation	D mm	Plastic art.no.	€
20	STANDARD	50	446040 2055	17,60
30	STANDARD	68	446040 3080	17,60
40	STANDARD	83	446040 4085	18,90
50	STANDARD	98	446040 5085	33,80

4134



SARA® Collet holder for DIN 6499 collets (ER)

- Surface hardness 58 - 60 HRC
- Core strength HV 950 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Additional versions available on request
- When selecting collets, type B is preferable.



Type E4, straight holding fixture with collet

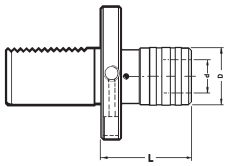
VDI mount diameter	Suitable for collet type	Clamping range	A mm	art.no.	€
20	ER 16/426E	1-10 mm	40	446036 2016	120,–
20	ER 25/430E	2-16 mm	50	446036 2025	120,–
20	ER 32/470E	2-20 mm	50	446036 2032	120,–
30	ER 25/430E	2-16 mm	57	446036 3025	122,–
30	ER 32/470E	2-20 mm	62	446036 3032	122,–
30	ER 40/472E	3-26 mm	75	446036 3040	122,–
40	ER 25/430E	2-16 mm	75	446036 4025	122,–
40	ER 32/470E	2-20 mm	62	446036 4032	122,–
40	ER 40/472E	3-26 mm	75	446036 4040	122,–
50	ER 40/472E	3-26 mm	75	446036 5040	178,–

4134

SARA® Thread cutting quick-change chuck

- Automatically locks inserts in the chuck
- Flexible length compensation under compression and tension





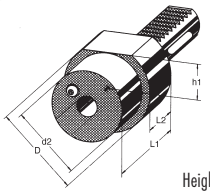
VDI mount diameter	d mm	D mm	L mm	Length compensation, pressure mm	Length compensation, tension mm	for thread	art.no.	€
30	19	38	55	7	7	M3-M14	442009 3012	289,–
30	31	54	77	12	12	M5-M22	442009 3024	329,–
40	19	38	55	7	7	M3-M14	442009 4012	289,–
40	31	54	77	12	12	M5-M22	442009 4024	329,–

4134

SARA® Morse taper holding fixture

- Surface hardness 58 - 60 HRC
- Core strength HV 950 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground





Height = h1

Type F1, for tools with Morse tapers and tangs

VDI mount diameter	Shank	D mm	d2 mm	Height mm	L1 mm	L2 mm	art.no.	€
20	MK 1	50	50	23	23	-	446029 0021	110,–
20	MK 2	50	40	23	90	-	446029 0022	108,–
30	MK 1	68	68	28	27	-	446029 0031	110,–
30	MK 2	68	68	28	27	-	446029 0032	108,–
30	MK 3	68	58	28	66	22	446029 0033	108,–
40	MK 1	83	55	32.5	36	22	446029 0041	112,–
40	MK 2	83	55	32.5	36	22	446029 0042	110,–
40	MK 3	83	55	32.5	36	22	446029 0043	110,–
40	MK 4	83	68	32.5	80	22	446029 0044	110,–
50	MK 2	98	55	35	36	30	446029 0052	146,–
50	MK 3	98	58	35	36	30	446029 0053	146,–
50	MK 4	98	68	35	50	30	446029 0054	146,–

4134

Threading die holder *Synchro*

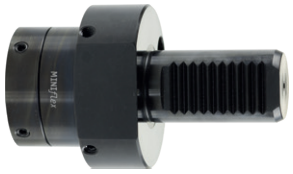
- **For threading dies**
- Synchronised thread cutting with threading dies on CNC machines
- Cooling lubricant discharged through the threading die (IC) = optimum lubrication
- Supplied without threading die

VDI base holder

- For holding interchangeable threading die inserts

VDI mount diameter	art.no.	€
VDI 20	442014 1020	339,–
VDI 30	442014 1030	370,–
VDI 40	442014 1040	380,–

4135



Threading die interchangeable inserts

- For VDI base holders

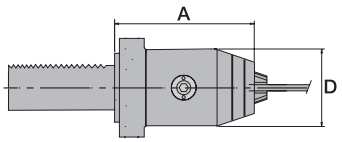
Designation	Housing outer diameter	Base body length mm	art.no.	€
für Schneideisen M1 - M2.5 / Ø16	26	74	442015 0102	115,–
für Schneideisen M3 - M4 / Ø20	30	74	442015 0304	115,–
für Schneideisen M5 - M6 / Ø20	30	74	442015 0506	115,–
für Schneideisen M7 - M9 / Ø25	35	74	442015 0709	115,–
für Schneideisen M10 / Ø30	40	74	442015 0010	122,50
für Schneideisen M12 - M14 / Ø38	48	74	442015 1214	124,50
für Schneideisen M16 - M20 / Ø45	55	84	442015 1620	124,50

4135



ATORN Precision drill chuck with spur gear system

- **Clamping via spur gear system**
- **Suitable for clockwise and anti-clockwise rotation**
- Short clamping and retrofitting times
- Very short design
- For CNC lathes, for drilling, reaming, countersinking, thread cutting

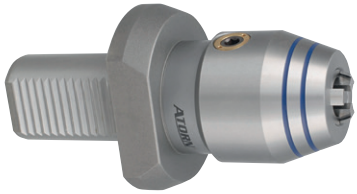


VDI tool holding fixture, DIN 69880

- Central coolant supply

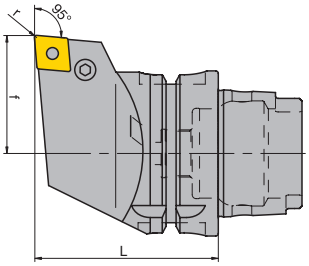
VDI mount diameter	Min./max. clamping width	A mm	D mm	Max. tightening torque N-m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
30	0.5-16 mm	95	57	20	90	6 mm	0.02	440138 3016	469,–
40	0.5-16 mm	95	57	20	90	6 mm	0.02	440138 4016	515,–

4101



KINTEK HSK-T rotary holder

- **DIN 69893 Form T (HSK-T)**
- Alloyed case-hardened steel with a core tensile strength of 800-1000N/mm²
- case-hardened to HRC 58 ± 2
- Case depth 0.4-0.5mm
- Finishing of fitting key according to ICTM tolerances



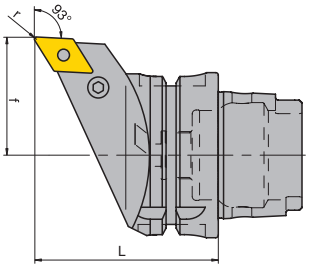


PCLN-R/L rotary holder for CNM. 1204.. and 1604..

- Internal coolant supply
- when machining with internal coolant supply, a coolant transfer pipe art.no. 4310110063.... should be used

ISO designation	Shank	Suitable for indexable inserts type	L mm	f mm	r mm	art.no.	€
PCLN-L 12	HSK 63	CNM. 1204..	70	45	0.8	435001 0012	315,–
PCLN-R 12	HSK 63	CNM. 1204..	70	45	0.8	435001 1012	315,–

4194





PDJN-R/L rotary holder for DNM. 1506..

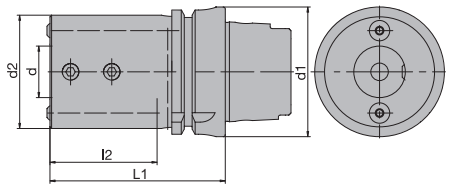
- Internal coolant supply
- when machining with internal coolant supply, a coolant transfer pipe art.no. 4310110063.... should be used

ISO designation	Shank	Suitable for indexable inserts type	L mm	f mm	r mm	art.no.	€
PDJN-L 15	HSK 63	DNM. 1506..	70	45	0.8	435002 0015	315,–

4194

KINTEK HSK-T tool holder for boring bars and indexable insert drills

- **DIN 69893 Form T (HSK-T)**
- Alloyed case-hardened steel with a core tensile strength of 800-1000N/mm²
- case-hardened to HRC 58 ± 2
- Case depth 0.4-0.5mm
- Finishing of fitting key according to ICTM tolerances



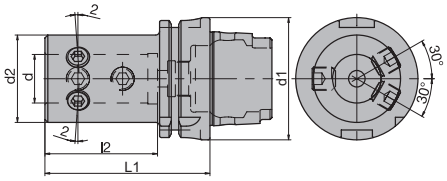
Boring bar holder, axial

- Internal coolant supply
- when machining with internal coolant supply, a coolant transfer pipe art.no. 4310110063.... should be used

Shank	d1 mm	d mm	d2 mm	l2 mm	L1 mm	art.no.	€
HSK 63	63	8	32	40	70	435024 6308	225,–
HSK 63	63	10	38	45	75	435024 6310	225,–
HSK 63	63	12	40	45	75	435024 6312	225,–
HSK 63	63	16	45	50	80	435024 6316	225,–
HSK 63	63	20	50	50	80	435024 6320	225,–
HSK 63	63	25	55	52	85	435024 6325	225,–
HSK 63	63	32	72	58	95	435024 6332	225,–
HSK 63	63	40	80	72	120	435024 6340	225,–

4194





Tool holder for indexable insert drills, axial

- Internal coolant supply
- when machining with internal coolant supply, a coolant transfer pipe art.no. 4310110063.... should be used

Shank	d1 mm	d mm	d2 mm	l2 mm	L1 mm	art.no.	€
HSK 63	63	16	36	54	80	435025 6316	210,–
HSK 63	63	20	40	54	80	435025 6320	210,–
HSK 63	63	25	45	59	85	435025 6325	210,–
HSK 63	63	32	52	63	90	435025 6332	210,–
HSK 63	63	40	65	73	105	435025 6340	220,–

4194



Over 200,000 tools available online!
Register online now!
www.saratools.com

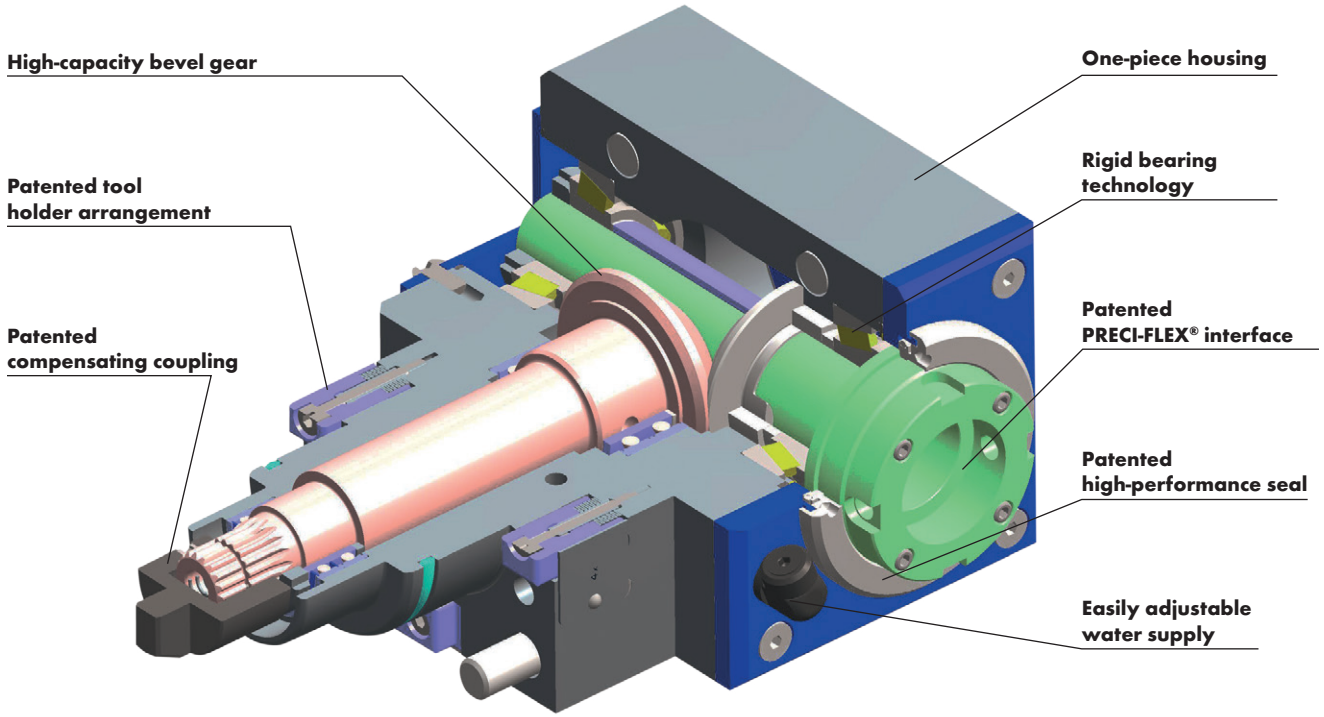

for CNC lathes

- Tools for complete production on CNC lathes
- Drilling, milling and thread cutting in one clamping operation
- Tools for axial or radial machining with the widest range of tool holders
- German production with in-house repair service

- **Use** with all common CNC lathes that are suitable for powered tools

- No conversion from turning to milling
- The widest variety of tools
- Lower fixture costs since second clamping is not required
- Compliance with the tightest shape and position tolerances as the workpiece is produced in a single clamping

Individual, no-obligation quotes for powered tools are available on request.



Revolver / tool concept

A very rigid and accurate system. Three important unmatched innovations for increased efficiency and productivity.

4 default slot nuts

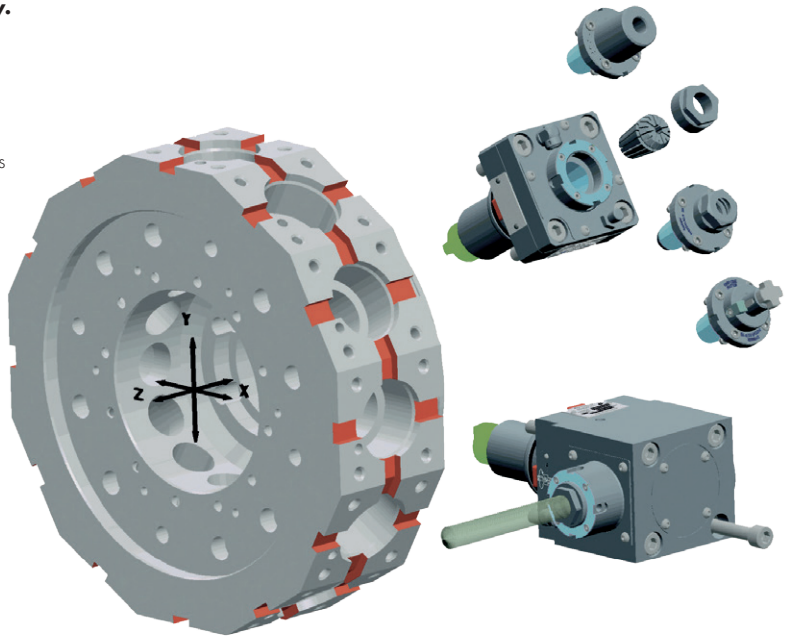
- Simple conversion, no adjustment required
- Up to 300% greater repeatability compared with other systems
- Repeatability of the position <0.005 mm
- Alignment with the machine spindle <0.1 mm

Compensating coupling

- Floating drive, minimal clearance
- Vibration and noise reduction
- Simple maintenance, long service life
- Improved torque transfer
  Contact surface enhanced by 60%

Rigid and flexible tool interface

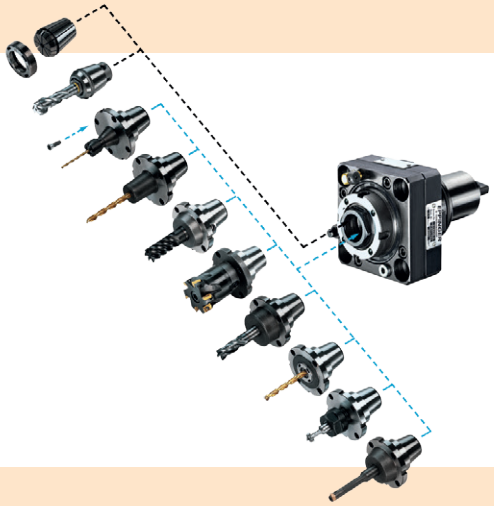
- Use of standard collets and adapters
- Maximum accuracy
- Optimum rigidity and flexibility for heavy machining
- Greater machine output and lower production costs



EPPINGER SMARTER TOOLING SOLUTIONS PRECI-FLEX®

INFO

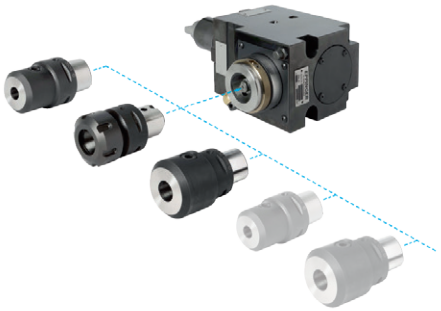
- The ESA Eppinger modular system creates completely new possibilities in precision, flexibility and efficiency.
- Interface based on standard collet mounts
- The benefits speak for themselves
- ER collet mount and PRECI-FLEX adapter in one tool holder
- maximum expansion capability
- taper/planar support, absolute precision
- very compact
- maximum rigidity, thus outstanding cutting performance
- long tool lives
- pre-settable
- quickly re-settable
- optimum efficiency



EPPINGER SMARTER TOOLING SOLUTIONS EPPINGER PSC

INFO

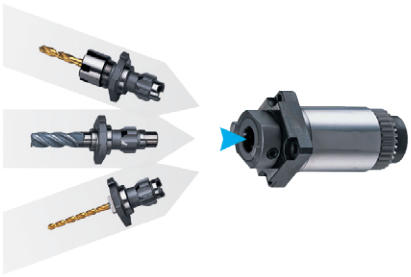
- world's shortest PSC interface
- lots of space – even for large workpieces
- compact design increases system rigidity and thus workpiece accuracy
- comfortable one-hand operation, fast tool changes
- available on request

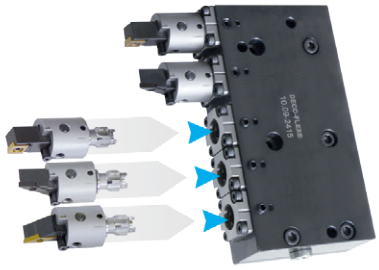


EPPINGER SMARTER TOOLING SOLUTIONS DECOFLEX®

INFO

- Tool holders with minimal dimensions
- particularly suited for use in small-scale lathe-milling machines
- available on request





Tool Finder for powered tools

- find just the right powered tool quickly and easily for your turning centre
- Simply enter the machine manufacturer and type; the choice of tools will be displayed with photo, drawing, and the associated 2D and 3D data.
- An order can be placed directly by clicking on the article number.

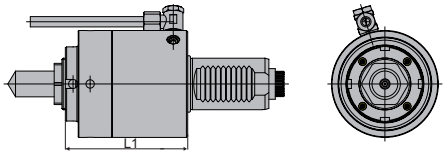
Tool Finder AGW
(in German)

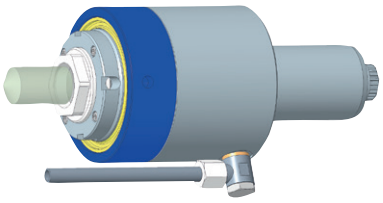


EPPINGER PRECI-FLEX® powered tool holder with VDI shank

- **for CNC lathes with Sauter revolver and drive coupling DIN 5480**
- Each tool holder must be run-in. Thus temperature and noise emissions are monitored, measured and recorded.
- compact design of the single-piece base body
- very rigid bearing above taper roller bearing
- optimal position of the spindle
- patented seals to minimise heat generation
- internal cooling up to max. 70 bar
- all wear parts hardened and ground

Boring/milling head, straight collet mount



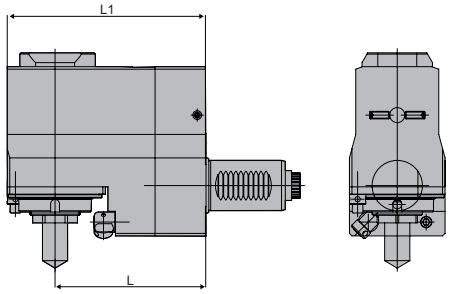


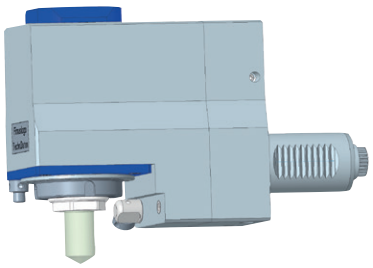
- ER collet mount
- Type 1 external cooling
- Type 2 external and internal cooling

VDI mount diameter	Suitable for collet type	L1 mm	Coolant supply	art.no.	€
VDI 30	ER 25	79	External	430510 3025	979,–
VDI 30	ER 25	79	Internal and external	430510 3125	1.169,–
VDI 40	ER 32	95	External	430510 4032	1.059,–
VDI 40	ER 32	95	Internal and external	430510 4132	1.219,–

4185

Angled boring/milling head, offset



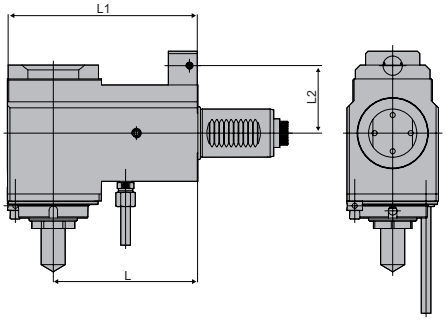


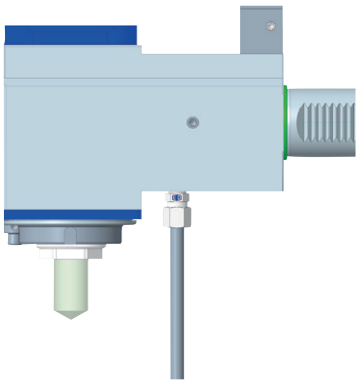
- ER collet mount
- Type 1 external cooling
- Type 2 external and internal cooling

VDI mount diameter	Suitable for collet type	L mm	L1 mm	Coolant supply	art.no.	€
VDI 30	ER 25	85	117.5	External	430511 3025	2.299,–
VDI 30	ER 25	85	117.5	Internal and external	430511 3125	2.499,–
VDI 40	ER 32	85	158	External	430511 4032	2.679,–
VDI 40	ER 32	85	158	Internal and external	430511 4132	2.949,–

4185

Angled boring/milling head



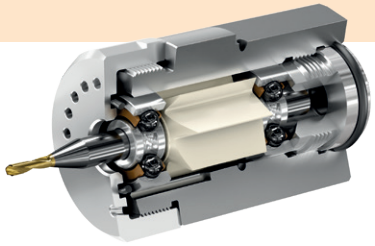


- ER collet mount
- Type 1 external cooling
- Type 2 external and internal cooling

VDI mount diameter	Suitable for collet type	L mm	L1 mm	L2 mm	Coolant supply	art.no.	€
VDI 30	ER 25	100	132.5	48	External	430512 3025	2.109,–
VDI 30	ER 25	100	132.5	48	Internal and external	430512 3125	2.309,–
VDI 40	ER 32	120	158	56	External	430512 4032	2.399,–
VDI 40	ER 32	120	158	56	Internal and external	430512 4132	2.599,–

4185

High-speed spindles *Toodle Blue* and *Toodle Green*



- **Toodle Blue, driven with coolant**
- **Toodle Green, driven with minimal lubrication**
- Turbine-driven high-speed spindle
- Rotational speeds of up to 75,000 rpm
- Consistent and high true running accuracy thanks to interchangeable bearings and turbine
- Can also be used with upright machine spindle
- Most demanding machine applications with a standard tool holder
- Affordable transformation of existing machine centres with standard spindles into high-speed and ultra-modern machining centres
- **Compatible with any sealed chuck with internal coolant supply**
  Example: SARA collet chucks ER40 Art. No. 4310034026 with sealed collet ER40 - Ø25 Art. No. 4331354025
- **NOT compatible with milling cutter holder DIN 6359 (Weldon holders)**, **cutting edge diameter** must be smaller than **shank diameter**

Toodle Blue high-speed spindle

- **Coolant pressure at the spindle: 10-60 bar**
- Coolant-driven
- Supplied without bearings and turbine



Clamp in shank diameter mm	L mm	art.no.	€
25	40	430000 0025	599,–

4195

Toodle Blue high-speed spindle 90°

- **Coolant pressure at the spindle: 10-60 bar**
- Coolant-driven
- Supplied without bearings and turbine



Clamp in shank diameter mm	art.no.	€
16	430001 0090	905,–

4195

Toodle Green high-speed spindle

- **Air pressure at the spindle: 3-5 bar**
- Driven by minimum volume lubrication
- Supplied without bearings and turbine



Clamp in shank diameter mm	L mm	art.no.	€
25	40	430002 0001	599,–

4195

Mounting device for Ø3, 4 and 6 mm



Designation	art.no.	€
for shank diameters 3, 4 and 6 mm	430200 0346	123,–

4195

Press-fit measuring adapter

- **Without** manometer



Clamp in shank diameter mm	art.no.	€
25	430300 0025	66,–

4195

Manometer for press-fit measuring adapter



D mm	Connection thread	art.no.	€
63	1/4 inch	442150 9905	71,50

4195

Installation set consisting of

- 2 ball bearings
- 1 turbine

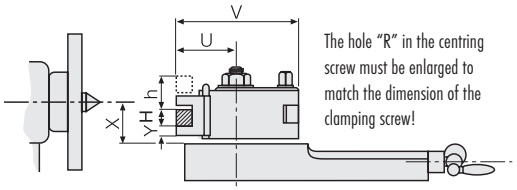


Suitable for shaft diameter mm	art.no.	€
3 mm	430100 0003	41,90
4 mm	430100 0004	41,90
6 mm	430100 0006	41,90

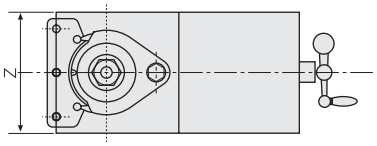
4195

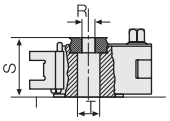
Quick-change tool holders

- Profile-ground, toothed central body attached to the lathe support along with the base body
- The base body can accommodate an unlimited number of interchangeable holders for turning or drilling tools, one after the other.
- 40 different steel holder angle settings possible
- Repeatability ± 0.01 mm



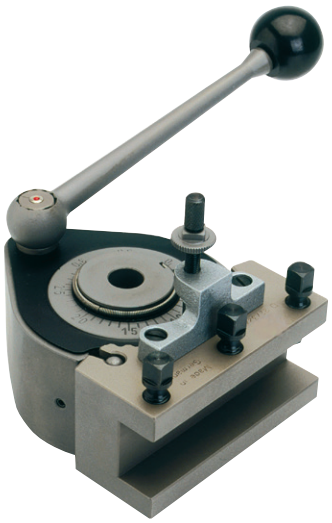
The hole "R" in the centring screw must be enlarged to match the dimension of the clamping screw!





Technical data												
		Aa	A		B		C			D1		
Change-holder size	D	12	16	20	25	32	32	40	45	40	50	63
Drive power max.	kW	1.1	2.2	2.2	6.6	6.6	13.2	13.2	13.2	22	22	22
Slide width max.	Z mm	80	100	100	150	150	180	180	180	200	200	200
Height adjustability	mm	10	14	14	22	14	40	36	32	38	28	24
Steel support	Y mm	6.2	10	10	12	13.5	15	16.5	16.5	20	20	20
Height of the mild steel max.	H mm	12	16	20	25	32	32	40	45	40	50	63
Overall width max.	V mm	70	100	100	150	150	192	202	202	230	234	242
Total height max.	S mm	37	54	54	75	75	105	105	105	122	122	122
Projection max	U mm	30	48	48	71	71	92	102	102	112	116	124
Bore Ø max.	T mm	12	35	35	40	40	55	55	55	65	65	65

Minimum level required X for steel holder D											
	Aa	A		B		C			D1		
Change-holder size D	12	16	20	25	32	32	40	45	40	50	63
Steel holder H mm	X min. mm										
6	12										
8	14	17									
10	16	19	19								
12	18	21	21	24	25						
(14)		23	23	26	27	29					
16		25	25	28	29	31	31	31			
20				32	33	35	35	35			
25				37	38	40	40	40	45		
(30)					45	45	45	45	50	51	52
32						47	47	47	52	52	52
40							55	55	60	60	60
45								60		65	65
50										70	70
63											83



Quick-release tool holder head with eccentric clamp

- Supplied with eccentric lever and square key for the holder
- Additional versions with different bores available on request

Holder size									art.no.	€
AA - D12	A1	B1	C1	D1	E1				446501 0012	345,–
A - D16/20	A2	B2	C2	D2	E2	F1	G1	H1	446501 1116	419,–
B - D25/32	A3	B3	C3	D3	E3	F2	G2	H2	446501 2225	619,–
C - D32/40/45	A4	B4	C4	D4	E4	F3	G3	H3	446501 3332	959,–
D1 - D40/50/63	A5	B5	C5	D5	E5	F4	G4	H4	446501 4440	1.719,–

4137

Spare parts

	Eccentric bolts		Protective cover with scale		Centring disc		Eccentric wrench	
	art.no.	€	art.no.	€	art.no.	€	art.no.	€
A1	446550 0012	69,10	B1	446551 0012	58,70	C1	446552 0012	18,65	D1	446553 0012	69,10
A2	446550 1116	62,–	B2	446551 1116	31,70	C2	446552 1116	17,60	D2	446553 1116	73,40
A3	446550 2225	94,60	B3	446551 2225	42,–	C3	446552 2225	18,65	D3	446553 2225	89,40
A4	446550 3332	105,50	B4	446551 3332	56,20	C4	446552 3332	31,70	D4	446553 3332	89,40
A5	446550 4440	130,–	B5	446551 4440	153,50	C5	446552 4440	45,70	D5	446553 4440	140,–
	4137			4137			4137			4137	

	Retaining strap with eccentric bolt		Plunger		Plunger spring			Pointer	
	art.no.	€	art.no.	€	art.no.	€		art.no.	€
E1	446560 0012	226,–	F1	446562 1116	6,35	G1	446563 1116	2,–	H1	446565 1116	14,35
E2	446560 1116	319,–	F2	446562 2225	6,35	G2	446563 2225	2,47	H2	446565 2225	14,75
E3	446560 2225	480,–	F3	446562 3332	6,80	G3	446563 3332	2,47	H3	446565 3332	19,55
E4	446560 3332	699,–	F4	446562 4440	8,60	G4	446563 4440	5,20	H4	446565 4440	34,80
E5	446560 4440	1.309,–									
	4137			4137			4137			4137	

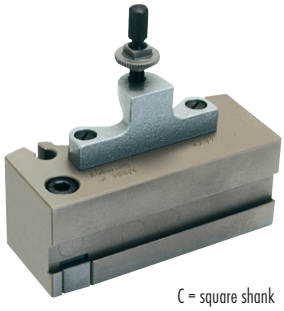


Quick-release parting-off tool holder, type AS

- For parting-off tool type TS

Suitable for holder	Suitable for	art.no.	€
AA	Parting-off tool TS, 2.5 x 10.0	446540 0001	195,50
A	Parting-off tool TS, 2.7 x 10.0	446540 1180	195,50
B	Parting-off tool TS, 4.2 x 15.9	446540 2200	250,–
C	Parting-off tool TS, 5.1 x 18.5	446540 3300	299,–

4137



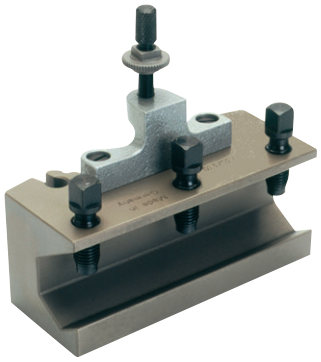
C = square shank

Quick-release boring tool holder type B

- With V-block
- For boring bars and other straight shank tools
- Supplied with lockable height-adjustment screw and clamping screws

Suitable for holder	Suitable for shaft diameter mm	L mm	Clamping screw size	art.no.	€
AA	12	50	M5 x 0.8 x 18	446510 0012	122,–
A	20	85	M7 x 1 x 23	446510 1120	120,50
B	32	130	M11 x 1 x 30	446510 2230	199,50
C	40	160	M14 x 1.5 x 40	446510 3340	345,–
C	50	160	M14 x 1.5 x 40	446510 3350	364,–
D1	63	180	M14 x 1.5 x 40	446510 4463	769,–

4137

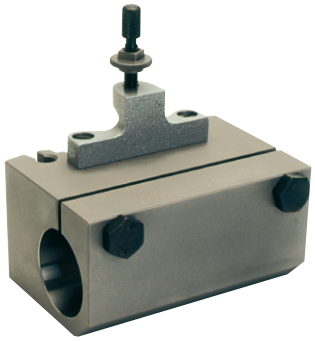


Quick-release boring bar holder, type BS

- With cylindrical bore for Morse taper sleeves and for direct attachment of boring bars
- Supplied with lockable height-adjustment screw and clamping screws
- Tool holder blanks available on request

Suitable for holder	Suitable for shaft diameter mm	L mm	art.no.	€
AA	15	50	446520 0015	140,50
A	30	80	446520 1130	167,–
B	40	120	446520 2240	255,–
C	40	160	446520 3340	420,–
C	50	160	446520 3350	427,–
D1	63	180	446520 4463	889,–

4137

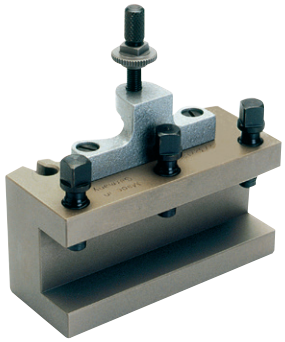


Quick-release lathe tool holder, type D

- Flat tool support
- Supplied with lockable height-adjustment screw and clamping screws

Suitable for holder	D mm	L mm	art.no.	€
AA	12	50	446505 0012	115,50
A	16	75	446505 1116	115,50
A	16	90	446505 1117	115,50
A	20	75	446505 1120	117,–
A	20	90	446505 1121	117,–
B	25	120	446505 2225	180,–
B	25	140	446505 2226	180,–
B	32	120	446505 2232	182,50
B	32	140	446505 2233	182,50
C	32	150	446505 3332	283,–
C	32	170	446505 3333	283,–
C	40	150	446505 3340	308,50
C	40	170	446505 3341	308,50
C	45	170	446505 3345	325,–
D1	40	180	446505 4440	475,–
D1	50	180	446505 4450	499,–
D1	63	180	446505 4463	539,–

4137



Boring bar

- For quick-release holders with straight bores
- Lateral slot, one side straight and one side inclined
- C - describes the square to be inserted



Suitable for holder	D mm	C mm	L mm	art.no.	€
A	30	12x12	250	446545 1112	79,90
B	40	12x12	500	446545 2212	102,50
C	40	12x12	500	446545 3312	102,50
C	50	20x20	500	446545 3320	186,–
D1	63	20x20	600	446545 4420	291,–

4137

Morse taper sleeve, type H

- With jacking screw
- For mounting in BS quick-release boring bar holders, straight outer diameter
- For tools with a Morse taper shank

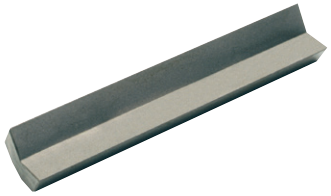


Suitable for holder	External Ø mm	For Morse taper size	art.no.	€
A	30	MT 1	446525 1101	58,20
A	30	MT 2	446525 1102	62,10
B	40	MT 3	446525 2203	75,–
B	40	MT 4	446525 2204	84,50
C	40	MT 3	446525 3303	75,–
C	40	MT 4	446525 3304	84,50
C	50	MT 3	446525 3313	95,90
C	50	MT 4	446525 3314	102,–
C	50	MT 5	446525 3315	138,50
D1	63	MT 5	446525 4405	200,–

4137

Insert V-blocks, type P

- For holding small boring bars and boring tools in quick-release boring tool holder B



Suitable for holder	L mm	Max. diameter mm	art.no.	€
A	85	14	446515 1114	27,60
B	130	20	446515 2220	28,30
C	160	25	446515 3325	50,50
C	160	32	446515 3332	61,20
D1	180	40	446515 4440	111,50

4137

Spare parts

	Square pin key		
	art.no.		€
A1	446554 0012		31,60
A2	446554 1116		36,50
A3	446554 2225		49,30
A4	446554 3332		72,40
A5	446554 4440		72,40

4137

	Console with screws and nuts	
	art.no.	€
B1	446555 0012	46,60
B2	446555 1116	42,10
B3	446555 2225	54,50
B4	446555 3332	64,–
B5	446555 4440	114,50

4137

	Square-head screw	
	art.no.	€
C1	446557 0012	4,85
C2	446557 1116	4,85
C3	446557 2225	6,60
C4	446557 3332	9,20
C5	446557 4440	9,20

4137

	Height-adjustment screw	
	art.no.	€
D1	446558 0012	7,90
D2	446558 1116	3,90
D3	446558 2225	4,85
D4	446558 3332	9,20
D5	446558 4440	13,05

4137

	Height adjustment nut	
	art.no.	€
E1	446559 0012	5,80
E2	446559 1116	4,50
E3	446559 2225	4,85
E4	446559 3332	7,80
E5	446559 4440	14,35

4137

	Attachment screw for console	
	art.no.	€
F1	446561 0012	7,70
F2	446561 1116	1,54
F3	446561 2225	2,47
F4	446561 3332	2,57
F5	446561 4440	7,70

4137

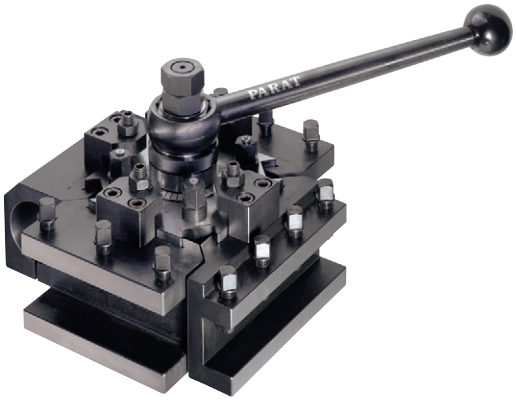
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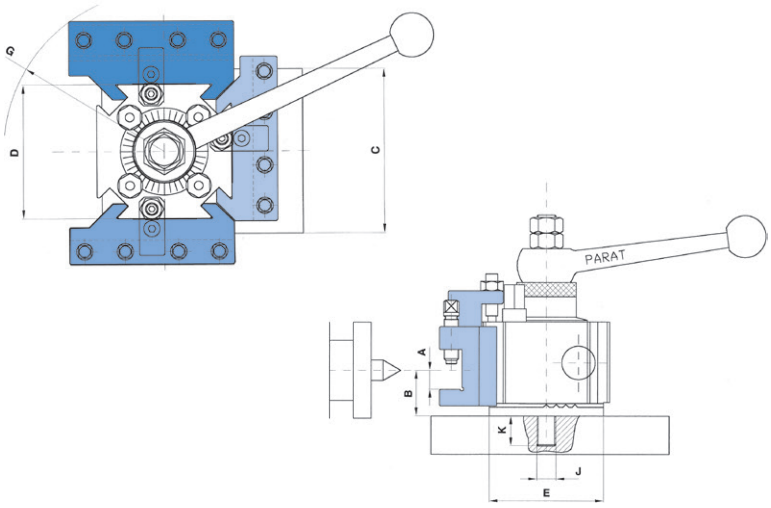


Quick-change tool holder

- For lathes
- Precise manufacture due to high precision and indexing accuracy (0.005 mm)
- Various production options (40 tool positions, 9° spacing possible)
- Quick height adjustment via adjusting screw
- Extremely flexible due to modular design
- Selecting the correct revolver head depends on the following parameters: lathe drive power, tool slide width C, turning tool height A

Assembly service on request



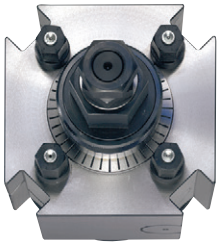


4-place revolver head

- Supplied with cranked box spanner and chuck key

Type	A mm	B mm	C mm	D mm	E mm	G mm	J mm	K mm	Drive power max. kW	Weight per unit kg	art.no.	€
RD1	20	30	90 - 100	84	80	180	M14 x 2	21	6	3	446601 0101	1.649,–
RD2	25	40	110 - 150	106	102	240	M16 x 2	25	15	6.5	446601 0201	2.089,–
RD3	40	60	150 - 180	134	133	300	M20 x 2.5	30	25	14	446601 0301	3.039,–
RD4	50	80	200 - 250	154	150	350	M24 x 3	35	45	21	446601 0401	4.029,–

4136

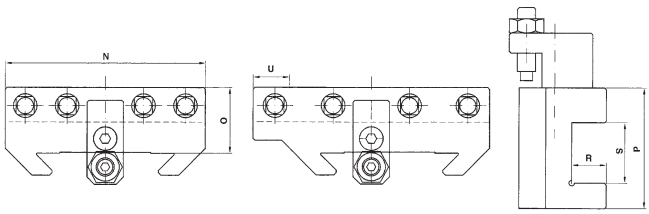


4-place revolver head with internal cooling

- Supplied with cranked box spanner, socket spanner, chuck key, clamping screw with internal bore, cooling hose, connecting piece, winding piece, locking screw

Type	A mm	B mm	C mm	D mm	E mm	G mm	J mm	K mm	Drive power max. kW	Weight per unit kg	art.no.	€
RD1+IC	20	30	90 - 100	84	80	180	M14 x 2	21	6	3	446601 0102	1.889,–
RD2+IC	25	40	110 - 150	106	102	240	M16 x 2	25	15	6.5	446601 0202	2.179,–
RD3+IC	40	60	150 - 180	134	133	300	M20 x 2.5	30	25	14	446601 0302	3.149,–
RD4+IC	50	80	200 - 250	154	150	350	M24 x 3	35	45	21	446601 0402	4.169,–

4136

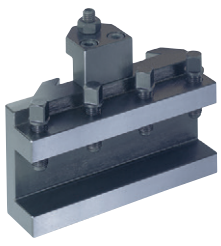


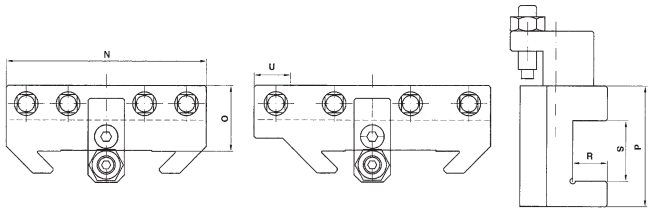
Quick-release holder, type WD

- Internal and external machining

Type	suitable for	N mm	O mm	P mm	R mm	S mm	U mm	Weight kg	art.no.	€
WD 1/12	RD1/RD1+IK/UD1	84	24	47	14	22	-	0.7	446605 0112	156,50
WD 1/20	RD1/RD1+IK/UD1	84	33	52	20	22	-	0.8	446605 0120	183,50
WD 2/25	RD2/RD2+IK/UD2	110	36	66	19	33	-	1.9	446605 0225	238,–
WD 3/32	RD3/RD3+IK/UD3	140	44	76	25	33	-	3	446605 0332	370,–
WD 3/40	RD3/RD3+IK/UD3	140	44	76	25	33	-	3.1	446605 0340	370,–
WD 4/40	RD4/RD4+IC	160	53	96	30	44	-	5	446605 0440	569,–
WD 4/50	RD4/RD4+IC	160	63	96	40	54	-	5.5	446605 0450	569,–

4136



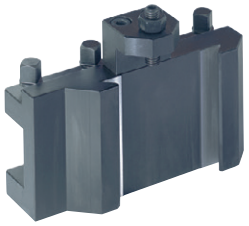


Quick-release holder, type WDL

- Internal machining

Type	suitable for	N mm	O mm	P mm	R mm	S mm	U mm	Weight kg	art.no.	€
WDL 1/12	RD1/RD1+IK/UD1	100	24	47	14	22	16	0.8	446635 0112	168,–
WDL 1/20	RD1/RD1+IK/UD1	100	33	52	20	22	16	0.9	446635 0120	197,50
WDL 2/25	RD2/RD2+IK/UD2	130	36	66	19	33	20	2.1	446635 0225	248,–
WDL 3/32	RD3/RD3+IK/UD3	165	44	76	25	33	25	3.4	446635 0332	385,–
WDL 3/40	RD3/RD3+IK/UD3	165	44	76	25	43	25	3.4	446635 0340	385,–
WDL 4/40	RD4/RD4+IC	190	53	96	30	44	30	5.8	446635 0440	639,–
WDL 4/50	RD4/RD4+IC	190	63	96	40	54	30	6	446635 0450	639,–

4136



Quick-release holder, type WDPL

- For boring bars

Type	suitable for	N mm	O mm	P mm	R mm	S mm	U mm	Weight kg	art.no.	€
WDPL 1/12	RD1/RD1+IK/UD1	100	289	47	16	22	16	0.9	446610 0112	184,–
WDPL 2/25	RD2/RD2+IK/UD2	130	50	62	31	33	20	2.3	446610 0225	304,–
WDPL 3/32	RD3/RD3+IK/UD3	165	53	66	31	33	25	3.6	446610 0332	440,–
WDPL 4/40	RD4/RD4+IC	190	63	96	40	52	30	6.5	446610 0440	809,–

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Quick-release holder, type WB

- For clamping sleeves

Type	suitable for	Adapter diameter mm	N mm	O mm	P mm	Weight kg	art.no.	€
WB 1/30	RD1/RD1+IK/UD1	30	84	39	47	0.8	446620 0130	183,50
WB 2/40	RD2/RD2+IK/UD2	40	110	51	62	1.8	446620 0240	304,–
WB 3/40	RD3/RD3+IK/UD3	40	140	53	66	2.7	446620 0340	440,–
WB 3/50	RD3/RD3+IK/UD3	50	140	63	76	3.5	446620 0350	480,–
WB 4/60	RD4/RD4+IK	60	160	77	96	6	446620 0460	809,–

4136



Clamping sleeves, Morse taper

External Ø mm	art.no.	€
30	446625 0101	115,–
30	446625 0102	128,50
40	446625 0203	147,–
40	446625 0204	151,50
50	446625 0303	163,50
50	446625 0304	174,–
60	446625 0404	242,–
60	446625 0405	252,–

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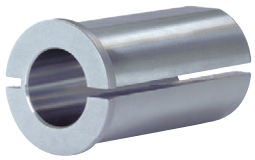
Clamping sleeves, straight, slotted

External Ø mm	art.no.	€
30	446626 0108	60,–
30	446626 0110	60,–
30	446626 0112	60,–
30	446626 0115	60,–
30	446626 0116	60,–
30	446626 0120	60,–
30	446626 0125	60,–
40	446626 0210	65,10
40	446626 0212	65,10
40	446626 0215	65,10
40	446626 0216	65,10

4136

External Ø mm	art.no.	€
40	446626 0220	65,10
40	446626 0225	65,10
40	446626 0232	65,10
50	446626 0320	87,50
50	446626 0325	87,50
50	446626 0332	87,50
50	446626 0340	87,50
60	446626 0425	111,–
60	446626 0432	111,–
60	446626 0440	111,–

4136



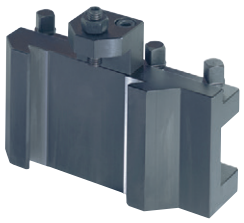
d1 = clamping diameter

Quick-release holder, type WDR

- External machining

Type	suitable for	N mm	O mm	P mm	R mm	S mm	U mm	Weight kg	art.no.	€
WDR 1/12	RD1/RD1+IK/UD1	100	24	47	14	22	16	0.8	446630 0112	168,–
WDR 1/20	RD1/RD1+IK/UD1	100	33	52	20	22	16	0.9	446630 0120	197,50
WDR 2/25	RD2/RD2+IK/UD2	130	36	66	19	33	20	2.1	446630 0225	248,–
WDR 3/32	RD3/RD3+IK/UD3	165	44	76	25	33	25	3.4	446630 0332	385,–
WDR 3/40	RD3/RD3+IK/UD3	165	44	76	25	43	25	3.4	446630 0340	385,–
WDR 4/40	RD4/RD4+IC	190	53	96	30	44	30	5.8	446630 0440	639,–
WDR 4/50	RD4/RD4+IC	190	63	96	40	54	30	6	446630 0450	639,–

4136



Quick-release holder, type WBW

- Blank

Type	suitable for	N mm	O mm	P mm	Weight kg	art.no.	€
WBW 1/30	RD1/RD1+IK/UD1	84	39	47	1.4	446650 0130	154,50
WBW 2/40	RD2/RD2+IK/UD2	110	51	62	3.2	446650 0240	245,–
WBW 3/40	RD3/RD3+IK/UD3	140	53	66	4.3	446650 0340	365,–
WBW 3/50	RD3/RD3+IK/UD3	140	63	76	5.7	446650 0350	400,–
WBW 4/60	RD4/RD4+IC	160	77	96	10	446650 0460	699,–

4136



Tool Finder for powered tools

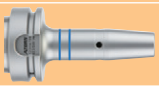
- find just the right powered tool quickly and easily for your turning centre
- Simply enter the machine manufacturer and type; the choice of tools will be displayed with photo, drawing, and the associated 2D and 3D data.
- An order can be placed directly by clicking on the article number.

Tool Finder AGW (in German)



Overview of tool holders

Holding fixtures		DIN 69893 Form A HSK-A	DIN ISO 7388-1 DIN 69871	DIN 7388-2 J MAS-BT	DIN 2080	cylinder shank
	Drill chuck holder		**436103....** Page 1180	**436107....** Page 1180	**436101....** Page 1180	**400185....** Page 1180
	NC short drill chuck with spur gear system SARA		**440243....** Page 1181	**440241....** Page 1181	**440242 ....** Page 1181	
	NC short drill chuck with spur gear system ATORN	**440137....** Page 1182	**440139....** Page 1182	**440136....** Page 1182		
	NC short drill chuck with spur gear system WTE		**441005....** Page 1182	**441007....** Page 1183	**441001....** Page 1183	
	NC short drill chuck with worm gear ATORN	**440129....** Page 1183	**440127....** Page 1183	**440128....** Page 1183		
	Micro universal clamping nut ATORN					**442401....** Page 1184
	Precision ER collet chuck ATORN	**431236....** Page 1185	**431235....** Page 1185			
	Precision ER collet chuck CENTRO-P	**431232....** Page 1186	**431230....** Page 1186			
	Heavy Duty HDC clamping nut	**431335....** Page 1188	**431336....** Page 1188	**431337....** Page 1188		
	Micro collet holder	**442241....** Page 1189				**442244....** Page 1190
	High-precision chuck HG	**431219....** Page 1191	**431213....** Page 1191			
	Power chucks UltraJet	**440202....** Page 1192	**440200....** Page 1192	**440201....** Page 1192		
	Hydraulic expansion chucks HYDRO-Grip HG	**433817....** Page 1194	**433827....** Page 1194	**433837....** Page 1194		
	Hydraulic expansion chuck ATORN	**433409....** Page 1195	**433311....** Page 1195			
	Hydraulic expansion chuck type HY-DRO-Grip HD	**433826....** Page 1196	**433806....** Page 1196	**433816....** Page 1196		
	Hydraulic expansion chuck type HG PENCIL	**433801....** Page 1197	**433802....** Page 1197	**433803....** Page 1198		**433811....** Page 1197
	Hydraulic expansion chuck ultra-slim	**433341....** Page 1198	**433340....** Page 1199	**433342....** Page 1199		
	Transverse slot shell-type milling arbour with planar support		**436403....** Page 1200	**436407....** Page 1200		
	ER collet chuck with planar support		**432203....** Page 1201	**432107....** Page 1201		
	Milling cutter holding fixture DIN6359 (Weldon) with planar support		**435603....** Page 1202	**435607....** Page 1202		

Holding fixtures		 DIN 69893 Form A HSK-A	 DIN ISO 7388-1 DIN 69871	 DIN 7388-2 J MAS-BT	 DIN 2080	 cylinder shank
	OZ collet chuck	**431509....** Page 1203	**431503....** Page 1203	**431507....** Page 1203	**431501....** Page 1203	
	ER collet chuck	**431009....** Page 1205	**431003....** Page 1205	**431007....** Page 1206	**431001....** Page 1206	**431016....** Page 1206
	ER collet chuck extension					**432000....** Page 1213
	Milling cutter holding fixture DIN 6359 (WELDON)	**434509....** Page 1215	**434503....** Page 1216	**434507....** Page 1217	**434501....** Page 1217	
	Transverse slot shell-type milling arbour	**435309....** Page 1219	**435303....** Page 1219	**435307....** Page 1220	**435301....** Page 1220	
	Transverse slot shell-type milling arbour vibration-dampened	**435339....** Page 1222	**435333....** Page 1222	**435337....** Page 1223		
	Combination shell-type milling cutter arbour	**434909....** Page 1223	**434903....** Page 1224	**434907....** Page 1224	**434901....** Page 1225	
	Boring bar blanks		**431002....** Page 1227		**431000....** Page 1227	
	Adapter sleeves for MT with expulsion tabs	**433509....** Page 1228	**433503....** Page 1228	**433507....** Page 1228	**433501....** Page 1229	
	Adapter sleeves for MT with tightening thread		**433703....** Page 1230	**433707....** Page 1230		
	Adapter sleeves for ST		**433903....** Page 1230	**433907....** Page 1231	**433901....** Page 1231	
	Tool holding fixtures for indexable insert drills		**434540....** Page 1232			
	Tool holders for screw-in milling cutters	**430236....** Page 1233	**430235....** Page 1233			
	Extension for modular milling heads					**430352....** Page 1234
	ThermoGrip shrink fit holder JetSleeve2®	**430331....** Page 1238	**430330....** Page 1238			
	ThermoGrip shrink fit holder	**430218....** Page 1239	**430216....** Page 1239			
	Shrink fit holders 4.5° ATORN for heavy-duty machining	**440231....** Page 1240	**440230....** Page 1241			
	Shrink fit holders 3° ATORN	**440431....** Page 1242	**440430....** Page 1242			
	Shrink extensions					**430228....** Page 1243
	Thread cutting quick-change chucks		**442003....** Page 1246	**442007....** Page 1246	**442001....** Page 1246	**442008....** Page 1246
	Tapping synchro chuck ATORN	**442021....** Page 1248	**442020....** Page 1248			**442022....** Page 1248

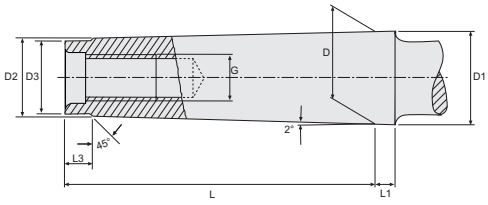
Shank designs

INFO

For milling machines and machining centres

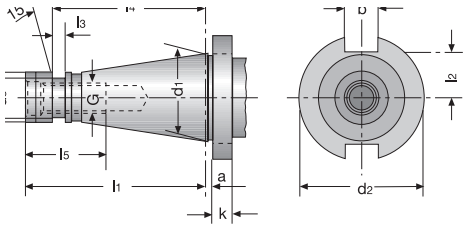
Morse taper
DIN 228 shape A (conical shank with clamping thread)

MK	D	D1	D2	D3	L	L1	L3	G
0	9,045	9,2	6,4	6,0	50,0	3,0	4	-
1	12,065	12,2	9,4	9,0	53,5	3,5	5	M 6
2	17,780	18,0	14,6	14,0	64,0	5,0	5	M10
3	23,825	24,1	19,8	19,0	81,0	5,0	7	M12
4	31,267	31,6	25,9	25,0	102,5	6,5	9	M16
5	44,399	44,7	37,6	35,7	129,5	6,5	10	M20
6	63,348	63,8	53,9	51,0	182,0	8,0	16	M24



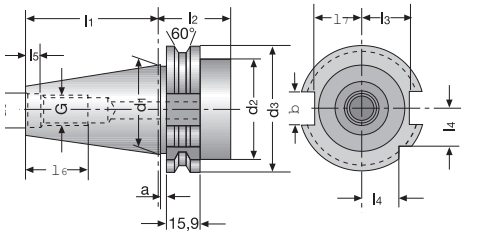
Steep taper shanks, DIN 2080 part 1 shape A

SK	d1	a	b	k	G	d2	d3	d4	l1	l2	l3	l4	l5
30	31,75	1,6	16,1	8	M12	50	-	17,2	68,4	16,2	-	-	24
40	44,45	1,6	16,1	10	M16	63	21,1	25	93,4	22,5	7	82	32
50	69,85	3,2	25,7	12	M24	97,5	-	39,2	126,8	35,3	-	-	47



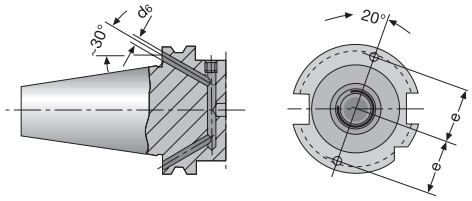
Steep-taper shanks DIN ISO 7388-1 / DIN 69871 part 1 shame A or shape AD with internal coolant supply

SK	G	d1	d2max	d3	d5		l1	l2	l3	l4	l5	l6	l7	a		
30	M12	31,75	45	50,00	13		47,80	35	19,0	15,0	5,5	24	16,4	3,2		
40	M16	44,45	50	63,55	17		68,40	35	25,0	18,5	8,2	32	22,8	3,2		
50	M24	69,85	80	97,50	25		101,75	35	37,7	30,0	11,5	47	35,5	3,2		



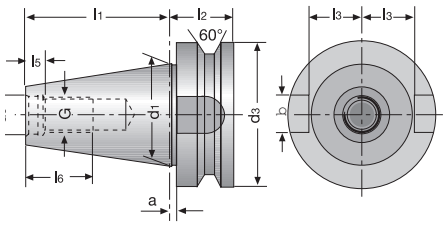
Steep-taper shanks DIN ISO 7388-1 / DIN 69871 part 1 shape B, with coolant supply via the collar

SK	G	d1	d2max	d3	d5	d6	l1	l2	l3	l4	l5	l6	l7	a	e	b
30	M12	31,75	45	50,00	13	4	47,80	35	19,0	15,0	5,5	24	16,4	3,2	21	16,1
40	M16	44,45	50	63,55	17	4	68,40	35	25,0	18,5	8,2	32	22,8	3,2	27	16,1
50	M24	69,85	80	97,5	25	6	101,75	35	37,7	30,0	11,5	47	35,5	3,2	42	25,7



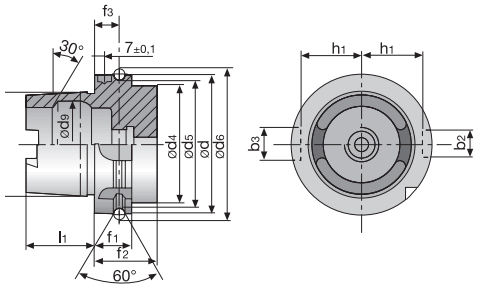
Steep-taper shanks DIN ISO 7388-2 / MAS 403 BT

SK	G	d1		d3	d5		l1	l2	l3		l5	l6		a		b
30	M12	31,75		46	12,5		48,4	22	16,3		7,0	24		2		16,1
40	M16	44,45		63	17,0		65,4	27	22,5		8,2	32		2		16,1
50	M24	69,85		100	25,0		101,8	38	35,3		11,0	47		3		25,7



Hollow taper shank DIN 69893 shape A (HSK-A) with internal coolant supply

HSK	b2	b3	d2	d4	d5	d6	d9	f1	f2	f3	l1	h1
40	9	11	30	34	43	45	25,5	20	35	16	20	17
50	12	14	38	42	43	59,3	32	26	42	18	25	21
63	16	18	48	53	55	72,3	40	26	42	18	32	26,5



The different forms of hollow-taper shanks DIN 69893 (HSK)

Shape A - Automatic tool switching
- Central coolant supply

Shape B - As shape A, but with enlarged collar

Shape C - Central coolant supply
- without gripper groove

Shape D - As shape C, but with additional coolant supply via the collar

Shape E - For HSC machining
- Central coolant supply
- without carrier grooves, with gripper groove

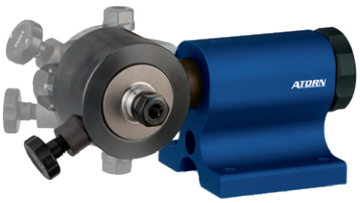
Shape F - As shape E, but with enlarged collar

Shape T - As shape A, a slot in the taper is a tighter fit

Depending on the design type, a coolant transfer pipe may be required for some machines with an HSK holding fixture. Please observe the machine manufacturer's information.

ATORN Assembly system

- Aluminium housing
- 4 x 90° swivel-mounted
- Steel modular tool holders
- Quick and easy replacement of holding fixtures
- High flexibility
- Positive-locking fixing of the tools
- No damage to cone tip
- **Interchangeable adapter for polygon shank according to DIN 26623-1 also available**





Assembly system

Designation	art.no.	€
Basic unit, 4 x 90° swivel-mounted for interchangeable adapter	438180 0001	248,–

4136

Interchangeable adapter

- For DIN 69893 Form A (HSK-A)

Designation	art.no.	€
Tool holder HSK 100	438382 0100	288,–
Tool holder HSK 40	438382 0040	234,–
Tool holder HSK 50	438382 0050	234,–
Tool holder HSK 63	438382 0063	234,–
Tool holder HSK 80	438382 0080	288,–

4136



Interchangeable adapter

- For DIN ISO 7388-1 (DIN 69871) / 7388-2 (JIS B) and DIN 2080

Designation	art.no.	€
Tool holder SK 30	438181 0030	244,–
Tool holder SK 40	438181 0040	244,–
Tool holder SK 50	438181 0050	286,–

4136



Interchangeable adapter

- For DIN 69880 (VDI)

Designation	art.no.	€
Tool holder VDI 20	438383 0020	242,–
Tool holder VDI 30	438383 0030	242,–
Tool holder VDI 40	438383 0040	274,–
Tool holder VDI 50	438383 0050	274,–

4136

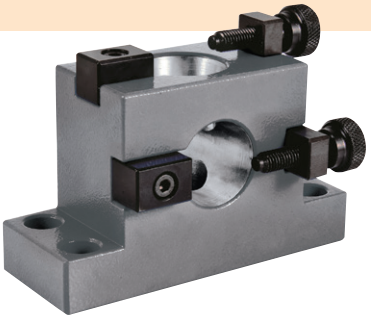


Aluminium assembly aid

Can be used horizontally and vertically

Shank	Length x width x height mm	art.no.	€
SK30	126 x 47 x 75	438049 0030	178,50
SK40	161 x 63 x 104	438049 0040	178,50
SK50	182 x 98 x 155	438049 0050	275,–

4117



Steel assembly aid, swivel-mounted

Can be used horizontally and vertically, swivel-mounted

Suitable for tool holding device	Length x width x height mm	art.no.	€
SK 30	125 x 64 x 121	438051 0030	260,–
SK 40	130 x 64 x 136	438051 0040	260,–
SK 50	170 x 72 x 170	438051 0050	311,–
VDI 20	100 x 48 x 97	438051 0120	305,–
VDI 30	130 x 64 x 121	438051 0130	305,–
VDI 40	130 x 64 x 136	438051 0140	305,–
VDI 50	170 x 72 x 170	438051 0150	336,–
HSK A40	100 x 48 x 97	438051 0240	305,–
HSK A63	130 x 64 x 136	438051 0263	336,–
HSK A100	170 x 72 x 170	438051 0210	342,–

4117



SARA® CNC foam stand for tool holders

- For careful, space-saving storage and arrangement of tool holders
- Made from EPP (expanded polypropylene) particle foam
- Oil, acid and coolant resistant, shock and fracture-proof
- Low unladen weight, easy to clean
- Holders can easily be cut to size and customised with a band saw
- Holders can be joined together easily and securely with a glue gun
- Supplied without tools






800411 0001


800411 0002


800411 0003


800411 0004


800411 0005

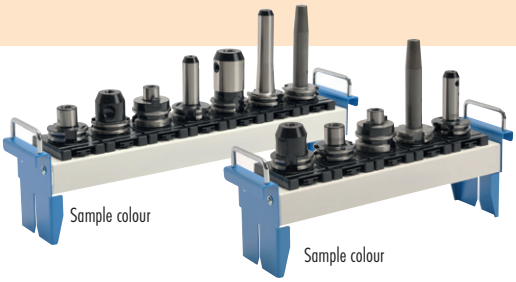
Foam tool holder stand

Suitable for tool holding device	Number of holding fixtures	Width mm	Depth mm	Height mm	Weight kg	art.no.	€
SK 40	6	595	90	100	0.226	800411 0001	21,90
SK 40	12	360	250	200	0.473	800411 0002	60,50
SK 50	6	390	260	145	0.537	800411 0003	69,50
HSK 63	10	360	180	60	0.178	800411 0004	62,50
HSK 63	15	360	245	150	0.356	800411 0005	67,50

8101

bedrunka+hirth CNC stand for tool holders

- For storing and arranging tool holders
- Can be flexibly equipped with various inserts (805030....)
- **Unless otherwise instructed, we supply the colour RAL 7035 (light grey)**
- **Two-colour CNC stands can also be ordered (see illustration)**
- **The standard colours shown below are available at no extra cost**
- **Supplied without inserts and tools**



Tool holder stand

- Our modular system offers you a wide range of options
- 1 box with screw-fixed sides, including handles
- Without tools or inserts

Number inserts	Width mm	Depth mm	Height mm	Model	art.no.	€
7x E1, 5x E2, 3x E3	470	120	180	WAT 500	800406 0001	83,20
10x E1, 7x E2, 5x E3	620	120	180	WAT 600	800406 0002	88,20
14x E1, 9x E2, 7x E3	820	120	180	WAT 800	800406 0005	94,50
16x E1, 11x E2, 8x E3	920	120	180	WAT 900	800406 0006	98,20

8101



Table-top stand for tool holders

- 2 or 4 holders with screw-fixed body
- Shelf and handle
- Without tools or inserts

Number inserts	Width mm	Depth mm	Height mm	Model	art.no.	€
14x E1, 10x E2, 6x E3	425	375	300	TAG 2-1	800406 0010	195,–
20x E1, 14x E2, 10x E3	575	375	300	TAG 2-2	800406 0030	203,–
28x E1, 20x E2, 12x E3	425	375	525	TAG 4-1	800406 0011	285,–
40x E1, 28x E2, 20x E3	575	375	525	TAG 4-2	800406 0031	298,–

8101



RAL 6011 | RAL 7035 | RAL 7040 | RAL 7016 | RAL 9005 | RAL 1023 | RAL 3003 | RAL 3020 | RAL 5012 | RAL 5013 | RAL 5010

bedrunka+hirth Tool inserts

- The insert is clipped into the system by means of a snap-fit closure (clip), and its spacing can easily be changed in increments of 25 mm at any time, without tools
- **Made from oil-resistant, shock-proof and fracture-proof ABS plastic**
- **Compatible with all *Bedrunka+Hirth*** CNC storage and transport systems
- Protective mounting and centring of tool holders
- Optimum use of space thanks to individually adjustable plastic inserts
- Functional modular system
- Knobs prevent tool holders from "adhering" to the surface of the inserts
- All tool sizes can be combined

Tool inserts

- made of shock-proof, oil-resistant ABS material

Suitable for tool holding device	Type	Width mm	Depth mm	art.no.	€
SK 30	E1	49	103	805030 0030	6,50
SK 40	E2	74	103	805030 0040	7,10
SK 50	E3	99	103	805030 0050	7,85
VDI 30	E1	49	103	805030 1030	6,50
VDI 40	E2	74	103	805030 1040	7,10
VDI 50	E3	99	103	805030 1050	7,85
MK 3	E1	49	103	805030 2003	6,50
MK 4	E1	49	103	805030 2004	6,50
MK 5	E2	74	103	805030 2005	7,10
HSK A32/B40 (3 Drill holes)	E3	99	103	805030 3032	15,40
HSK A40/B50 (2 Drill holes)	E3	99	103	805030 3040	12,70
HSK A50/B63	E2	74	103	805030 3050	9,70
HSK A63/B80	E2	74	103	805030 3063	10,45
HSK A80/B100	E3	99	103	805030 3080	11,20
HSK A100/B125	E3	99	103	805030 3100	11,80
CAPTO C3 (3 Drill holes)	E3	99	103	805030 5030	15,40
CAPTO C4	E1	49	103	805030 5040	6,50
CAPTO C5	E2	74	103	805030 5050	7,70
CAPTO C6	E3	99	103	805030 5060	8,70
CAPTO C8	E3	99	103	805030 5080	11,20
Universal inserts solid material Ø 80 mm	E3	99	103	805030 4000	11,20

8101


805030 0040


805030 3032


805030 3040


805030 4000


805030 5030

Data holders

- Clear marking of tool holders
- Tidy-looking tool storage
- Made of plastic
- Minimised tooling time
- Tool optimisation through different colours





for SK40 / HSK63

Colour	art.no.	€
Blue	438061 0002	4,90
Brown	438061 0005	4,90
Yellow	438061 0004	4,90
Grey	438061 0006	4,90
Green	438061 0003	4,90
Red	438061 0001	4,90

4121



for SK50 / HSK100

Colour	art.no.	€
Blue	438062 0002	5,90
Brown	438062 0005	5,90
Yellow	438062 0004	5,90
Grey	438062 0006	5,90
Green	438062 0003	5,90
Red	438062 0001	5,90

4121

Taper wiper

- SK and MT wipers with robust wooden body and felt strips
- HSK wipers with robust plastic body and felt strips
- For cleaning the internal taper on machines and sleeves
- Felt strips resistant to oil and emulsions
- High absorption capacity
- Long service life



Hollow taper wiper

Shank	L mm	art.no.	€
HSK 100	199	400560 1100	93,60
HSK 32	138	400560 1032	65,10
HSK 40	142	400560 1040	67,10
HSK 50	152	400560 1050	69,60
HSK 63	168	400560 1063	74,–

4109



Steep-angle taper wiper

Shank	L mm	art.no.	€
SK30	168	400560 0030	16,70
SK40	188	400560 0040	20,50
SK50	240	400560 0050	36,–

4109



Morse taper wiper

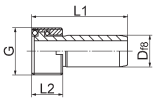
Shank	L mm	art.no.	€
MK1	157	400560 0001	10,95
MK2	192	400560 0002	13,80
MK3	196	400560 0003	17,20
MK4	222	400560 0004	21,30
MK5	258	400560 0005	30,10

4109

Coolant transfer pipe

- For optimising the central coolant supply
- For DIN 69893-HSK-A hollow shank tapers, with two mounted sealing rings





Shank	L1 mm	Thread length mm	D mm	for thread	art.no.	€
HSK 32	26	5.5	6	M10 x 1	431011 0032	13,95
HSK 40	29.5	7.5	8	M12 x 1	431011 0040	13,95
HSK 50	33	9.5	10	M16 x 1	431011 0050	13,95
HSK 63	34.5	11.5	12	M18 x 1	431011 0063	13,95
HSK 80	40	13	14	M20 x 1.5	431011 0080	13,95
HSK 100	44	15.5	16	M24 x 1.5	431011 0100	13,95
PSC 40	25	12	6	M14 x 1	431011 0004	35,–
PSC 50	28	14	7	M16 x 1.5	431011 0005	35,–
PSC 63	31	15	8	M20 x 2	431011 0006	35,–
PSC 80	31.5	15	10	M20 x 2	431011 0008	36,–

4117

Coolant transfer pipe key



Shank	L mm	D mm	art.no.	€
HSK 32	115	8.5	431018 0032	32,80
HSK 40	115	10.5	431018 0040	32,80
HSK 50	115	14.5	431018 0050	32,80
HSK 63	136	16.5	431018 0063	29,20
HSK 80	136	18.5	431018 0080	37,–
HSK 100	136	22	431018 0100	38,40

4117

Socket spanner for pull studs



for DIN ISO 7388-1 and DIN ISO 7388-2

Shank	art.no.	€
SK 40	431028 0040	46,50
SK 50	431028 0050	68,50
BT 40	431028 1040	46,50
BT 50	431028 1050	68,50

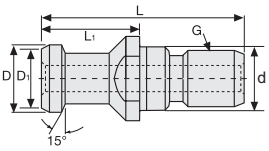
4197

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Register online now!
www.saratools.com



ATORN Pull studs

- For tools with a steep-angle taper in accordance with DIN 69871 and JIS B 6339 (MAS-BT)
- All pull studs made from 16MnCr5, case hardened to HRC 58 ± 2
- Soft thread and bore, burnished and ground
- **Pull studs with O-ring = sealed**
- Other versions available on request (machine model must be specified)



DIN ISO 7388-3 AD, with bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 30	13	9	13	M12	44	24	4 mm	With O-ring	438501 0030	12,95
SK 40	19	14	17	M16	54	26	7 mm	With O-ring	438501 0040	11,95
SK 50	28	21	25	M24	74	34	11.5 mm	With O-ring	438501 0050	14,95

4133

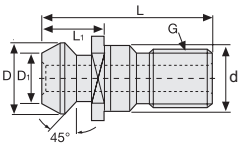


DIN ISO 7388-3 AF, without bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 30	13	9	13	M12	44	24	-	With O-ring	438502 0030	13,40
SK 40	19	14	17	M16	54	26	-	With O-ring	438502 0040	12,40
SK 50	28	21	25	M24	74	34	-	With O-ring	438502 0050	15,50

4133





DIN ISO 7388-3 UD, with bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 40	18.95	12.95	17	M16	44.5	16.25	7 mm	With O-ring	438505 0040	13,30
SK 50	29.1	19.6	25	M24	65.5	25.55	11.5 mm	With O-ring	438505 0050	16,60

4133

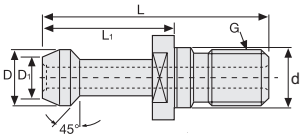


DIN ISO 7388-3 UF, without bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 40	18.95	12.95	17	M16	44.5	16.25	-	With O-ring	438506 0040	12,60
SK 50	29.1	19.6	25	M24	65.5	25.55	-	With O-ring	438506 0050	16,60

4133





DIN ISO 7388-3 JD 45°, with bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 30	11	7	12.5	M12	43	23	2 mm	With O-ring	438509 4530	11,30
SK 40	15	10	17	M16	60	35	4 mm	With O-ring	438509 4540	13,10
SK 50	23	17	25	M24	85	45	6 mm	With O-ring	438509 4550	18,70

4133

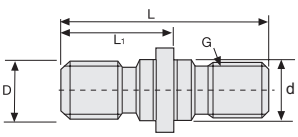


DIN ISO 7388-3 JF 45°, without bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 30	11	7	12.5	M12	43	23	-	Without O-ring	438510 4530	11,30
SK 40	15	10	17	M16	60	35	-	With O-ring	438510 4540	13,10
SK 50	23	17	25	M24	85	45	-	With O-ring	438510 4550	18,70

4133



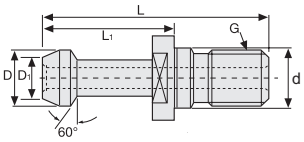


Saw-tooth thread stud SK40 S20X2 for cover

Suitable for tool holding device	D mm	d mm	for thread	L mm	L1 mm	Drill hole	Design mm	art.no.	€
SK 40	S20 x 2	17	M16	53	25	-	Without O-ring	438520 0041	19,70

4133





DIN ISO 7388-3 JD 60°, with bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 30	11	7	12.5	M12	43	23	3 mm	With O-ring	438508 6030	11,30
SK 40	15	10	17	M16	60	35	4 mm	With O-ring	438508 6040	13,10
SK 50	23	17	25	M24	85	45	6 mm	With O-ring	438508 6050	18,70

4133

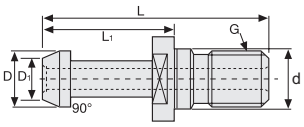


DIN ISO 7388-3 JF 60°, without bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 30	11	7	12.5	M12	43	23	-	With O-ring	438510 6030	11,30
SK 40	15	10	17	M16	60	35	-	With O-ring	438510 6040	13,10
SK 50	23	17	25	M24	85	45	-	With O-ring	438510 6050	18,70

4133





DIN ISO 7388-3 JD 90°, with bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 40	15	10	17	M16	60	35	4 mm	With O-ring	438511 9040	13,10
SK 50	23	17	25	M24	85	45	6 mm	With O-ring	438511 9050	18,70

4133

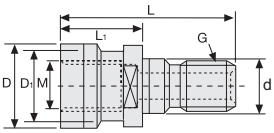


DIN ISO 7388-3 JF 90°, without bore

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 40	15	10	17	M16	60	35	-	With O-ring	438512 9040	13,10
SK 50	23	17	25	M24	85	45	-	With O-ring	438512 9050	18,70

4133



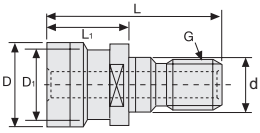


Ott ring groove, 15° with tapped head, for DIN 69871 AD shank

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 40	21.1	17	25	M16	53	25.1	7 mm	With O-ring	438515 0040	14,90
SK 50	32	25	39.6	M24	65.10	25.1	11.5 mm	Without O-ring	438515 0050	16,10

4133





Ott ring groove, 15° with bore, for DIN 69871 AD shank

Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 40	21.1	17	25	M16	53	25.1	7.5 mm	With O-ring	438516 0040	12,20
SK 50	32	25	39.6	M24	65.10	25.1	11.5 mm	Without O-ring	438516 0050	15,10

4133



Ott ring groove, 15° without bore, for DIN 69871 AD shank

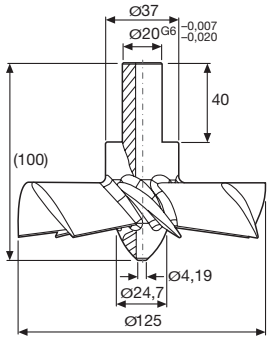
Suitable for tool holding device	D mm	D1 mm	d mm	for thread	L mm	L1 mm	Drill hole	Design	art.no.	€
SK 40	21.1	17	25	M16	53	25.1	-	With O-ring	438517 0040	12,20
SK 50	32	25	39.6	M24	65.1	25.1	-	Without O-ring	438517 0050	15,10

4133



ATORN Chip booster

- Made from high-strength anodised aluminium
- Automatic cleaning of machine tool working area
- Reduced auxiliary processing times
- Low compressed air consumption
- Central coolant supply
- Balanced to G 2.5 / 12,000 rpm





D mm	Shank mount diameter mm	art.no.	€
125	20	400561 0125	346,–
		4144	

SARA® Cleaning nozzle *SARA-JET*

- For cleaning the interior of your CNC machine
- Suitable for use with air or cooling lubricant
- Complex set-ups can be rinsed effectively
- Slow spindle rotation cleans all of the working area
- Nozzles are infinitely adjustable in angle
- Each nozzle can be closed separately if required
- Recommended max. rotational speed 500 rpm
- Use with Weldon chuck Ø 16 mm or collet chuck with sealed collet Ø 16 mm



Air and emulsion rinsing head

Head diameter mm	Total height mm	art.no.	€
min. 42 to max. 78	80	400562 0001	119,90
		4197	

bilz Engraving chuck *ETO*

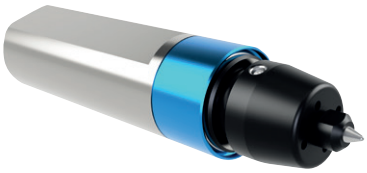
- Engraving on almost all surfaces
- For materials such as plastic / aluminium / steel up to max. 57 HRC
- Adjustable engraving hardness (engraving depth)
- High wear resistance of the engraving tip with rolling ball
- Compensation of unevenness
- Cleaning of the workpiece surface by internal compressed air feed-through up to max. 10 bar - **no coolant**
- Compressed air ducts with different angles of attack
- **Tool holder Ø 20 mm collet / Weldon holders**
- **Supplied with engraving tip**





For holders Ø 20 mm

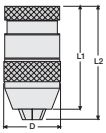
Designation	art.no.	€
Engraving chuck ETO for holders Ø 20 mm	420250 1020	460,–
Spare engraving tip for ETO	420250 1021	120,–
	4195	



RÖHM Quick-release drill chuck *SPIRO*

- **Precision design**
- Self-clamping without key, self-acting re-tensioning
- Particularly suitable for high speeds and precision work
- **For clockwise rotation**
- **Internal taper, DIN 238**
- True-running accuracy 0.05 mm
- Further sizes available on request





Length open = L2



Clamping range	Taper support	L1 mm	Length, open mm	D mm	art.no.	€
0 - 10	B 12	82.5	90.1	43	400115 0005	203,–
0 - 10	B 16	82.5	90.1	43	400115 0006	203,–
1 - 13	B 16	94	102.5	50	400115 0007	217,–
3 - 16	B 16	96.5	106.8	50	400115 0008	233,–

4186

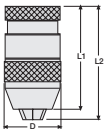
RÖHM Keyed drill chuck *PRIMA*

Internal taper, DIN 238

- Industrial version with key
- Further sizes available on request







Clamping range	Taper support	Wrench size	L1 mm	Length, open mm	D mm	art.no.	€
0.5 - 8	B 12	S 1	47.5	57.5	29.5	400125 0001	39,–
1 - 10	B 16	S 2	63	77	42.8	400125 0002	43,60
1 - 16	B 18	S 3	79	98	56.5	400125 0004	103,–
5 - 20	B 22	S 4	92.5	113.5	65	400125 1004	204,–

4186

Spare key

- **DIN 6349**
- For keyed drill chucks



Wrench size	Pin Ø mm	Height mm	art.no.	€
S 1	4	30	400140 0001	3,69
S 2	6	41	400140 0002	3,69
S 3	8	50	400140 0003	5,20
S 4	9	75	400140 0005	6,65

4186

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RÖHM Quick-release drill chuck *SUPRA*

- **Clockwise rotation**
- Without key, self-clamping
- Further sizes and 3/8 inch x 24 female thread available on request





Length open = L2

Internal taper in accordance with DIN 238

Clamping range	Taper support	L1 mm	Length, open mm	D mm	art.no.	€
0 - 6.5	B 10	59.5	65.6	32	400145 0001	112,–
0 - 8	B 12	67	73.4	35.8	400145 0003	111,–
0 - 10	B 12	79.5	86.1	40.2	400145 0004	120,50
0 - 10	B 16	82.5	89.1	40.2	400145 0005	120,50
1 - 13	B 12	78.8	86.1	40.2	400145 1006	103,–
1 - 13	B 16	93	101.5	46	400145 0006	128,50
3 - 16	B 16	96.5	106.8	51	400145 0007	137,50
3 - 16	B 18	96.5	106.8	51	400145 0008	137,50

4186

RÖHM Quick-release drill chuck *SUPRA SK*

- **With clamping force locking mechanism**
- Industrial version
- **Clockwise rotation**
- **Female thread**
- Without key, self-clamping
- **Specifically for hammer drills and machines with high natural frequencies**





Length open = L2

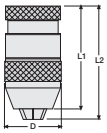
Clamping range	Female thread	L1 mm	Length, open mm	D mm	art.no.	€
0.5 - 10	3/8" x 24	66	73.7	40	400155 0001	103,–
1.0 - 13	1/2" x 20	74.2	83.3	42.8	400155 0003	112,–

4186

ALBRECHT Präzisions Spannfutter Precision drill chuck *SBF*

- Self-clamping allows for simple and quick operation
- Easy to clamp and open by hand (no key required)
- All wearing parts case-hardened, ground and replaceable
- **For clockwise rotation**
- **Internal taper DIN ISO 239-B**
- Further sizes, versions with fastening screw thread UNF and with diamond-coated clamping jaws available on request





Length open = L2



DIN 239 B..

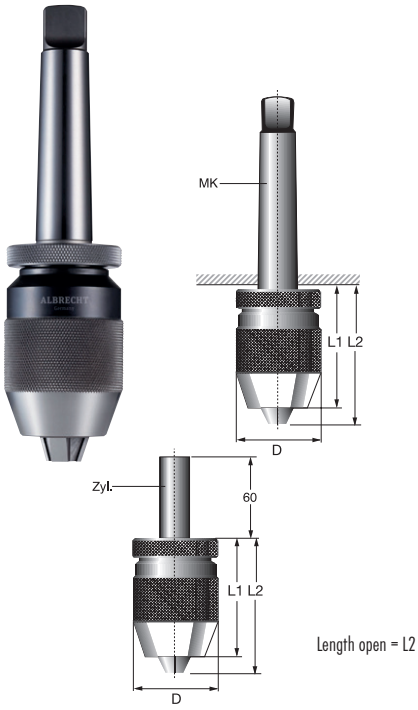
- * = DIN 239 B18 with short taper support

Clamping range	Taper support	L1 mm	Length, open mm	D mm	art.no.	€
0.2 - 1.5	B 06	35	37	19	400105 0000	261,50
0.2 - 3	B 06	44	48	24	400105 0001	217,60
0.5 - 6.5	B 12	62	68	34	400105 0005	212,–
0.5 - 10	B 12	80	92	43	400105 0007	212,40
0.5 - 10	B 16	80	92	43	400105 0008	212,40
1 - 13	B 16	91	103	50	400105 0009	214,20
3 - 16	B 16	96	109	56	400105 0010	244,10
3 - 16	B 18*	96	109	56	400105 0011	244,10

4102

ALBRECHT Präzisions Spannfutter Precision drill chuck *SBF-plus*

- **With mounting shank**
- Compact design
- High stability and high true-running accuracy
- **For clockwise rotation**
- **Advantage:** The SBF-plus drill chuck is a total of 21 mm shorter than two-part systems consisting of a taper and drill chuck.
- Version with diamond-coated clamping jaws available on request



Morse taper holding fixture

Clamping range	Shank	L1 mm	Length, open mm	D mm	art.no.	€
1 - 13	MK 2	85	97	50	400156 0213	235,50
1 - 13	MK 3	85	97	50	400156 0313	239,80
1 - 13	MK 4	87	99	50	400156 0413	249,10
3 - 16	MK 2	89	103	56	400156 0216	264,70
3 - 16	MK 3	89	103	56	400156 0316	268,80
3 - 16	MK 4	90	104	56	400156 0416	278,70

4102

Straight shank

Clamping range	Shank Ø mm	L1 mm	Length, open mm	D mm	art.no.	€
1 - 13	16 x 60	79	91	50	400156 1613	234,60

4102

SARA® Plug-in shank

- **For drill chucks with internal tapers in accordance with DIN 238-B**
- **With Morse taper shank and tangs**
- Hardened and ground
- Further sizes available on request

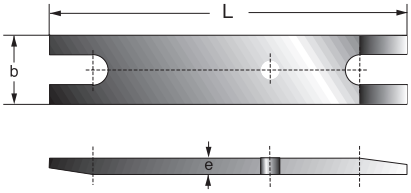


Shank	Taper support	Max. diameter mm	art.no.	€
MT 1	B 10	10.095	400180 0110	9,50
MT 1	B 12	12.065	400180 0112	9,50
MT 1	B 16	15.733	400180 0116	9,50
MT 1	B 18	17.78	400180 0118	9,75
MT 2	B 10	10.095	400180 0210	10,75
MT 2	B 12	12.065	400180 0212	10,70
MT 2	B 16	15.733	400180 0216	10,70
MT 2	B 18	17.78	400180 0218	10,70
MT 3	B 12	12.065	400180 0312	13,90
MT 3	B 16	15.733	400180 0316	14,30
MT 3	B 18	17.78	400180 0318	14,70
MT 3	B 22	21.793	400180 0322	15,10
MT 4	B 16	15.733	400180 0416	23,60
MT 4	B 18	17.78	400180 0418	23,80
MT 4	B 22	21.793	400180 0422	23,90
MT 5	B 16	15.733	400180 0516	39,70
MT 5	B 18	17.78	400180 0518	41,40
MT 5	B 22	21.793	400180 0522	44,90

4107

ALBRECHT Präzisions Spannfutter Chuck removal tool *ADG*

- Properly removes drill chucks from the drill chuck holding fixture
- Prevents damage to drill chucks, machine spindles or taper mandrels

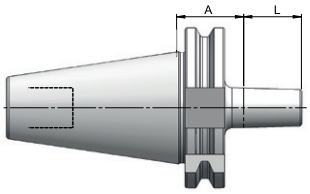


L mm	b mm	e mm	suitable for taper support	art.no.	€
120	20	10	B 06	400550 0006	31,90
170	30	10	B 10, B 12	400550 1012	44,90
210	40	12	B 16, B 18	400550 1618	47,30

4102

ATORN Drill chuck holding fixtures

DIN 238



- **Without drill chuck**
- Alloyed case-hardened steel with a core tensile strength of min. 800 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Pre-balanced to G 6.3 / 15,000 rpm
- **Accuracy:** Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- SK 30 holding fixtures available on request

DIN ISO 7388-1 / DIN 69871 A



Shank	Taper support	A mm	L mm	art.no.	€
SK40	B 12	24	18	436103 4012	51,40
SK40	B 16	26	24	436103 4016	51,40
SK40	B 18	42	18	436103 4018	51,40
SK50	B 16	26	24	436103 5016	66,50
SK50	B 18	26	32	436103 5018	66,50

4117

JIS B 6339 (MAS 403 BT) A



Shank	Taper support	A mm	L mm	art.no.	€
BT 40	B 12	32	18	436107 4012	51,40
BT 40	B 16	34	24	436107 4016	51,40
BT 40	B 18	34	32	436107 4018	51,40
BT 50	B 16	45	24	436107 5016	66,50
BT 50	B 18	45	32	436107 5018	66,50

4117

DIN 2080

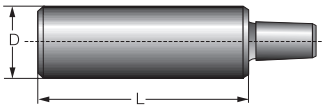


Shank	Taper support	A mm	L mm	art.no.	€
SK40	B 12	15	18	436101 4012	49,60
SK40	B 16	18	24	436101 4016	49,60
SK40	B 18	18	32	436101 4018	49,60
SK50	B 16	22	24	436101 5016	68,–
SK50	B 18	20	32	436101 5018	68,–

4117

ALBRECHT Präzisions Spannfutter Precision plug-in shank

- **For drill chucks with internal tapers in accordance with DIN 239-B**
- Precision version, hardened and ground
- True-running accuracy 2 µm
- Further sizes available on request



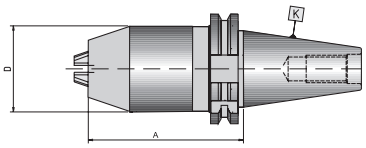


D mm	L mm	Taper support	art.no.	€
		B 06	400185 0606	27,20
		B 10	400185 0810	26,50
		B 12	400185 1012	37,30
		B 16	400185 1616	38,50

4102

SARA® NC short drill chuck

- **Suitable for clockwise rotation**
- Very high clamping force
- Supplied with open-end spanner





DIN69893-1 HSK-A

Shank	Clamping range	A mm	D mm	art.no.	€
HSK-A 63	1 - 13	139	50	440148 6313	332,–
HSK-A 63	3 - 16	142	57	440148 6316	332,–
				4199	



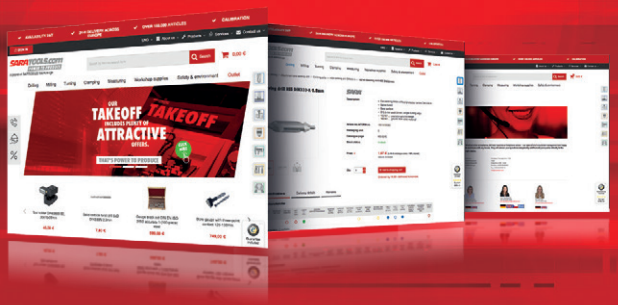
DIN ISO 7388-1 A / DIN 69871 A

Shank	Clamping range	A mm	D mm	art.no.	€
SK 40	1 - 13	84	50	440147 4013	150,50
SK 40	3 - 16	87	57	440147 4016	160,–
SK 50	1 - 13	84	50	440147 5013	267,–
SK 50	3 - 16	87	57	440147 5016	267,–
				4199	

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ATORN NC short drill chuck with spur gear system



Clamping range 0.5 to 16.0 mm

- **Clamping by means of a spur gear system**
- **Suitable for clockwise and anticlockwise rotation**
- True-running accuracy 0.02 mm
- Short clamping and retooling times
- Very short design
- For drilling, reaming, countersinking, thread cutting and simple finishing work on machining centres and CNC lathes
- Pre-balanced to G 6.3 at 25,000 rpm
- Max. permitted speed with balanced tool 35,000 rpm
- Max. permitted speed with unbalanced tool 7,000 rpm



DIN 69893 ISO 12164-1 (HSK-A)

- Internal coolant supply

Shank	Min./max. clamping width	A mm	External Ø mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
HSK 63	0.5-16 mm	109	57	20	90	6 mm	0.02	440137 6316	409,–
								4101	



DIN ISO 7388-1 AD / DIN 69871 AD/AF

- Internal coolant supply

Shank	Min./max. clamping width	A mm	External Ø mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
SK40	0.5-16 mm	90	57	20	90	6 mm	0.02	440139 4016	299,–
								4101	



JIS B 6339 A (JIS B 6339)

- Internal coolant supply

Shank	Min./max. clamping width	A mm	External Ø mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
BT 40	0.5-16 mm	90	57	20	90	6 mm	0.02	440136 4016	299,–
								4101	

wte NC short drill chuck with spur gear system

- **Clamping via spur gear system**
- True running accuracy 0.02 mm
- High clamping force
- Short clamping and retrofitting times
- Very short design
- **Suitable for clockwise and anti-clockwise rotation**
- Further DIN versions available on request
- Pre-balanced to G 6.3 / 25,000 rpm
- Max. permitted rotational speed with balanced tool 35,000 rpm



DIN ISO 7388-1 / DIN 69871

Shank	Clamping range	D mm	A mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	Type A art.no.	€	Type AD/AF art.no.	€
SK40	0.5 - 13	50	90	20	80	6 mm	0.02	441003 4013	329,–	441005 4013	405,–
SK50	0.5 - 13	50	106	20	80	6 mm	0.02	441003 5013	415,–	441005 5013	465,–
								4108		4108	



MAS 403 BT - type AD/AF

Shank	Clamping range	D mm	A mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
BT 40	0.5 - 13	50	98	20	80	6 mm	0.02	441007 4013	389,–
BT 50	0.5 - 13	50	110	20	80	6 mm	0.02	441007 5013	449,–

4108



DIN 2080

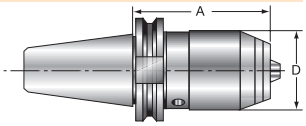
Shank	Clamping range	D mm	A mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
SK40	0.5 - 13	50	83	20	80	6 mm	0.02	441001 4013	347,–
SK40	0.5 - 13	50	100	20	80	6 mm	0.02	441001 5013	389,–

4108

ATORN NC short drill chuck with worm gear

- **Clamping by means of an integrated worm gear**
- Clamping range 1.0 to 16.0 mm
- High true running accuracy, max. 0.03 mm
- **Suitable for clockwise and anti-clockwise rotation**
- Long service life, wearing parts hardened and ground
- Balanced up to 7000 rpm With a residual imbalance of max. 40 g/mm
- Supplied with hexagonal key
- Max. permitted rotational speed with balanced tool 35,000 rpm

Clamping range 1.0 to 16.0 mm with internal coolant supply





DIN 69893 ISO 12164-1 (HSK-A)

- Internal coolant supply

Shank	Min./max. clamping width	A mm	External Ø mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
HSK 63	1-16 mm	98	50	10	90	4 mm	0.03	440129 6316	409,–

4101



DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply

Shank	Min./max. clamping width	A mm	External Ø mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
SK40	1-16 mm	80	50	10	90	4 mm	0.03	440127 4016	299,–
SK50	1-16 mm	80	50	10	90	4 mm	0.03	440127 5016	409,–

4101



JIS B 6339 A (MAS BT)

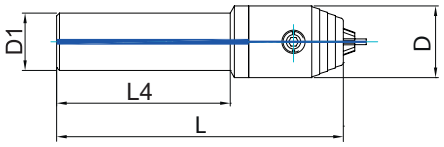
- Internal coolant supply

Shank	Min./max. clamping width	A mm	External Ø mm	Max. tightening torque N·m	Retaining force N	Wr. width	Max. concentricity µm	art.no.	€
BT 40	1-16 mm	88	50	10	90	4 mm	0.03	440128 4016	299,–

4101

ATORN Micro universal chuck

- Specially developed for micro-machining
- For machining applications in the fields of medical technology, clock and watchmaking, precision engineering and electrical engineering
- **Pre-balanced to G 2.5 / 25,000 rpm**
- True running accuracy 0.005 mm
- Clamping range from 0.2 to 3.4 mm and 0.2 to 6.4 mm



Clamping range 0.2 to 3.4 mm



D1 mm	External Ø mm	L mm	L4 mm	Weight kg	art.no.	€
16	19	80	50	0.13	442401 1608	435,–
16	19	100	70	0.16	442401 1610	456,–
16	19	160	130	0.26	442401 1616	499,–
20	19	80	52	0.17	442401 2008	435,–
20	19	100	72	0.21	442401 2010	457,–
20	19	160	132	0.36	442401 2016	499,–

4205

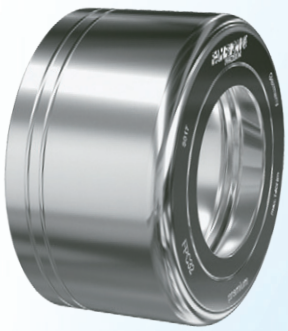
Clamping range 0.2 to 6.4 mm



D1 mm	External Ø mm	L mm	L4 mm	Weight kg	art.no.	€
16	25	100	60	0.3	442402 1610	470,–
16	25	150	110	0.5	442402 1615	493,–
16	25	200	160	0.7	442402 1620	537,–
20	25	100	60	0.4	442402 2010	470,–
20	25	150	110	0.6	442402 2015	493,–
20	25	200	160	0.8	442402 2020	537,–

4205

FULL PERFORMANCE LOCKNUT





DESIGNED FOR USE WITH WEDGE COLLETS IN THE CENTRO | P

The **FPC** clamping nut stands for maximum precision and stability, making it the ideal choice for HP collets and wedge collets.

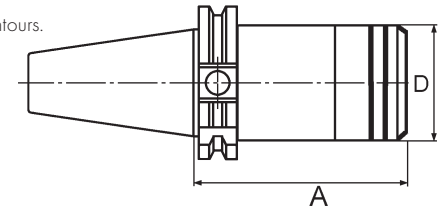
- **Low-force clamping** thanks to an angular-contact ball bearing and compensation ring, eliminating radial load on the collet
- **Noticeable vibration dampin**g and outstanding stability through a robust trapezoidal thread with CENTRO | P dual-guide system
- **Optimized vibration absorption** due to the multi-part design, protecting against galling, indentations, and damage
- **Increased clamping force** for maximum process reliability and highly precise machining operations

FPC Clamping Nut 32 for GERC32 Collets Article No. 431239 0032
FPC Clamping Nut 40 for GERC40 Collets Article No. 431239 0040

ATORN Precision ER collet chuck

True-running accuracy 3 µm incl. clamping nut

- **30° ground trapezoidal thread with special anti-friction coating**
- Up to twice the holding forces of conventional collet chucks are possible thanks to lower friction when tightening the nut and due to the collet being seated entirely inside the chuck cone.
- Resistant to temperature fluctuations and fully suitable for dry processes and hard milling up to 200 °C.
- Clamping forces are distributed evenly across the entire cylindrical surface, and optimum radial force absorption produces perfect surfaces
- Excellent damping properties
- Increasing the chuck body to the diameter of the clamping nut creates enormous stability without any protruding contours.
- **Extremely high concentricity and precision, 3 µm**
- **Pre-balanced to G 2.5 at 22,000 rpm**
- **Leak-proof up to 80 bar with radially sealed collets**
- **For all GER collets**
- **Supplied with clamping nut**
- **Please order roller chuck key separately**
  Torque wrench recommended





DIN 69893 HSK-A, incl. clamping nut

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used



Shank	Clamping range	Suitable for collet type	A mm	External Ø mm	art.no.	€
HSK 63	1-10 mm	ER 16	55	30	431236 1606	184,–
HSK 63	1-10 mm	ER 16	100	30	431236 1610	184,–
HSK 63	1-10 mm	ER 16	160	30	431236 1616	249,–
HSK 63	2-16 mm	ER 25	100	40	431236 2510	190,–
HSK 63	2-16 mm	ER 25	160	40	431236 2516	260,–
HSK 63	2-20 mm	ER 32	70	50	431236 3207	192,–
HSK 63	2-20 mm	ER 32	100	50	431236 3210	192,–
HSK 63	2-20 mm	ER 32	160	50	431236 3216	262,–

4178

DIN ISO 7388-1 / DIN 69871 AD, incl. clamping nut

- Internal coolant supply



Shank	Clamping range	Suitable for collet type	A mm	External Ø mm	art.no.	€
SK40	1-10 mm	ER 16	70	30	431235 1607	152,–
SK40	1-10 mm	ER 16	100	30	431235 1610	164,–
SK40	1-10 mm	ER 16	160	30	431235 1616	238,–
SK40	2-16 mm	ER 25	70	40	431235 2507	156,–
SK40	2-16 mm	ER 25	100	40	431235 2510	168,–
SK40	2-16 mm	ER 25	160	40	431235 2516	249,–
SK40	2-20 mm	ER 32	70	50	431235 3207	160,–
SK40	2-20 mm	ER 32	100	50	431235 3210	170,–
SK40	2-20 mm	ER 32	160	50	431235 3216	252,–

4178

Roller chuck key



Designation	Suitable for clamping nut type	art.no.	€
RO 30	HPC16 / HPC16-DI	431240 3016	75,40
RO 40	HPC25 / HPC25-DI	431240 3030	75,40
RO 50	HPC32 / HPC32-DI	431240 5032	75,40

4118

Torque roller chuck key attachment

- Type = article number for suitable torque wrench



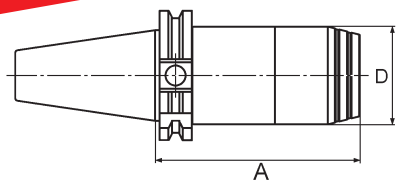
Designation	Suitable for clamping nut type	Type	art.no.	€
DRO 40	HPC25 / HPC25-DI	7026030003	431242 4025	75,40
DRO 50	HPC32 / HPC32-DI	7026030004	431242 5032	75,40

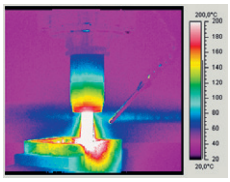
4118

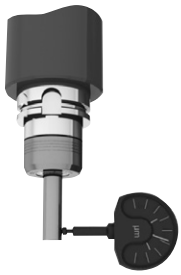
FAHRION® CENTRO|P precision ER collet chuck

True-running accuracy 1 µm

- **30° trapezoidal thread**
- With ground, extra-long double guide compared to 60° V-thread in conventional collet chucks
- Coated clamping nut reduces friction when tightening the nut
- Exact nut centring to minimise imbalance
- **Up to 100 % higher holding forces** compared with conventional collet chucks
- **Pre-balanced to G 2.5 at 25,000 rpm**
- **Entirely suitable** for dry processes and hard milling
- Insensitive to temperature fluctuations up to 200 °C
- **Leak-proof** up to 80 bar, cooling possible along the cutting edge
- **Extremely high system concentricity and precision of 3 µm achieved with a 2 µm GER-HP collet**
- **Supplied without clamping nuts or a chuck key, please order separately!**
- Slim and conical versions available on request





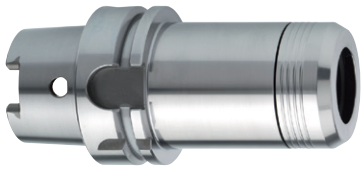


DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used

Shank	Clamping range	Suitable for collet type	A mm	External Ø mm	art.no.	€
HSK 63	1 - 10	GER16-HP/-HPD/-HPDD	100	30	431232 1030	147,–
HSK 63	1 - 10	GER16-HP/-HPD/-HPDD	160	30	431232 1630	213,–
HSK 63	2 - 16	GER25-HP/-HPD/-HPDD	100	40	431232 1040	147,–
HSK 63	2 - 20	GER32-HP/-HPD/-HPDD	70	50	431232 0750	147,–
HSK 63	2 - 20	GER32-HP/-HPD/-HPDD	100	50	431232 1050	147,–
HSK 63	2 - 20	GER32-HP/-HPD/-HPDD	160	50	431232 1650	219,–

4118

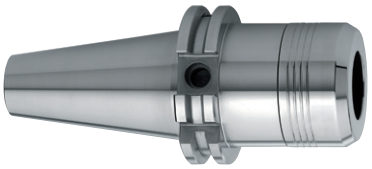


DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply

Shank	Clamping range	Suitable for collet type	A mm	External Ø mm	art.no.	€
SK40	1 - 10	GER16-HP/-HPD/-HPDD	70	30	431230 0730	114,50
SK40	1 - 10	GER16-HP/-HPD/-HPDD	100	30	431230 1030	126,50
SK40	1 - 10	GER16-HP/-HPD/-HPDD	160	30	431230 1630	201,–
SK40	2 - 16	GER25-HP/-HPD/-HPDD	45	40	431230 0440	137,–
SK40	2 - 16	GER25-HP/-HPD/-HPDD	70	40	431230 0740	114,50
SK40	2 - 16	GER25-HP/-HPD/-HPDD	100	40	431230 1040	126,50
SK40	2 - 16	GER25-HP/-HPD/-HPDD	160	40	431230 1640	205,50
SK40	2 - 20	GER32-HP/-HPD/-HPDD	50	50	431230 0550	122,–
SK40	2 - 20	GER32-HP/-HPD/-HPDD	70	50	431230 0750	114,50
SK40	2 - 20	GER32-HP/-HPD/-HPDD	100	50	431230 1050	126,50
SK40	2 - 20	GER32-HP/-HPD/-HPDD	160	50	431230 1650	205,50

4118



Clamping nuts (nuts for HPC...-DI sealing washers)

Type	Designation	External Ø mm	art.no.	€
GER16-HP/-HPD/-HPDD	HPC-16	30	431237 0016	36,–
GER16-HP/-HPD/-HPDD	HPC-16-DI	30	431237 0116	44,30
GER25-HP/-HPD/-HPDD	HPC-25	40	431237 0025	39,50
GER25-HP/-HPD/-HPDD	HPC-25-DI	40	431237 0125	48,60
GER32-HP/-HPD/-HPDD	HPC-32	50	431237 0032	42,–
GER32-HP/-HPD/-HPDD	HPC-32-DI	50	431237 0132	50,90

4118



Roller chuck key

Designation	Suitable for clamping nut type	art.no.	€
RO 30	HPC16 / HPC16-DI	431240 3016	75,40
RO 40	HPC25 / HPC25-DI	431240 3030	75,40
RO 50	HPC32 / HPC32-DI	431240 5032	75,40

4118



Torque roller chuck key attachment

- Type = article number for suitable torque wrench

Designation	Suitable for clamping nut type	Type	art.no.	€
DRO 40	HPC25 / HPC25-DI	7026030003	431242 4025	75,40
DRO 50	HPC32 / HPC32-DI	7026030004	431242 5032	75,40

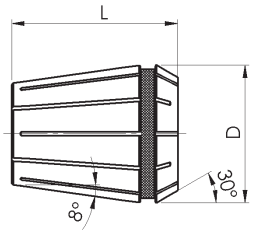
4118

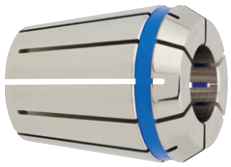


FAHRION® GERC-HP precision collets 2 µm

- **GERC-HP, HPD and HPDD collets 2 µm**
- **For Atorn precision ER collet chuck and Fahrion CENTRO|P**
- Higher contact area ratio
- Increased rigidity and holding forces
- Greater system concentricity
- Optimum concentricity at nominal Ø
- Collapse h10

Fahrion Protect corrosion protection

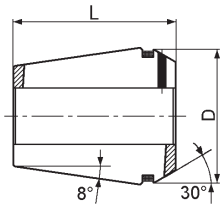


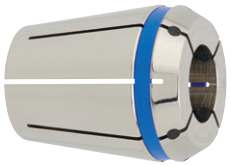


Standard version / type GER-HP
- **d1 = clamping diameter**

d1 mm	GERC16 / 426E art.no.	€	GERC25 / 430E art.no.	€	GERC32 / 470E art.no.	€
1	433121 0010	74,70				
2	433121 0020	56,10	433122 0020	58,–	433123 0020	59,50
3	433121 0030	47,80	433122 0030	49,30	433123 0030	49,80
4	433121 0040	47,80	433122 0040	49,30	433123 0040	49,80
5	433121 0050	47,80	433122 0050	49,30	433123 0050	49,80
6	433121 0060	47,80	433122 0060	49,30	433123 0060	49,80
7	433121 0070	47,80	433122 0070	49,30	433123 0070	49,80
8	433121 0080	47,80	433122 0080	49,30	433123 0080	49,80
9	433121 0090	47,80	433122 0090	49,30	433123 0090	49,80
10	433121 0100	47,80	433122 0100	49,30	433123 0100	49,80
	4118		4118		4118	

d1 mm	GERC16 / 426E art.no.	€	GERC25 / 430E art.no.	€	GERC32 / 470E art.no.	€
11			433122 0110	49,30	433123 0110	49,80
12			433122 0120	49,30	433123 0120	49,80
13			433122 0130	49,30	433123 0130	49,80
14			433122 0140	49,30	433123 0140	49,80
15			433122 0150	49,30	433123 0150	49,80
16			433122 0160	49,30	433123 0160	49,80
17					433123 0170	49,80
18					433123 0180	49,80
20					433123 0200	49,80
	4118		4118		4118	

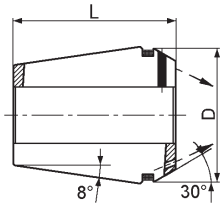


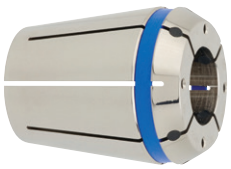


With seal for internal coolant supply / type GER-HPD
d1 = clamping diameter

d1 mm	GERC16-HPD / 425E art.no.	€	GERC25-HPD / 429E art.no.	€	GERC32-HPD / 469E art.no.	€
3	433124 1603	64,40				
4	433124 1604	64,40	433126 2504	67,90	433127 3204	70,30
5	433124 1605	70,50	433126 2505	74,10	433127 3205	76,50
6	433124 1606	64,40	433126 2506	67,90	433127 3206	70,30
8	433124 1608	64,40	433126 2508	67,90	433127 3208	70,30
10	433124 1610	64,40	433126 2510	67,90	433127 3210	70,30
	4118		4118		4118	

d1 mm	GERC16-HPD / 425E art.no.	€	GERC25-HPD / 429E art.no.	€	GERC32-HPD / 469E art.no.	€
12			433126 2512	67,90	433127 3212	70,30
14			433126 2514	67,90	433127 3214	70,30
16			433126 2516	67,90	433127 3216	70,30
18					433127 3218	70,30
20					433127 3220	70,30
	4118		4118		4118	





With seals for internal coolant supply and coolant bore / type GER-HPDD
d1 = clamping diameter

d1 mm	GERC25-HPDD / 429E art.no.	€	GERC32-HPDD / 469E art.no.	€
4	433129 2504	100,40	433130 3204	104,–
6	433129 2506	100,40	433130 3206	104,–
8	433129 2508	100,40	433130 3208	104,–
10	433129 2510	100,40	433130 3210	104,–
	4118		4118	

d1 mm	GERC25-HPDD / 429E art.no.	€	GERC32-HPDD / 469E art.no.	€
12	433129 2512	100,40	433130 3212	104,–
14	433129 2514	100,40	433130 3214	104,–
16			433130 3216	104,–
18			433130 3218	104,–
	4118		4118	

Set in a wooden box, with seals for internal coolant supply / type GER-HPD

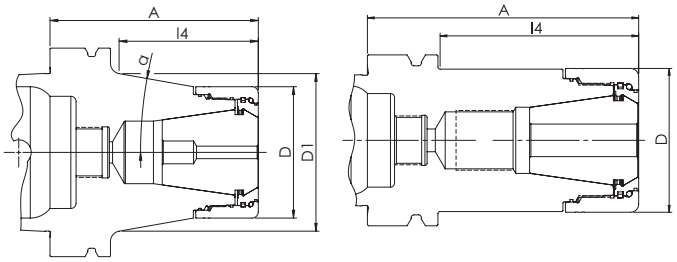
Designation	d1 mm	Clamping range	art.no.	€
GERC16-HPD / 425E	Ø3-4-5-6-8-10	3 - 10	433078 0000	411,–
GERC20-HPD / 427E	Ø3-4-5-6-8-10-12	3 - 12	433078 0001	496,–
GERC25-HPD / 429E	Ø4-6-8-10-12-14-16	4 - 16	433078 0002	500,–
GERC32-HPD / 469E	Ø4-6-8-10-12-14-16-20	4 - 20	433078 0003	589,–
			4118	



FAHRION® Heavy Duty clamping nut *HDC-32*

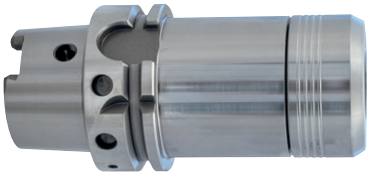
- High stability and radial rigidity with reinforced chuck body
- Trapezoidal fine thread in the clamping nut leads to optimum conversion of the tightening torques into clamping force
- Ball bearing-mounted clamping nut prevents twisting of the collet and reduces vibrations
- High concentricity due to full fit of the collet in the chuck cone
- **Delivery includes clamping nut without roller clamping key**

True-running accuracy 1 µm



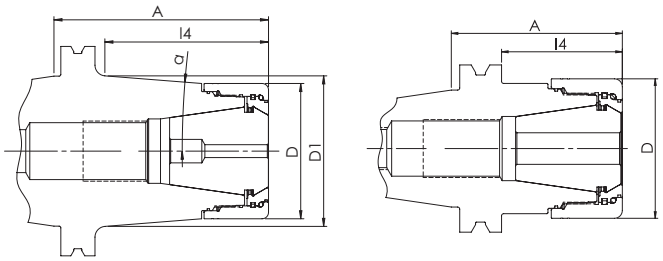
DIN 69893 Form A

- For collet size ER32



Shank	A mm	l4 mm	D mm	D1 mm	Angle °	art.no.	€
HSK 63	70	43	53	53	-	431335 6370	255,–
HSK 63	100	74	53	53	-	431335 6399	255,–
HSK 100	100	66	53	67	10°	431335 1010	410,–

4118



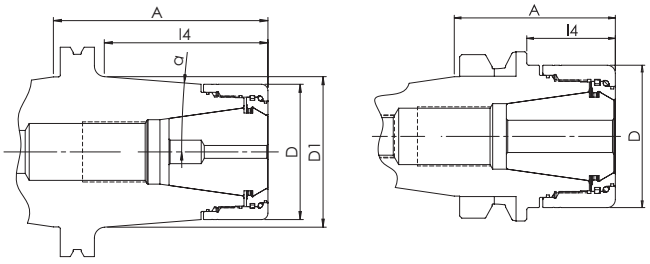
DIN ISO 7388-1 AD

- For collet size ER32



Shank	A mm	l4 mm	D mm	D1 mm	Angle °	art.no.	€
SK40	65	45	53	53	-	431336 4065	210,–
SK50	70	46.5	53	60	10°	431336 5070	327,–
SK50	100	77	53	71	10°	431336 5099	378,–

4118



DIN ISO 7388-2 AD

- For collet size ER32



Shank	A mm	l4 mm	D mm	D1 mm	Angle °	art.no.	€
BT 40	60	32	53	53	-	431337 4060	218,–
BT 40	90	63	53	53	-	431337 4090	225,–
BT 50	75	33	53	55	10°	431337 5075	327,–
BT 50	105	62	53	65	10°	431337 5099	413,–

4118



431340 5301

Roller chuck key

Designation	art.no.	€
Torque roller chuck key attachment R053	431340 5302	95,60
Roller chuck key R053 with handle	431340 5301	95,60

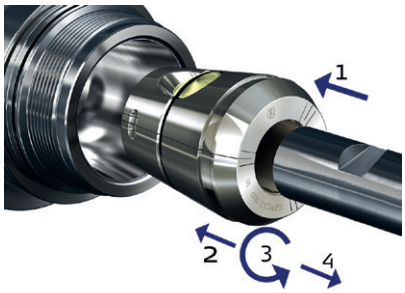
4118



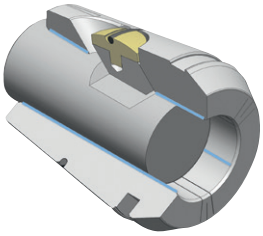
431340 5302

FAHRION® Wedge collet GERC-W and GERC-WD

- No tool pull-out thanks to integrated wedge
- Interlocking connection of the wedge and the Weldon surface
- For shank tolerations of up to h6
- **Optimum damping properties in combination with Heavy Duty Chuck HDC**
- Conical compression spring is positioned in the holder
- The conical compression spring presses the tool into the optimum clamping position



Simple handling: 1. To assemble, push in the shank until the wedge engages 2. For disassembly, push in the shank briefly 3. Turn the shank briefly 4. Pull out the shank



Three clamping lines (blue) on the shank guarantee optimum concentricity

GERC-32 W / WD

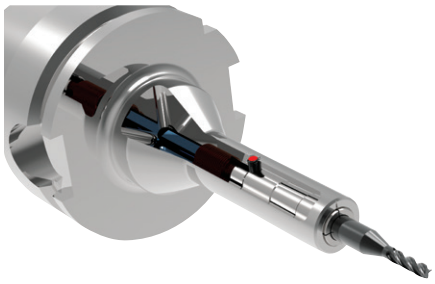
- d1 = clamping diameter

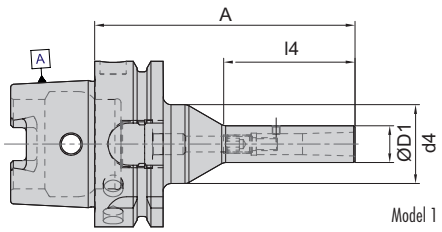
d1 mm	STANDARD art.no.	€	Sealed art.no.	€
12	431330 3212	118,50	431332 3212	142,50
16	431330 3216	118,50	431332 3216	142,50
20	431330 3220	126,50		
	4118		4118	



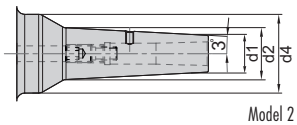
bilz Micro collet holder

- Narrow design for deep cavities
- For machining with high speed (> 10,000 rpm)
- High holding forces due to longer precision collet
- Symmetrical design to achieve a high balancing quality
- **Pre-balanced G 2.5 / 35,000 rpm**
- **Max. true running accuracy < 0.005 mm at 3xD**





Model 1

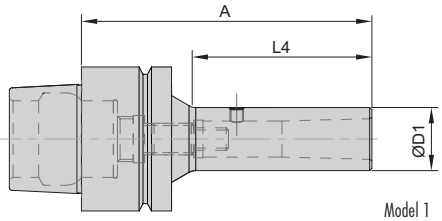


Model 2

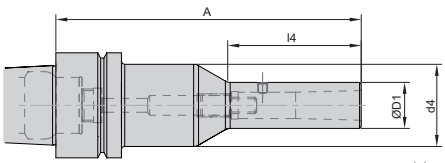
DIN 69893 Form A

Shank	Suitable for	A mm	l4 mm	D1 mm	d4 mm	Model	art.no.	€
HSK E32	MC14	65	40	14	-	1	442243 3201	241,–
HSK E32	MC14	90	40	14	25	2	442243 3202	249,–
HSK E40	MC14	65	40	14	-	1	442243 4001	241,–
HSK E40	MC14	90	40	14	30	2	442243 4002	249,–
							4102	





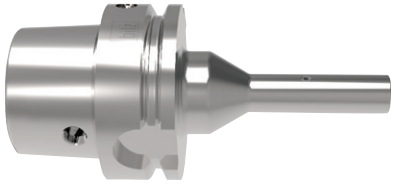
Model 1

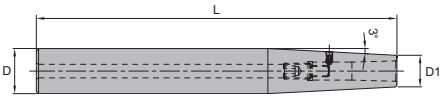


Model 2

DIN 69893, Type E

Shank	Suitable for	A mm	l4 mm	D1 mm	d2 mm	d4 mm	Model	art.no.	€
HSK 50	MC10	90	45	10	-	22	1	442241 5010	261,–
HSK 50	MC14	90	40	14	-	30	2	442241 5014	239,–
HSK 63	MC14	90	40	14	-	30	1	442241 6314	239,–
HSK 63	MC14	120	70	14	21.3	30	2	442241 6414	274,–
								4102	



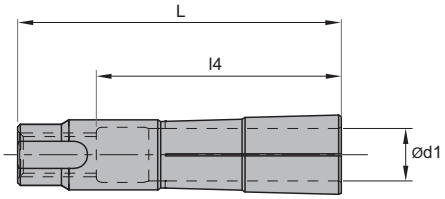


Straight shank

D mm	L mm	D1 mm	Suitable for	art.no.	€
12	120	10	MC10	442244 1201	198,50
16	90	14	MC14	442244 1601	179,–
16	120	14	MC14	442244 1602	192,50
16	160	14	MC14	442244 1603	209,–
16	200	14	MC14	442244 1604	225,–
20	120	14	MC14	442244 2001	192,50
20	160	14	MC14	442244 2002	209,–
20	200	14	MC14	442244 2003	225,–

4102





Collet WMC

Designation	d1 mm	L mm	l4 mm	art.no.	€
MC10	3	18	13	442245 1003	85,50
MC10	4	18	13	442245 1004	85,50
MC14	3	37	15	442245 1403	78,30
MC14	4	37	15	442245 1404	78,30
MC14	5	37	20	442245 1405	78,30
MC14	6	37	28	442245 1406	71,20

4102



Clamping key

Designation	Suitable for	art.no.	€
HEX 3.0	MC10	442246 1025	26,–
HEX 4.0	MC14	442246 1430	28,50

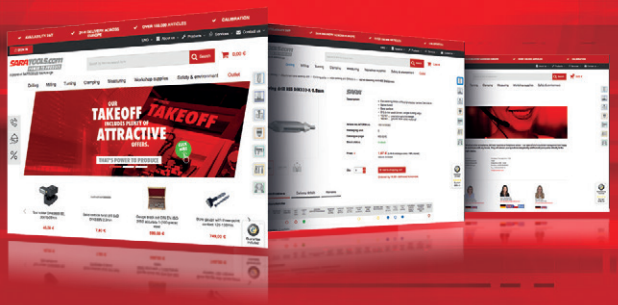
4102



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- order measuring instruments including calibration
- available in real time
- in 8 languages



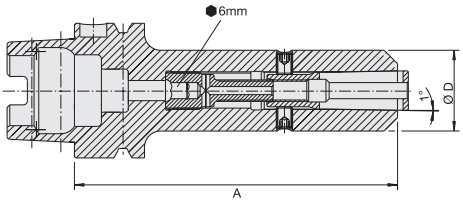


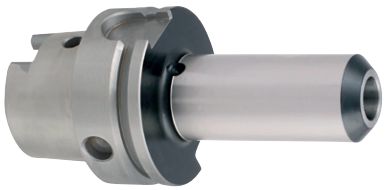
Register online now!

www.saratools.com

HAIMER® High-precision chuck *HG*

- Straight shank tools clamped with a high level precision using HG collets
- Very well suited to high-speed machining
- Taper angle tolerance quality AT3
- Finely balanced to G 2.5 at 25,000 rpm
- **True-running accuracy: 3 µm**
- Supplied with clamping screw and pull-out hook, no collet



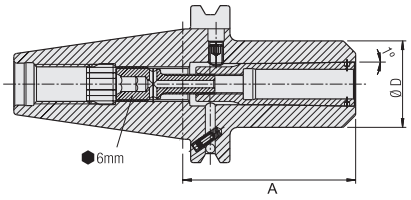


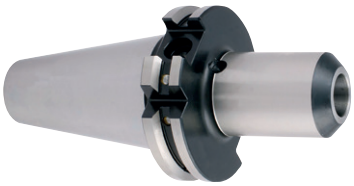
DIN 69893-1 HSK-A

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used

Design	D mm	A mm	Designation	Clamp Ø mm	art.no.	€
Short	30	120	1	2 / 3 / 4 / 5 / 6 / 8	431219 6301	248,–
Short	35	120	2	10 / 12 / 14	431219 6302	248,–
Short	48	120	3	16 / 18 / 20	431219 6303	248,–

4165





DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply

Design	D mm	A mm	Designation	Clamp Ø mm	art.no.	€
Short	30	65	HG 01	2 / 3 / 4 / 5 / 6 / 8	431213 4001	168,50
Short	35	70	HG 02	10 / 12 / 14	431213 4002	168,50
Short	48	75	HG 03	16 / 18 / 20	431213 4003	168,50
Long	30	100	HG 01	2 / 3 / 4 / 5 / 6 / 8	431213 4101	193,50
Long	35	100	HG 02	10 / 12 / 14	431213 4102	193,50
Long	48	100	HG 03	16 / 18 / 20	431213 4103	193,50

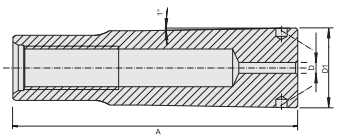
4165

HG collets

- **Clamp straight shank tools in HG chucks with a high level of precision**
- Further sizes available on request

suitable for	D mm	D1 mm	L mm	art.no.	€
HG 01	2	14.7	52.5	431220 1020	157,50
HG 01	3	14.7	52.5	431220 1030	157,50
HG 01	4	14.7	52.5	431220 1040	157,50
HG 01	5	14.7	52.5	431220 1050	99,50
HG 01	6	14.7	52.5	431220 1060	99,50
HG 01	8	14.7	52.5	431220 1080	99,50
HG 02	10	17.87	64.2	431220 2100	99,50
HG 02	12	17.87	64.2	431220 2120	99,50
HG 02	14	17.87	64.2	431220 2140	99,50
HG 03	16	26.15	69.7	431220 3160	99,50
HG 03	18	26.15	69.7	431220 3180	99,50
HG 03	20	26.15	69.7	431220 3200	99,50

4165



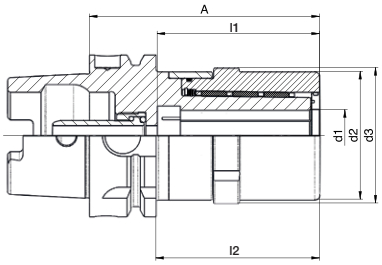


diebold Power chuck *UltraJet® 3.0*

The **UltraJet® 3.0** power chuck is an innovative combination of the established **JetSleeve®** principle and the **UltraGrip® 3.0** power chuck. When using the **UltraJet® 3.0** it is almost impossible to run through the chips during heavy machining, which results in even higher cutting data and considerably longer tool service lives. The coolant supply is channelled at high pressure through **the UltraJet® 3.0** mount and through the advanced nozzle configuration onto the cutting tool. The Venturi effect keeps the mixture on the tool cutting edge, irrespective of rotational speed.

- Optimised radial run-out thanks to single-piece base body
- Maximum clamping force and stability thanks to clamping via rotary clamping nuts and needle bearings, thus clamping force of up to 4000Nm depending on Ø
- High precision and balance quality
- Flexible use thanks to reducing bushes
- Vibration-damping effect thanks to size and multi-part design
- Maximum protection against milling tools being extracted
- Internal coolant supply up to 80 bar suitable
- Maintenance-free technology
- Supplied without chuck key
- **balanced G2.5 / 20,000 rpm**



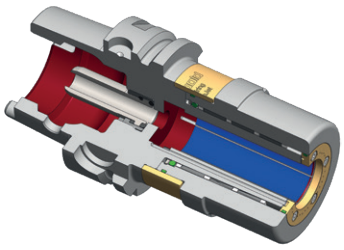


HSK-A DIN 69893

- Internal coolant supply
- when machining with internal coolant supply, a coolant transfer pipe art.no. 431011.... should be used

Shank	d1 mm	d2 mm	d3 mm	A mm	l1 mm	l2 mm	Rotational speed max. r/min	art.no.	€
HSK-A 63	20	50	53	90	63	64	20,000	440202 6320	549,–
HSK-A 63	32	63	66	115	83	89	18,000	440202 6332	645,–
HSK-A 100	20	50	53	105	63	76	16,000	440202 1020	725,–
HSK-A 100	32	63	66	115	83	86	14,000	440202 1032	752,–

4131

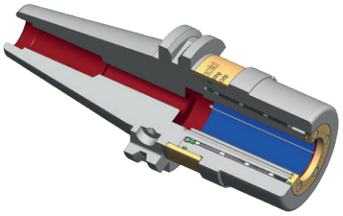


DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply

Shank	d1 mm	d2 mm	d3 mm	A mm	l1 mm	l2 mm	Rotational speed max. r/min	art.no.	€
SK 40	20	50	53	80	63	61	18,000	440200 4020	522,–
SK 40	32	63	66	105	83	86	16,000	440200 4032	549,–

4131

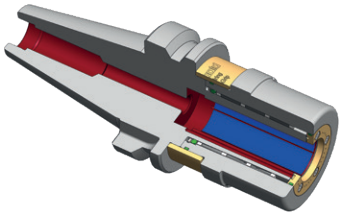


DIN ISO 7388-2 / MAS BT JIS B 6339

- Internal coolant supply

Shank	d1 mm	d2 mm	d3 mm	A mm	l1 mm	l2 mm	Rotational speed max. r/min	art.no.	€
BT 40	20	50	53	86	63	59	18,000	440201 4020	531,–
BT 40	32	63	66	95	83	65	16,000	440201 4032	555,–

4131



diebold Accessories for *UltraJet®*

Chuck key

for bore hole Ø mm	art.no.	€
20	438032 0020	24,40
32	438032 0032	26,40

4131



Extending hooks

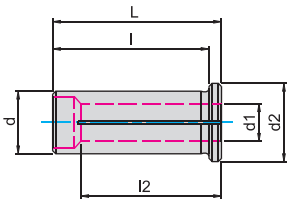
Description	art.no.	€
for reducing bushes 433421.... and 433434....	438035 0001	11,20

4131



ATORN Reducing bushes

- **Slotted**
- **Mechanically sealed up to max. 80 bar**
- Suitable for hydraulic expansion chucks and power chucks
- **Seal only suitable for hydraulic expansion chucks**
- Without dirt groove
- For reducing clamping ranges
- For drilling, reaming and milling
- True running accuracy < 3 µm (at 2.5 x d)
- **Version with coolant bores available on request**





For chuck diameter 12 mm

d mm	d1 mm	d2 mm	l mm	l2 mm	L mm	art.no.	€
12	3	16	40	29	44	433413 0003	95,–
12	4	16	40	29	44	433413 0004	89,90
12	5	16	40	29	44	433413 0005	89,90
12	6	16	40	36	44	433413 0006	85,90
12	8	16	40	37	44	433413 0008	85,90
12	10	16	40	40	44	433413 0010	85,90

4195

For chuck diameter 20 mm

d mm	d1 mm	d2 mm	l mm	l2 mm	L mm	art.no.	€
20	3	25	50	28	54	433421 0003	92,30
20	4	25	50	28	54	433421 0004	88,40
20	5	25	50	28	54	433421 0005	88,40
20	6	25	50	36	54	433421 0006	83,30
20	8	25	50	37	54	433421 0008	83,30
20	10	25	50	40	54	433421 0010	83,30
20	12	25	50	45	54	433421 0012	83,30
20	14	25	50	45	54	433421 0014	83,30
20	16	25	50	48	54	433421 0016	83,30

4195

For chuck diameter 25 mm

d mm	d1 mm	d2 mm	l mm	l2 mm	L mm	art.no.	€
25	3	30	56	29	60	433422 0003	124,90
25	4	30	56	29	60	433422 0004	112,–
25	5	30	56	29	60	433422 0005	112,–
25	6	30	56	37	60	433422 0006	112,–
25	7	30	56	37	60	433422 0007	97,70
25	8	30	56	37	60	433422 0008	97,70
25	9	30	56	38	60	433422 0009	97,70
25	10	30	56	40	60	433422 0010	97,70
25	12	30	56	46	60	433422 0012	97,70
25	14	30	56	47	60	433422 0014	97,70
25	16	30	56	48	60	433422 0016	97,70
25	18	30	56	48	60	433422 0018	97,70
25	20	30	56	50	60	433422 0020	97,70

4195

For chuck diameter 32 mm

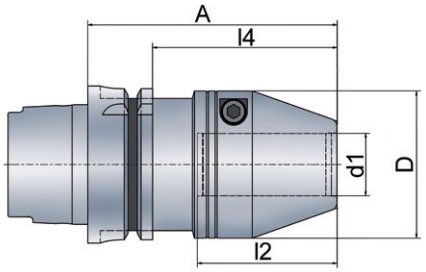
d mm	d1 mm	d2 mm	l mm	l2 mm	L mm	art.no.	€
32	6	36	60	36	64	433434 0006	102,80
32	8	36	60	36	64	433434 0008	102,80
32	10	36	60	40	64	433434 0010	102,80
32	12	36	60	45	64	433434 0012	100,30
32	14	36	60	46	64	433434 0014	100,30
32	16	36	60	48	64	433434 0016	100,30
32	18	36	60	49	64	433434 0018	100,30
32	20	36	60	50	64	433434 0020	100,30
32	25	36	60	56	64	433434 0025	100,30

4195

SARA® Hydraulic expansion chuck *HYDRO-Grip HG*

- **HSK 63 and ISO 40 pre-balanced to G2.5 / 25,000 rpm**
- True running accuracy < 0.004 mm at 2.5 x D
- Tool shank quality h6 or h7
- Also suitable for reducing bushes
- Rigid construction

powered by ETP

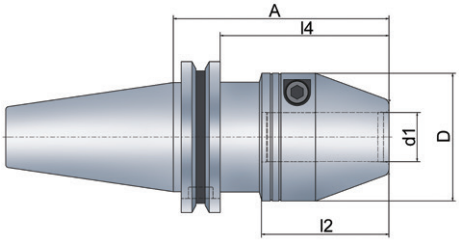




DIN 69893 Form A - HSK-A

Shank	d1 mm	D mm	A mm	l4 mm	l2 mm	art.no.	€
HSK 63	12	43.5	76	50	40	433817 6012	361,–
HSK 63	12	43.5	100	74	40	433817 6112	469,–
HSK 63	20	52	88	62	52	433817 6020	361,–
HSK 63	20	52	150	124	52	433817 6120	487,–
HSK 63	25	59	100	74	56	433817 6025	361,–
HSK 63	25	59	150	124	56	433817 6125	706,–
HSK 63	32	69.5	105	79	799	433817 6032	361,–

4130

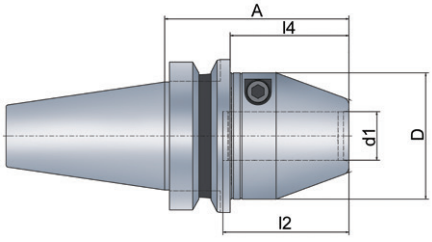




DIN ISO 7388-1 AD

Shank	d1 mm	D mm	A mm	l4 mm	l2 mm	art.no.	€
SK40	12	43.5	56	37	40	433827 4012	311,–
SK40	12	43.5	100	81	40	433827 4112	587,–
SK40	20	52	88	69	52	433827 4020	311,–
SK40	20	52	125	106	52	433827 4120	587,–
SK40	25	59	93	74	56	433827 4025	451,–

4130





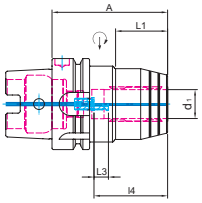
DIN ISO 7388-2 AD

Shank	d1 mm	D mm	A mm	l4 mm	l2 mm	art.no.	€
BT 40	12	43.5	64	37	40	433837 4012	311,–
BT 40	12	43.5	100	73	40	433837 4112	587,–
BT 40	20	52	76	49	52	433837 4020	311,–
BT 40	20	52	125	98	52	433837 4120	587,–
BT 40	25	59	80	53	56	433837 4025	311,–

4130

ATORN High-performance hydraulic expansion chuck

- **Optimum operating temperature 20-100 °C**
- Max. true running accuracy < 0.003 mm
- **Pre-balanced to G 2.5 at 25,000 rpm**
- With Balluffchip bore



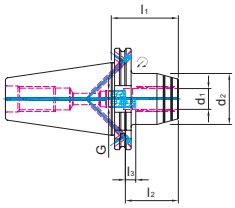
DIN 69893 HSK-A

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used



Shank	d1 mm	External Ø mm	A mm	l4 mm	L3 mm	L1 mm	Suitable for thread	Wr. width	Weight kg	art.no.	€
HSK 63	20	52.5	80	51	10	36	M8 x 1	3 mm	1.3	433409 6320	279,–
HSK 100	32	75	100	61	10	51	M8 x 1	3 mm	3.8	433409 1032	366,–

4205



DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply



Shank	d1 mm	External Ø mm	A mm	l4 mm	L3 mm	Suitable for thread	Wr. width	Weight kg	art.no.	€
SK40	20	49	64.5	51	10	M16 x 1	8 mm	1.4	433411 4020	266,–
SK50	32	72	81	61	10	M16 x 1	8 mm	4.1	433411 5032	306,–

4205

FAHRION® CENTRO|P High-Performance Clamping System

INFO



DEGREE OF DAMPING

→ significantly higher than with rigid holders due to the damping behaviour of the collet and clamping nut

STIFFNESS

→ variable projection of the tool through the largest possible tool passage

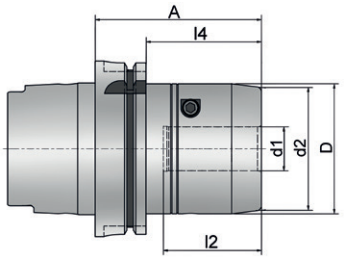
DESIGN FEATURES

- Collet sits completely in the cone
- Precisely ground double guide for the clamping nut
- Stable trapezoidal thread for transmission of the clamping force
- Chuck body with continuous maximum diameter

SARA® Hydraulic expansion chuck *HYDRO-Grip HD*

powered by ETP

- **HSK 63 and ISO 40 pre-balanced to G2.5 / 25,000 rpm**
- **HSK 100 and ISO 50 pre-balanced to G2.5 / 14,000 rpm**
- True running accuracy < 0.004 mm at 2.5 x D
- Tool shank quality h6 or h7
- Also suitable for reducing bushes
- Rigid construction and high clamping force for heavy-duty machining



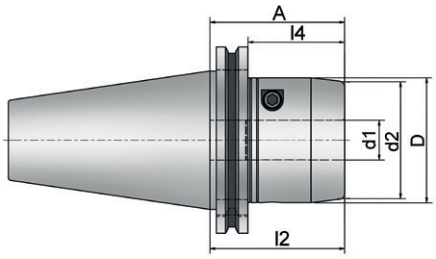


DIN 69893 Form A - HSK-A

- Internal coolant supply
- When machining with inner coolant supply, a coolant transfer pipe Art. No. 431011.... should be used

Shank	d1 mm	d2 mm	D mm	A mm	l4 mm	l2 mm	art.no.	€
HSK 63	20	59	63	96	70	52	433826 6320	411,–
HSK 100	20	59	63	91	62	52	433826 1020	548,–
HSK 100	25	70	74	95	66	56	433826 1025	548,–
HSK 100	32	76	80	99	70	60	433826 1032	795,–

4130



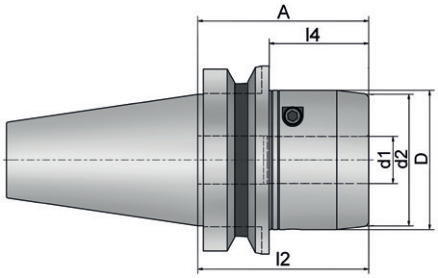


DIN ISO 7388-1 AD (DIN 69871 AD)

- Internal coolant supply

Shank	d1 mm	d2 mm	D mm	A mm	l4 mm	l2 mm	art.no.	€
SK40	20	59	63	90	71	90	433806 4020	362,–
SK50	20	59	63	68	49	68	433806 5020	504,–
SK50	25	70	74	79	60	79	433806 5025	731,–
SK50	32	76	80	83	64	83	433806 5032	504,–

4130





DIN ISO 7388-2 (JIS B 6339)

Shank	d1 mm	d2 mm	D mm	A mm	l4 mm	l2 mm	art.no.	€
BT 40	20	59	63	79	60	79	433816 4020	362,–
BT 50	20	59	63	87	50	87	433816 5020	731,–
BT 50	25	70	74	91	53	91	433816 5025	731,–
BT 50	32	76	80	95	57	95	433816 5032	731,–

4130

SARA® Hydraulic expansion chuck *HG PENCIL*

powered by ETP

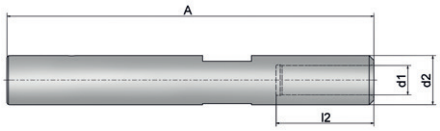
- Extremely slim design
- For boring to finishing
- Allows machining in deep cavities
- True running accuracy < 0.004 mm at 2.5 x D (maximum 50 mm)
- Max. tightening torque 6 Nm
- For tool shanks h6 or h7
- **Pre-balanced to G 2.5 / 25,000 rpm**

Straight shank

- Internal coolant supply

d1 mm	d2 mm	A mm	Depth mm	art.no.	€
12	20	150	40	433811 2012	546,–

4130

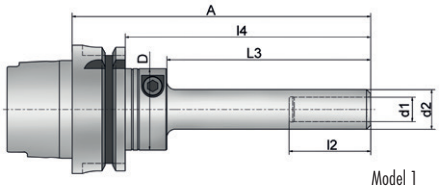


DIN 69893 Form A - HSK-A

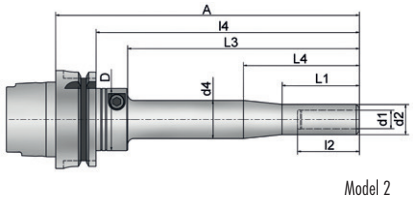
- Internal coolant supply
- When machining with inner coolant supply, a coolant transfer pipe Art. No. 431011.... should be used

Shank	Model	d1 mm	d2 mm	D mm	d4 mm	A mm	l4 mm	L3 mm	Step length mm	L1 mm	l2 mm	art.no.	€
HSK 63	1	6	12	40	-	96.5	61	50	-	-	40	433801 6006	542,–
HSK 63	1	12	19.5	40	-	96.5	61	50	-	-	40	433801 6012	453,–
HSK 63	1	12	19.5	40	-	146.5	111	100	-	-	40	433801 6112	488,–
HSK 63	2	12	19.5	40	24.5	217	161	150	75	50	40	433801 6212	572,–
HSK 63	3	20	32	40	-	156.5	121	110	-	-	52	433801 6020	572,–
HSK 63	3	20	32	40	-	257	201	190	-	-	52	433801 6120	664,–
HSK 100	1	12	19.5	40	-	96.5	61	50	-	-	40	433801 1012	555,–
HSK 100	1	12	19.5	40	-	146.5	111	100	-	-	40	433801 1112	567,–
HSK 100	2	12	19.5	40	24.5	217	161	150	75	50	40	433801 1212	661,–
HSK 100	3	20	32	40	-	156.5	121	110	-	-	52	433801 1020	661,–
HSK 100	3	20	32	40	-	257	201	190	-	-	52	433801 1120	765,–

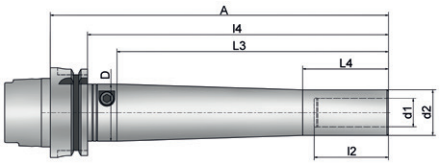
4130



Model 1



Model 2



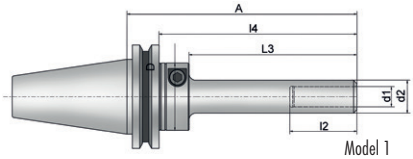
Model 3

DIN ISO 7388-1 AD (DIN 69871 AD)

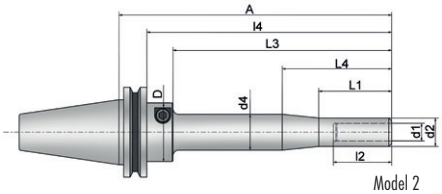
- Internal coolant supply

Shank	Model	d1 mm	d2 mm	D mm	d4 mm	A mm	l4 mm	L3 mm	Step length mm	L1 mm	l2 mm	art.no.	€
SK40	1	6	12	40	-	87	68	50	-	-	40	433802 4006	520,–
SK40	1	12	19.5	40	-	87	68	50	-	-	40	433802 4012	642,–
SK40	1	12	19.5	40	-	137	118	100	-	-	40	433802 4112	487,–
SK40	2	12	19.5	40	24.5	187	168	150	-	50	40	433802 4212	592,–
SK40	3	20	32	40	-	147	128	110	60	-	52	433802 4020	729,–
SK40	3	20	32	40	-	227	208	190	60	-	52	433802 4120	883,–
SK50	1	12	19.5	40	-	87	68	50	-	-	40	433802 5012	761,–
SK50	1	12	19.5	40	-	137	118	100	-	-	40	433802 5112	834,–
SK50	2	12	19.5	40	24.5	187	168	150	75	50	40	433802 5212	1.025,–
SK50	3	20	32	40	-	147	128	110	-	-	52	433802 5020	607,–
SK50	3	20	32	40	-	227	208	190	-	-	52	433802 5120	718,–

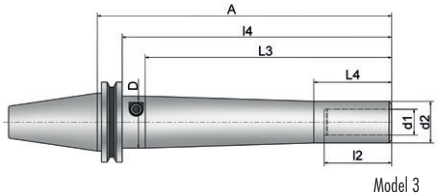
4130



Model 1



Model 2



Model 3

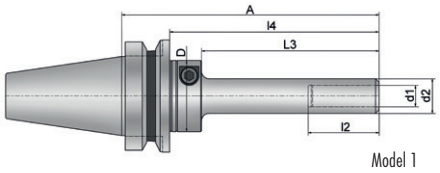
Fortsetzung nächste Seite >>>

DIN ISO 7388-2 (JIS B 6339)

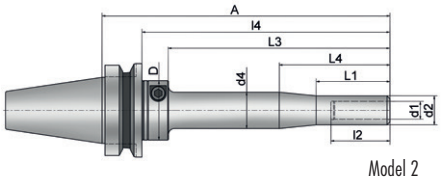
- Internal coolant supply

Shank	Model	d1 mm	d2 mm	D mm	d4 mm	A mm	l4 mm	L3 mm	Step length mm	L1 mm	l2 mm	art.no.	€
BT 40	1	6	12	40	-	95	68	50	-	-	40	433803 4006	520,–
BT 40	1	12	19.5	40	-	95	68	50	-	-	40	433803 4012	443,–
BT 40	1	12	19.5	40	-	145	118	100	-	-	40	433803 4112	487,–
BT 40	2	12	19.5	40	24.5	195	168	150	75	50	40	433803 4212	592,–
BT 40	3	20	32	40	-	155	128	110	60	-	52	433803 4020	503,–
BT 40	3	20	32	40	-	235	208	190	60	-	52	433803 4120	609,–
BT 50	1	12	19.5	40	-	106	68	50	-	-	40	433803 5012	525,–
BT 50	1	12	19.5	40	-	156	118	100	-	-	40	433803 5112	575,–
BT 50	2	12	19.5	40	24.5	206	168	150	75	50	40	433803 5212	707,–
BT 50	3	20	32	40	-	166	128	110	60	-	52	433803 5020	607,–
BT 50	3	20	32	40	-	246	206.5	190	60	-	52	433803 5120	718,–

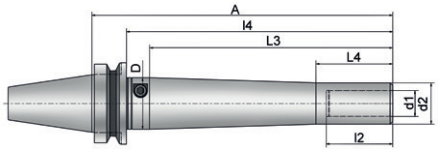
4130



Model 1



Model 2



Model 3

ATORN Hydraulic expansion chuck, ultra-slim

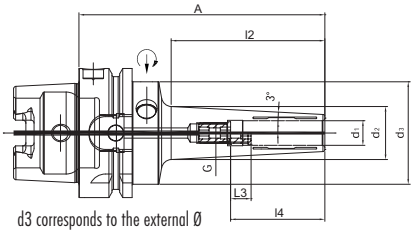
Thanks to an innovative production process, the ultra-slim hydraulic expansion chuck combines the benefits of an expansion chuck and those of a shrink-fit chuck in a single product.

- Exceptionally high clamping forces
- Very high temperature resistance
- **Chuck remains accurate at high temperatures (up to 120 °C)**
- Designed with the slim shape of a shrink-fit chuck – suitable for use with tight protruding contours
- Very good damping
- Max. true running accuracy < 0.003 mm
- Tool changes carried out as with an expansion chuck, no need for additional equipment
- Versatile applications with reducing bushes
- **Pre-balanced to G 2.5 at 25,000 rpm**
- With Balluffchip bore









d3 corresponds to the external Ø

DIN 69893 HSK-A

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used

Shank	d1 mm	d2 mm	External Ø mm	A mm	l4 mm	L3 mm	L2 mm	Thread diameter mm	Wr. width	Weight kg	art.no.	€
HSK 63	3	16.7	50	120	28	16	73	M3	1.5 mm	0.9	433341 0003	533,–
HSK 63	4	17.7	50	120	28	12	73	M3	1.5 mm	1	433341 0004	533,–
HSK 63	5	18.7	50	120	28	8	73	M3	1.5 mm	1	433341 0005	533,–
HSK 63	6	19.8	50	120	37	10	73	M5	2.5 mm	0.9	433341 6306	533,–
HSK 63	8	21.8	50	120	37	10	74	M6	3 mm	0.9	433341 6308	533,–
HSK 63	10	23.8	50	120	41	10	74	M8 x 1	3 mm	1	433341 6310	533,–
HSK 63	12	25.9	50	120	46	10	75	M10 x 1	5 mm	1	433341 6312	533,–

4205

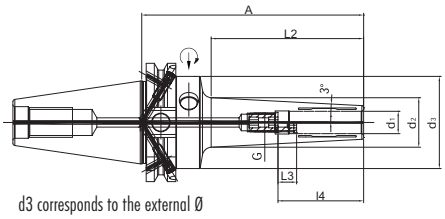


DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply

Shank	d1 mm	d2 mm	External Ø mm	A mm	l4 mm	L3 mm	L2 mm	Thread diameter mm	Wr. width	Weight kg	art.no.	€
SK40	3	17.4	49.5	120	28	16	79.5	M3	1.5 mm	1.1	433340 0003	506,–
SK40	4	14.2	49.5	120	28	12	79.5	M3	1.5 mm	1.2	433340 0004	506,–
SK40	5	15.2	49.5	120	28	8	80	M3	1.5 mm	1.2	433340 0005	506,–
SK40	6	16.2	49.5	120	37	10	79.9	M5	2.5 mm	1.2	433340 4006	506,–
SK40	8	18.2	49.5	120	37	10	79.9	M6	3 mm	1.2	433340 4008	506,–
SK40	10	20.3	49.5	120	41	10	80.9	M8 x 1	3 mm	1.2	433340 4010	506,–
SK40	12	22.4	49.5	120	46	10	81.9	M10 x 1	5 mm	1.2	433340 4012	506,–

4205



d3 corresponds to the external Ø



Minimum clamping depth for hydraulic expansion multi 3°

INFO

transmittable torques with direct clamping

Clamping diameter mm	3	4	5	6	8	10	12	14	16	18	20
Minimum clamping depth mm	12	46	20	27	27	31	36	36	39	39	41
transmittable torque Nm (minimum dimension h6)	3	6	10	20	35	65	110	120	160	200	260
transmittable torque Nm (maximum dimension h6)	6	10	14	35	55	90	150	160	200	260	340



ECOGRIP ER

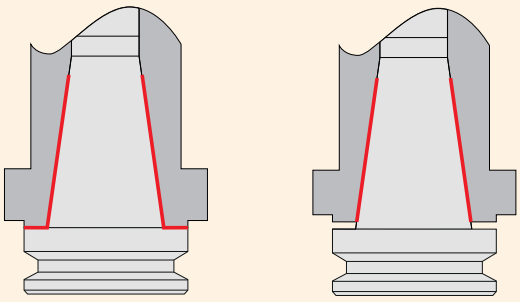
- **Simple, quick and precise**
- **Turns your ER collet system into a hydraulic expansion chuck with adjustable true running accuracy to 0.003 mm**

Tool mounts with levelling

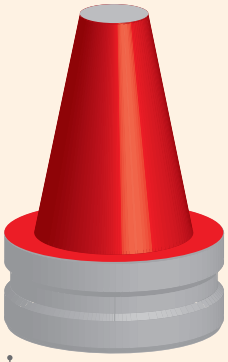
INFO

for use in machine spindles with planar support

- high rigidity due to the planar support between spindle and tool mount above the collar
- planar support ensures axial positioning accuracy
- suitable for high rotational speeds, spindle expansion (through centrifugal forces) have no further influence on the tool mount in axial direction
- considerable decrease in vibration through traction on the taper/planar support
- Increased service life in cutting tools



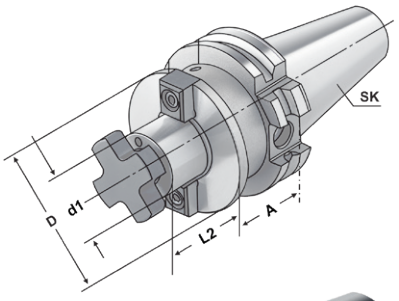
TRACTION THROUGH TAPER/PLANAR SUPPORT
compared with conventional tool mounts

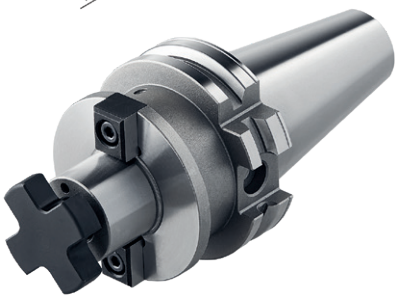


FULL-SERVICE CONTACT
Taper and planar support

KEMMLER® Präzisionswerkzeuge — Transverse slot shell-type milling arbour with planar support

- **Pre-balanced G 6.3 / 15,000 rpm**
- Taper angle tolerance quality < AT3 according to DIN 7187
- Maximum concentricity < 0.005 mm
- Internal coolant supply
- Case-hardened HRC 60 ± 2





DIN ISO 7388-1 AD (DIN69871 AD)

Shank	d1 mm	A mm	L2 mm	External Ø mm	art.no.	€
SK40	16	35	17	38	436403 4016	104,–
SK40	16	100	17	38	436403 4116	125,–
SK40	22	35	19	48	436403 4022	104,–
SK40	22	100	19	48	436403 4122	127,–
SK40	27	40	21	58	436403 4027	106,–
SK40	27	100	21	58	436403 4127	129,–
SK40	32	50	24	78	436403 4032	113,–
SK40	40	50	27	88	436403 4040	138,–

4208

DIN ISO 7388-2 (JIS B 6339)

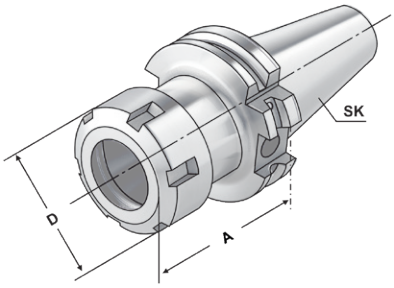
Shank	d1 mm	A mm	L2 mm	External Ø mm	art.no.	€
BT 40	16	40	17	38	436407 4016	104,–
BT 40	16	100	17	38	436407 4116	125,–
BT 40	16	160	17	38	436407 4216	208,–
BT 40	22	40	19	48	436407 4022	104,–
BT 40	22	100	19	48	436407 4122	127,–
BT 40	22	160	19	48	436407 4222	211,–
BT 40	27	40	21	58	436407 4027	106,–
BT 40	27	100	21	58	436407 4127	129,–
BT 40	27	160	21	58	436407 4227	215,–
BT 40	32	50	24	78	436407 4032	113,–
BT 40	40	50	27	88	436407 4040	138,–

4208



KEMMLER® Präzisionswerkzeuge — ER collet chuck with planar support

- **Pre-balanced G 6.3 / 15,000 rpm**
- Taper angle tolerance quality < AT3 according to DIN 7187
- Maximum concentricity < 0.005 mm
- Internal coolant supply
- Case-hardened HRC 60 ± 2







DIN ISO 7388-1 AD (DIN69871 AD)

Shank	Clamping range	Collet type	A mm	External Ø mm	art.no.	€
SK40	1-10 mm	ER 16 (426 E)	63	32	432203 4016	100,–
SK40	1-10 mm	ER 16 (426 E)	100	32	432203 4116	114,–
SK40	1-10 mm	ER 16 (426 E)	160	32	432203 4216	146,–
SK40	2-16 mm	ER 25 (430 E)	60	42	432203 4025	100,–
SK40	2-16 mm	ER 25 (430 E)	100	42	432203 4125	119,–
SK40	2-16 mm	ER 25 (430 E)	160	42	432203 4225	160,–
SK40	2-20 mm	ER 32 (470 E)	70	50	432203 4032	103,–
SK40	2-20 mm	ER 32 (470 E)	100	50	432203 4132	119,–
SK40	2-20 mm	ER 32 (470 E)	160	50	432203 4232	160,–
SK40	3-26 mm	ER 40 (472 E)	80	63	432203 4040	111,–
SK40	3-26 mm	ER 40 (472 E)	100	63	432203 4140	132,–
SK40	3-26 mm	ER 40 (472 E)	160	63	432203 4240	180,–

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DIN ISO 7388-2 (JIS B 6339)

Shank	Clamping range	Collet type	A mm	External Ø mm	art.no.	€
BT 40	1-10 mm	ER 16 (426 E)	63	32	432107 4016	100,–
BT 40	1-10 mm	ER 16 (426 E)	100	32	432107 4116	114,–
BT 40	1-10 mm	ER 16 (426 E)	160	32	432107 4216	136,–
BT 40	2-16 mm	ER 25 (430 E)	60	42	432107 4025	100,–
BT 40	2-16 mm	ER 25 (430 E)	100	42	432107 4125	119,–
BT 40	2-16 mm	ER 25 (430 E)	160	42	432107 4225	180,–
BT 40	2-20 mm	ER 32 (470 E)	70	50	432107 4032	103,–
BT 40	2-20 mm	ER 32 (470 E)	100	50	432107 4132	114,–
BT 40	2-20 mm	ER 32 (470 E)	160	50	432107 4232	185,–
BT 40	326 mm	ER 40 (472 E)	80	63	432107 4040	111,–
BT 40	326 mm	ER 40 (472 E)	100	63	432107 4140	132,–
BT 40	326 mm	ER 40 (472 E)	160	63	432107 4240	211,–

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FAHRION® CENTRO|P High-Performance Clamping System

INFO



DEGREE OF DAMPING

→ significantly higher than with rigid holders due to the damping behaviour of the collet and clamping nut

STIFFNESS

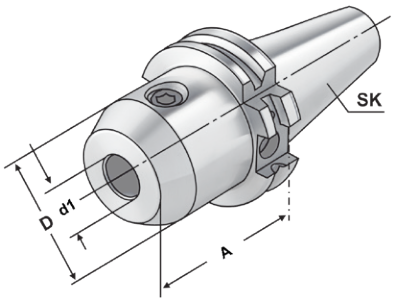
→ variable projection of the tool through the largest possible tool passage

DESIGN FEATURES

- Collet sits completely in the cone
- Precisely ground double guide for the clamping nut
- Stable trapezoidal thread for transmission of the clamping force
- Chuck body with continuous maximum diameter

KEMMLER® Präzisionswerkzeuge — Milling cutter holding fixture DIN6359 (Weldon) with planar support

- **Pre-balanced G 6.3 / 15,000 rpm**
- Taper angle tolerance quality < AT3 according to DIN 7187
- Maximum concentricity < 0.005 mm
- Internal coolant supply
- Case-hardened HRC 60 ± 2





DIN ISO 7388-1 AD (DIN69871 AD)

Shank	d1 mm	A mm	External Ø mm	art.no.	€
SK40	6	50	25	435603 4006	81,–
SK40	8	50	28	435603 4008	75,–
SK40	10	50	35	435603 4010	75,–
SK40	12	50	42	435603 4012	75,–
SK40	14	50	44	435603 4014	75,–
SK40	16	63	48	435603 4016	75,–
SK40	18	63	50	435603 4018	75,–
SK40	20	63	52	435603 4020	75,–
SK40	25	100	65	435603 4025	86,–
SK40	32	100	72	435603 4032	95,–
SK40	40	120	80	435603 4040	118,–

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DIN ISO 7388-2 (JIS B 6339)

Shank	d1 mm	A mm	External Ø mm	art.no.	€
BT 40	6	50	25	435607 4006	87,–
BT 40	6	100	25	435607 4106	97,–
BT 40	8	50	28	435607 4008	85,–
BT 40	8	100	28	435607 4108	90,–
BT 40	10	63	35	435607 4010	85,–
BT 40	10	100	35	435607 4110	90,–
BT 40	12	63	42	435607 4012	85,–
BT 40	12	100	42	435607 4112	90,–
BT 40	14	63	44	435607 4014	85,–
BT 40	14	100	44	435607 4114	90,–
BT 40	16	63	48	435607 4016	85,–
BT 40	16	100	48	435607 4116	90,–
BT 40	18	63	50	435607 4018	85,–
BT 40	18	100	50	435607 4118	90,–
BT 40	20	63	52	435607 4020	85,–
BT 40	20	100	52	435607 4120	90,–
BT 40	25	90	65	435607 4025	90,–
BT 40	32	100	72	435607 4032	105,–
BT 40	40	120	80	435607 4040	125,–

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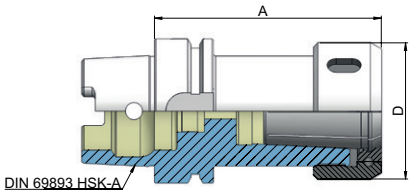
ECOGRIP ER

- **Simple, quick and precise**
- **Turns your ER collet system into a hydraulic expansion chuck with adjustable true running accuracy to 0.003 mm**

ATORN OZ collet chuck

DIN 6391

- **For DIN 6388 collets**
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/mm²
- case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080, max. true running accuracy < 0.005 mm
- Supplied with clamping nut
- **Additional shank designs and AD/AF versions available on request**
- **Suitable hook spanner under Article No. 701550....**



DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used



Shank	Min./max. clamping width	Collet type	A mm	External Ø mm	art.no.	€
HSK 50	2 - 16 mm	OZ 410E	100	43	431509 5016	126,–
HSK 50	2 - 25 mm	OZ 444E	100	60	431509 5025	126,–
HSK 63	2 - 16 mm	OZ 410E	100	43	431509 6316	134,–
HSK 63	2 - 25 mm	OZ 444E	100	60	431509 6325	134,–
HSK 63	3 - 32 mm	OZ 450E	120	72	431509 6332	142,–
HSK 100	2 - 16 mm	OZ 410E	110	43	431509 1016	186,–
HSK 100	2 - 25 mm	OZ 444E	120	60	431509 1025	186,–
HSK 100	3 - 32 mm	OZ 450E	130	72	431509 1032	202,–

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DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply



Shank	Min./max. clamping width	Collet type	A mm	External Ø mm	art.no.	€
SK40	2 - 16 mm	OZ 410E	70	43	431503 4016	80,–
SK40	2 - 16 mm	OZ 410E	100	43	431503 4116	98,–
SK40	2 - 25 mm	OZ 444E	70	60	431503 4025	84,–
SK40	2 - 25 mm	OZ 444E	100	60	431503 4125	102,–
SK40	3 - 32 mm	OZ 450E	90	72	431503 4032	89,–
SK50	2 - 25 mm	OZ 444E	70	60	431503 5025	118,–
SK50	3 - 32 mm	OZ 450E	80	72	431503 5032	124,–
SK50	3 - 32 mm	OZ 450E	100	72	431503 5132	142,–

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DIN ISO 7388-2 / MAS BT JIS B 6339

- Internal coolant supply



Shank	Min./max. clamping width	Collet type	A mm	External Ø mm	art.no.	€
BT 40	2 - 16 mm	OZ 410E	70	43	431507 4016	80,–
BT 40	2 - 25 mm	OZ 444E	70	60	431507 4025	85,–
BT 40	3 - 32 mm	OZ 450E	90	72	431507 4032	89,–
BT 50	2 - 25 mm	OZ 444E	85	60	431507 5025	110,–
BT 50	3 - 32 mm	OZ 450E	90	72	431507 5032	116,–

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DIN 2080



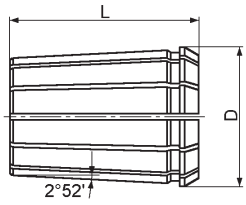
Shank	Min./max. clamping width	Collet type	A mm	External Ø mm	art.no.	€
SK40	2 - 16 mm	OZ 410E	55	43	431501 4016	76,–
SK40	2 - 25 mm	OZ 444E	66	60	431501 4025	81,–
SK40	3 - 32 mm	OZ 450E	95	72	431501 4032	87,–
SK50	2 - 25 mm	OZ 444E	71	60	431501 5025	112,–
SK50	3 - 32 mm	OZ 450E	73	72	431501 5032	118,–

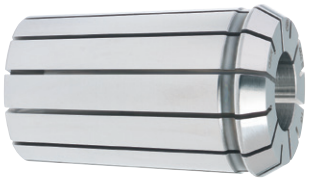
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FAHRION® OZ collets

DIN 6388-B

- Exceptionally flexible double-slotted version
- Higher contact area ratio, increased rigidity and holding forces, greater system concentricity
- Collapse 0.5 mm
- For clamping tools and twist drill bits on the chamfer
- True-running accuracy:
  415E: 6 µm
  462E: 6 µm
  467E: 10 µm



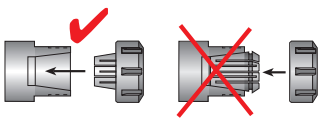


Clamp Ø mm	415E art.no.	€	462E art.no.	€	467E art.no.	€
2	433015 0020	39,50	433016 0020	44,70		
2.5	433015 0025	45,90	433016 0025	51,–		
3	433015 0030	28,–	433016 0030	33,–		
3.5	433015 0035	35,20	433016 0035	40,20		
4	433015 0040	28,–	433016 0040	33,–	433017 0040	60,50
4.5	433015 0045	35,20	433016 0045	40,20	433017 0045	72,70
5	433015 0050	28,–	433016 0050	33,–	433017 0050	42,80
5.5	433015 0055	35,20	433016 0055	40,20	433017 0055	55,40
6	433015 0060	28,–	433016 0060	33,–	433017 0060	42,80
6.5	433015 0065	35,20	433016 0065	40,20	433017 0065	55,40
7	433015 0070	28,–	433016 0070	33,–	433017 0070	42,80
7.5	433015 0075	35,20	433016 0075	40,20	433017 0075	55,40
8	433015 0080	28,–	433016 0080	33,–	433017 0080	42,80
8.5	433015 0085	35,20	433016 0085	40,20	433017 0085	55,40
9	433015 0090	28,–	433016 0090	33,–	433017 0090	42,80
9.5	433015 0095	35,20	433016 0095	40,20	433017 0095	55,40
10	433015 0100	28,–	433016 0100	33,–	433017 0100	42,80
10.5	433015 0105	35,20	433016 0105	40,20	433017 0105	55,40
11	433015 0110	28,–	433016 0110	33,–	433017 0110	42,80
11.5	433015 0115	35,20	433016 0115	40,20	433017 0115	55,40
12	433015 0120	28,–	433016 0120	33,–	433017 0120	42,80
12.5	433015 0125	35,20	433016 0125	40,20	433017 0125	55,40
13	433015 0130	28,–	433016 0130	33,–	433017 0130	42,80
	4119		4119		4119	

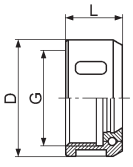
Clamp Ø mm	415E art.no.	€	462E art.no.	€	467E art.no.	€
13.5	433015 0135	35,20	433016 0135	40,20	433017 0135	55,40
14	433015 0140	28,–	433016 0140	33,–	433017 0140	42,80
14.5	433015 0145	35,20	433016 0145	40,20	433017 0145	55,40
15	433015 0150	28,–	433016 0150	33,–	433017 0150	42,80
15.5	433015 0155	35,20	433016 0155	40,20	433017 0155	55,40
16	433015 0160	28,–	433016 0160	33,–	433017 0160	42,80
17			433016 0170	33,–	433017 0170	42,80
18			433016 0180	33,–	433017 0180	42,80
20			433016 0200	33,–	433017 0200	42,80
21			433016 0210	33,–	433017 0210	42,80
22			433016 0220	33,–	433017 0220	42,80
23			433016 0230	33,–	433017 0230	42,80
24			433016 0240	33,–	433017 0240	42,80
25			433016 0250	33,–	433017 0250	42,80
26					433017 0260	42,80
27					433017 0270	42,80
28					433017 0280	42,80
29					433017 0290	42,80
30					433017 0300	42,80
31					433017 0310	42,80
32					433017 0320	42,80
	4119		4119		4119	

OZ clamping nuts

- **For collets in accordance with DIN 6388 (OZ)**
- With ball bearing-mounted pressure ring
- For higher holding forces and better concentricity
- **Suitable hook spanner under Article No. 701550....**



suitable for	Clamping range mm	D mm	L mm	Thread	art.no.	€
410E/415E	2 - 16	43	24	M33 x 1.5	431014 0216	49,90
444E/462E	2 - 25	60	30	M48 x 2.0	431014 0225	57,50
450E/467E	3 - 32	72	33.5	M60 x 2.5	431014 0332	64,50
					4120	



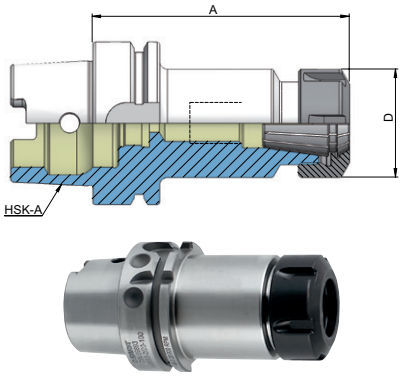


ATORN ER collet chuck

- **For DIN 6499 ER collets**
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/mm², case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080, max. true running accuracy < 0.005 mm
- Supplied with clamping nut
- **Additional shank designs and AD/AF version available on request**
- **ER16 / 426E* tool holding fixtures supplied with hexagonal nut**

DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used

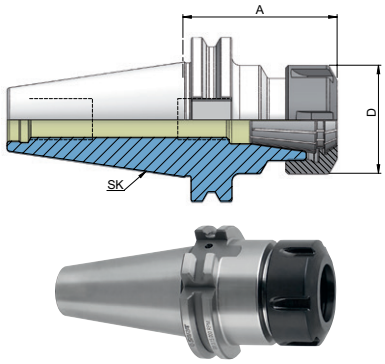


Shank	Min./max. clamping width	Suitable for collet type	A mm	External Ø mm	art.no.	€
HSK 50	1 - 10 mm	ER 16/426E	100	28	431009 5010	114,–
HSK 50	2 - 16 mm	ER 25/430E	100	42	431009 5016	114,–
HSK 50	2 - 20 mm	ER 32/470E	100	50	431009 5020	122,–
HSK 63	1 - 10 mm	ER 16/426E	100	28	431009 6310	114,–
HSK 63	1 - 10 mm	ER 16/426E	160	28	431009 6410	149,–
HSK 63	2 - 16 mm	ER 25/430E	100	42	431009 6316	108,–
HSK 63	2 - 16 mm	ER 25/430E	160	42	431009 6416	142,–
HSK 63	2 - 20 mm	ER 32/470E	100	50	431009 6320	114,–
HSK 63	2 - 20 mm	ER 32/470E	160	50	431009 6420	149,–
HSK 63	3 - 26 mm	ER 40/472E	120	63	431009 6326	122,–
HSK 100	2 - 16 mm	ER 25/430E	100	42	431009 1016	158,–
HSK 100	2 - 20 mm	ER 32/470E	100	50	431009 1020	158,–
HSK 100	3 - 26 mm	ER 40/472E	120	63	431009 1026	164,–

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DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply



Shank	Min./max. clamping width	Suitable for collet type	A mm	External Ø mm	art.no.	€
SK40	1 - 10 mm	ER 16/426E	63	28	431003 4010	61,–
SK40	1 - 10 mm	ER 16/426E	100	28	431003 4110	70,–
SK40	1 - 10 mm	ER 16/426E	160	28	431003 4210	118,–
SK40	2 - 16 mm	ER 25/430E	60	42	431003 4016	61,–
SK40	2 - 16 mm	ER 25/430E	100	42	431003 4116	77,–
SK40	2 - 16 mm	ER 25/430E	160	42	431003 4216	118,–
SK40	2 - 20 mm	ER 32/470E	70	50	431003 4020	64,–
SK40	2 - 20 mm	ER 32/470E	100	50	431003 4120	77,–
SK40	2 - 20 mm	ER 32/470E	160	50	431003 4220	120,–
SK40	3 - 26 mm	ER 40/472E	80	63	431003 4026	69,–
SK40	3 - 26 mm	ER 40/472E	100	63	431003 4126	85,–
SK40	3 - 26 mm	ER 40/472E	160	63	431003 4226	126,–
SK50	1 - 10 mm	ER 16/426E	100	28	431003 5010	122,–
SK50	1 - 10 mm	ER 16/426E	160	28	431003 5210	164,–
SK50	2 - 16 mm	ER 25/430E	60	42	431003 5016	99,–
SK50	2 - 16 mm	ER 25/430E	100	42	431003 5116	122,–
SK50	2 - 16 mm	ER 25/430E	160	42	431003 5216	164,–
SK50	2 - 20 mm	ER 32/470E	70	50	431003 5020	102,–
SK50	2 - 20 mm	ER 32/470E	100	50	431003 5120	142,–
SK50	2 - 20 mm	ER 32/470E	160	50	431003 5220	164,–
SK50	2 - 20 mm	ER 32/470E	200	50	431003 5230	218,–
SK50	3 - 26 mm	ER 40/472E	80	63	431003 5026	102,–
SK50	3 - 26 mm	ER 40/472E	100	63	431003 5126	144,–
SK50	3 - 26 mm	ER 40/472E	160	63	431003 5226	172,–
SK50	3 - 26 mm	ER 40/472E	200	63	431003 5326	230,–

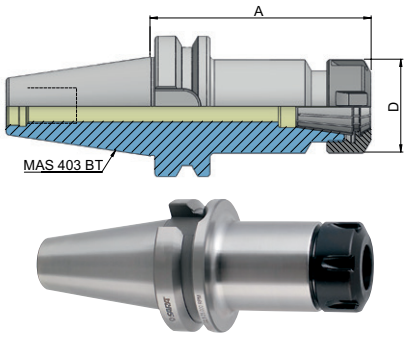
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DIN ISO 7388-2 / MAS BT JIS B 6339

- Internal coolant supply

Shank	Min./max. clamping width	Suitable for collet type	A mm	External Ø mm	art.no.	€
BT 40	1 - 10 mm	ER 16/426E	63	28	431007 4010	61,–
BT 40	1 - 10 mm	ER 16/426E	100	28	431007 4110	70,–
BT 40	2 - 16 mm	ER 25/430E	60	42	431007 4016	61,–
BT 40	2 - 16 mm	ER 25/430E	100	42	431007 4116	88,–
BT 40	2 - 20 mm	ER 32/470E	70	50	431007 4020	65,–
BT 40	2 - 20 mm	ER 32/470E	100	50	431007 4120	78,–
BT 40	3 - 26 mm	ER 40/472E	80	63	431007 4026	69,–
BT 40	3 - 26 mm	ER 40/472E	100	63	431007 4126	87,–
BT 50	2 - 16 mm	ER 25/430E	70	42	431007 5016	107,–
BT 50	2 - 20 mm	ER 32/470E	70	50	431007 5020	101,–
BT 50	3 - 26 mm	ER 40/472E	80	63	431007 5026	101,–

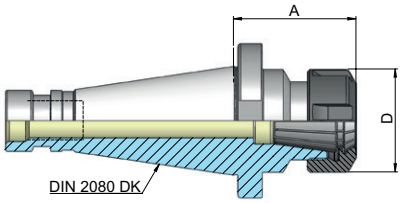
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DIN 2080

Shank	Min./max. clamping width	Suitable for collet type	A mm	External Ø mm	art.no.	€
SK40	1 - 10 mm	ER 16/426E	50	28	431001 4010	61,–
SK40	2 - 16 mm	ER 25/430E	50	42	431001 4016	61,–
SK40	2 - 20 mm	ER 32/470E	50	50	431001 4020	63,–
SK40	3 - 26 mm	ER 40/472E	80	63	431001 4026	67,–
SK50	2 - 20 mm	ER 32/470E	63	50	431001 5020	102,–
SK50	3 - 26 mm	ER 40/472E	63	63	431001 5026	102,–

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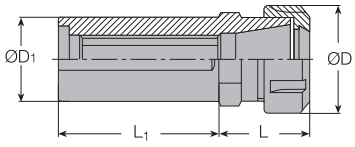


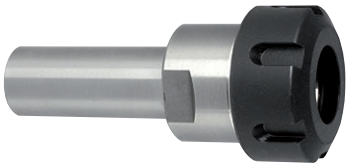
With straight shank

- True running accuracy < 1.5 µm

D1 mm	Min./max. clamping width	Suitable for collet type	L1 mm	L mm	D mm	art.no.	€
20	1.5 - 16 mm	ER 25/430E	50	46	42	431016 2001	130,50
20	1.5 - 16 mm	ER 25/430E	100	46	42	431016 2002	139,–
20	2 - 20 mm	ER 32/470E	100	54	50	431016 2003	139,–
25	1 - 16 mm	ER 25/430E	50	40	42	431016 2501	130,50
25	1 - 16 mm	ER 25/430E	100	40	42	431016 2502	139,–
25	2 - 20 mm	ER 32/470E	50	52	50	431016 2503	130,50
32	2 - 20 mm	ER 32/470E	50	48	50	431016 3202	130,50
32	2 - 20 mm	ER 32/470E	100	48	50	431016 3212	139,–
32	3 - 26 mm	ER 40/472E	70	60	63	431016 3203	158,50
40	2 - 20 mm	ER 32/470E	80	33	50	431016 4001	152,50

4120





FAHRION® CENTRO|P High-Performance Clamping System

INFO



DEGREE OF DAMPING

→ significantly higher than with rigid holders due to the damping behaviour of the collet and clamping nut

STIFFNESS

→ variable projection of the tool through the largest possible tool passage

DESIGN FEATURES

- Collet sits completely in the cone
- Precisely ground double guide for the clamping nut
- Stable trapezoidal thread for transmission of the clamping force
- Chuck body with continuous maximum diameter

SARA® ER collet chuck

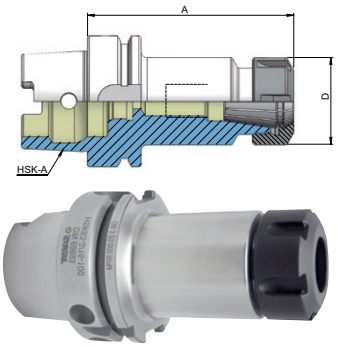
- **For DIN 6499 ER collets**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/mm², case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080, max. true running accuracy < 0.005 mm
- Supplied with clamping nut

DIN69893-1 HSK-A

- Pre-balanced to G 2.5 / 22,000 rpm
- Internal coolant supply

Shank	Min./max. clamping width	Suitable for collet type	A mm	External Ø mm	art.no.	€
HSK 63	1 - 10 mm	ER 16/426E	100	28	431039 6310	81,50
HSK 63	2 - 16 mm	ER 25/430E	100	42	431039 6316	81,50
HSK 63	2 - 20 mm	ER 32/470E	100	50	431039 6320	81,50
HSK 63	3 - 26 mm	ER 40/472E	120	63	431039 6326	88,–
HSK 100	2 - 16 mm	ER 25/430E	100	42	431039 1016	117,–
HSK 100	2 - 20 mm	ER 32/470E	100	50	431039 1020	117,–
HSK 100	3 - 26 mm	ER 40/472E	120	63	431039 1026	122,50

4198

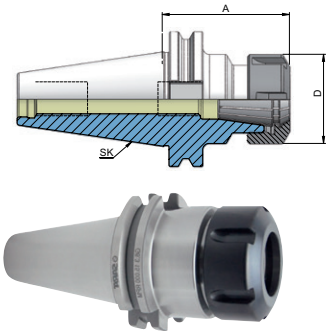


DIN ISO 7388-1 AD / DIN 69871 AD

- Pre-balanced to G 2.5 / 20,000 rpm
- Internal coolant supply

Shank	Min./max. clamping width	Suitable for collet type	A mm	External Ø mm	art.no.	€
SK40	1 - 10 mm	ER 16/426E	63	28	431006 4010	40,–
SK40	2 - 16 mm	ER 25/430E	60	42	431006 4016	40,–
SK40	2 - 20 mm	ER 32/470E	70	50	431006 4020	41,50
SK40	3 - 26 mm	ER 40/472E	80	63	431006 4026	44,50
SK50	1 - 10 mm	ER 16/426E	100	28	431006 5010	84,50
SK50	2 - 16 mm	ER 25/430E	100	42	431006 5016	84,50
SK50	2 - 20 mm	ER 32/470E	70	50	431006 5020	73,80
SK50	3 - 26 mm	ER 40/472E	80	63	431006 5026	73,80

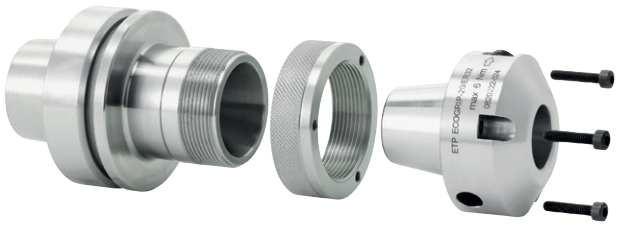
4198



SARA® Hydraulic expansion clamping unit *ECOGRIP ER*

powered by ETP

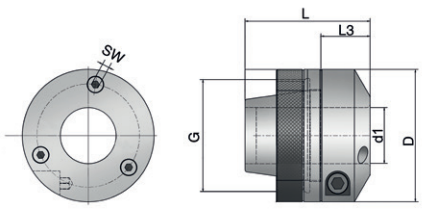
- renders ER collet systems hydraulic
- Adjustable radial run-out
- installed correctly, a true running accuracy of 0.003 mm is achieved. The radial run-out can be further adjusted to the desired accuracy by slightly tightening the setting screws.



For ER collet systems with external thread

Collet type	d1 mm	External Ø mm	L mm	L3 mm	Connection thread	Wr. width	art.no.	€
ER 16	6	34	30	14	M22 x 1.5	2.5 mm	433804 1006	251,–
ER 16 Mini	6	34	30	14	M22 x 1.5	2.5 mm	433804 1106	284,–
ER 20	12	43.5	40	24	M25 x 1.5	3 mm	433804 2012	212,–
ER 20 Mini	12	43.5	40	24	M24 x 1.5	3 mm	433804 2112	245,–
ER 25	12	48	46	26	M32 x 1.5	3 mm	433804 3012	272,–
ER 25	16	48	46	26	M32 x 1.5	3 mm	433804 3016	239,–
ER 32	20	52	52	25.5	M40 x 1.5	3 mm	433804 4020	239,–

4130



ATORN ER clamping nuts

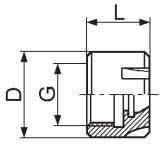
- **For collets in accordance with DIN 6499 (ER/ESX)**
- Case-hardened and ground, suitable for increased speeds

Mini nuts

- 50-54 HRC, ground on all sides
- Small constructional dimensions

Suitable for collet type	Tightening torque N·m	Rotational speed max. r/min	D mm	L mm	Suitable for thread	art.no.	€
ER 11 MINI	18	70000	16	12	M13 x 0.75	431010 1011	32,–
ER 16 MINI	28	60000	22	18	M19 x 1	431010 1016	30,–
ER 20 MINI	35	50000	28	19	M24 x 1	431010 1020	31,–
						4120	



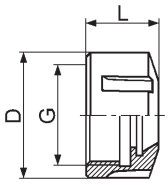


Standard

- 56-60 HRC, pre-balanced

Suitable for collet type	Tightening torque N·m	Rotational speed max. r/min	D mm	L mm	Suitable for thread	art.no.	€
ER 16 / SW 25	50	10000	28	17	M22 x 1.5	431010 0016	27,20
ER 20	75	10000	35	19	M25 x 1.5	431010 0020	27,90
ER 25	85	10000	42	20	M32 x 1.5	431010 0025	29,–
ER 32	105	10000	50	23	M40 x 1.5	431010 0032	32,30
ER 40	150	10000	63	23	M50 x 1.5	431010 0040	36,60
						4120	



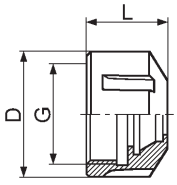


Type HP for sealing washers

- 56-60 HRC, pre-balanced
- For holding HP sealing washers
- Operating pressure up to 80 bar

Suitable for collet type	Tightening torque N·m	Rotational speed max. r/min	D mm	L mm	Suitable for thread	art.no.	€
ER 16	50	40000	32	22	M22 x 1.5	431019 0016	37,50
ER 25	85	35000	42	25	M32 x 1.5	431019 0025	42,70
ER 32	105	35000	50	27	M40 x 1.5	431019 0032	45,20
ER 40	150	25000	63	31	M50 x 1.5	431019 0040	53,30
						4118	

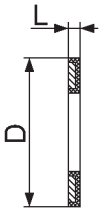




FAHRION® Sealing washers for ER collet chucks

- For ER clamping nuts, 431019....
- For Fahrion clamping nuts ***CENTRO|P* (HPC-DI)** 431237....
- **Please specify shank Ø dimension in mm as four-digit figure** (Example HP25 DI **Ø8.5** = 431021 **0085**)





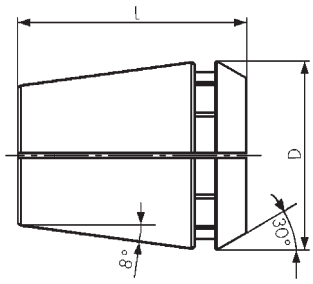
Bridging range -0.1 / +0.4 mm

for shank Ø mm	431020.... HP 16 DI €	431021.... HP 25 DI €	431022.... HP 32 DI €	431023.... HP 40 DI €
2 - 2.5	23,–	23,–	23,80	
3 - 10	18,90	18,90	19,60	23,80
10.5 - 16		18,90	19,60	23,80
17 - 20			19,60	23,80
21 - 26				23,80
	4118	4118	4118	4118

ATORN ER precision collets 5 µm

- True running accuracy 5µm
- for greater system true running accuracy
- Collapse 0.5mm
- **sealed collets for internal coolant supply available on request**





Standard version

- d1 corresponds to the clamping diameter

d1	ER16 / 426E		ER25 /430E		ER32 / 470E		ER40 / 472E	
mm	art.no.	€	art.no.	€	art.no.	€	art.no.	€
1.0	433221 0010	27,70	433222 0010	30,70				
1.5	433221 0015	27,70	433222 0015	30,70				
2.0	433221 0020	27,70	433222 0020	30,70	433223 0020	32,30		
2.5	433221 0025	27,70	433222 0025	30,70	433223 0025	32,30		
3.0	433221 0030	21,80	433222 0030	23,70	433223 0030	25,10	433224 0030	43,50
3.5	433221 0035	37,80	433222 0035	39,50	433223 0035	40,50	433224 0035	46,40
4.0	433221 0040	21,80	433222 0040	23,70	433223 0040	25,10	433224 0040	32,60
4.5	433221 0045	37,80	433222 0045	39,50	433223 0045	40,50	433224 0045	46,40
5.0	433221 0050	21,80	433222 0050	23,20	433223 0050	25,10	433224 0050	32,60
5.5	433221 0055	37,80	433222 0055	39,50	433223 0055	40,50	433224 0055	46,40
6.0	433221 0060	21,80	433222 0060	23,20	433223 0060	24,80	433224 0060	32,60
6.5	433221 0065	37,80	433222 0065	39,50	433223 0065	40,50	433224 0065	46,40
7.0	433221 0070	22,10	433222 0070	23,70	433223 0070	25,10	433224 0070	32,60
7.5	433221 0075	37,80	433222 0075	39,50	433223 0075	40,50	433224 0075	46,40
8.0	433221 0080	21,80	433222 0080	23,20	433223 0080	24,80	433224 0080	32,60
8.5	433221 0085	37,80	433222 0085	39,50	433223 0085	40,50	433224 0085	46,40
9.0	433221 0090	22,10	433222 0090	23,70	433223 0090	25,10	433224 0090	32,60
9.5	433221 0095	37,80	433222 0095	39,50	433223 0095	40,50	433224 0095	46,40
10.0	433221 0100	21,80	433222 0100	23,20	433223 0100	24,80	433224 0100	32,60
10.5			433222 0105	39,50	433223 0105	40,50	433224 0105	46,40
11.0			433222 0110	23,70	433223 0110	25,10	433224 0110	32,60
11.5			433222 0115	39,50	433223 0115	40,50	433224 0115	46,40
12.0			433222 0120	23,20	433223 0120	24,80	433224 0120	32,60
12.5			433222 0125	39,50	433223 0125	40,50	433224 0125	46,40
13.0			433222 0130	23,70	433223 0130	25,10	433224 0130	32,60
13.5			433222 0135	39,50	433223 0135	40,50	433224 0135	46,40
14.0			433222 0140	23,20	433223 0140	25,10	433224 0140	32,60
14.5			433222 0145	39,50	433223 0145	40,50	433224 0145	46,40
15.0			433222 0150	23,70	433223 0150	25,10	433224 0150	32,60
15.5			433222 0155	39,50	433223 0155	40,50	433224 0155	46,40
16.0			433222 0160	23,70	433223 0160	24,80	433224 0160	32,60
16.5							433224 0165	46,40
17.0					433223 0170	25,10	433224 0170	32,60
17.5					433223 0175	40,50	433224 0175	46,40
18.0					433223 0180	25,10	433224 0180	32,60
18.5					433223 0185	40,50	433224 0185	46,40
19.0					433223 0190	25,10	433224 0190	32,60
19.5					433223 0195	40,50	433224 0195	46,40
20.0					433223 0200	24,80	433224 0200	32,60
20.5							433224 0205	46,40
21.0							433224 0210	32,60
21.5							433224 0215	46,40
22.0							433224 0220	32,60
22.5							433224 0225	46,40
23.0							433224 0230	32,60
23.5							433224 0235	46,40
24.0							433224 0240	32,60
24.5							433224 0245	46,40
25.0							433224 0250	32,60
25.5							433224 0255	46,40
26.0							433224 0260	32,60
	4202		4202		4202		4202	

Sets

Designation	Contents	Clamping range	art.no.	€
ER16HP	10-pcs.	1-10 mm	433081 0016	257,–
ER25HP	15-pcs.	2-16 mm	433081 0025	381,–
ER32HP	18-pcs.	3-20 mm	433081 0032	480,–
ER40HP	23-pcs.	4-26 mm	433081 0040	799,–
			4202	

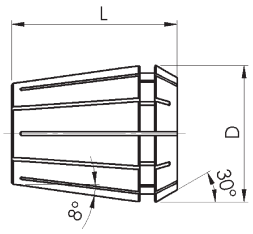


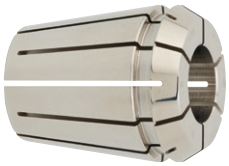
433081 0032

FAHRION® GERC collets 5 µm

- Collapse of 1 mm
  (0.5 mm with clamping diameters of 1 to 2 mm)
- True-running accuracy 5 µm

Fahrion Protect corrosion protection





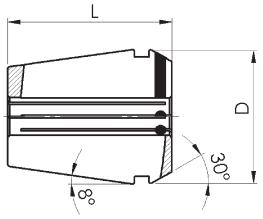
Standard version / type GERC-B

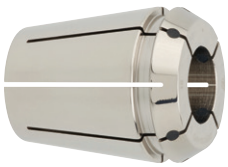
Clamp Ø mm	GERC16 / 426E art.no.	€	GERC25 / 430E art.no.	€	GERC32 / 470E art.no.	€	GERC40 / 472E art.no.	€
1	433071 0010	30,50	433073 0010	33,10				
1.5	433071 0015	30,50	433073 0015	33,10				
2	433071 0020	30,50	433073 0020	33,10	433074 0020	34,90		
2.5	433071 0025	30,50	433073 0025	33,10	433074 0025	34,90		
3	433071 0030	24,10	433073 0030	25,50	433074 0030	27,10	433075 0030	46,90
3.5	433071 0035	41,30	433073 0035	42,60	433074 0035	43,70		
4	433071 0040	24,10	433073 0040	25,50	433074 0040	27,10	433075 0040	35,–
4.5	433071 0045	41,30	433073 0045	42,60	433074 0045	43,70		
5	433071 0050	24,10	433073 0050	25,50	433074 0050	27,10	433075 0050	35,–
5.5	433071 0055	41,30	433073 0055	42,60	433074 0055	43,70		
6	433071 0060	24,10	433073 0060	25,50	433074 0060	27,10	433075 0060	35,–
6.5	433071 0065	41,30	433073 0065	42,60	433074 0065	43,70		
7	433071 0070	24,10	433073 0070	25,50	433074 0070	27,10	433075 0070	35,–
7.5	433071 0075	41,30	433073 0075	42,60	433074 0075	43,70		
8	433071 0080	24,10	433073 0080	25,50	433074 0080	27,10	433075 0080	35,–
8.5	433071 0085	41,30	433073 0085	42,60	433074 0085	43,70	433075 0085	52,30
9	433071 0090	24,10	433073 0090	25,50	433074 0090	27,10	433075 0090	35,–
9.5	433071 0095	41,30	433073 0095	42,60	433074 0095	43,70		
10	433071 0100	24,10	433073 0100	25,50	433074 0100	27,10	433075 0100	35,–
10.5			433073 0105	42,60	433074 0105	43,70	433075 0105	52,30
11			433073 0110	25,50	433074 0110	27,10	433075 0110	35,–
11.5			433073 0115	42,60	433074 0115	43,70		
12			433073 0120	25,50	433074 0120	27,10	433075 0120	35,–
12.5			433073 0125	42,60	433074 0125	43,70		
13			433073 0130	25,50	433074 0130	27,10	433075 0130	35,–
13.5			433073 0135	42,60	433074 0135	43,70		
14			433073 0140	25,50	433074 0140	27,10	433075 0140	35,–
14.5			433073 0145	42,60	433074 0145	43,70		
15			433073 0150	25,50	433074 0150	27,10	433075 0150	35,–
15.5			433073 0155	42,60	433074 0155	43,70		
16			433073 0160	25,50	433074 0160	27,10	433075 0160	35,–
17					433074 0170	27,10	433075 0170	35,–
18					433074 0180	27,10	433075 0180	35,–
19							433075 0190	35,–
20					433074 0200	27,10	433075 0200	35,–
21							433075 0210	35,–
22							433075 0220	35,–
23							433075 0230	35,–
24							433075 0240	35,–
25							433075 0250	35,–
26							433075 0260	35,–
	4119		4119		4119		4119	

Set in a wooden box, standard increasing in increments of 1 mm / type GERC-B

Designation	Contents per set	Clamping range mm	art.no.	€
GERC 16 426E	10-pcs.	1 - 10	433076 0000	272,–
GERC 20 428E	12-pcs.	2 - 13	433076 0001	333,–
GERC 25 430E	15-pcs.	2 - 16	433076 0002	421,–
GERC 32 470E	18-pcs.	3 - 20	433076 0003	525,–
GERC 40 472E	23-pcs.	4 - 26	433076 0004	851,–
			4119	







With seal for internal coolant supply / type GERC-BD

Clamp Ø mm	GERC16BD / 425E art.no.	€	GERC25-BD / 429E art.no.	€	GERC32-BD / 429E art.no.	€	GERC40-BD / 471E art.no.	€
3	433131 1603	55,30	433133 2503	64,40	433134 3203	66,80		
4	433131 1604	55,30	433133 2504	57,80	433134 3204	60,20		
5	433131 1605	62,–	433133 2505	64,40	433134 3205	66,80		
6	433131 1606	55,30	433133 2506	57,80	433134 3206	60,20	433135 4006	70,50
8	433131 1608	55,30	433133 2508	57,80	433134 3208	60,20	433135 4008	70,50
10	433131 1610	55,30	433133 2510	57,80	433134 3210	60,20	433135 4010	70,50
12			433133 2512	57,80	433134 3212	60,20	433135 4012	70,50
14			433133 2514	57,80	433134 3214	60,20	433135 4014	70,50
16			433133 2516	57,80	433134 3216	60,20	433135 4016	70,50
18					433134 3218	60,20	433135 4018	70,50
20					433134 3220	60,20	433135 4020	70,50
22							433135 4022	77,70
25							433135 4025	70,50
	4118		4118		4118		4118	

Set in a wooden box, with seals for internal coolant supply / type GERC-D

Designation	Contents per set	Clamping range mm	art.no.	€
GERC16-BD / 425E	Ø3-4-5-6-8-10	3 - 10	433077 0001	356,–
GERC20-BD / 427E	Ø3-4-5-6-8-10-12	3 - 12	433077 0002	424,–
GERC25-BD / 429E	Ø4-6-8-10-12-14-16	4 - 16	433077 0003	428,–
GERC32-BD / 469E	Ø4-6-8-10-12-14-16-20	4 - 20	433077 0004	505,–
			4118	



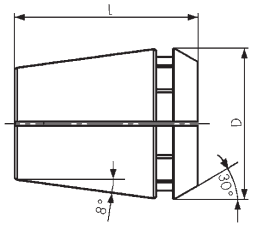
ECOGRIP ER

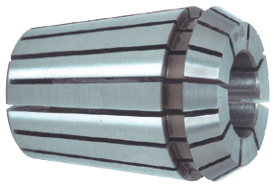
- **Simple, quick and precise**
- **Turns your ER collet system into a hydraulic expansion chuck with adjustable true running accuracy to 0.003 mm**

SARA® ER collets, 10 µm

DIN 6499-B

- Collapse of 1 mm (for ER11; 0.5 mm for clamping diameters of 1 to 2 mm)
- True running accuracy 10 µm





Individual

- d1 corresponds to the clamping diameter

d1 mm	ER11 / 4008E art.no.	€	ER16 / 426E art.no.	€	ER25 / 430E art.no.	€	ER32 / 470E art.no.	€	ER40 / 472E art.no.	€
1	433210 0010	21,30	433211 0010	20,40						
1.5	433210 0015	21,30								
2	433210 0020	21,30	433211 0020	20,40	433213 0020	21,50				
2.5	433210 0025	21,30								
3	433210 0030	21,30	433211 0030	20,40	433213 0030	21,50	433214 0030	23,–	433215 0030	28,–
3.5	433210 0035	21,30								
4	433210 0040	21,30	433211 0040	20,40	433213 0040	21,50	433214 0040	23,–	433215 0040	28,–
4.5	433210 0045	21,30								
5	433210 0050	21,30	433211 0050	20,40	433213 0050	21,50	433214 0050	23,–	433215 0050	28,–
5.5	433210 0055	21,30								
6	433210 0060	21,30	433211 0060	20,40	433213 0060	21,50	433214 0060	23,–	433215 0060	28,–
6.5	433210 0065	21,30								
7	433210 0070	21,30	433211 0070	20,40	433213 0070	21,50	433214 0070	23,–	433215 0070	28,–
8			433211 0080	20,40	433213 0080	21,50	433214 0080	23,–	433215 0080	28,–
9			433211 0090	20,40	433213 0090	21,50	433214 0090	23,–	433215 0090	28,–
10			433211 0100	20,40	433213 0100	21,50	433214 0100	23,–	433215 0100	28,–
11					433213 0110	21,50	433214 0110	23,–	433215 0110	28,–
12					433213 0120	21,50	433214 0120	23,–	433215 0120	28,–
13					433213 0130	21,50	433214 0130	23,–	433215 0130	28,–
14					433213 0140	21,50	433214 0140	23,–	433215 0140	28,–
15					433213 0150	21,50	433214 0150	23,–	433215 0150	28,–
16					433213 0160	21,50	433214 0160	23,–	433215 0160	28,–
17							433214 0170	23,–		
18							433214 0180	23,–	433215 0180	28,–
19							433214 0190	23,–		
20							433214 0200	23,–	433215 0200	28,–
21									433215 0210	28,–
22									433215 0220	28,–
25									433215 0250	28,–
26									433215 0260	28,–
	4120		4120		4120		4120		4120	

Set on a wooden stand

- ER11 = increasing in increments of 0.5 mm, ER16 - ER40 = increasing in increments of 1 mm

Collet type	Contents	Clamping range	art.no.	€
ER 11	13 pieces	1-7 mm	433220 1110	286,–
ER 16	10-pcs.	1-10 mm	433220 1610	229,–
ER 20	12-pcs.	2-13 mm	433220 2012	278,–
ER 25	15-pcs.	2-16 mm	433220 2515	355,–
ER 32	18-pcs.	3-20 mm	433220 3218	445,–
ER 40	24 pieces	3-26 mm	433220 4023	689,–
			4120	

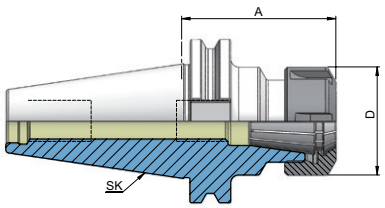


433220 1110

433220 2515

SARA® ER collet chuck set DIN ISO 7388-1 / DIN 69871AD/AF SK40

- **ER collets, DIN 6499, increasing in 1 mm increments, max. true running accuracy < 0.008 mm**
- **ER collet chuck, DIN ISO 7388-1 / DIN 69871AD/AF SK 40, max. true running accuracy < 0.005 mm**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/mm² Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- **Pre-balanced to G 6.3 / 15,000 rpm**
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Supplied in plastic case with clamping key and clamping nut





Contents	A mm	D mm	Suitable for collet type	Clamping range	art.no.	€
17-pcs.	70	42	ER 25	2-16 mm	431103 4917	359,–
20-pcs.	70	50	ER 32	3-20 mm	431103 4920	449,–

4120

SARA® Mini ER collet chuck extension

- Hardened (58 - 60 HRC) and precision-ground
- True-running accuracy, straight shank to internal taper, max. 5 µm; taper angle tolerance quality AT3
- Supplied with clamping and removal nuts

Individual



Clamping range	Suitable for collet type	L mm	D mm	art.no.	€
1-7 mm	ER 11	161	16	432000 1110	175,–
1-10 mm	ER 16	161	20	432000 1610	179,50
1-10 mm	ER 16	165	20	432000 1615	198,–
1.5-13 mm	ER 20	130	20	432000 2010	210,–
1.5-13 mm	ER 20	200	20	432000 2015	217,–

4120

Set

- With collet chuck extension, collets, clamping nuts, key



Clamping range	Suitable for collet type	L mm	Contents	art.no.	€
0.5-7 mm	ER 11	149	1x chuck extension 4320001110 13 x ER 11 collets	432100 1110	480,–
1-10 mm	ER 16	161	1x chuck extension 4320001610 10 x ER 16 collets	432100 1610	400,–
1-10 mm	ER 16	191	1x chuck extension 4320001615 10 x ER 16 collets	432100 1615	415,–
1.5-13 mm	ER 20	166	1x chuck extension 4320002010 12 x ER 20 collets	432100 2010	495,–
1.5-13 mm	ER 20	236	1x chuck extension 4320002015 12 x ER 20 collets	432100 2015	519,–

4120

Chuck key

- **For DIN 6499 type ER clamping nuts, DIN 1804 slotted nuts and DIN 981 roller bearing nuts**
- Special steel

Standard



for clamping nut	A mm	art.no.	€
ER 16	50	438030 0016	15,80
ER 20	60	438030 0028	17,–
ER 25	65	438030 0042	18,10
ER 32	75	438030 0050	25,50
ER 40	90	438030 0063	33,80

4120

Mini



for clamping nut	A mm	art.no.	€
ER 11 MINI	22.3	438031 0011	20,–
ER 16 MINI	22.5	438031 0016	21,–
ER 20 MINI	29	438031 0020	23,10

4120

Hook spanner

DIN 1810A DIN 1810B

- Special steel, hardened and burnished
- * not DIN-compliant

With milled nose, for DIN 1804 slotted nuts

- DIN 1810A



Wr. width	L mm	Thickness mm	art.no.	€
16 - 20	110	3	438230 0020	7,–
25 - 28	136	4	438230 0028	7,35
30 - 32	136	4	438230 0032	7,35
34 - 36	170	5	438230 0036	8,70
40 - 42	170	5	438230 0042	8,65
45 - 50	206	6	438230 0050	10,05
52 - 55	206	6	438230 0055	10,25
58 - 62	240	7	438230 0062	15,15
68 - 75	240	7	438230 0075	15,05
80 - 90	280	8	438230 0090	20,30
95 - 100	280	8	438230 0100	20,40
110 - 115	335	10	438230 0115	35,50
120 - 130	335	10	438230 0130	35,50
135 - 145	385	10*	438230 0145	44,–
155 - 165	385	10*	438230 0165	44,–
180 - 195	470	10*	438230 0195	72,10

4159

With pilot tip, for capstan nuts, DIN 1816

- DIN 1810B



Wr. width	L mm	Thickness mm	D6 mm	Pin length mm	art.no.	€
16 - 18	110	3	2.5	2.5	438231 0020	7,85
25 - 28	136	4	3	3	438231 0028	8,85
30 - 32	136	4	4	3	438231 0032	8,85
34 - 36	170	5	4	3.5	438231 0036	10,35
40 - 42	170	5	4	3.5	438231 0042	10,50
45 - 50	206	6	5	4	438231 0050	12,85
52 - 55	206	6	5	4	438231 0055	13,05
58 - 62	240	7	5	5	438231 0062	17,10
68 - 75	240	7	6	5	438231 0075	17,40
80 - 90	280	8	6	6	438231 0090	21,50
95 - 100	280	8	8	6	438231 0100	21,50
110 - 115	335	8*	8	8	438231 0115	37,–
120 - 130	335	8*	8	8	438231 0130	37,–
135 - 145	380	8*	8	8	438231 0145	48,20
180 - 195	470	10*	10	8	438231 0195	81,20

4159

Clamping screws for milling cutter holding fixtures, DIN 6359

Weldon clamping screws, DIN 1835 B

- For clamping DIN 1835 B straight shanks in DIN 6359/1835 Part 2 - 3 milling cutter arbours (Weldon jaw chuck)
- For standard and long chuck designs
- Clamping screws for short chuck versions (Ø 16 / 20 / 25 A = 35 mm, Ø 32 A = 65 mm) available on request

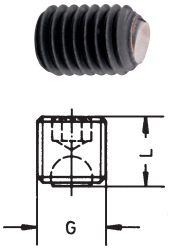


Suitable for thread	L mm	Suitable for shaft diameter mm	art.no.	€
M6	10	6	431012 0006	2,90
M8	10	8	431012 0008	2,90
M10	12	10	431012 0010	3,55
M12	16	12 - 14	431012 0012	4,40
M14	16	16 - 18	431012 0014	4,95
M16	16	20	431012 0016	5,80
M18 x 2	20	25	431012 0025	10,80
M20 x 2	20	32 - 40	431012 0032	16,10

4117

Whistle-notch clamping screws, DIN 1835 E

- Version with ball
- For clamping DIN 1835 E straight shanks (with suitable clamping surface) in DIN 6359/1835 Part 2 - 3 milling cutter arbours (Weldon jaw chuck)
- Clamping screws for short chuck versions (Ø 16/20/25 A = 35 mm, Ø 32 A = 65 mm) available on request



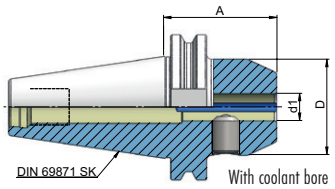
Suitable for thread	L mm	Suitable for shaft diameter mm	art.no.	€
M6	10	6	431013 0006	11,40
M8	10	8	431013 0008	12,80
M10	12	10	431013 0010	13,90
M12	16	12 - 14	431013 0012	16,40
M14	16	16 - 18	431013 0014	19,50
M16	16	20	431013 0016	20,30
M18 x 2	20	25	431013 0018	25,40
M20 x 2	20	32 - 40	431013 0020	27,80

4117

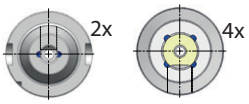
ATORN Milling cutter holding fixture, DIN 6359

DIN 6359 DIN 6359

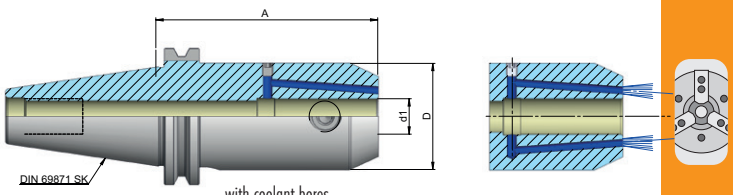
- **For straight shanks, DIN 1835-B (WELDON)**
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/ mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Supplied with clamping screw
- **Additional shank designs and AD/B version available on request**
- **Version with coolant bores: Ø 6 to Ø 18 mm = two coolant bores, Ø 20 to Ø 40 mm = four coolant bores**
- **Version with coolant bores: Ø 6 to Ø 18 mm = two coolant boresØ 20 to Ø 40 mm = four coolant bores**



With coolant bore



d = 6 - 18 mm d = 20 - 40 mm

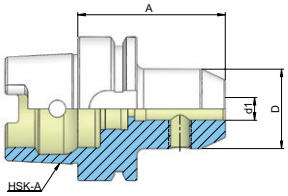


with coolant bores

DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used





Shank	d1 mm	A mm	D mm	art.no.	€	With cooling channels art.no.	€	with coolant bores art.no.	€
HSK 63	6	65	25	434509 6306	116,–	434510 6306	130,–	434511 6306	130,–
HSK 63	6	100	25	434509 6406	130,–			434511 6406	148,–
HSK 63	6	160	25	434509 6506	178,–			434511 6506	178,–
HSK 63	8	65	28	434509 6308	116,–	434510 6308	130,–	434511 6308	130,–
HSK 63	8	100	28	434509 6408	132,–			434511 6408	148,–
HSK 63	8	160	28	434509 6508	178,–			434511 6508	182,–
HSK 63	10	65	35	434509 6310	116,–	434510 6310	130,–	434511 6310	130,–
HSK 63	10	100	35	434509 6410	132,–			434511 6410	148,–
HSK 63	10	160	35	434509 6510	178,–			434511 6510	182,–
HSK 63	12	160	42	434509 6412	178,–			434511 6512	182,–
HSK 63	12	80	42	434509 6312	116,–	434510 6312	130,–	434511 6312	130,–
HSK 63	14	80	45	434509 6314	116,–	434510 6314	130,–	434511 6314	130,–
HSK 63	14	160	45	434509 6514	178,–			434511 6514	182,–
HSK 63	16	80	48	434509 6316	116,–	434510 6316	130,–	434511 6316	130,–
HSK 63	16	160	48	434509 6416	178,–			434511 6516	182,–
HSK 63	18	80	50	434509 6318	116,–	434510 6318	130,–	434511 6318	130,–
HSK 63	18	160	50	434509 6518	178,–			434511 6518	182,–
HSK 63	20	80	52	434509 6320	116,–	434510 6320	130,–	434511 6320	130,–
HSK 63	20	160	52	434509 6420	178,–			434511 6520	182,–
HSK 63	25	110	63	434509 6325	124,–	434510 6325	152,–	434511 6325	152,–
HSK 63	32	110	72	434509 6332	130,–	434510 6332	156,–	434511 6332	156,–

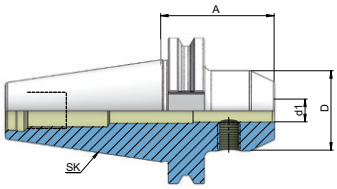
4117 4117 4117

Shank	d1 mm	A mm	D mm	art.no.	€	With cooling channels art.no.	€	with coolant bores art.no.	€
HSK 63	40	125	80	434509 6340	152,–	434510 6340	164,–	434511 6340	172,–
HSK 100	6	80	25	434509 1006	164,–	434510 1006	183,–	434511 1006	192,–
HSK 100	8	80	28	434509 1008	164,–	434510 1008	183,–	434511 1008	192,–
HSK 100	10	80	35	434509 1010	164,–	434510 1010	183,–	434511 1010	192,–
HSK 100	12	80	42	434509 1012	164,–	434510 1012	183,–	434511 1012	192,–
HSK 100	14	80	44	434509 1014	164,–	434510 1014	183,–	434511 1014	192,–
HSK 100	16	100	48	434509 1016	164,–	434510 1016	183,–	434511 1016	192,–
HSK 100	18	100	50	434509 1018	164,–	434510 1018	183,–	434511 1018	192,–
HSK 100	20	100	52	434509 1020	164,–	434510 1020	183,–	434511 1020	192,–
HSK 100	25	100	65	434509 1025	188,–	434510 1025	193,–	434511 1025	202,–
HSK 100	32	100	72	434509 1032	198,–	434510 1032	199,–	434511 1032	224,–
HSK 100	40	105	80	434509 1040	214,–	434510 1040	237,–	434511 1040	244,–
				4117		4117		4117	

DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply



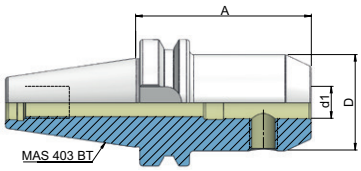


Shank	d1 mm	A mm	D mm	art.no.	€	With cooling channels art.no.	€	with coolant bores art.no.	€
SK40	6	50	25	434503 4006	48,40	434504 4006	59,40	434505 4006	67,–
SK40	6	100	25	434503 4106	59,–	434504 4106	71,–	434505 4106	76,–
SK40	8	50	28	434503 4008	46,–	434504 4008	56,60	434505 4008	65,–
SK40	8	100	28	434503 4108	55,–	434504 4108	68,10	434505 4108	72,–
SK40	10	50	35	434503 4010	46,–	434504 4010	56,60	434505 4010	65,–
SK40	10	100	35	434503 4110	55,–	434504 4110	68,10	434505 4110	72,–
SK40	12	50	42	434503 4012	46,–	434504 4012	56,60	434505 4012	65,–
SK40	12	100	42	434503 4112	55,–	434504 4112	68,10	434505 4112	72,–
SK40	14	50	44	434503 4014	46,40	434504 4014	59,40	434505 4014	65,–
SK40	14	100	44	434503 4114	56,–	434504 4114	73,40	434505 4114	72,–
SK40	16	35	45	434503 4216	55,–			434505 4016	72,90
SK40	16	63	48	434503 4016	46,–	434504 4016	59,40	434505 4116	65,–
SK40	16	100	48	434503 4116	55,–	434504 4116	73,40	434505 4216	72,–
SK40	18	63	50	434503 4018	46,40	434504 4018	59,40	434505 4018	65,–
SK40	18	100	50	434503 4118	56,–	434504 4118	73,40	434505 4118	74,–
SK40	20	35	45	434503 4220	54,–			434505 4020	72,90
SK40	20	63	52	434503 4020	46,–	434504 4020	59,40	434505 4120	65,–
SK40	20	100	52	434503 4120	55,–	434504 4120	73,40	434505 4220	74,–
SK40	25	35	50	434503 4225	62,–				
SK40	25	100	63	434503 4025	55,–	434504 4025	76,30	434505 4125	76,–
SK40	32	65	50	434503 4232	74,–				
SK40	32	100	72	434503 4032	58,–	434504 4032	77,50	434505 4132	77,–
SK40	40	120	80	434503 4040	74,–	434504 4040	81,60	434505 4140	93,–
SK50	6	63	25	434503 5006	74,–	434504 5006	90,90	434505 5006	93,–
SK50	6	100	25	434503 5106	89,–			434505 5106	112,–
SK50	8	63	28	434503 5008	71,–	434504 5008	88,40	434505 5008	91,–
SK50	8	100	28	434503 5108	86,–			434505 5108	106,–
SK50	10	63	35	434503 5010	71,–	434504 5010	88,40	434505 5010	91,–
SK50	10	100	35	434503 5110	86,–			434505 5110	106,–
SK50	12	63	42	434503 5012	71,–	434504 5012	88,40	434505 5012	91,–
SK50	12	100	42	434503 5112	86,–			434505 5112	106,–
SK50	14	63	44	434503 5014	71,–	434504 5014	88,40	434505 5014	91,–
SK50	14	100	44	434503 5114	86,–			434505 5114	106,–
SK50	16	63	48	434503 5016	71,–	434504 5016	88,40	434505 5016	91,–
SK50	16	100	48	434503 5116	86,–			434505 5116	106,–
SK50	18	63	50	434503 5018	71,–	434504 5018	88,40	434505 5018	91,–
SK50	18	100	50	434503 5118	86,–			434505 5118	106,–
SK50	20	63	52	434503 5020	71,–	434504 5020	88,40	434505 5020	91,–
SK50	20	100	52	434503 5120	86,–			434505 5120	106,–
SK50	25	80	65	434503 5025	81,–	434504 5025	96,20	434505 5025	99,–
SK50	32	100	72	434503 5032	86,–	434504 5032	98,–	434505 5032	99,50
SK50	40	100	80	434503 5040	92,–	434504 5040	102,–	434505 5040	106,–
SK50	25	120	65	434503 5125	109,50			434505 5125	122,–
				4117		4117		4117	

DIN ISO 7388-2 / MAS BT JIS B 6339

- Internal coolant supply

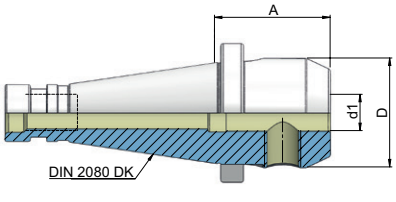




Shank	d1 mm	A mm	D mm	art.no.	€	With cooling channels art.no.	€	with coolant bores art.no.	€
BT 40	6	50	25	434507 4006	51,–	434508 4006	61,–	434518 4006	73,–
BT 40	6	100	25	434507 4106	62,–			434518 4106	81,–
BT 40	8	50	28	434507 4008	47,80	434508 4008	58,–	434518 4008	71,–
BT 40	8	100	28	434507 4108	57,–			434518 4108	80,–
BT 40	10	63	35	434507 4010	47,80	434508 4010	58,–	434518 4010	71,–
BT 40	10	100	35	434507 4110	57,–			434518 4110	80,–
BT 40	12	63	42	434507 4012	47,80	434508 4012	58,–	434518 4012	71,–
BT 40	12	100	42	434507 4112	57,–			434518 4112	80,–
BT 40	14	63	44	434507 4014	47,80	434508 4014	61,–	434518 4014	71,–
BT 40	14	100	44	434507 4114	57,–			434518 4114	80,–
BT 40	16	35	45	434507 4216	57,–				
BT 40	16	63	48	434507 4016	47,80	434508 4016	60,60	434518 4016	71,–
BT 40	16	100	48	434507 4116	57,–			434518 4116	80,–
BT 40	18	63	50	434507 4018	47,80	434508 4018	61,–	434518 4018	71,–
BT 40	18	100	50	434507 4118	57,–			434518 4118	80,–
BT 40	20	35	45	434507 4220	57,–				
BT 40	20	63	52	434507 4020	47,80	434508 4020	61,–	434518 4020	71,–
BT 40	20	100	52	434507 4120	57,–			434518 4120	80,–
BT 40	25	35	45	434507 4225	65,–				
BT 40	25	90	63	434507 4025	55,–	434508 4025	78,–	434518 4025	80,–
BT 40	32	65	62	434507 4232	71,–				
BT 40	32	100	72	434507 4032	60,–	434508 4032	79,–	434518 4032	81,–
BT 40	40	120	80	434507 4040	77,–	434508 4040	91,–	434518 4040	99,–
BT 50	6	63	25	434507 5006	81,–	434508 5006	91,–		
BT 50	8	63	28	434507 5008	78,–	434508 5008	89,–		
BT 50	10	63	35	434507 5010	78,–	434508 5010	89,–		
BT 50	10	100	35	434507 5110	101,–				
BT 50	12	80	42	434507 5012	78,–	434508 5012	89,–		
BT 50	12	100	42	434507 5112	101,–				
BT 50	14	80	45	434507 5014	78,–	434508 5014	89,–		
BT 50	16	80	48	434507 5016	78,–	434508 5016	89,–		
BT 50	16	100	48	434507 5116	101,–				
BT 50	18	80	50	434507 5018	78,–	434508 5018	89,–		
BT 50	20	80	52	434507 5020	78,–	434508 5020	89,–		
BT 50	20	100	52	434507 5120	101,–				
BT 50	25	100	65	434507 5025	85,–	434508 5025	98,–		
BT 50	32	105	72	434507 5032	90,–	434508 5032	105,–		
BT 50	40	110	80	434507 5040	99,–	434508 5040	115,–		
				4117		4117		4117	

DIN 2080





Shank	d1 mm	A mm	D mm	art.no.	€
SK40	6	50	25	434501 4006	49,60
SK40	8	50	28	434501 4008	46,60
SK40	10	50	35	434501 4010	46,60
SK40	12	50	42	434501 4012	46,60
SK40	14	50	45	434501 4014	46,60
SK40	16	63	48	434501 4016	46,60
SK40	18	63	50	434501 4018	46,60
SK40	20	63	52	434501 4020	46,60
SK40	25	80	63	434501 4025	53,–
SK40	32	80	72	434501 4032	60,–
SK40	40	90	80	434501 4040	74,–
				4117	

Shank	d1 mm	A mm	D mm	art.no.	€
SK50	6	63	25	434501 5006	74,–
SK50	8	63	28	434501 5008	72,–
SK50	10	63	35	434501 5010	72,–
SK50	12	63	42	434501 5012	72,–
SK50	14	63	45	434501 5014	72,–
SK50	16	63	48	434501 5016	72,–
SK50	18	63	50	434501 5018	72,–
SK50	20	63	52	434501 5020	72,–
SK50	25	80	65	434501 5025	82,–
SK50	32	80	72	434501 5032	87,–
SK50	40	90	80	434501 5040	94,–

4117

SARA® Milling cutter holding fixture, DIN 6359

- **For straight shanks, DIN 1835-B (WELDON)**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Supplied with clamping screw
- **Art.no. 434549 and 434516 at Ø 6 to Ø 18 with two coolant bores**
- **Art.no. 434549 and 434516 at Ø 20 to Ø 40 with two coolant bores**

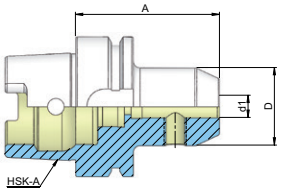
DIN69893-1 HSK-A

- Pre-balanced to G 2.5 / 22,000 rpm
- Internal coolant supply

Shank	d1 mm	A mm	D mm	art.no.	€	With cooling channels art.no.	With cooling channels €
HSK 63	6	65	25	434529 6306	83,–	434549 6306	105,50
HSK 63	8	65	28	434529 6308	83,–	434549 6308	105,50
HSK 63	10	65	35	434529 6310	83,–	434549 6310	105,50
HSK 63	12	80	42	434529 6312	83,–	434549 6312	105,50
HSK 63	16	80	48	434529 6316	83,–	434549 6316	105,50
HSK 63	20	80	52	434529 6320	83,–	434549 6320	105,50
HSK 63	25	110	63	434529 6325	90,–	434549 6325	114,50
HSK 63	32	110	72	434529 6332	114,–	434549 6332	147,–

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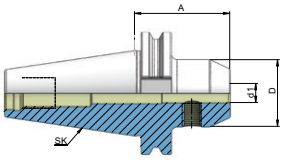
DIN ISO 7388-1 AD / DIN 69871 AD

- Pre-balanced to G 2.5 / 20,000 rpm
- Internal coolant supply

Shank	d1 mm	A mm	D mm	art.no.	€	With cooling channels art.no.	With cooling channels €
SK40	6	50	25	434506 4006	30,80	434516 4006	44,70
SK40	8	50	28	434506 4008	30,80	434516 4008	44,70
SK40	10	50	35	434506 4010	30,80	434516 4010	44,70
SK40	12	50	42	434506 4012	30,80	434516 4012	44,70
SK40	16	63	48	434506 4016	30,80	434516 4016	46,50
SK40	20	63	52	434506 4020	30,80	434516 4020	46,50
SK40	25	100	63	434506 4025	35,–	434516 4025	59,70
SK40	32	100	72	434506 4032	47,–	434516 4032	61,–
SK50	6	63	25	434506 5006	46,50	434516 5006	63,60
SK50	8	63	28	434506 5008	46,50	434516 5008	63,60
SK50	10	63	35	434506 5010	46,50	434516 5010	63,60
SK50	12	63	42	434506 5012	46,50	434516 5012	63,60
SK50	16	63	48	434506 5016	46,50	434516 5016	63,60
SK50	20	63	52	434506 5020	46,50	434516 5020	63,60
SK50	25	80	63	434506 5025	50,50	434516 5025	69,60
SK50	32	100	72	434506 5032	61,50	434516 5032	70,50
SK50	40	100	80	434506 5040	66,50	434516 5040	73,–

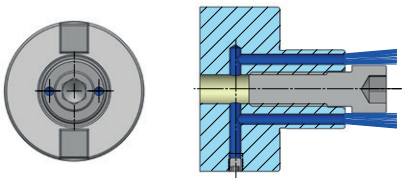
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ATORN Shell-type milling cutter arbour with transverse slot

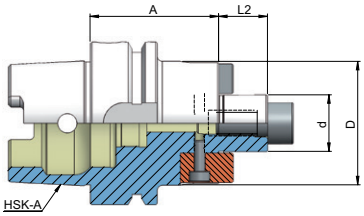
DIN 6357



- **with enlarged collar diameter and coolant mounts**
- **pre-balanced G 2.5 / 25,000 rpm**
- alloyed case-hardened steel, tensile strength at core min. 950 N/mm²
- case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8mm ± 0.2mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- max. True running accuracy < 0.005mm
- Supplied with carrier blocks and milling cutter retaining screw
- **Additional shank designs and AD/AF version available on request**

DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used
- *= Also with four DIN 2079-compliant threaded bores for holding cutter heads





Shank	d mm	A mm	D mm	L2 mm	art.no.	€
HSK 50	16	50	38	17	435309 5016	133,–
HSK 50	22	60	48	19	435309 5022	133,–
HSK 50	27	60	58	21	435309 5027	138,–
HSK 50	32	60	78	24	435309 5032	191,–
HSK 63	16	50	38	17	435309 6316	140,–
HSK 63	16	100	38	17	435309 6416	164,–
HSK 63	16	160	38	17	435309 6516	232,–
HSK 63	22	50	48	19	435309 6322	140,–
HSK 63	22	100	48	19	435309 6422	164,–
HSK 63	22	160	48	19	435309 6522	232,–
HSK 63	27	60	58	21	435309 6327	149,–
HSK 63	27	100	58	21	435309 6427	178,–
HSK 63	27	160	58	21	435309 6527	232,–
HSK 63	32	60	78	24	435309 6332	156,–
HSK 63	32	100	78	24	435309 6432	182,–
HSK 63	32	160	78	24	435309 6532	252,–
HSK 63	40*	60	88	27	435309 6340	176,–
HSK 63	40*	100	88	27	435309 6440	188,–
HSK 63	40*	160	40	27	435309 6540	269,–
HSK 100	16	50	38	17	435309 1016	178,–
HSK 100	16	100	38	17	435309 1116	220,–
HSK 100	16	160	38	17	435309 1216	312,–
HSK 100	22	50	48	19	435309 1022	178,–
HSK 100	22	100	48	19	435309 1122	220,–
HSK 100	22	160	48	19	435309 1222	312,–
HSK 100	27	50	58	21	435309 1027	186,–
HSK 100	27	100	58	21	435309 1127	224,–
HSK 100	27	160	58	21	435309 1227	316,–
HSK 100	32	50	78	24	435309 1032	198,–
HSK 100	32	100	78	24	435309 1132	234,–
HSK 100	32	160	78	24	435309 1232	344,–
HSK 100	40*	60	88	27	435309 1040	204,–
HSK 100	40*	100	88	27	435309 1140	256,–

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DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply
- *= Also with four DIN 2079-compliant threaded bores for holding cutter heads



Shank	d mm	A mm	D mm	L2 mm	art.no.	€
SK40	16	35	38	17	435303 4016	64,–
SK40	16	100	38	17	435303 4116	78,–
SK40	16	160	38	17	435303 4216	114,–
SK40	22	35	48	19	435303 4022	64,–
SK40	22	100	48	19	435303 4122	78,–
SK40	22	160	48	19	435303 4222	114,–
SK40	27	40	58	21	435303 4027	65,–
SK40	27	100	58	21	435303 4127	81,–

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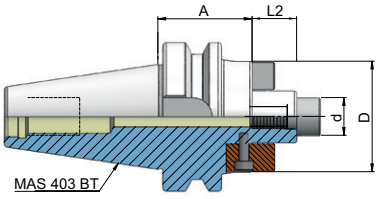
Shank	d mm	A mm	D mm	L2 mm	art.no.	€
SK40	27	160	58	21	435303 4227	126,–
SK40	32	50	78	24	435303 4032	70,–
SK40	32	100	78	24	435303 4132	87,–
SK40	32	160	78	24	435303 4232	124,–
SK40	40*	50	88	27	435303 4040	85,–
SK40	40*	160	88	27	435303 4240	158,–
SK50	16	35	38	17	435303 5016	89,–
SK50	16	100	16	17	435303 5116	110,–
SK50	16	160	38	17	435303 5216	156,–
SK50	22	35	48	19	435303 5022	89,–
SK50	22	100	48	19	435303 5122	110,–
SK50	22	160	48	19	435303 5222	156,–
SK50	27	40	58	21	435303 5027	89,–
SK50	27	100	58	21	435303 5127	110,–
SK50	27	160	58	21	435303 5227	156,–
SK50	32	50	78	24	435303 5032	93,–
SK50	32	100	78	24	435303 5132	116,–
SK50	32	160	78	24	435303 5232	164,–
SK50	40*	50	88	27	435303 5040	110,–
SK50	40*	100	88	27	435303 5140	134,–
SK50	40*	160	88	27	435303 5240	156,–

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DIN ISO 7388-2 / MAS BT JIS B 6339

- Internal coolant supply
- *= Also with four DIN 2079-compliant threaded bores for holding cutter heads





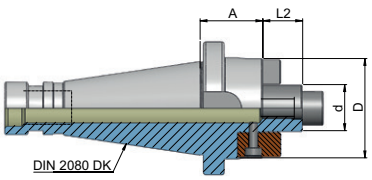
Shank	d mm	A mm	D mm	L2 mm	art.no.	€
BT 40	16	40	38	17	435307 4016	67,–
BT 40	16	100	38	17	435307 4116	81,–
BT 40	16	160	38	17	435307 4216	118,–
BT 40	22	40	48	19	435307 4022	67,–
BT 40	22	100	48	19	435307 4122	81,–
BT 40	22	160	48	19	435307 4222	118,–
BT 40	27	40	58	21	435307 4027	68,–
BT 40	27	100	58	21	435307 4127	81,–
BT 40	27	160	58	21	435307 4227	118,–
BT 40	32	50	78	24	435307 4032	72,–
BT 40	32	100	78	24	435307 4132	87,–
BT 40	32	160	78	24	435307 4232	128,–
BT 40	40	50	88	27	435307 4040	87,–
BT 40	40	100	88	27	435307 4140	102,–
BT 40	40	160	88	27	435307 4240	154,–
BT 50	22	55	48	19	435307 5022	96,–
BT 50	27	55	58	21	435307 5027	96,–
BT 50	32	55	78	24	435307 5032	101,–
BT 50	40	55	88	27	435307 5040	116,–

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DIN 2080

- *= Also with four DIN 2079-compliant threaded bores for holding cutter heads





Shank	d mm	A mm	D mm	L2 mm	art.no.	€
SK40	16	30	48	17	435301 4016	65,–
SK40	22	30	48	19	435301 4022	65,–
SK40	27	30	58	21	435301 4027	67,–
SK40	32	30	78	24	435301 4032	71,–
SK40	40*	30	88	27	435301 4040	86,–
SK50	22	35	48	19	435301 5022	90,–
SK50	27	35	58	21	435301 5027	90,–
SK50	32	40	78	24	435301 5032	96,–
SK50	40*	33	88	27	435301 5040	110,–

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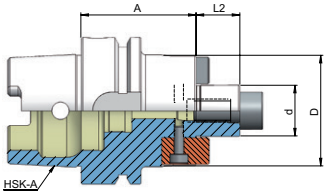
SARA® Transverse slot shell-type milling arbour

- **With enlarged collar diameter**
- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Supplied with carrier blocks and milling cutter retaining screw

DIN69893-1 HSK-A

- Pre-balanced to G 2.5 / 22,000 rpm
- Internal coolant supply with coolant bore





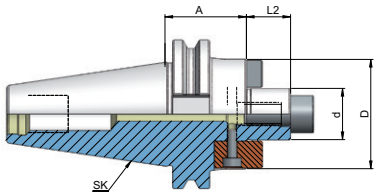
Shank	d mm	A mm	D mm	L2 mm	art.no.	€
HSK 63	16	50	38	17	435319 6316	102,–
HSK 63	22	50	48	19	435319 6322	102,–
HSK 63	27	60	58	21	435319 6327	102,–
HSK 63	32	60	78	24	435319 6332	109,–
HSK 100	16	50	38	17	435319 1016	139,–
HSK 100	22	50	48	19	435319 1022	139,–
HSK 100	27	50	58	21	435319 1027	140,–
HSK 100	32	50	78	24	435319 1032	147,50
HSK 100	40	60	88	27	435319 1040	160,–

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DIN ISO 7388-1 AD / DIN 69871 AD

- Pre-balanced to G 2.5 / 20,000 rpm
- Internal coolant supply with coolant bore



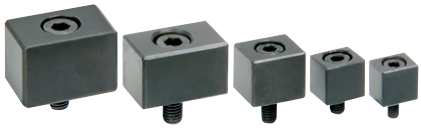


Shank	d mm	A mm	L2 mm	art.no.	€
SK40	16	35	17	435306 4016	41,70
SK40	22	35	19	435306 4022	41,70
SK40	27	40	21	435306 4027	41,70
SK40	32	50	24	435306 4032	41,70
SK50	22	35	19	435306 5022	61,50
SK50	27	40	21	435306 5027	61,50
SK50	32	50	24	435306 5032	66,50
SK50	40	50	27	435306 5040	75,60

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Carrier blocks

- **For shell-type milling cutter arbours with transverse slots**
- With screw



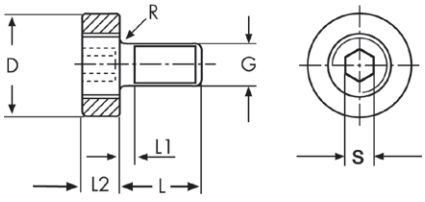
for gauge Ø mm	B mm	H mm	L mm	art.no.	€
16	8	10	90	438026 0016	13,30
22	10	11	11	438026 0022	13,30
27	12	13	14	438026 0027	20,90
32	14	14	22	438026 0032	20,90
40	16	16	23	438026 0040	26,50

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Cutter retaining screw for milling cutter arbours

- **For milling cutter arbours, holding fixtures for cutter heads and milling cutters with transverse slots**
- The different pitches of the two threads on the threaded bolt create a strong locking effect. The milling cutter is securely clamped without a major exertion of force, tube extensions or hammer blows.





for gauge Ø mm	D mm	L mm	L1 mm	L2 mm	R mm	S mm	Thread	art.no.	€
16	20	16	3	7	1.6	5	M 8	438010 0008	11,40
22	28	18	3.6	8	2	6	M10	438010 0010	13,40
27	35	22	4.5	9	2.5	8	M12	438010 0012	19,50
32	42	26	5.5	10	3	10	M16	438010 0016	27,–
40	52	30	6	11	3	12	M20	438010 0020	41,50
50	63	36	7.5	13	4	14	M24	438010 0024	58,20

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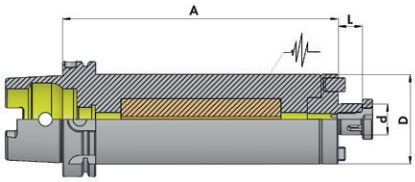
Transverse slot shell-type milling arbour, vibration-dampened

- **Pre-balanced to G 2.5 / 25,000 rpm**
- **Vibration-dampened due to mounted heavy metal core**
- **Shank hard overturned for corrosion protection and improved smooth running**
- Straight version
- With coolant bores and enlarged contact surface
- All functional surfaces – such as taper, contact surface and holding pin – ground
- Milling cutter retaining screw with INBUS screw and fine thread ring for increased clamp force
- Increased working safety thanks to pressed-in driving pin without detachable screws

DIN 69893 ISO 12164-1 (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe art.no. 431011.... should be used





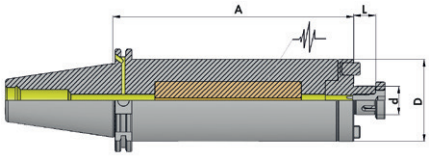
Shank	A mm	L mm	d mm	D mm	art.no.	€
HSK 63	200	17	16	38	435339 6216	889,–
HSK 63	300	17	16	38	435339 6316	1.039,–
HSK 63	200	19	22	48	435339 6222	889,–
HSK 63	300	19	22	48	435339 6322	1.039,–
HSK 63	200	21	27	58	435339 6227	889,–
HSK 100	200	17	16	38	435339 1216	1.039,–
HSK 100	300	17	16	38	435339 1316	1.229,–
HSK 100	400	17	16	38	435339 1416	1.299,–
HSK 100	200	19	22	48	435339 1222	1.039,–
HSK 100	300	19	22	48	435339 1322	1.229,–
HSK 100	400	19	22	48	435339 1422	1.299,–
HSK 100	200	21	27	58	435339 1227	1.039,–
HSK 100	300	21	27	58	435339 1327	1.229,–
HSK 100	400	21	27	58	435339 1427	1.299,–
HSK 100	300	24	32	78	435339 1332	1.229,–

4123

DIN 69871 ISO 7388-1 (SK)

- Internal coolant supply





Shank	A mm	L mm	d mm	D mm	art.no.	€
SK40	200	17	16	38	435333 4216	729,–
SK40	300	17	16	38	435333 4316	839,–
SK40	200	19	22	48	435333 4222	729,–
SK40	300	19	22	48	435333 4322	839,–
SK40	200	21	27	58	435333 4227	729,–
SK50	200	17	16	38	435333 5216	839,–
SK50	300	17	16	38	435333 5316	959,–
SK50	400	17	16	38	435333 5416	1.019,–
SK50	200	19	22	48	435333 5222	839,–
SK50	300	19	22	48	435333 5322	959,–
SK50	400	19	22	48	435333 5422	1.019,–
SK50	200	21	27	58	435333 5227	839,–
SK50	300	21	27	58	435333 5327	959,–
SK50	400	21	27	58	435333 5427	1.019,–
SK50	300	24	32	78	435333 5332	969,–

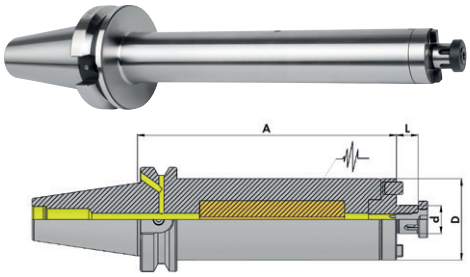
4123

JIS B 6339 ISO 7388-2 (BT)

- Internal coolant supply

Shank	A mm	L mm	d mm	D mm	art.no.	€
BT 40	200	17	16	38	435337 4216	729,–
BT 40	300	17	16	38	435337 4316	839,–
BT 40	200	19	22	48	435337 4222	729,–
BT 40	300	19	22	48	435337 4322	839,–
BT 40	200	21	27	58	435337 4227	729,–
BT 50	200	17	16	38	435337 5216	839,–
BT 50	300	17	16	38	435337 5316	959,–
BT 50	400	17	16	38	435337 5416	1.019,–
BT 50	200	19	22	48	435337 5222	839,–
BT 50	300	19	22	48	435337 5322	959,–
BT 50	400	19	22	48	435337 5422	1.019,–
BT 50	200	21	27	58	435337 5227	839,–
BT 50	300	21	27	58	435337 5327	959,–
BT 50	400	21	27	58	435337 5427	1.019,–
BT 50	300	24	32	78	435337 5332	969,–

4123



ATORN Combination shell-type milling cutter arbour

DIN 6358 DIN 6358

- **For milling cutters with longitudinal or transverse slots**
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Delivery incl. fitting key, follower ring and **tightening bolt without coolant bore**
- **Additional shank designs and AD/B versions available on request**

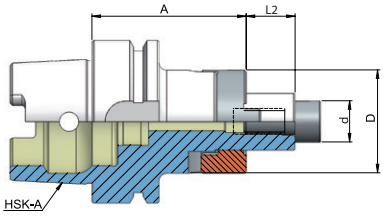
DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used

Shank	d mm	A mm	D mm	L2 mm	art.no.	€
HSK 50	16	50	32	17	434909 5016	126,–
HSK 50	22	50	40	19	434909 5022	129,–
HSK 50	27	65	48	21	434909 5027	134,–
HSK 50	32	65	58	24	434909 5032	143,–
HSK 63	16	60	32	17	434909 6316	126,–
HSK 63	16	100	32	17	434909 6416	138,–
HSK 63	22	60	40	19	434909 6322	126,–
HSK 63	22	100	40	19	434909 6422	138,–
HSK 63	27	60	48	21	434909 6327	138,–
HSK 63	27	100	48	21	434909 6427	149,–
HSK 63	32	60	58	24	434909 6332	142,–
HSK 63	32	100	58	24	434909 6432	154,–
HSK 63	40	70	70	27	434909 6340	149,–
HSK 63	40	100	70	27	434909 6440	158,–
HSK 100	16	60	32	17	434909 1016	178,–
HSK 100	22	60	40	19	434909 1022	178,–
HSK 100	27	60	48	21	434909 1027	182,–
HSK 100	32	60	58	24	434909 1032	196,–
HSK 100	40	70	70	27	434909 1040	202,–

4117

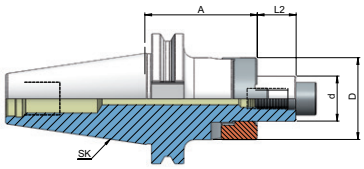




DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply
- **A = 160 and 200 mm incl. coolant bores for cutter heads with internal coolant supply**



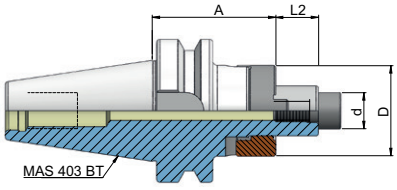


Shank	d mm	A mm	D mm	L2 mm	art.no.	€
SK40	16	55	32	17	434903 4016	58,–
SK40	16	100	32	17	434903 4116	75,–
SK40	16	160	32	17	434903 4216	144,–
SK40	22	55	40	19	434903 4022	60,–
SK40	22	100	40	19	434903 4122	76,–
SK40	22	160	40	19	434903 4222	152,–
SK40	27	55	48	21	434903 4027	60,–
SK40	27	100	48	21	434903 4127	77,–
SK40	27	160	48	21	434903 4227	158,–
SK40	32	60	58	24	434903 4032	66,–
SK40	32	100	58	24	434903 4132	80,–
SK40	32	160	58	24	434903 4232	164,–
SK40	40	60	70	27	434903 4040	76,–
SK50	16	55	32	17	434903 5016	85,–
SK50	16	100	32	17	434903 5116	99,–
SK50	16	160	32	17	434903 5216	186,–
SK50	16	200	32	17	434903 5316	218,–
SK50	22	55	40	19	434903 5022	85,–
SK50	22	100	40	19	434903 5122	99,–
SK50	22	160	40	19	434903 5222	188,–
SK50	22	200	40	19	434903 5322	230,–
SK50	27	55	48	21	434903 5027	86,–
SK50	27	100	48	21	434903 5127	99,50
SK50	27	160	48	21	434903 5227	198,–
SK50	27	200	48	21	434903 5327	240,–
SK50	32	55	58	24	434903 5032	89,–
SK50	32	100	58	24	434903 5132	102,–
SK50	32	160	58	24	434903 5232	208,–
SK50	32	200	58	24	434903 5332	252,–
SK50	40	55	70	27	434903 5040	98,–
SK50	40	100	70	27	434903 5140	112,–
SK50	40	160	70	27	434903 5240	228,–
SK50	40	200	70	27	434903 5340	264,–

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DIN ISO 7388-2 / MAS BT JIS B 6339





Shank	d mm	A mm	D mm	L2 mm	art.no.	€
BT 40	16	55	32	17	434907 4016	60,–
BT 40	16	100	32	17	434907 4116	77,–
BT 40	22	55	40	19	434907 4022	62,–
BT 40	22	100	40	19	434907 4122	78,–
BT 40	27	55	48	21	434907 4027	62,–
BT 40	27	100	48	21	434907 4127	80,–
BT 40	32	60	58	24	434907 4032	68,–
BT 40	32	100	58	24	434907 4132	82,–
BT 40	40	60	70	27	434907 4040	78,–
BT 50	16	70	32	17	434907 5016	83,–
BT 50	22	70	40	19	434907 5022	83,–
BT 50	27	70	48	21	434907 5027	83,–
BT 50	32	70	58	24	434907 5032	86,–
BT 50	40	70	70	27	434907 5040	96,–

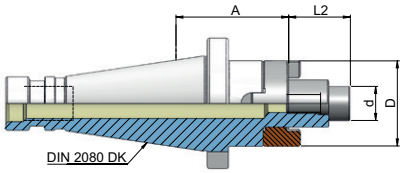
4117

DIN 2080

Shank	d mm	A mm	D mm	L2 mm	art.no.	€
SK40	16	52	32	17	434901 4016	60,–
SK40	22	52	40	19	434901 4022	62,–
SK40	27	52	48	21	434901 4027	62,–
SK40	32	52	58	24	434901 4032	67,–
SK40	40	52	70	27	434901 4040	77,–
SK50	16	55	32	17	434901 5016	86,–
SK50	22	55	40	19	434901 5022	86,–
SK50	27	55	48	21	434901 5027	87,–
SK50	32	55	58	24	434901 5032	90,–
SK50	40	55	70	27	434901 5040	99,–

4117





SARA® Combination shell-type milling arbour

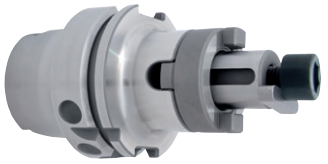
- **For milling cutters with longitudinal or transverse slots**
- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Delivery incl. fitting key, follower ring and **tightening bolt without coolant bore**

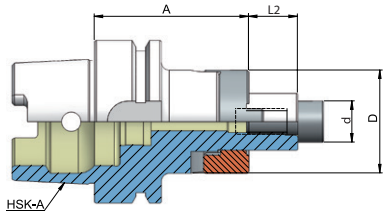
DIN69893-1 HSK-A

- Pre-balanced to G 2.5 / 22,000 rpm
- Internal coolant supply

Shank	d mm	A mm	D mm	L2 mm	art.no.	€
HSK 63	16	60	32	17	434919 6316	92,50
HSK 63	22	60	40	19	434919 6322	92,50
HSK 63	27	60	48	21	434919 6327	98,–
HSK 63	32	60	58	24	434919 6332	104,–
HSK 100	16	60	32	17	434919 1016	130,50
HSK 100	22	60	40	19	434919 1022	130,50
HSK 100	27	60	48	21	434919 1027	135,50
HSK 100	32	60	58	24	434919 1032	144,–
HSK 100	40	70	70	27	434919 1040	154,–

4198





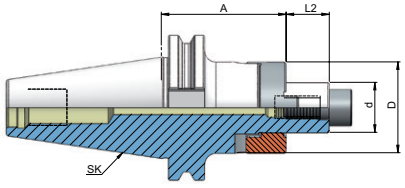
DIN ISO 7388-1 AD / DIN 69871 AD

- Pre-balanced to G 2.5 / 20,000 rpm
- Internal coolant supply

Shank	d mm	A mm	D mm	L2 mm	art.no.	€
SK40	16	55	32	17	434906 4016	44,20
SK40	22	55	40	19	434906 4022	45,30
SK40	27	55	48	21	434906 4027	45,30
SK40	32	60	58	24	434906 4032	49,40
SK50	16	55	32	17	434906 5016	59,70
SK50	22	55	40	19	434906 5022	59,70
SK50	27	55	48	21	434906 5027	60,70
SK50	32	55	58	24	434906 5032	61,70

4198





Follower rings

DIN 6366

- **For shell-type milling cutter arbours**

Designation	Height mm	External Ø mm	art.no.	€
for 16 mm mandrel diameter	10	32	438020 0016	17,90
for 22 mm mandrel diameter	12	40	438020 0022	21,70
for 27 mm mandrel diameter	12	48	438020 0027	21,70
for 32 mm mandrel diameter	14	58	438020 0032	27,70
for 40 mm mandrel diameter	14	70	438020 0040	41,20

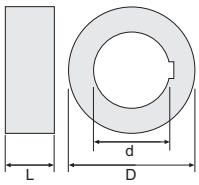
4117



SARA® Form B spacing collars

DIN 2084

- Alloyed case-hardened steel, turned and ground, hardened (min. 52 HRC)
- Width parallelism tolerance is IT3 in relation to the bore





d mm	D mm	L mm	art.no.	€
16	27	2	434922 2002	15,10
16	27	3	434922 2003	15,10
16	27	4	434922 2004	15,60
16	27	5	434922 2005	16,25
16	27	6	434922 2006	16,60
16	27	10	434922 2010	23,90
16	27	20	434922 2020	29,50
16	27	30	434922 2030	37,30
22	34	2	434922 3002	15,60
22	34	3	434922 3003	16,25
22	34	4	434922 3004	17,30
22	34	5	434922 3005	18,10
22	34	6	434922 3006	19,40
22	34	10	434922 3010	26,80
22	34	20	434922 3020	34,50
22	34	30	434922 3030	44,80
22	34	60	434922 3060	69,30
22	34	100	434922 3100	101,–
27	41	2	434922 4002	16,60
27	41	3	434922 4003	17,70
27	41	4	434922 4004	19,40
27	41	5	434922 4005	20,80
27	41	6	434922 4006	22,90
27	41	10	434922 4010	28,50

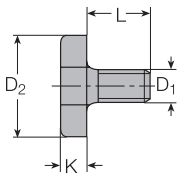
4109

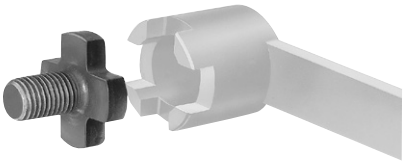
d mm	D mm	L mm	art.no.	€
27	41	20	434922 4020	37,70
27	41	30	434922 4030	53,50
27	41	60	434922 4060	82,50
27	41	100	434922 4100	124,–
32	47	2	434922 5002	18,50
32	47	3	434922 5003	21,60
32	47	4	434922 5004	23,10
32	47	5	434922 5005	24,40
32	47	6	434922 5006	26,70
32	47	10	434922 5010	33,80
32	47	20	434922 5020	48,20
32	47	30	434922 5030	58,70
32	47	60	434922 5060	93,10
32	47	100	434922 5100	145,50
40	55	2	434922 6002	24,90
40	55	3	434922 6003	24,90
40	55	4	434922 6004	29,40
40	55	5	434922 6005	30,80
40	55	6	434922 6006	32,70
40	55	10	434922 6010	43,80
40	55	20	434922 6020	59,20
40	55	30	434922 6030	72,–
40	55	60	434922 6060	117,–
40	55	100	434922 6100	181,–

4109

Cutter retaining screw for shell-type milling cutter arbours

DIN 6367





D1 mm	for gauge Ø mm	D2 mm	K mm	L mm	STANDARD art.no.	€	For internal cooling art.no.	€
M8	16	20	6	16	438001 0008	8,10	438002 0008	12,80
M10	22	28	7	18	438001 0010	9,90	438002 0010	12,80
M12	27	35	8	22	438001 0012	11,70	438002 0012	14,40
M16	32	42	9	26	438001 0016	16,95	438002 0016	25,10
M20	40	52	10	30	438001 0020	22,70		
M24	50	63	12	36	438001 0024	36,60		

4117 4117

Fitting keys

- For combination shell-type milling cutter arbours



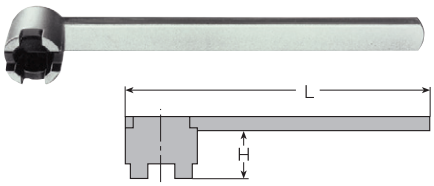
for gauge Ø mm	B mm	H mm	L mm	art.no.	€
16	4	4	20	438025 0016	5,80
22	6	6	25	438025 0022	5,80
27	7	7	25	438025 0027	5,80
32	8	7	28	438025 0032	5,80
40	10	8	32	438025 0040	5,80

4117

Key for shell-type milling cutter arbours

DIN 6368

- **For tightening DIN 6367 retaining screws**
- Special steel hardened and tempered to a burnished shade

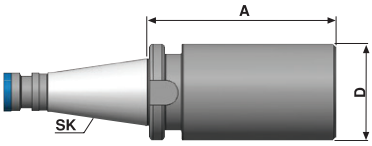


for gauge Ø mm	Thread	H mm	L mm	art.no.	€
16	M8	20	180	438005 0016	20,80
22	M10	25	200	438005 0022	25,30
27	M12	32	225	438005 0027	29,10
32	M16	36	250	438005 0032	39,–
40	M20	40	280	438005 0040	51,10
50	M24	45	315	438005 0050	97,70

4159

Boring bar blanks

- Steep-angle taper and collar case-hardened to HRC 60 ± 2 (HV 700 ± 50) and ground
- Soft shank for further machining







DIN ISO 7388-1 / DIN 69871 A

Shank	A mm	D mm	art.no.	€
SK50	315	97	431002 5097	197,–
SK40	250	63	431002 4063	119,–

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DIN 2080

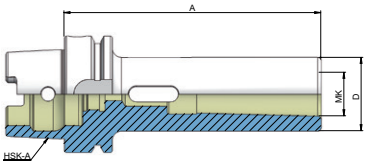
Shank	A mm	D mm	art.no.	€
SK40	250	63	431000 4063	130,–
SK50	315	97	431000 5097	222,–

4117

ATORN Adapter sleeves for Morse tapers with tangs

DIN 6383

- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm, burnished
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Additional versions available on request



DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used



Shank	For Morse taper size	A mm	D mm	art.no.	€
HSK 50	MK 1	100	25	433509 5001	108,–
HSK 50	MK 2	120	32	433509 5002	108,–
HSK 50	MK 3	140	40	433509 5003	109,50
HSK 63	MK 1	100	25	433509 6301	108,–
HSK 63	MK 2	120	32	433509 6302	108,–
HSK 63	MK 3	140	40	433509 6303	112,–
HSK 63	MK 4	160	48	433509 6304	114,–
HSK 100	MK 1	110	25	433509 1001	149,–
HSK 100	MK 2	120	32	433509 1002	149,–
HSK 100	MK 3	150	40	433509 1003	149,–
HSK 100	MK 4	170	48	433509 1004	152,–
HSK 100	MK 5	200	63	433509 1005	176,–

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DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply



Shank	For Morse taper size	A mm	D mm	art.no.	€
SK40	MT 1	50	25	433503 4001	47,80
SK40	MT 2	50	32	433503 4002	47,40
SK40	MT 2	117	32	433503 4102	84,–
SK40	MT 3	70	40	433503 4003	47,40
SK40	MT 3	133	40	433503 4103	84,–
SK40	MT 4	95	48	433503 4004	53,–
SK40	MT 4	156	48	433503 4104	92,–
SK50	MT 1	45	25	433503 5001	71,–
SK50	MT 2	60	32	433503 5002	71,–
SK50	MT 2	117	32	433503 5102	168,–
SK50	MT 3	65	40	433503 5003	71,–
SK50	MT 3	137	40	433503 5103	168,–
SK50	MT 4	95	48	433503 5004	71,–
SK50	MT 4	167	48	433503 5104	182,–
SK50	MT 5	105	63	433503 5005	81,–
SK50	MT 5	197	63	433503 5105	192,–

4117

DIN ISO 7388-2 / MAS BT JIS B 6339

- Internal coolant supply



Shank	For Morse taper size	A mm	D mm	art.no.	€
BT 40	MT 1	50	25	433507 4001	47,80
BT 40	MT 2	50	32	433507 4002	47,80
BT 40	MT 3	70	40	433507 4003	47,80
BT 40	MT 4	95	48	433507 4004	53,–
BT 50	MT 1	45	25	433507 5001	67,50
BT 50	MT 2	60	32	433507 5002	67,50
BT 50	MT 3	65	40	433507 5003	67,50
BT 50	MT 4	95	48	433507 5004	67,50
BT 50	MT 5	105	63	433507 5005	75,20

4117

DIN 2080

Shank	For Morse taper size	A mm	D mm	art.no.	€
SK40	MT 1	50	25	433501 4001	46,60
SK40	MT 2	50	32	433501 4002	46,60
SK40	MT 3	65	40	433501 4003	46,60
SK40	MT 4	95	48	433501 4004	46,60
SK50	MT 1	45	25	433501 5001	70,–
SK50	MT 2	60	32	433501 5002	70,–
SK50	MT 3	65	40	433501 5003	70,–
SK50	MT 4	70	48	433501 5004	70,–
SK50	MT 5	105	63	433501 5005	78,–

4117



SARA® Adapter sleeve DIN 6383

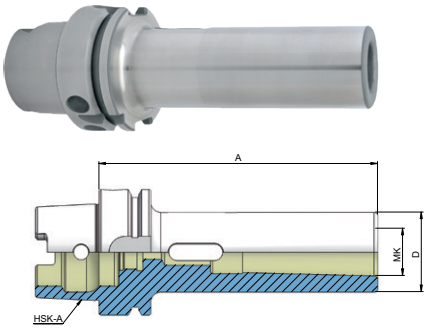
- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm

DIN69893-1 HSK-A

- Pre-balanced to G 2.5 / 22,000 rpm
- Internal coolant supply

Shank	Shank design interior	A mm	D mm	art.no.	€
HSK-A 63	MT 1	100	25	433519 6301	80,50
HSK-A 63	MT 2	120	32	433519 6302	80,50
HSK-A 63	MT 3	140	40	433519 6303	82,50
HSK-A 63	MT 4	160	48	433519 6304	84,50
HSK-A 100	MT 1	110	25	433519 1001	113,50
HSK-A 100	MT 2	120	32	433519 1002	113,50
HSK-A 100	MT 3	150	40	433519 1003	114,50
HSK-A 100	MT 4	170	48	433519 1004	117,50
HSK-A 100	MT 5	200	63	433519 1005	132,–

4198

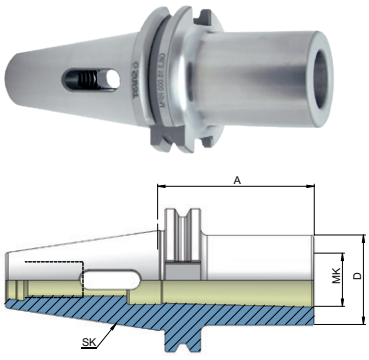


DIN ISO 7388-1 AD / DIN 69871 AD

- Pre-balanced to G 2.5 / 20,000 rpm
- Internal coolant supply

Shank	Shank design interior	A mm	D mm	art.no.	€
SK 40	MT 1	50	25	433513 4001	34,50
SK 40	MT 2	50	32	433513 4002	34,50
SK 40	MT 3	70	40	433513 4003	34,50
SK 40	MT 4	95	48	433513 4004	36,50
SK 50	MT 1	45	25	433513 5001	48,50
SK 50	MT 2	60	32	433513 5002	48,50
SK 50	MT 3	65	40	433513 5003	48,50
SK 50	MT 4	95	48	433513 5004	48,50

4198



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ATORN Adapter sleeves for MT with clamping threads

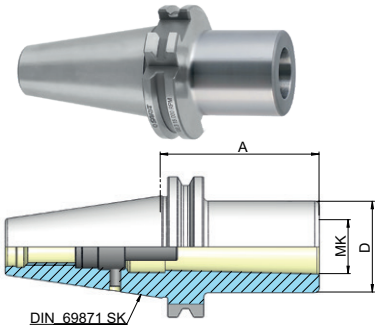
DIN 6364

- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Additional versions available on request

DIN ISO 7388-1 / DIN 69871 A

Shank	For Morse taper size	A mm	D mm	art.no.	€
SK40	MT 1	50	25	433703 4001	80,–
SK40	MT 2	50	32	433703 4002	80,–
SK40	MT 3	70	40	433703 4003	80,–
SK40	MT 4	95	48	433703 4004	85,–
SK50	MT 1	45	25	433703 5001	108,–
SK50	MT 2	60	32	433703 5002	108,–
SK50	MT 3	65	40	433703 5003	108,–
SK50	MT 4	70	48	433703 5004	118,–
SK50	MT 5	100	63	433703 5005	120,–

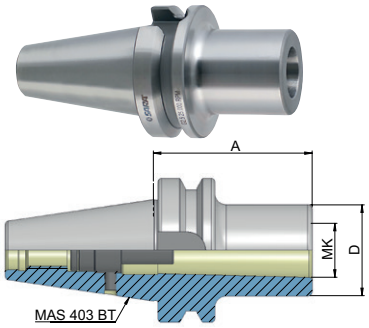
4117



DIN ISO 7388-2 / MAS BT JIS B 6339

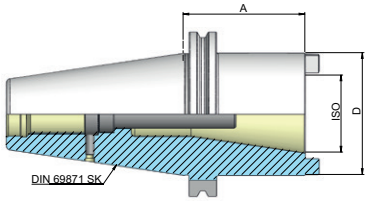
Shank	For Morse taper size	A mm	D mm	art.no.	€
BT 40	MT 1	50	25	433707 4001	80,–
BT 40	MT 2	50	32	433707 4002	80,–
BT 40	MT 3	70	40	433707 4003	80,–
BT 40	MT 4	95	48	433707 4004	85,–
BT 40	MT 4	110	63	433707 4104	92,–
BT 50	MT 1	45	25	433707 5001	101,–
BT 50	MT 2	60	32	433707 5002	101,–
BT 50	MT 3	65	40	433707 5003	101,–
BT 50	MT 4	70	48	433707 5004	110,–
BT 50	MT 5	100	63	433707 5005	112,–
BT 50	MT 4	85	63	433707 5104	118,–
BT 50	MT 5	118	78	433707 5105	129,–

4117



ATORN Adapter sleeves for steep-angle tapers

- **For holding all steep-angle taper systems (DIN 2080, ISO7388-1 / DIN 69871, MAS BT, ANSI-CAT)**
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Alloyed case-hardened steel with a core tensile strength of min. 950 N/mm²
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080, max. true running accuracy < 0.005 mm



DIN ISO 7388-1 / DIN 69871 A

Shank	Designation	A mm	D mm	art.no.	€
SK40	Internal taper SK30	50	50	433903 4030	117,–
SK40	Internal taper SK40	100	63	433903 4040	121,–
SK50	Internal taper SK40	70	70	433903 5040	149,–
SK50	Internal taper SK50	120	97	433903 5050	169,50

4117



DIN ISO 7388-2 / MAS BT JIS B 6339

Shank	Designation	A mm	D mm	art.no.	€
BT 40	Internal taper BT30	60	50	433907 4030	117,–
BT 40	Internal taper BT40	100	63	433907 4040	121,–
BT 50	Internal taper BT40	70	70	433907 5040	149,–
BT 50	Internal taper BT50	120	97	433907 5050	169,50

4117



DIN 2080

Shank	Designation	A mm	D mm	art.no.	€
SK40	Internal taper SK30	50	50	433901 4030	120,–
SK40	Internal taper SK40	100	63	433901 4040	124,–
SK50	Internal taper SK40	50	70	433901 5040	156,–
SK50	Internal taper SK50	125	97	433901 5050	180,–

4117



SARA® Extension sleeves, type H

DIN 2187

- **For tools with a Morse taper**
- Hardened, ground inside and outside

Extension sleeve

- Inner taper = outer taper

Shank	For Morse taper size	External Ø mm	L mm	art.no.	€
MT 1	MT 1	20	145	400505 0101	18,95
MT 2	MT 2	30	175	400505 0202	28,50
MT 3	MT 3	36	215	400505 0303	36,80
MT 4	MT 4	48	265	400505 0404	62,10
MT 5	MT 5	63	335	400505 0505	124,50

4107



Extended reducing bush

- Inner taper < outer taper

Shank	For Morse taper size	External Ø mm	L mm	art.no.	€
MT 2	MT 1	20	160	400505 0201	18,95
MT 3	MT 1	20	175	400505 0301	24,–
MT 3	MT 2	30	194	400505 0302	28,50
MT 4	MT 1	20	200	400505 0401	37,30
MT 4	MT 2	30	215	400505 0402	36,80
MT 4	MT 3	36	240	400505 0403	36,80
MT 5	MT 1	20	232	400505 0501	60,40
MT 5	MT 2	30	247	400505 0502	60,40
MT 5	MT 3	36	268	400505 0503	60,40
MT 5	MT 4	48	300	400505 0504	60,40
MT 6	MT 4	48	355	400505 0604	144,–
MT 6	MT 5	63	390	400505 0605	144,–

4107



Expansion sleeve

- Inner taper > outer taper (for easy machining)

Shank	For Morse taper size	External Ø mm	L mm	art.no.	€
MT 1	MT 2	30	160	400505 0102	28,50
MT 2	MT 3	36	196	400505 0203	36,80
MT 3	MT 4	48	240	400505 0304	62,20
MT 4	MT 5	63	300	400505 0405	122,50

4107



KEMMLER® Präzisionswerkzeuge Reducing bushes, type H

- **For tools with a Morse taper**
- Hardened, ground inside and outside

Shank	For Morse taper size	L mm	art.no.	€
MK2	MK1	92	400502 0201	12,–
MK3	MK2	112	400502 0302	13,–
MK4	MK2	124	400502 0402	16,–
MK4	MK3	140	400502 0403	17,–
MK5	MK3	156	400502 0503	26,–
MK5	MK4	171	400502 0504	26,–
MK6	MK4	218	400502 0604	59,–
MK6	MK5	218	400502 0605	59,–

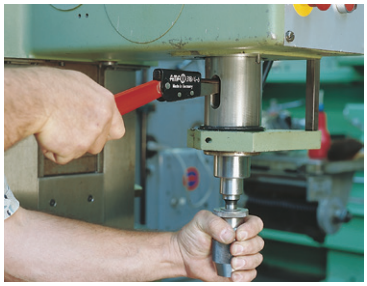
4208



AMF Ejector drift

DIN 317

- **For DIN 228 tool tapers**
- Special steel, hardened
- Tempered to a burnished shade



Semi-automatic

- With plastic-coated handle and finger guard

for Morse tapers	Total length mm	art.no.	€
1 - 3	330	400535 0103	88,50
4 - 6	380	400535 0406	110,50

4159



Standard

for Morse tapers	for metr. taper	Total length mm	Cross section mm	art.no.	€
0	4 + 6	90	12 x 3	400530 0000	4,81
1 + 2	-	140	20 x 5	400530 0102	5,90
3	-	190	25 x 7	400530 0003	9,65
4	-	225	30 x 10	400530 0004	19,35
5 + 6	-	265	35 x 15	400530 0506	47,40

4159



ATORN Tool holding fixture for indexable insert drill bits

- Alloyed case-hardened steel, core tensile strength min. 950 N/mm²
- **Pre-balanced to G 2.5 / 25,000 rpm**
- Case-hardened to HRC 60 ± 2 (HV 700 ± 50), case depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. true running accuracy < 0.005 mm
- Additional versions available on request

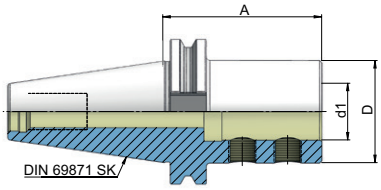
DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply

Shank	d1 mm	A mm	D mm	art.no.	€
SK40	20	65	40	434540 4020	80,–
SK40	25	70	45	434540 4025	71,–
SK40	32	75	52	434540 4032	71,–
SK40	40	115	65	434540 4040	86,–
SK50	20	70	40	434540 5020	118,–
SK50	25	70	45	434540 5025	118,–
SK50	32	70	52	434540 5032	118,–
SK50	40	80	60	434540 5040	118,–
SK50	50	90	75	434540 5050	123,–

4117





ATORN Tool holding fixtures for screw-in milling cutters

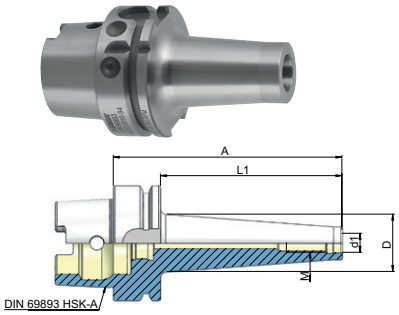
- Taper angle tolerance AT3
- **Pre-balanced to G 2.5 / 25,000 rpm**
- True running accuracy of steep taper tool holder, DIN 69871: < 0.003 mm, HSK 63 A: < 0.005 mm
- MAS/BT-AD/AF version available on request

DIN69893 Form A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used

Shank	for thread	d1 mm	A mm	L1 mm	D mm	art.no.	€
HSK 63	M6	10	51	25	13	430236 6061	198,–
HSK 63	M8	13	76	50	23	430236 6082	216,–
HSK 63	M8	13	101	75	23	430236 6083	238,–
HSK 63	M10	18	51	25	20	430236 6101	204,–
HSK 63	M10	18	76	50	23	430236 6102	224,–
HSK 63	M10	18	126	100	32	430236 6104	264,–
HSK 63	M12	21	51	25	24	430236 6121	204,–
HSK 63	M12	21	76	50	27	430236 6122	224,–
HSK 63	M12	21	101	75	30	430236 6123	242,–
HSK 63	M12	21	126	100	33	430236 6124	264,–
HSK 63	M12	21	176	150	40	430236 6126	310,–
HSK 63	M16	29	51	25	29	430236 6161	204,–
HSK 63	M16	29	76	50	32	430236 6162	222,–
HSK 63	M16	29	101	75	34	430236 6163	242,–
HSK 63	M16	29	126	100	36	430236 6164	264,–
HSK 63	M16	29	176	150	17	430236 6166	310,–

4117

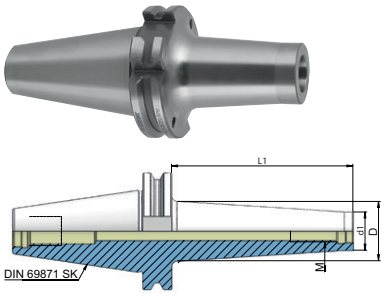


DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply

Shank	for thread	d1 mm	A mm	L1 mm	D mm	art.no.	€
SK40	M6	10	44	25	13	430235 4061	112,–
SK40	M6	10	69	50	20	430235 4062	126,–
SK40	M6	10	94	75	23	430235 4063	138,–
SK40	M8	13	44	25	15	430235 4081	112,–
SK40	M8	13	69	50	23	430235 4082	126,–
SK40	M8	13	94	75	23	430235 4083	138,–
SK40	M10	18	44	25	20	430235 4101	112,–
SK40	M10	18	69	50	23	430235 4102	120,–
SK40	M10	18	94	75	28	430235 4103	138,–
SK40	M12	21	44	25	24	430235 4121	112,–
SK40	M12	21	69	50	27	430235 4122	120,–
SK40	M12	21	94	75	30	430235 4123	138,–
SK40	M16	29	44	25	29	430235 4161	114,–
SK40	M16	29	69	50	32	430235 4162	126,–
SK40	M16	29	94	75	34	430235 4163	138,–

4117



palbit Extension for modular milling cutter heads

Solid carbide extension

- Straight version
- **With internal coolant supply**



D mm	L mm	Thread	art.no.	€
12	100	M6	430352 1210	
12	150	M6	430352 1215	
16	100	M8	430352 1610	
16	150	M8	430352 1615	
20	150	M10	430352 2015	
20	200	M10	430352 2020	
25	150	M12	430352 2515	
25	200	M12	430352 2520	

4201

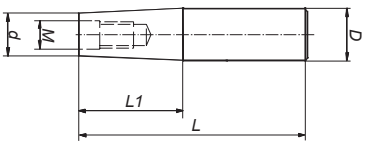
Vibration-dampened

- Offset straight shank
- without internal coolant supply



D mm	d mm	L mm	L1 mm	Thread	art.no.	€
12	9.8	90	40	M6	430350 1209	
12	9.8	110	60	M6	430350 1211	
12	9.8	130	80	M6	430350 1213	
12	12.8	95	40	M8	430350 1609	
16	12.8	115	60	M8	430350 1611	
16	12.8	135	80	M8	430350 1613	
16	12.8	155	100	M8	430350 1615	
16	12.8	175	120	M8	430350 1617	
20	15.8	100	40	M10	430350 2010	
20	15.8	120	60	M10	430350 2012	
20	15.8	140	80	M10	430350 2014	
20	17.8	140	80	M10	430350 2015	
20	15.8	160	100	M10	430350 2016	
20	17.8	160	100	M10	430350 2017	
20	15.8	180	120	M10	430350 2018	
20	17.8	180	120	M10	430350 2019	
25	20.8	125	60	M12	430350 2512	
25	20.8	145	80	M12	430350 2514	
25	20.8	165	100	M12	430350 2516	

4201



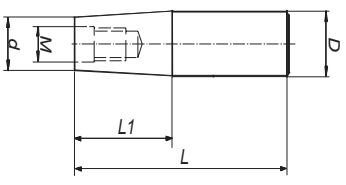
Steel extensions for modular milling cutter heads

- Offset straight shank
- No internal coolant supply



D mm	d mm	L mm	L1 mm	Thread	art.no.	€
12	9.8	65	20	M6	430351 1206	128,–
16	12.8	88	40	M8	430351 1608	143,–
20	17.8	95	45	M10	430351 2010	152,–
25	20.8	106	50	M12	430351 2512	159,–
32	28.8	110	50	M16	430351 3216	166,50

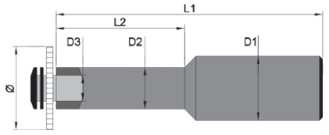
4201



Saw blade holding fixtures

- For holding saw blades from Ø 20 to Ø 100 mm
- Highly hardened and tempered
- Shank design in accordance with DIN 1835 B
- High true-running accuracy
- Supplied without disc milling cutter





Individual

for saw blade size	L1 mm	L2 mm	D1 mm	D2 mm	D3 mm	art.no.	€
20	75	30	10	10	5	438082 1020	137,50
20	90	30	20	10	5	438082 2020	125,–
25	88	48	10	13	8	438082 1025	137,50
25	100	42	20	13	8	438082 2025	125,–
32	93	53	10	16	8	438082 1032	137,50
32	105	53	20	16	8	438082 2032	125,–
40	100	60	10	19.5	10	438082 1040	137,50
40	110	60	20	19.5	10	438082 2040	125,–
50	126	78	16	24.5	13	438082 1650	137,50
50	136	78	25	24.5	13	438082 2550	125,–
63	126	78	16	24.5	16	438082 1663	137,50
63	136	78	25	24.5	16	438082 2563	125,–
80	142	92	20	34	22	438082 2080	187,50
80	150	92	25	34	22	438082 2580	172,–
100	142	92	20	39.5	22	438082 2010	187,50
100	150	92	25	39.5	22	438082 2510	172,–

4107



Set

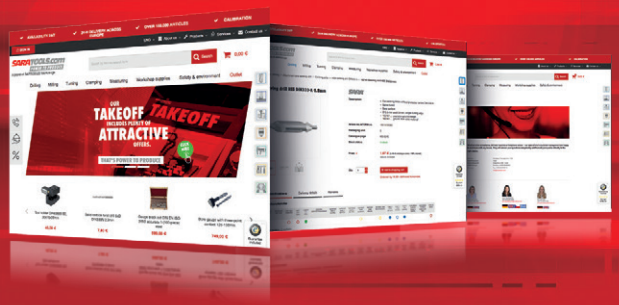
Contents	art.no.	€
6 saw blade mounts for saw blade Ø 20 mm to 63 mm	438083 2506	719,–

4107

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INFO

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Diebold Series US 1100 shrink-fit units are available in both a horizontal and a vertical version. If the units are equipped with **TempControl®**, the shrinking process runs under controlled temperature. The pyrometer technology in the coil ensures direct temperature monitoring. A world-first solution for more reliable and gentle tool shrinking (in and out).
The temperature is measured directly on the shrink-fit holder and automatically controlled during the shrink-fit process by way of **TempControl®**. This is revolutionary, as until now all conventional shrink-fit units have controlled the shrink-fit process indirectly via stored parameters but the actual temperature of the shrink-fit unit was unknown.



Video on YouTube channel

US 1100 with automatic TubeChiller cooling of the tool holder.
With the TubeChiller we offer you a fully-automated solution for the optimal shrinkage and automatic cooling of tools. This technology was developed to combine our US 1100 Series shrink-fit units with the automatic cooling of the TubeChiller.

Advantages of the Diebold shrink-fit technology

1. US 1100 shrink-fit unit with TempControl® for automatic temperature recognition
2. Horizontal and vertical units cover all applications
3. TubeChiller for automatic "hands-free" cooling
4. Gentle shrinking, which means no overheating of the shrink fit holder, for long service life of your shrink fit holder
5. Finely-tuned parameters for shrinking in all shrinking units
6. High-quality stainless steel shrink fit holder
7. No increase in tolerances through artificial ageing of the material
8. Thus higher quality and longer usability of the high accuracy
9. Production in fully-air-conditioned hall, quality assurance in Grade 2 measurement rooms



Following the shrinking process, the cooling pipe moves upwards from the TubeChiller while the coolant rises in the cooling pipe and flows around the tool in a circle. Through this movement the induction coil is automatically returned to its start position without any additional drive required. Once cooled, the cooling pipe is lowered again, the liquid flows back into the tank in the sub-structure and the tool mount is dried efficiently with compressed air.

ThermoGrip inductive shrinking unit *MicroShrink MS 3.0*

The Micro MS 3.0 has been developed for gently shrinking thin-walled shrink-fit chucks. The precisely adapted energy input effectively controls the performance of the shrinking process and thereby provides constant protection against overheating of the shrink-fit chuck. The appropriate parameter sets are stored in the device for different chuck contours. A new type of air cooler or the FKS 04S liquid cooler is available as an auxiliary device for cooling heated tool holders.
The MS 3.0 works with a 230V power supply and is therefore particularly suitable for gentle, controlled, energy-saving and sustainable shrinking of sensitive tools.

- The MS 3.0 has been specifically developed for slim, thin-walled and extremely short shrink-fit chucks.
- The adjustable generator output gently heats the chucks.
- Automated shrinking with selectable parameters
- Even in the case of chucks with the smallest mass, the unit stops in time and reliably before overheating.
- Suitable for carbide shanks Ø 3 - 16 mm and TER11-TER20 shrink collet chucks



MicroShrink MS 3.0

- without universal wrench with basic set (Item No. 432731 1100)
- including 4 ferrite discs from Ø3 to Ø16
- shrinkage length approx. 250 mm

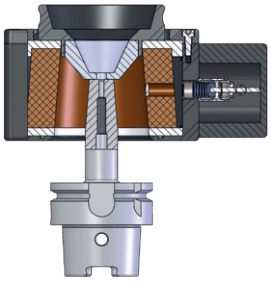
Width x height x depth mm	Output kW	Nominal voltage V	art.no.	€
520 x 350 x 350	3	230 / 16 A	432755 0001	4.899,–

4129

diebold Inductive shrinking unit *ThermoGrip US1100*

The pyrometer coil also permits automatic and direct temperature control of the shrink fit holder during heating. This prevents the shrink fit holder from burning up. The quick and reliable shrinking process requires no prior identification of the shrink-fit holder.

- Shrink length approx. 500mm
- Shrinking of SC shanks measuring Ø3 - 20mm and HSS steel shanks measuring Ø 6 - 32mm
- Manual shrink-fitting possible
- Contour-independent cooling, cleaning and preserving can be carried out when used together with the cooling station
- **Supplied with 5 ferrite discs, protective gloves and pyrometer coil**





Vertical

- Includes centring disc for HSK100 / 80 / 63 and Ø 20
- When using cone sizes SK30/40 and BT30/40, a base support with article no. 4327290002 is required

Width x height x depth mm	Output kW	Nominal voltage V	With basic spool art.no.	€	With pyrometer 'oil and OneTouch art.no.	€
570 x 730 x 420	11	400 / 16 A	432862 1100	8.229,–	432863 1100	11.099,–
			4129		4129	



Horizontal

- Without basic set and tool mount for basic set

Width x height x depth mm	Output kW	Nominal voltage V	With basic spool art.no.	€	With pyrometer 'oil and OneTouch art.no.	€
700 x 387 x 470	11	400 / 16 A	432860 1100	7.699,–	432861 1100	10.579,–
			4129		4129	



Cooling unit for HS1100 vertical

Cooling unit for US1100 vertical

Designation	art.no.	€
Tube chiller for A. No. 4328621100 and 4328631100	432727 0001	5.849,–
	4129	



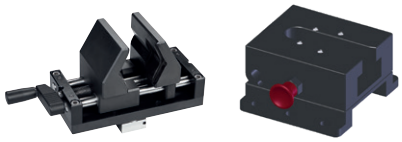
OneTouch for US1100 with basic coil

OneTouch display for US11000 with basic coil

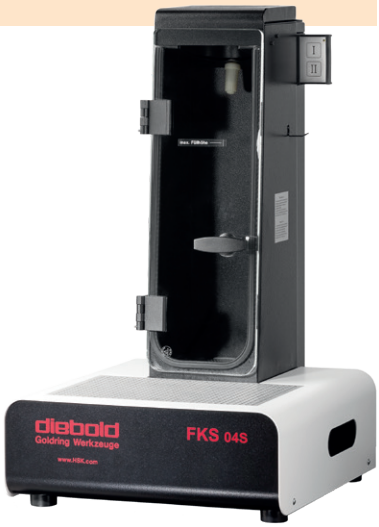
Designation	art.no.	€
Touch display for A. No. 4328601100 and 4328621100	432732 1101	957,–
	4129	

Tool mount for basic set US1100

Designation	art.no.	€
Universal clamp for all interfaces	432731 1100	1.439,–
	4129	



diebold FKS 04S ThermoGrip cooling station



- Electronic-controlled liquid cooler for shrink-fit holders
- Contour-independent cooling
- Cools, cleans and preserves holding fixtures in a single operation, automatically at the push of a button
- Cycle time approx. 40 sec.
- Supplied with SK 40 tool holder and 1 litre of liquid coolant concentrate
- Please order necessary tool holder separately! (Hose and blow gun not included)
- No tool holder required for any HSK interfaces

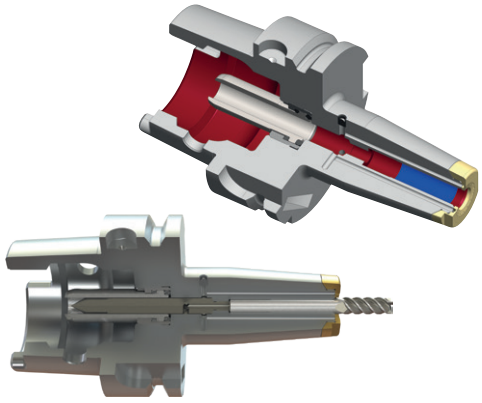
FKS 04S cooling station

- 4327290006 cooling & corrosion protection Synergy 905 1000ml

Length x width x height mm	art.no.	€
450 x 320 x 632	432728 1001	2.969,–

4129

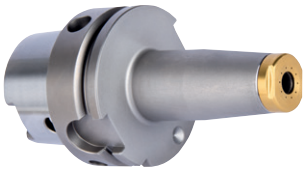
diebold JetSleeve 2® ThermoGrip® shrink fit holders

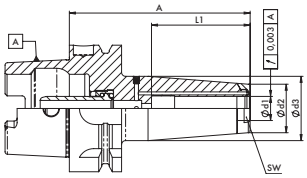


- **Revolutionary solution for mould engineering and HSC machining**
- **Standard version suitable for air and cooling lubricant, versions for minimum volume lubrication available on request**
- The coolant is fed via various nozzles directly to the cutting edge. Chips are blown away and not run through.
- Up to 300 % higher endurance
- No surface scratching by chips
- Optimum tool holder cooling right through to the cutting edge
- **Innovation in the *JetSleeve 2*®**
  Rotating chuck with media duct, the milling machine does not need to be retrofitted .Pressure is built up in the nozzle unit, and the flow effect from the nozzles keeps the coolant jet on the milling cutter shank at all times. JetSleeve chucks can be used on all conventional milling machines with internal coolant supply
- Suitable for all agents: air, minimum volume lubrication, cutting fluid
- Energy-efficient and environmentally friendly
- **Shrinking with screwed-on nozzle cover possible**

HSK A DIN 69893

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used





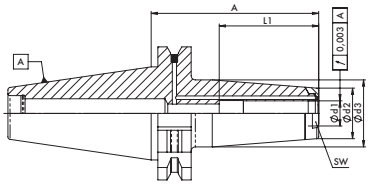
Shank	d1 mm	d2 mm	d3 mm	L1 mm	A mm	Wr. width	art.no.	€
HSK-A 63	3	15	20	20	90	13 mm	430331 6303	280,–
HSK-A 63	4	15	20	20	90	13 mm	430331 6304	280,–
HSK-A 63	6	21	27	36	80	17 mm	430331 6306	280,–
HSK-A 63	8	21	27	36	80	17 mm	430331 6308	280,–
HSK-A 63	10	24	32	42	85	20 mm	430331 6310	280,–
HSK-A 63	12	24	32	47	90	20 mm	430331 6312	280,–
HSK-A 63	16	33	34	50	95	29 mm	430331 6316	280,–
HSK-A 63	20	44	42	52	100	40 mm	430331 6320	280,–

4129

DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply



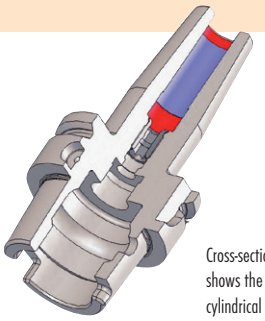


Shank	d1 mm	d2 mm	d3 mm	L1 mm	A mm	Wr. width	art.no.	€
SK 40	3	15	20	20	80	13 mm	430330 4003	316,–
SK 40	4	15	20	20	80	13 mm	430330 4104	316,–
SK 40	6	21	27	36	80	17 mm	430330 4206	297,–
SK 40	8	21	27	36	80	17 mm	430330 4308	297,–
SK 40	10	24	32	42	80	20 mm	430330 4410	297,–
SK 40	12	24	32	47	80	20 mm	430330 4512	297,–
SK 40	16	33	34	50	80	29 mm	430330 4616	297,–
SK 40	20	44	42	52	80	40 mm	430330 4620	297,–

4129

diebold ThermoGrip® shrink fit holder

- Straight shank milling tools clamped with a high level of precision
- Tool shanks in accordance with DIN 6335 type HA, HB and HE. Tool shanks in accordance with DIN 1835 type A and B with shank tolerance h6 and Ra < 0.3
- **Patented counterbore from Ø 6 mm for an automatic shrink-fit process**

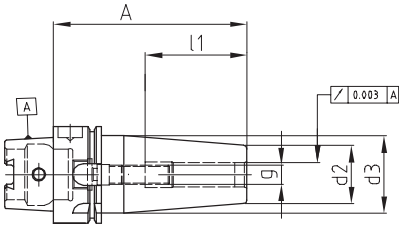


Cross-section view shows the patented cylindrical counterbore (red)

HSK A DIN 69893

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used
- Balanced at 24,000 rpm



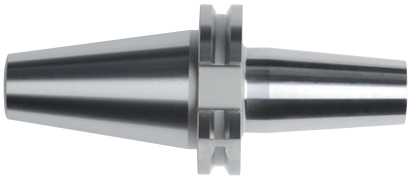


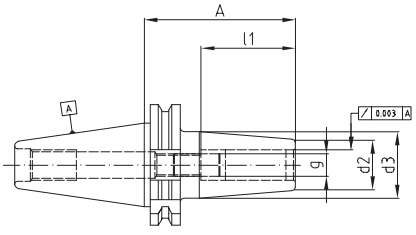
Shank	Clamp Ø mm	d2 mm	d3 mm	l1 mm	A mm	Thread	art.no.	€
HSK-A 63	3	15	20	20	90	M6	430218 6303	182,50
HSK-A 63	4	15	20	20	90	M6	430218 6304	182,50
HSK-A 63	5	15	25	25	90	M6	430218 6305	182,50
HSK-A 63	6	20	27	36	80	M5	430218 6306	164,–
HSK-A 63	6	20	27	36	90	M5	430218 6406	164,–
HSK-A 63	6	20	27	36	120	M5	430218 6506	206,–
HSK-A 63	8	20	27	36	80	M6	430218 6308	164,–
HSK-A 63	8	20	27	36	90	M6	430218 6408	164,–
HSK-A 63	8	20	27	36	120	M6	430218 6508	206,–
HSK-A 63	10	24	32	42	85	M8x1	430218 6310	164,–
HSK-A 63	10	24	32	42	90	M8x1	430218 6410	164,–
HSK-A 63	10	24	32	42	120	M8x1	430218 6510	206,–
HSK-A 63	12	24	32	47	90	M10x1	430218 6312	164,–
HSK-A 63	12	24	32	47	120	M10x1	430218 6512	206,–
HSK-A 63	14	27	34	47	90	M10x1	430218 6314	164,–
HSK-A 63	14	27	34	47	120	M10x1	430218 6414	206,–
HSK-A 63	16	27	34	50	95	M12x1	430218 6316	164,–
HSK-A 63	16	27	34	50	120	M12x1	430218 6516	206,–
HSK-A 63	18	33	42	50	95	M12x1	430218 6318	164,–
HSK-A 63	18	33	42	50	120	M12x1	430218 6418	206,–
HSK-A 63	20	33	42	52	100	M16x1	430218 6320	164,–
HSK-A 63	20	33	42	52	120	M16x1	430218 6520	206,–
HSK-A 63	25	44	53	58	115	M16x1	430218 6325	164,–
HSK-A 63	32	44	53	62	120	M16x1	430218 6532	173,–

4131

DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply
- Balanced at 18,000 rpm





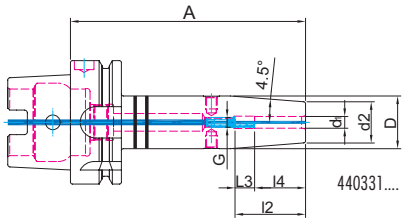
Shank	Clamp Ø mm	d2 mm	d3 mm	l1 mm	A mm	Thread	art.no.	€
SK 40	3	15	20	20	80	M6	430216 4003	171,–
SK 40	4	15	20	20	80	M6	430216 4004	171,–
SK 40	5	15	20	25	80	M6	430216 4005	171,–
SK 40	6	20	27	36	80	M5	430216 4006	133,50
SK 40	8	20	27	36	80	M6	430216 4008	133,50
SK 40	10	24	32	42	80	M8x1	430216 4010	133,50
SK 40	12	24	32	47	80	M10x1	430216 4012	133,50
SK 40	14	27	34	47	80	M10x1	430216 4014	133,50
SK 40	16	27	34	50	80	M12x1	430216 4016	133,50
SK 40	18	33	42	50	80	M12x1	430216 4018	133,50
SK 40	20	33	42	52	80	M16x1	430216 4020	133,50
SK 40	25	44	50	58	100	M16x1	430216 4025	133,50
SK 40	32	44	50	62	100	M16x1	430216 4032	185,50

4131

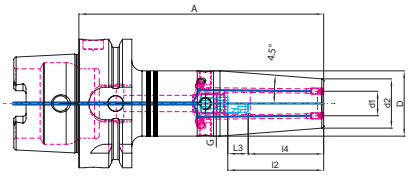
ATORN Shrink-fit holding fixtures 4.5°

- High true running accuracy of below 0.003 mm
- Highest dimensional accuracy of the workpiece
- High torque transfer
- 4.5° range
- High contour flexibility
- Heat-resistant mild steel
- **Balanced to G 2.5 / 25,000 rpm**
- With Balluffchip bore





440331....



440231....

HSK-A DIN 69893

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe Article No. 431011.... should be used

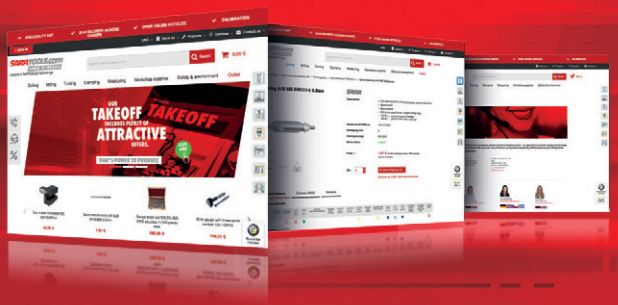
Shank	d1 mm	d2 mm	D mm	A mm	l2 mm	L3 mm	l4 mm	MD	Wr. width	Weight kg	STANDARD art.no.	€	With cooling channels art.no.	€
HSK 63	3	10	15	80	28	16	12	M6	2 mm	0.7	440231 0308	203,–	440331 0308	239,–
HSK 63	4	15	22	80	28	12	16	M6	2 mm	0.7	440231 0408	203,–	440331 0408	239,–
HSK 63	5	15	22	80	30	10	20	M6	2 mm	0.7	440231 0508	203,–	440331 0508	239,–
HSK 63	6	21	27	80	36	10	26	M5	2.5 mm	0.8	440231 0608	170,–	440331 0608	220,–
HSK 63	8	21	27	80	36	10	26	M6	3 mm	0.8	440231 0808	170,–	440331 0808	220,–
HSK 63	10	24	32	85	41	10	31	M8 x 1	3 mm	0.9	440231 1008	170,–	440331 1008	220,–
HSK 63	12	24	32	90	47	10	37	M10 x 1	5 mm	0.9	440231 1209	170,–	440331 1208	220,–
HSK 63	14	27	34	90	47	10	37	M10 x 1	5 mm	0.9	440231 1409	170,–	440331 1409	220,–
HSK 63	16	27	34	95	50	10	40	M12 x 1	5 mm	1	440231 1609	170,–	440331 1609	220,–
HSK 63	18	33	42	95	50	10	40	M12 x 1	5 mm	1.1	440231 1809	170,–	440331 1809	220,–
HSK 63	20	33	42	100	52	10	42	M16 x 1	5 mm	1.1	440231 2010	170,–	440331 2010	220,–
HSK 63	3	10	20	120	-	-	12	-	-	0.8	440231 0312	251,–	440331 0312	282,–
HSK 63	4	15	22	120	-	-	16	-	-	0.8	440231 0412	251,–	440331 0412	282,–
HSK 63	5	15	22	120	-	-	20	-	-	0.8	440231 0512	251,–	440331 0512	282,–
HSK 63	6	21	27	120	36	10	26	M5	2.5 mm	1	440231 0612	232,–	440331 0612	264,–
HSK 63	8	21	27	120	36	10	26	M6	3 mm	1	440231 0812	232,–	440331 0812	264,–
HSK 63	10	24	32	120	41	10	31	M8 x 1	3 mm	1	440231 1012	232,–	440331 1012	264,–
HSK 63	12	24	32	120	47	10	37	M10 x 1	5 mm	1	440231 1212	232,–	440331 1212	264,–
HSK 63	14	27	34	120	47	10	37	M10 x 1	5 mm	1.1	440231 1412	232,–	440331 1412	264,–
HSK 63	16	27	34	120	50	10	40	M12 x 1	5 mm	1.1	440231 1612	232,–	440331 1612	264,–
HSK 63	18	33	42	120	50	10	40	M12 x 1	5 mm	1.3	440231 1812	232,–	440331 1812	264,–
HSK 63	20	33	42	120	52	10	42	M16 x 1	5 mm	1.3	440231 2012	232,–	440331 2012	264,–
HSK 63	25	44	53	120	58	10	48	M16 x 1	5 mm	1.6	440231 2512	170,–	440331 2512	220,–
HSK 63	32	44	53	120	62	10	52	M16 x 1	5 mm	1.6	440231 3212	170,–	440331 3212	220,–
											4203		4203	

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- available in real time
- in 8 languages

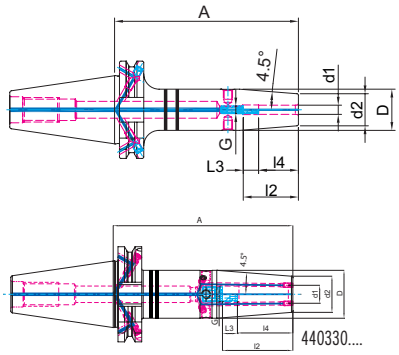




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DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply

Shank	d1 mm	d2 mm	D mm	A mm	l2 mm	L3 mm	l4 mm	MD	Wr. width	Weight kg	STANDARD art.no.	€	With cooling channels art.no.	€
SK40	3	10	17	80	28	16	12	M6	2 mm	0.9	440230 0308	197,–	440330 0308	220,–
SK40	4	15	22	80	28	12	16	M6	2 mm	0.9	440230 0408	197,–	440330 0408	220,–
SK40	5	15	22	80	30	10	20	M6	2 mm	0.9	440230 0508	197,–	440330 0508	220,–
SK40	6	21	27	80	36	10	26	M5	2.5 mm	1	440230 0608	159,–	440330 0608	202,–
SK40	8	21	27	80	36	10	26	M6	3 mm	1	440230 0808	159,–	440330 0808	202,–
SK40	10	24	32	80	41	10	31	M8 x 1	3 mm	1	440230 1008	159,–	440330 1008	202,–
SK40	12	24	32	80	47	10	37	M10 x 1	5 mm	1	440230 1208	159,–	440330 1208	202,–
SK40	14	27	34	80	47	10	37	M10 x 1	5 mm	1	440230 1408	159,–	440330 1408	202,–
SK40	16	27	34	80	50	10	40	M12 x 1	5 mm	1	440230 1608	159,–	440330 1608	202,–
SK40	18	33	42	80	50	10	40	M12 x 1	5 mm	1.1	440230 1808	159,–	440330 1808	202,–
SK40	20	33	42	80	52	10	42	M16 x 1	8 mm	1.1	440230 2008	159,–	440330 2008	202,–
SK40	25	44	53	100	58	10	48	M16 x 1	8 mm	1.6	440230 2508	159,–	440330 2508	202,–
SK40	32	44	53	100	62	10	52	M16 x 1	8 mm	1.4	440230 3208	159,–	440330 3208	202,–
SK40	3	10	20	120	-	-	12	-	-	0.9	440230 0312	232,–	440330 0312	271,–
SK40	4	15	22	120	-	-	16	-	-	1	440230 0412	232,–	440330 0412	271,–
SK40	5	15	22	120	-	-	20	-	-	1	440230 0512	232,–	440330 0512	271,–
SK40	6	21	27	120	36	10	26	M5	2.5 mm	1.1	440230 0612	215,–	440330 0612	253,–
SK40	8	21	27	120	36	10	26	M6	3 mm	1.1	440230 0812	215,–	440330 0812	253,–
SK40	10	24	32	120	41	10	31	M8 x 1	3 mm	1.2	440230 1012	215,–	440330 1012	253,–
SK40	12	24	32	120	47	10	37	M10 x 1	5 mm	1.2	440230 1212	215,–	440330 1212	253,–
SK40	14	27	34	120	47	10	37	M10 x 1	5 mm	1.3	440230 1412	215,–	440330 1412	253,–
SK40	16	27	34	120	50	10	40	M12 x 1	5 mm	1.3	440230 1612	215,–	440330 1612	253,–
SK40	18	33	42	120	50	10	40	M12 x 1	5 mm	1.5	440230 1812	215,–	440330 1812	253,–
SK40	20	33	42	120	52	10	42	M16 x 1	8 mm	1.5	440230 2012	215,–	440330 2012	253,–
SK40	25	44	53	120	58	10	48	M16 x 1	8 mm	1.8	440230 2512	215,–	440330 2512	253,–
SK40	32	44	53	120	62	10	52	M16 x 1	8 mm	1.7	440230 3212	215,–	440330 3212	253,–
											4203		4203	



ATORN Shrink fit holding fixtures 3°, slim version

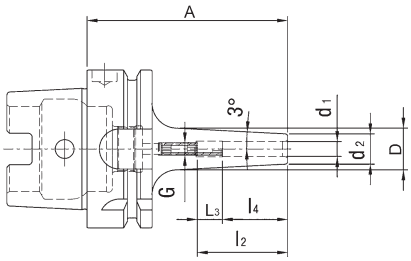


- High torque transfer
- High true running accuracies 0.003 mm
- 3° range, slim version
- High contour flexibility
- Heat-resistant mild steel
- Further shank designs available on request
- **Balanced to G 2.5 / 25,000 rpm**
- With Balluffchip bore

HSK-A DIN 69893

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe Article No. 431011.... should be used





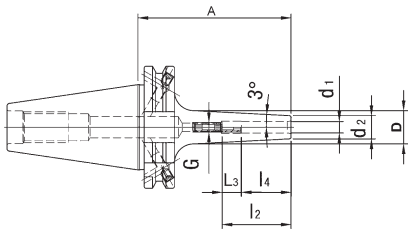
Shank	d1 mm	d2 mm	D mm	A mm	l2 mm	L3 mm	l4 mm	Wr. width	Weight kg	art.no.	€
HSK 63	3	9	14	80	28	16	12	2 mm	0.7	440431 0003	231,–
HSK 63	4	10	15	80	28	12	16	2 mm	0.7	440431 0004	231,–
HSK 63	5	11	16	80	30	10	20	2 mm	0.7	440431 0005	231,–
HSK 63	6	12	17	80	36	10	26	2.5 mm	0.7	440431 0006	207,–
HSK 63	6	12	21	120	36	10	26	2.5 mm	0.8	440431 1206	251,–
HSK 63	8	14	19	80	36	10	26	3 mm	0.7	440431 0008	207,–
HSK 63	8	14	23	120	36	10	26	3 mm	0.8	440431 1208	251,–
HSK 63	10	16	21	85	41	10	31	3 mm	0.8	440431 0010	207,–
HSK 63	10	16	25	120	41	10	31	3 mm	0.9	440431 1210	251,–
HSK 63	12	18	24	90	47	10	37	5 mm	0.8	440431 0012	207,–
HSK 63	12	18	27	120	47	10	37	5 mm	0.9	440431 1212	251,–
HSK 63	14	20	26	90	47	10	37	5 mm	0.8	440431 0014	207,–
HSK 63	14	20	29	120	47	10	37	5 mm	1	440431 1214	251,–
HSK 63	16	22	28	95	50	10	40	5 mm	0.8	440431 0016	207,–
HSK 63	16	22	31	120	50	10	40	5 mm	1	440431 1216	251,–
HSK 63	18	24	30	95	50	10	40	5 mm	0.9	440431 0018	207,–
HSK 63	18	24	33	120	50	10	40	5 mm	1	440431 1218	251,–
HSK 63	20	26	33	100	52	10	42	5 mm	0.9	440431 0020	207,–
HSK 63	20	26	35	120	52	10	42	5 mm	1.1	440431 1220	251,–

4203

DIN ISO 7388-1 / DIN 69871 AD/AF

- Internal coolant supply



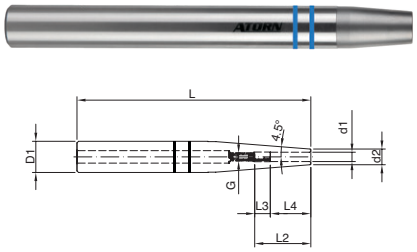


Shank	d1 mm	d2 mm	D mm	A mm	l2 mm	L3 mm	l4 mm	Wr. width	Weight kg	art.no.	€
SK40	3	9	14	80	28	16	12	2 mm	0.9	440430 0003	212,–
SK40	3	9	16	120	12		12		0.9	440430 1203	264,–
SK40	4	10	15	80	28	12	16	2 mm	0.9	440430 0004	212,–
SK40	4	10	17	120	16		16		0.9	440430 1204	264,–
SK40	5	11	16	80	30	10	20	2 mm	0.9	440430 0005	212,–
SK40	5	11	18	120	20		20		1	440430 1205	264,–
SK40	6	12	17	80	36	10	26	2.5 mm	0.9	440430 0006	189,–
SK40	6	12	22	120	36	10	26	2.5 mm	1	440430 1206	232,–
SK40	8	14	19	80	36	10	26	3 mm	0.9	440430 0008	189,–
SK40	8	14	24	120	36	10	26	3 mm	1	440430 1208	232,–
SK40	10	16	21	80	41	10	31	3 mm	0.9	440430 0010	189,–
SK40	10	16	26	120	41	10	31	3 mm	1.1	440430 1210	232,–
SK40	12	18	23	80	47	10	37	5 mm	0.9	440430 0012	189,–
SK40	12	18	28	120	47	10	37	5 mm	1.1	440430 1212	232,–
SK40	14	20	26	80	47	10	37	5 mm	0.9	440430 0014	189,–
SK40	14	20	30	120	47	10	37	5 mm	1.1	440430 1214	232,–
SK40	16	22	28	80	50	10	40	5 mm	1	440430 0016	189,–
SK40	16	22	32	120	50	10	40	5 mm	1.2	440430 1216	232,–
SK40	18	24	30	80	50	10	40	5 mm	1	440430 0018	189,–
SK40	18	24	34	120	50	10	40	5 mm	1.2	440430 1218	232,–
SK40	20	26	32	80	52	10	42	8 mm	1	440430 0020	189,–
SK40	20	26	36	120	52	10	42	5 mm	1.2	440430 1220	232,–

4203

ATORN Shrink-fit chuck extension

- For extension and reduction to suit smaller diameters
- Slenderness ratio 4.5°
- For shank tolerance h6
- Tool stop screw with 10 mm adjustment range

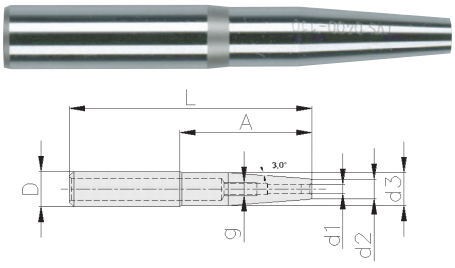


D1 mm	d1 mm	d2 mm	L mm	l2 mm	L3 mm	l4 mm	Setting screw size	Wr. width	art.no.	€
12	6	10	150	36	10	26	M5	2.5 mm	430228 1206	149,–
16	3	10	150			12			430228 1603	149,–
16	4	10	150			16			430228 1604	149,–
16	5	10	150			20			430228 1605	149,–
16	6	10	150	36	10	26	M5	2.5 mm	430228 1606	149,–
16	8	12	150	36	10	26	M6	3 mm	430228 1608	149,–
20	6	10	150	36	10	26	M5	2.5 mm	430228 2006	149,–
20	8	12	150	36	10	26	M6	3 mm	430228 2008	149,–
20	10	14	150	42	10	32	M8 x 1 mm	3 mm	430228 2010	149,–
20	12	16	150	47	10	37	M10 x 1 mm	5 mm	430228 2012	149,–
32	6	20	150	36	10	26	M5	2.5 mm	430228 3206	149,–
32	8	20	150	36	10	26	M6	3 mm	430228 3208	149,–
32	10	22	150	42	10	32	M8 x 1 mm	3 mm	430228 3210	149,–
32	12	20	150	47	10	37	M10 x 1 mm	5 mm	430228 3212	149,–
32	14	20	150	47	10	37	M10 x 1 mm	5 mm	430228 3214	149,–
32	16	27	150	47	10	37	M10 x 1 mm	5 mm	430228 3216	149,–
32	18	27	150	50	10	40	M10 x 1 mm	5 mm	430228 3218	149,–
32	20	27	150	52	10	42	M10 x 1 mm	5 mm	430228 3220	149,–

4203

diebold Shrink-fit extensions

- Extend your shrink-fit chucks on a modular basis, as you need it!
- Best possible holding force
- Maximum slenderness ratio (3° draft)
- Almost monolithic form
- Further sizes available on request



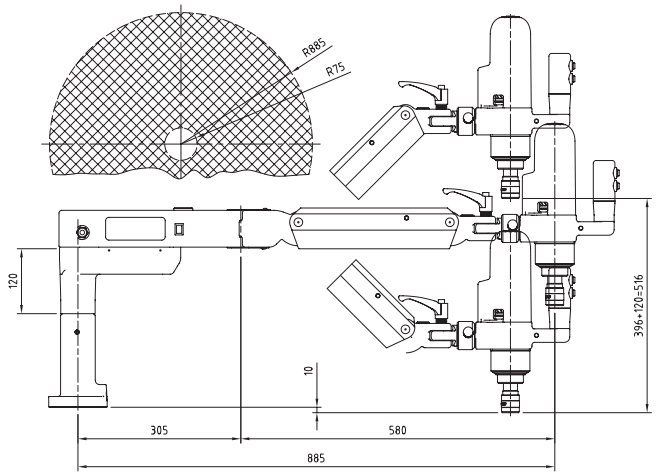
D mm	d1 mm	d2 mm	d3 mm	A mm	L mm	Thread	art.no.	€
12	3	9	11.8	63	110	-	430229 1203	131,50
12	4	10	11.8	63	110	-	430229 1204	131,50
12	5	11	11.8	63	110	-	430229 1205	131,50
12	6	12	17	63	110	M5	430229 1206	124,50
12	8	14	19	63	110	M6	430229 1208	124,50
16	3	9	13	60	110	M6	430229 1603	131,50
16	4	10	14	60	110	M6	430229 1604	131,50
16	5	11	15	58	110	M6	430229 1605	131,50
16	6	12	15.8	60	110	M5	430229 1606	124,50
16	8	14	19	60	110	M6	430229 1608	124,50
20	3	9	13	58	110	M6	430229 2003	131,50
20	4	10	14	58	110	M6	430229 2004	131,50
20	5	11	15	58	110	M6	430229 2005	131,50
20	6	12	16	58	110	M5	430229 2006	124,50
20	8	14	19	58	110	M6	430229 2008	124,50

4131

ATORN Thread cutting machine

- **Electrically powered motor**
- 220 V electrical connection is sufficient
- For M2 - M14 steel threads
- For M2 - M16 aluminium threads
- Vertical and horizontal thread cutting
- Operating range - radius 75 mm to 885 mm
- Operating range - height 565 mm
- For holding quick-release inserts with Ø 19 (e.g. art.no. 44250519..)
- Supplied with a base tool holding fixture, an articulated arm for vertical thread cutting and a tilting adapter for horizontal thread cutting **(please order quick-change chucks or quick-release inserts separately)**
- **Automatic tool lubrication and pneumatic version available on request**







Thread cutting machine

Min./max. rotation speed	Tightening torque N-m	Adapter diameter mm	Nominal voltage	art.no.	€
300-600 r/min	34	19	220 V	442180 0001	6.400,–
				4197	

Accessories

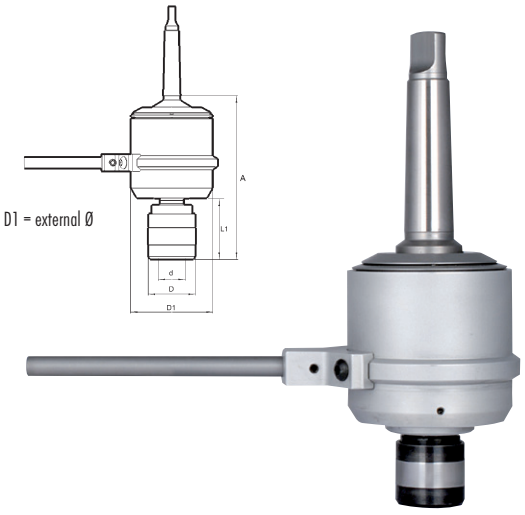
Designation	art.no.	€
Table clamp	442181 0001	184,–
	4197	



442181 0001

SARA Thread cutting device

- Manual thread cutting on hand-fed drills
- Maintenance-free, for use with right-hand and left-hand threads
- No need to reverse the spindle thanks to the integrated indexable thread
- Automatic shut-off by a low-wear ball system when the machine spindle is withdrawn once the thread depth has been reached
- Stopping arm must be secured against twisting before operation
- Supplied without inserts



Shank	d mm	D mm	External Ø mm	A mm	L1 mm	Length compensation, pressure mm	Length compensation, tension mm	for thread	art.no.	€
MT 2	19	33	78	146	40	0	3.5	M3-M12	442200 1202	660,–
MT 3	19	33	78	144	40	0	3.5	M3-M12	442200 1203	660,–
MT 3	31	50	83	180	67	0	0	M6-M20	442200 2003	775,–
MT 4	31	50	83	181	40	0	0	M6-M20	442200 2004	775,–
									4117	

Tap clamping sleeve

- **Torsion-free design**
- Tap clamping sleeve for machines with a synchronous thread cutting mechanism
- **Use:** In conventional DIN 1835 B (Weldon) chucks,
  Thread cutting in hard-to-reach areas
- Synchronisation between speed and forward thrust, no slip between the sleeve and drill bit
- 100 % cooling at the cutting edge with internal coolant supply



D mm	d mm	Quadratic mm	L mm	art.no.	€
16	3.5	2.7	56	442016 1635	49,50
16	4	3	56	442016 1640	49,50
16	4.5	3.4	56	442016 1645	49,50
16	6	4.9	56	442016 1660	49,50
20	4.5	3.4	58	442016 2045	49,50
20	6	4.9	58	442016 2060	49,50
20	7	5.5	58	442016 2070	49,50
20	8	6.2	58	442016 2080	49,50

4117

D mm	d mm	Quadratic mm	L mm	art.no.	€
20	9	7	58	442016 2090	49,50
20	10	8	58	442016 2010	49,50
25	4.5	3.4	66	442016 2545	67,50
25	6	4.9	66	442016 2560	67,50
25	7	5.5	66	442016 2570	67,50
25	8	6.2	66	442016 2580	67,50
25	9	7	66	442016 2590	67,50
25	10	8	66	442016 2510	67,50

4117

D mm	d mm	Quadratic mm	L mm	art.no.	€
25	11	9	66	442016 2511	67,50
25	12	9	66	442016 2512	67,50
32	10	8	70	442016 3210	74,–
32	11	9	70	442016 3211	74,–
32	12	9	70	442016 3212	74,–
32	14	11	70	442016 3214	74,–
32	16	12	70	442016 3216	74,–
32	18	14.5	70	442016 3218	74,–

4117

SARA® MT clamping sleeve for taps

- For taps with straight shank and square driving pin **according to DIN 6328**
- Ground bore and external taper
- Fully hardened and ground



Shank	Adapter diameter mm	L mm	art.no.	€
MT 1	2.5	65.5	442017 1025	28,60
MT 1	3.5	65.5	442017 1035	28,60
MT 1	4	65.5	442017 1040	28,60
MT 1	4.5	65.5	442017 1045	28,60
MT 1	5	65.5	442017 1050	28,60
MT 1	5.5	65.5	442017 1055	28,60
MT 1	6	65.5	442017 1060	28,60
MT 1	7	65.5	442017 1070	28,60
MT 1	8	65.5	442017 1080	28,60
MT 2	10	78.5	442017 2100	34,–
MT 2	11	78.5	442017 2110	34,–
MT 2	12	78.5	442017 2120	34,–
MT 2	4.5	78.5	442017 2045	34,–

4107

Shank	Adapter diameter mm	L mm	art.no.	€
MT 2	6	78.5	442017 2060	34,–
MT 2	7	78.5	442017 2070	34,–
MT 2	8	78.5	442017 2080	34,–
MT 2	9	78.5	442017 2090	34,–
MT 3	10	98	442017 3100	45,50
MT 3	11	98	442017 3110	45,50
MT 3	12	98	442017 3120	45,50
MT 3	14	98	442017 3140	45,50
MT 3	16	98	442017 3160	45,50
MT 3	8	98	442017 3080	45,50
MT 3	9	98	442017 3090	45,50
MT 4	12	123	442017 4120	77,30
MT 4	14	123	442017 4140	77,30

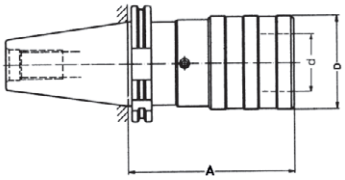
4107

Shank	Adapter diameter mm	L mm	art.no.	€
MT 4	16	123	442017 4160	77,30
MT 4	18	123	442017 4180	77,30
MT 4	20	123	442017 4200	77,30
MT 4	22	123	442017 4220	77,30
MT 4	25	123	442017 4250	77,30
MT 5	22	156	442017 5220	132,50
MT 5	25	156	442017 5250	132,50
MT 5	28	156	442017 5280	132,50
MT 5	30	156	442017 5300	132,50
MT 5	32	156	442017 5320	132,50
MT 5	36	156	442017 5360	132,50

4107

SARA® Thread cutting quick-change chuck

- Automatic insert locking
- **Flexible length compensation under compression and tension**
- For quick-release inserts with adjustable safety coupling
- Minimal residual torque prevents tap breakage
- For thread cutting on mechanical and digitally controlled radial drills as well as drilling and milling machines
- Further sizes are available on request



DIN ISO 7388-1 / DIN 69871 A

Shank	d mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
SK40	19	38	60	9	9	M3-M12	442003 4012	219,–
SK40	31	55	100	15	15	M6-M20	442003 4024	284,–
SK50	19	38	62	9	9	M3-M12	442003 5012	335,–
SK50	31	55	83	15	15	M6-M20	442003 5024	375,–

4117



DIN ISO 7388-2 / MAS BT JIS B 6339

Shank	d mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
BT 40	19	38	68	9	9	M3-M12	442007 4012	242,–
BT 40	31	55	93	15	15	M6-M20	442007 4024	299,–
BT 50	31	55	102	15	15	M6-M20	442007 5024	450,–

4117



DIN 2080

Shank	d mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
SK40	19	38	53	9	9	M3-M12	442001 4012	268,–
SK40	31	55	77	15	15	M6-M20	442001 4024	326,–
SK50	31	55	79	15	15	M6-M20	442001 5024	425,–

4117



DIN 228

Shank	d mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
MK2	19	38	46	9	9	M3-M12	442015 0212	197,50
MK3	19	38	46	9	9	M3-M12	442015 0312	194,50
MK3	31	55	69	15	15	M6-M20	442015 0324	242,–
MK4	31	55	70	15	15	M6-M20	442015 0424	242,–

4117



Straight shank similar to DIN 1835 B+E

d mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
19	38	41	9	9	M3-M12	442008 2519	236,–
31	55	63	15	15	M6-M20	442008 2531	282,–

4117





SARA® Quick-release inserts

DIN 371 DIN 376

- Further sizes available on request

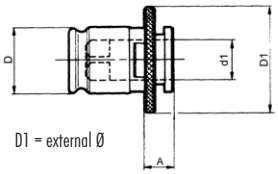
Without coupling

d1 mm	Insert shank square mm	D mm	A mm	External Ø mm	for thread	art.no.	€
2.8	2.1	19	7	30	M2	442501 1928	28,90
3.5	2.7	19	7	30	M3	442501 1935	28,90
4	3.0	19	7	30	M3.5	442501 1940	28,90
4.5	3.4	19	7	30	M4	442501 1945	28,90
6	4.9	19	7	30	M6	442501 1960	28,90
8	6.2	19	7	30	M8	442501 1980	28,90
10	8	19	7	30	M10	442501 1910	28,90
7	5.5	19	7	30	M10	442501 1970	28,90
9	7	19	7	30	M12	442501 1990	28,90
11	9	19	7	30	M14	442501 1911	28,90
6	4.9	31	11	46	M6	442501 3106	38,10
8	6.2	31	11	46	M8	442501 3108	38,10
10	8	31	11	46	M10	442501 3110	38,10
7	5.5	31	11	46	M10	442501 3107	38,10
9	7	31	11	46	M12	442501 3109	38,10
11	9	31	11	46	M14	442501 3111	38,10
12	9	31	11	46	M16	442501 3112	38,10
14	11	31	11	46	M18	442501 3114	38,10
16	12	31	11	46	M20	442501 3116	38,10
18	14.5	31	11	46	M22	442501 3118	38,10

4117



Without coupling



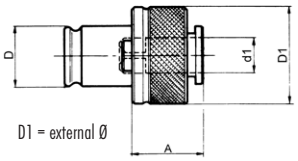
D1 = external Ø

With safety coupling

d1 mm	Insert shank square mm	D mm	A mm	External Ø mm	for thread	With adjustable coupling art.no.	€
2.8	2.1	19	25	32	M2	442505 1928	66,30
3.5	2.7	19	25	32	M3	442505 1935	66,30
4	3.0	19	25	32	M3.5	442505 1940	66,30
4.5	3.4	19	25	32	M4	442505 1945	66,30
6	4.9	19	25	32	M6	442505 1960	66,30
8	6.2	19	25	32	M8	442505 1980	66,30
10	8	19	25	32	M10	442505 1910	66,30
7	5.5	19	25	32	M10	442505 1970	66,30
9	7	19	25	32	M12	442505 1990	66,30
11	9	19	25	32	M14	442505 1911	66,30
6	4.9	31	34	50	M6	442505 3106	93,70
8	6.2	31	34	50	M8	442505 3108	93,70
10	8	31	34	50	M10	442505 3110	93,70
7	5.5	31	34	50	M10	442505 3107	93,70
9	7	31	34	50	M12	442505 3109	93,70
11	9	31	34	50	M14	442505 3111	93,70
12	9	31	34	50	M16	442505 3112	93,70
14	11	31	34	50	M18	442505 3114	93,70
16	12	31	34	50	M20	442505 3116	93,70
18	14.5	31	34	50	M22	442505 3118	93,70

4117

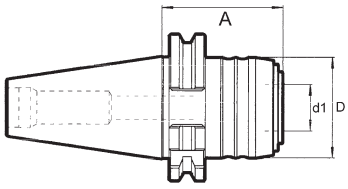

With safety coupling



D1 = external Ø

ATORN Thread cutting quick-change chuck for synchronous spindles

- **Minimal length compensation** thanks to damping element
- Secure clamping in quick-release inserts for ER collets
- Clamping screws to prevent the clamped tap from twisting
- For use on drilling machines and machining centres with synchronous spindles



Also available for machines with minimum-volume lubrication

DIN 69893 type A (HSK-A)

- Internal coolant supply
- When machining with internal coolant supply, a coolant transfer pipe with art.no. 431011... should be used
- Supplied without quick-release insert



Shank	Collet type	d1 mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
HSK 63	ER 16	20	43	64	0.2	1	M3-M12	442021 6316	265,–
HSK 63	ER 25	32	60	97	0.2	1	M6-M20	442021 6325	329,–

4179

DIN ISO 7388-1 / DIN 69871 AD

- Internal coolant supply
- Supplied without quick-release insert



Shank	Collet type	d1 mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
SK40	ER 16	20	43	53	0.2	1	M3-M12	442020 4016	209,–
SK40	ER 25	32	60	90	0.2	1	M6-M20	442020 4025	269,–
SK50	ER 16	20	43	53	0.2	1	M3-M12	442020 5016	229,–
SK50	ER 25	32	60	74	0.2	1	M6-M20	442020 5025	359,–

4179

Str. shank sim. to DIN 1835 B+E

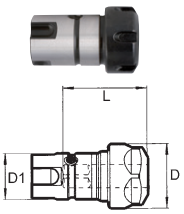
- Supplied without quick-release insert



Clamp in shank diameter mm	Collet type	d1 mm	D mm	A mm	Length compensation, pressure mm	Length compensation, tension mm	Suitable for thread	art.no.	€
25	ER 16	20	43	34	0.2	1	M3-M12	442022 2516	170,–
25	ER 25	32	60	56	0.2	1	M6-M20	442022 2525	195,–

4179

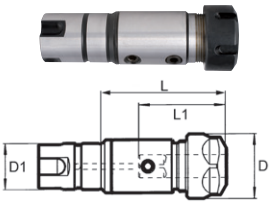
Quick-release inserts, one-piece



Collet type	L mm	D mm	D1 mm	Suitable for thread	art.no.	€
ER 16	37	28	20	M3-M12	442025 2016	131,50
ER 25	52	42	32	M6-M20	442025 3225	154,–

4179

Quick-release inserts, two-piece



Collet type	L mm	D mm	D1 mm	Suitable for thread	art.no.	€
ER 16	55	28	20	M3-M12	442026 2016	298,–
ER 25	86	42	32	M6-M20	442026 3225	329,–

4179

Extension for two-piece quick-release inserts



Illustration shows article no. 442026.... with two extensions



Designation	art.no.	€
Extension 25 mm for article no. 442026 2016	442027 2325	41,30
Extension 50 mm for article no. 442026 2016	442027 2350	47,50
Extension 50 mm for article no. 442026 3225	442027 3410	61,50
Extension 100 mm for article no. 442026 3225	442027 3450	70,–

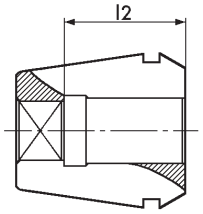
4179

Threading tap collet chucks, type A

DIN 6499-A

- **With square socket**
- For clamping thread cutting tools





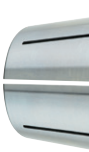


Nominal diameter mm	C	l2 mm	ER16 / 4031E art.no.	€	ER20 / 4276E art.no.	€	ER25 / 4282E art.no.	€	ER32 / 4537E art.no.	€	ER40 / 4716E art.no.	€
3.5	2.7	18	433050 0035	41,70	433053 0035	45,20	433055 0035	45,80				
4.5	3.4	18	433050 0045	41,70	433053 0045	45,20	433055 0045	45,80	433057 0045	50,10		
5.5	4.3	18					433055 0055	45,80	433057 0055	50,10		
6	4.9	18	433050 0060	41,70	433053 0060	45,20	433055 0060	45,80	433057 0060	50,10	433059 0060	61,40
7	5.5	18	433050 0070	41,70	433053 0070	45,20	433055 0070	45,80	433057 0070	50,10	433059 0070	61,40
8	6.2	22	433050 0080	41,70	433053 0080	45,20	433055 0080	45,80	433057 0080	50,10	433059 0080	61,40
9	7	22			433053 0090	45,20	433055 0090	45,80	433057 0090	50,10	433059 0090	61,40
10	8	25			433053 0100	45,20	433055 0100	45,80	433057 0100	50,10	433059 0100	61,40
11	9	25			433053 0110	45,20	433055 0110	45,80	433057 0110	50,10	433059 0110	61,40
12	9	25			433053 0120	45,20	433055 0120	45,80	433057 0120	50,10	433059 0120	61,40
14	11	25					433055 0140	45,80	433057 0140	50,10	433059 0140	61,40
16	12	25					433055 0160	45,80	433057 0160	50,10	433059 0160	61,40
18	14.5	30									433059 0180	61,40
20	16	30									433059 0200	61,40
			4120		4120		4120		4120		4120	

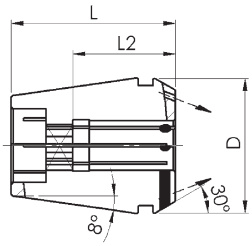
FAHRION® Thread cutting collets sealed with spray nozzles

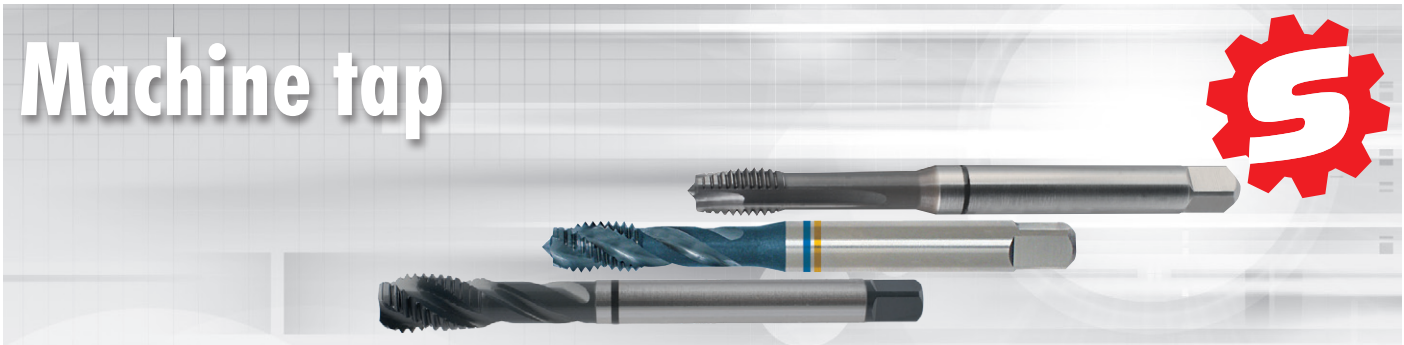
- **With square socket**
- For clamping thread cutting tools
- With seals for internal coolant supply and spray nozzles

Fahrion Protect - corrosion protection for functional surfaces in the µ area



Shank Ø mm	Quadratic mm	L2 mm	GERC20-GBDD / 4276E art.no.	€	GERC25-GBDD / 4282E art.no.	€	GERC32-GBDD / 4537E art.no.	€
4.5	3.55	18	433161 0450	89,60	433162 0450	93,30	433163 0450	102,80
6	5	18	433161 0600	89,60	433162 0600	93,30	433163 0600	102,80
7	5.6	18	433161 0700	89,60	433162 0700	93,30	433163 0700	102,80
8	6.3	22	433161 0800	89,60	433162 0800	93,30	433163 0800	102,80
9	7.1	22	433161 0900	89,60	433162 0900	93,30	433163 0900	102,80
10	8	25	433161 1000	89,60	433162 1000	93,30	433163 1000	102,80
11	9	25			433162 1100	93,30	433163 1100	102,80
12	9	25			433162 1200	93,30	433163 1200	102,80
14	11.2	25			433162 1400	93,30	433163 1400	102,80
16	12.5	25					433163 1600	102,80
18	14.5	30					433163 1800	102,80
			4118		4118		4118	

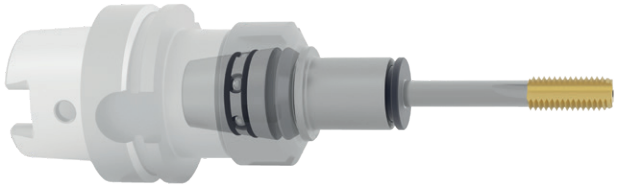




ER synchro insert *STA*

The **STA** (**S**ynchro **T**apping **A**daptor) synchro insert was specially developed for ER collet holding fixtures and allows tapping and forming on machines with synchronised spindles.

- For ER collet holding fixtures and powered tools
- Compensation for synchronisation errors
- Minimal length compensation under compression and tension
- Minimal strain on the thread flanks
- Compact design
- Internal coolant supply suitable up to 50 bar
- Suitable for left-hand and right-hand thread
- **Only used standard clamping nuts in accordance with SO15488 (DIN6499)**
- **Not for sealed nuts or mini nuts**



Synchro tool fixture *STL*

- Base support for STH synchro tool head

Type	Designation	art.no.	€
2	ER16	442100 0016	51,50
3	ER20	442100 0020	51,50
4	ER25	442100 0025	51,50
5	ER32	442100 0032	51,50

4195



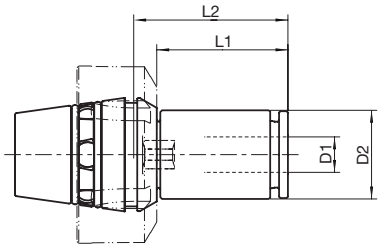
Synchro tool head *STH*

- Use for STL synchro tool fixture
- Length compensation: +0.5 mm / -0.2 mm

for type	D1 mm	Quadratic mm	for tap M	D2 mm	L1 mm	L2 mm	art.no.	€
2	3.5	2.7	M3 M5	12.7	24	26.3	442110 1601	51,50
2	4.5	3.4	M4 M6	12.7	24	26.3	442110 1602	51,50
2	5	4	M4 M5	12.7	24	27.3	442110 1603	51,50
3	6	4.9	M5 M6 M8	15.8	35	31	442110 2001	51,50
3	7	5.5	M7 M9 M10	15.8	35	31	442110 2002	51,50
4	6	4.9	M5 M6 M8	19	27	31	442110 2501	51,50
4	7	5.5	M7 M9 M10	19	30	33.5	442110 2502	51,50
4	8	6.2	M8 M11	19	30	34.5	442110 2503	51,50
4	9	7	M9 M12	19	40	33.5	442110 2504	51,50
5	7	5.5	M7 M9 M10	25	19	33.5	442110 3202	51,50
5	8	6.2	M8 M11	25	37	41	442110 3203	51,50
5	9	7	M9 M12	25	37	42	442110 3204	51,50
5	10	8	M10	25	37	43	442110 3205	51,50
5	6	4.9	M5 M6 M8	25	8	31	442110 3201	51,50
5	11	9	M14	25	37	44	442110 3206	51,50
5	12	9	M12 M16	25	37	44	442110 3207	51,50

4195



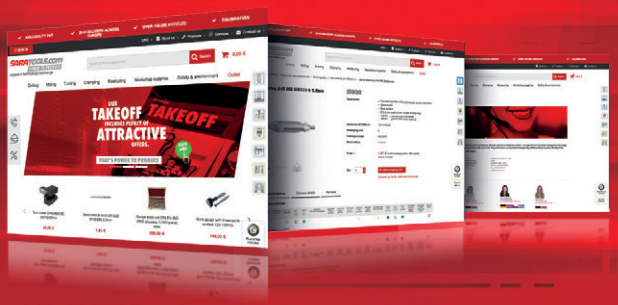


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- order measuring instruments including calibration
- available in real time
- in 8 languages

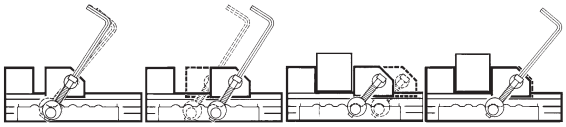




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RÖHM Precision clamp with quick adjustment



- **Quick adjustment**
- Maximum accuracy
- Made from alloyed tool steel, hardened and finely ground on all sides
- Easy to clamp and release with a hex key
- Clamping jaw can be adjusted in steps; engages automatically
- Pull-down effect
- Suitable for grinding, milling and engraving machines, jig boring machines, measuring and inspection work, and any production processes that demand the highest clamping accuracy

Horizontal V-block

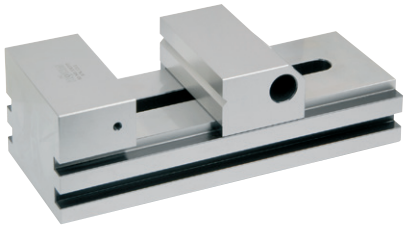


Jaw width mm	Clamping width mm	Jaw height mm	Total height mm	Total length mm	Perpendicularity mm	Parallelism µm	art.no.	€
34	25	15	35	75	0.005	2	463004 0030	170,–
45	50	20	45	110	0.005	2	463004 0045	221,–

4190

Horizontal and vertical V-block

- Size 0120 only horizontal V-block

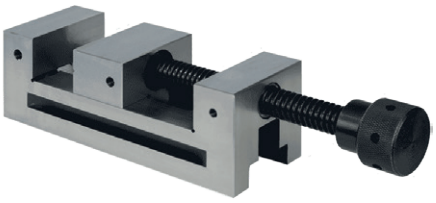


Jaw width mm	Clamping width mm	Jaw height mm	Total height mm	Total length mm	Perpendicularity mm	Parallelism µm	art.no.	€
70	80	30	62	160	0.005	2	463006 0070	345,–
90	120	40	80	210	0.005	2	463006 0090	445,–
120	150	40	90	280	0.005	2	463006 0120	589,–

4190

KEMMLER® Präzisionswerkzeuge Precision clamp with threaded spindle

- Maximum accuracy
- Made from alloyed tool steel, hardened and fine-ground on all sides
- Clamping and releasing with threaded spindle
- Horizontal prism
- Use on grinding, milling and engraving machines, gauge boring mills, for measurement and control work and all production processes that require clamping with maximum accuracy
- Perpendicularity and parallelism 5 µm



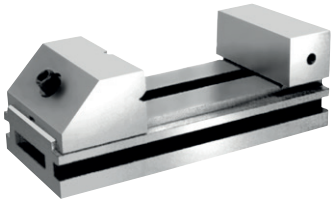
Precision clamp with threaded spindle

Jaw width mm	Length x width x height mm	Jaw height mm	Clamping width mm	art.no.	€
50	155 x 50 x 50	25	65	463121 0050	168,–
73	210 x 73 x 74	35	100	463121 0073	231,–
100	260 x 100 x 95	45	125	463121 0100	305,–

4208

SARA® Precision vices

- Pull-down fixture
- One-piece vice bed and fixed jaw
- Angularity and parallelism 0.005 mm / 100 mm, can be used on all sides
- Alloyed case-hardened tool steel, hardened and finely ground, hardness HRC 58 - 62

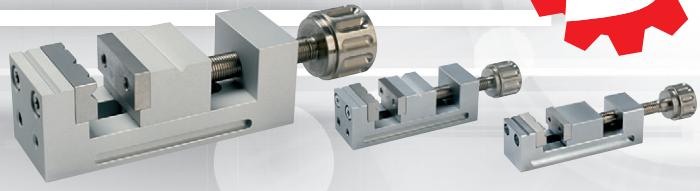


Jaw width mm	L mm	Max. clamping range mm	Jaw height mm	art.no.	€
50	140	65	25	463007 1050	156,–
63	175	85	32	463007 0063	199,–
73	190	100	35	463007 0073	225,–
88	235	125	40	463007 0088	289,–
100	245	125	45	463007 0100	301,–

4152

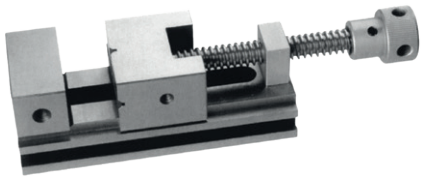
Mini precision vices

In the measurement technology chapter
Article no. 565006 ....



SARA® Precision grinding and inspection vices

- **With spindle**
- Entirely made from steel, precision-ground on all sides, can be used on all four sides, hardness HRC 58 - 62
- Can be used on grinding machines, jig boring machines and other precision machinery
- Also for measuring and inspection work
- Tolerance 0.005 mm

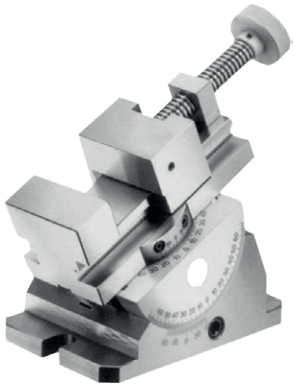


Jaw width mm	L mm	Max. clamping range mm	Jaw height mm	art.no.	€
50	155	65	25	463024 0050	227,–
63	190	85	32	463024 0063	245,–
73	210	100	35	463024 0073	305,–
88	250	125	40	463024 0088	365,–
100	260	125	45	463024 0100	559,–

4152

SARA® Precision sinus vice

- Machining and checking of surfaces and angular surfaces
- Angle adjustment in 2 axes via Vernier scale and precision set screw
- Can be rotated horizontally by 360°
- Can be swivelled vertically by 2 x 60°
- Scale reading from Vernier 3'
- Tool steel, through-hardened, fully precision-ground
- Perpendicularity: 0,005/100 mm
- Parallelism: 0,005/100 mm

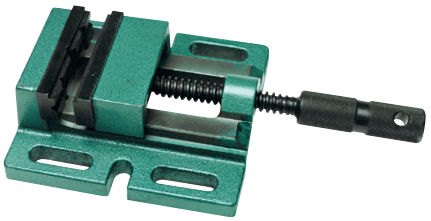


Jaw width mm	Clamping width mm	Jaw height mm	L mm	Height mm	Weight kg	art.no.	€
70	80	30	160	137	12	459026 0070	1.999,–

4152

ATORN Drilling machine vice

- Clamping jaws offset for clamping flat workpieces
- Horizontal and vertical V-blocks are integrated into the fixed jaw for round material

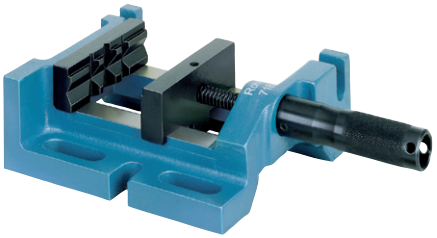


Jaw width mm	Jaw height mm	Clamping range	art.no.	€
80	25	0-65 mm	451540 0085	85,–
100	30	0-90 mm	451540 0100	122,–
120	30	0-110 mm	451540 0120	149,–
150	40	0-150 mm	451540 0150	228,–

4153

RÖHM Drilling machine vice with three clamping options

- **Version with two additional, rectangular supporting surfaces**
- Three clamping options (base, right-hand and face)
- Clamping jaws offset for clamping flat workpieces
- Horizontal and vertical V-blocks are integrated into the fixed jaw for round material

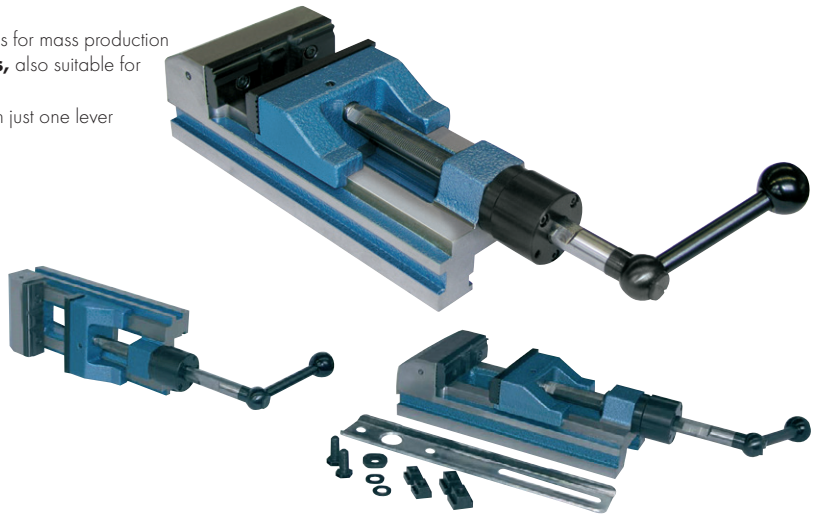


Jaw width mm	Clamping width mm	art.no.	€
100	93	451545 0100	99,30

4190

ATORN Drilling machine vice with quick jaw adjustment

- Narrow version
- For quick and secure clamping, particularly when machining workpieces for mass production
- With guideway, **base clamping and lateral clamping devices,** also suitable for light milling work
- **One-handed operation** – quick jaw adjustment and clamping with just one lever handle
- Flat, robust design
- Max. clamping force 10 kN
- Positive-fit locking
- Large clamping range
- Body made from special cast iron
- Supplied with guideway and fixing materials



Jaw width mm	Clamping width mm	Max. tension force kN	L mm	Total height mm	Body height mm	Weight kg	art.no.	€
110	130	10	280	82	50	12.5	451560 0110	709,–
135	160	10	328	90	50	19	451560 0135	859,–

4144

ATORN Parallel vice, steel

- Forged steel
- Opens to the front
- Concealed spindle
- Anvil and work top ground
- Jaws hardened and milled
- Sliding parts hardened and ground
- Hammer-finish paint, blue

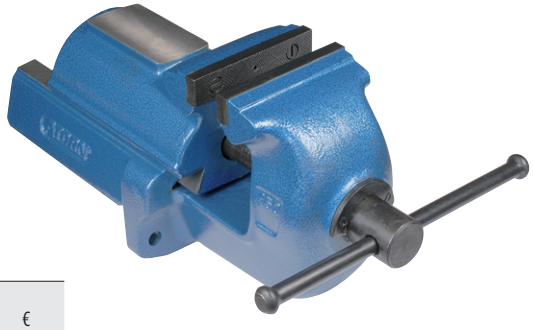


Jaw width mm	Clamping range mm	Weight kg	art.no.	€
100	0-140 mm	7,0	450115 0100	153,–
125	0-150 mm	11,0	450115 0125	195,–
150	0-200 mm	17,0	450115 0150	266,–

4141

ATORN Parallel vice, cast iron

- High-quality grey cast iron
- Opens to the rear
- Trapezoidal thread spindle protected against dirt
- Anvil with ground finish
- Reversible steel jaws, 1 side grooved, 1 side smooth
- Hammer-finish paint, blue (available in green on request)



Jaw width mm	Clamping range	Weight kg	art.no.	€
100	0-140 mm	13	450125 0100	372,–
125	0-175 mm	24	450125 0125	446,–
150	0-250 mm	41	450125 0150	740,–

4141

Magnetic vice jaws

- **Compatible with all vice models**
- With integrated permanent magnets
- Material: Aluminium
- Further jaw widths from 80-200 mm as well as felt types available on request



Aluminium protective jaw with rubber coating

- 1 pair

Jaw width mm	art.no.	€
100	452102 0100	32,60
125	452102 0125	35,40
150	452102 0150	35,40

4140



Aluminium protective jaw with fibre coating

- Price per pair

Jaw width mm	art.no.	€
100	452100 0100	34,30
125	452100 0125	37,20
150	452100 0150	37,20

4140



Aluminium protective jaw, smooth surface

- Price per pair

Jaw width mm	art.no.	€
100	452103 0100	23,40
125	452103 0125	27,60
150	452103 0150	30,80

4140



Aluminium protective jaw, horizontal and vertical V-block 12 mm

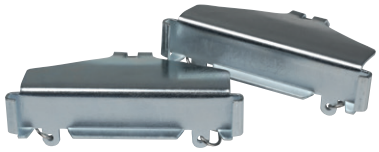
- Price per pair

Jaw width mm	art.no.	€
100	452105 0100	30,40
125	452105 0125	33,10
150	452105 0150	36,10

4140

Protective vice jaws

- For parallel vices
- With replaceable inserts
- Made from a variety of materials



Protective jaw holder

- Price per pair

Jaw width mm	art.no.	€
100	452010 0100	34,30
125	452010 0125	39,40
135	452010 0135	42,–
150	452010 0150	44,60

4140



Polyamide inserts

- Price per pair

Jaw width mm	art.no.	€
100	452011 0100	14,60
125	452011 0125	18,45
135	452011 0135	19,95
150	452011 0150	22,50

4140



Aluminium inserts

- Price per pair

Jaw width mm	art.no.	€
100	452012 0100	22,–
125	452012 0125	23,70
135	452012 0135	25,20
150	452012 0150	27,70

4140



Fibre inserts

- Price per pair

Jaw width mm	art.no.	€
100	452013 0100	21,–
125	452013 0125	22,50
135	452013 0135	23,70
150	452013 0150	26,30

4140



Polyamide V-block inserts

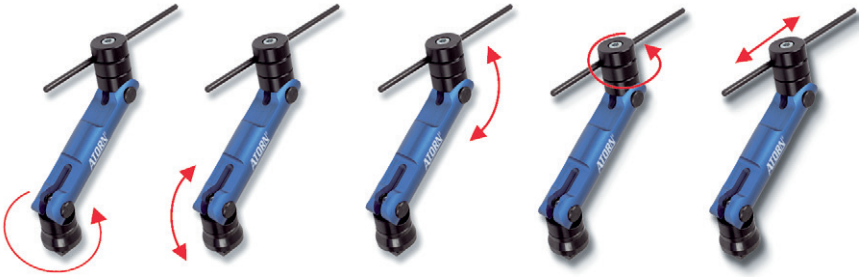
- Price per pair

Jaw width mm	art.no.	€
100	452015 0100	55,10
125	452015 0125	68,20
135	452015 0135	73,40
150	452015 0150	84,10

4140

ATORN Workpiece stop, T-slot

- **Adjustable through five axes**
- For use on drilling and milling machines
- Quick to set, flexible, sturdy
- 12 and 14 mm T-slot nuts with M8 thread





Designation	art.no.	€
Workpiece stop with T-slot nuts 12 and 14 mm	466597 0001	224,–

4140

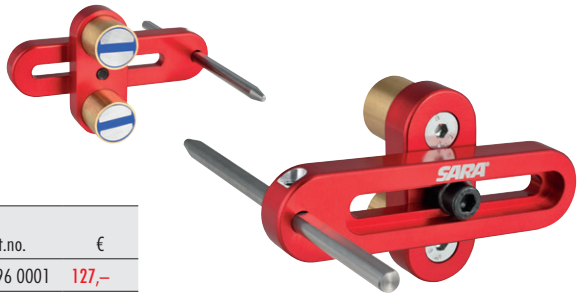
T-slot nut for workpiece stop

Designation	art.no.	€
T-slot nut 14 mm	466594 0014	4,39
T-slot nut 16 mm	466594 0016	7,15
T-slot nut 18 mm	466594 0018	8,55

4158

SARA Workpiece stop, magnetic

- Compatible with all vices
- No threaded bores required
- Stop rod length 125 mm
- Adjustable fixing magnets



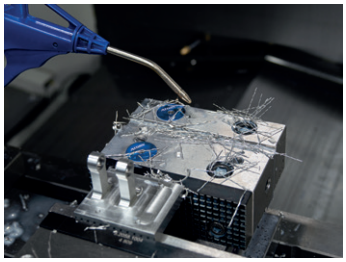
Total height mm	art.no.	€
100	466596 0001	127,–

4117

ATORN Cover for boreholes and screw heads with hex key

- prevents chips from sticking and cooling lubricants from accumulating in screw head and countersink
- increased occupational safety through working and cleaning with compressed air
- faster set-up due to less cleaning effort
- patented reusable system
- suitable for the clamping systems in the catalogue
- special sizes available on request







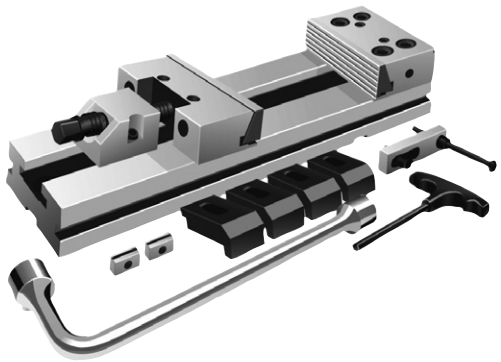
Aluminium cover

Designation	art.no.	€
10 x cover M10	438110 0010	102,–
10 x cover M12	438110 0012	102,–
10 x cover M16	438110 0016	130,–
5 x cover M20	438110 0020	76,–

4183

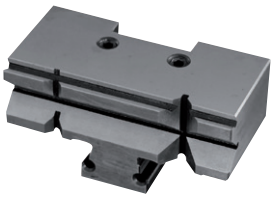
SARA® Mechanical precision machine vice

- Mechanical precision vice
- Accuracy: within 0.02 mm
- Base body made from hardened steel, 60 HRC
- Fixed jaw can be rotated 180°; equipped with a jaw step on the reverse side
- Supplied with stop, clamping claws, 16 x 16 mm slot nuts and chuck key



Jaw width mm	Jaw height mm	Base body dimension mm	Clamping width mm	Length, open mm	Groove width mm	Weight kg	art.no.	€
125	40	345 x 95 x 40	150	410	16	12.9	460200 0125	809,–
150	50	420 x 125 x 50	200	500	16	25.5	460200 2150	879,–
150	50	520 x 125 x 50	300	600	16	29	460200 3150	1.029,–
175	60	455 x 145 x 58	200	530	16	37	460200 2175	1.269,–
175	60	555 x 145 x 58	300	630	16	42	460200 3175	1.359,–
175	60	655 x 145 x 58	400	730	16	47	460200 4175	1.569,–
200	65	595 x 170 x 70	300	680	16	69	460200 3200	1.909,–
200	65	695 x 170 x 70	400	780	16	74	460200 4200	2.209,–

4170

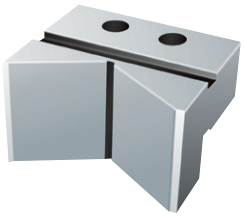


V-block jaw

- Price per unit

suitable for jaw width mm	art.no.	€
125	460217 0125	154,50
150	460217 0150	216,–
175	460217 0175	342,–
200	460217 0200	455,–

4170



Coordinate V-jaw

- Price per unit

suitable for jaw width mm	art.no.	€
125	460223 0125	420,–
150	460223 0150	509,–
175	460223 0175	759,–
200	460223 0200	1.069,–

4170

Swivel base with degree setting

- Angle precision 1°

suitable for jaw width mm	art.no.	€
125	460222 0125	485,–
150	460222 0150	569,–
175	460222 0175	629,–
200	460222 0200	939,–

4170

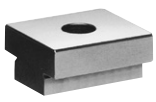


Slot nuts

- Price per pair

Nominal dimension of slot width mm	For T-slot width mm	art.no.	€
16	10	460213 1610	38,80
16	12	460213 1612	38,80
16	14	460213 1614	38,80
16	16	460213 1616	38,80
16	18	460213 1618	38,80
16	20	460213 1620	38,80
16	22	460213 1622	38,80
16	24	460213 1624	38,80

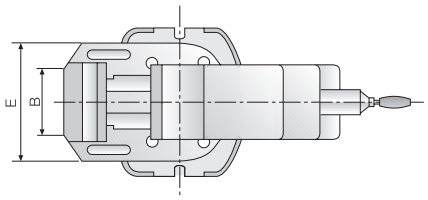
4170

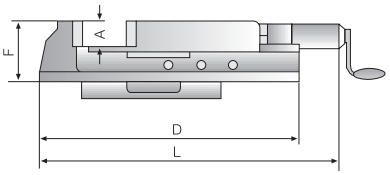


fresmak ARNOLD High-pressure machine vice

- **Mechanical/mechanical** or **mechanical/hydraulic**
- Base body and clamping jaw holder made from high-quality ductile iron, GJS 70
- Clamping precision within 0.01 mm at the same clamping pressure
- Both clamping areas can be roughly set in a matter of seconds via bolts (covered clamping areas)
- Aligned on the work table via longitudinal or transverse slots (20H7) in the base surface
- All wearing parts, clamping jaws and guideways hardened and ground (60 HRC)
- Multiple vices of the same height are available with a **pair accuracy of 0.01 mm**
- Spindle can be optionally replaced with a pneumatic/hydraulic version
- Supplied with 1 pair of smooth jaws and 1 hand crank, **without swivel base**







Jaw width mm	Clamp force kN	Clamping range mm	A mm	D mm	E mm	F mm	L mm	Weight kg	mech./hydr. art.no.	€	mech./mech. art.no.	€
125	40	0 - 205	40	425	195	107	480 - 685	26	458601 0125	1.949,–	458603 0125	1.979,–
160	50	0 - 305	50	570	250	130	565 - 870	51	458601 0160	2.499,–	458603 0160	2.549,–
200	80	0 - 375	63	680	300	160	720 - 1095	94	458601 0200	3.759,–	458603 0200	3.929,–
									4143		4143	

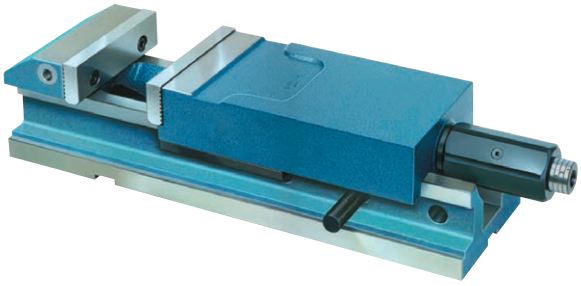
Turning insert

- **Note:** Angular accuracy is only guaranteed when purchased with vice!

Jaw width mm	art.no.	€
125	458606 0125	659,–
160	458606 0160	739,–
200	458606 0200	795,–
	4143	

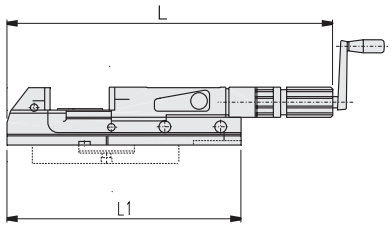
ATORN High-pressure machine vice

- **Mechanical/hydraulic**
- Steel base body
- Guideways hardened and ground
- Aligned on the work table via longitudinal or transverse slot 20 H7
- Quick adjustment via bolts
- Setting mechanism for quickly pre-selecting the clamping force
- Supplied with 1 set of smooth jaws, 4 clamping claws and a hand crank



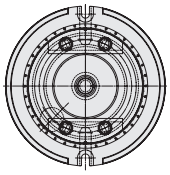
Vice

Jaw width mm	Clamp force kN	L mm	L1 mm	Total height mm	Body height mm	Clamping width mm	art.no.	€
90	25	551	370	99	53	150	457100 0090	2.059,–
125	40	683	460	112	70	220	457100 0125	2.399,–
							4183	



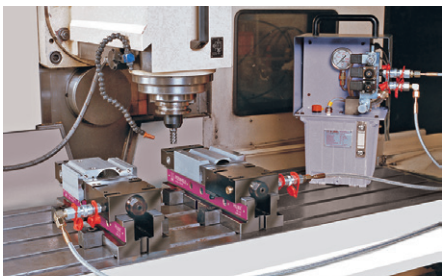
Turning insert

Jaw width mm	Rotating plate diameter mm	Groove width mm	art.no.	€
90	242	14	457101 0090	549,–
125	280	14	457101 0125	669,–
			4183	

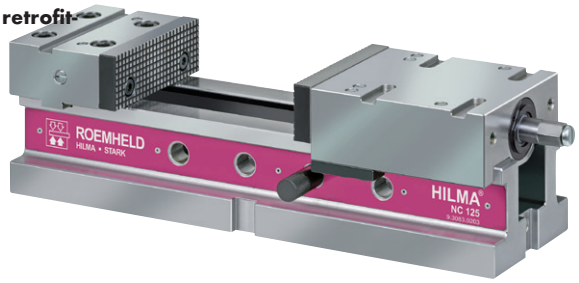


ROEMHELD HILMA ▪ STARK **NC NC high-pressure machine vice**

- **Type NC, mechanical-hydraulic**
- **Versatile and flexible**
- Longitudinal and transverse slots as standard for quick positioning
- Slots and threaded bores on slide and fixed jaw for holding standard and special large-span jaws
- Threaded bores on both sides for workpiece stops
- Clamping edge for clamping claws
- Guideways hardened and ground
- Desired clamping range can be roughly pre-selected via socket pin
- Resistant to deformation thanks to the new bottom cross section and new fixed jaw
- Mounting hole layout for extra high clamping jaws
- For tool and mould making, fixture construction, production
- Supplied with standard smooth/grooved indexable jaws, hand crank, operating manual
- **Longer versions and clamping force monitoring available on request (cannot be retrofitted!)**



Type NCH, hydraulically operated - available on request



Jaw width mm	Base body length mm	Clamp force kN	Clamping width mm	Max. clamping width mm	Weight kg	art.no.	€
100	380	25	0 - 205	386	18.5	457020 0100	2.339,–
100	540	25	0 - 365	546	23.5	457020 1100	2.659,–
125	430	40	0 - 225	431	32.5	457020 0125	2.439,–
125	560	40	0 - 355	561	38.5	457020 1125	2.999,–
125	720	40	0 - 515	721	45.5	457020 2125	3.769,–
125	1000	40	0 - 795	1001	58.5	457020 3125	5.409,–
125	1200	40	0 - 995	1201	67.5	457020 4125	6.079,–
160	550	50	0 - 308	572	59.0	457020 0160	3.219,–
160	750	50	0 - 508	772	71.5	457020 1160	4.439,–
160	1000	50	0 - 758	1022	87.0	457020 2160	6.089,–
160	1200	50	0 - 958	1222	99.5	457020 3160	6.909,–

4206

Top stepped jaws for type NC

- For extremely large clamping widths
- Includes fastening screws
- Unit prices

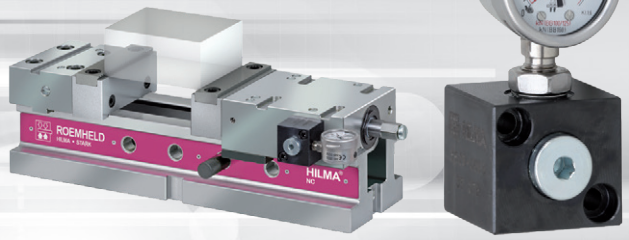


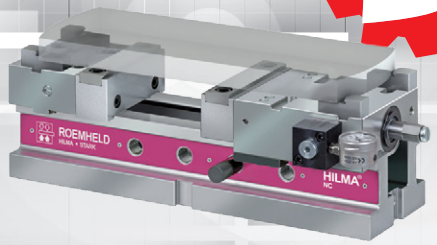
suitable for jaw width mm	Height mm	art.no.	€
100	16.5	457506 0100	475,–
125	19	457506 0125	500,–
160	22	457506 0160	589,–

4207

Expand HILMA machine vices with clamping force display

Clamp raw parts with clamping bars with smooth, grip or carbide-coated replaceable insert





Clamp round or raw parts with grip or carbide-coated replaceable inserts for slots and fixed jaws

Claw jaws with fine step

- with 2.5 mm step

suitable for jaw width mm	Step jaw height mm	art.no.	€
100	2.5	457516 0100	193,50
125	2.5	457516 0125	249,–
160	2.5	457516 0160	346,–

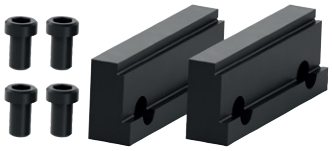
4207



Precision stepped jaws smooth

suitable for jaw width mm	Step jaw height mm	art.no.	€
100	6 und 25	457526 0100	395,–
125	6 und 32	457526 0125	420,–
160	9 und 39	457526 0160	470,–

4207



Angular drive for type EL, NC

- For mechanical-hydraulic machine vices and clamping systems
- Used when normal operation is hindered or not possible
- Also ideal for retrofitting
- Delivery includes crank and screws

suitable for jaw width mm	Wr. width	art.no.	€
100	10 mm	458501 0100	445,–
125	10 mm	458501 0125	490,–
160	10 mm	458501 0160	549,–

4207



Clamping claws with screws, for type EL and NC

- Price per set of 4 units

suitable for jaw width mm	Clamping screw size	Clamping height mm	art.no.	€
100	M12 x 45	24	458520 1012	115,–
125/160	M12 x 45	27	458520 1016	116,–
160	M16 x 50	27	458520 1600	117,–

4207



Precision workpiece stop for type EL, NC, KNC

- Can be swivelled out of the way, features quick-action clamp
- 2 level adjustment

suitable for jaw width mm	art.no.	€
100/125	458515 1012	111,–
160	458515 1620	145,50

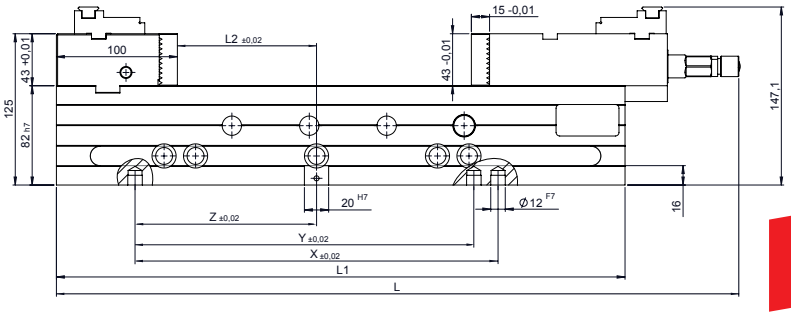
4207

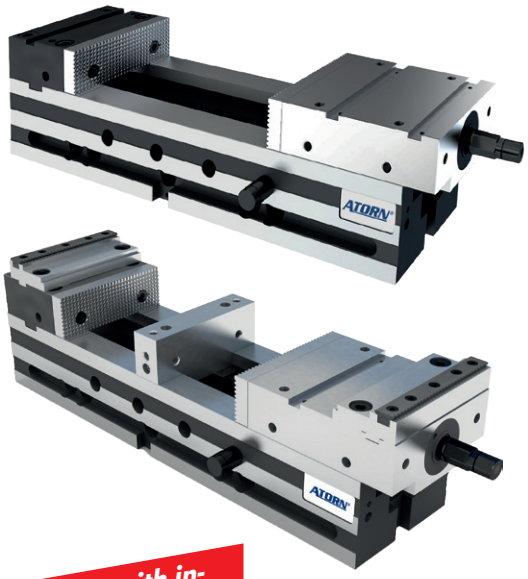




ATORN NC high-pressure machine vice *MH-S 125*

- **Mechanical/hydraulic**
- Robust steel base body
- Hardened and ground guideways
- Repetition precision ≤ 0.01 mm
- Versions with fastening bores for lateral clamping available on request, for bed length D = 470 mm, attachment screws for groove spacing 63 mm and 100 mm are pre-mounted
- Locating pin for quick pre-positioning
- Simple cleaning due to removable upper slides
- **Bed lengths up to 1200 mm and hydraulically-controlled versions available on request**
- Supplied with jaws and hand crank





With interchangeable slider

ATORN MH-S with interchangeable slider for multiple clamping

Standard version mech./hydr.

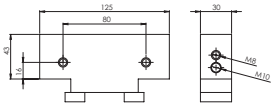
Jaw width mm	L1 mm	L mm	L2 mm	X mm	Y mm	Z mm	Clamping width mm	Min./max. clamping width of attachment step jaws	Weight kg	art.no.	€
125	470	564	115	300	280	150	0 - 239	63 - 445 mm	37.6	458100 1125	2.520,–
125	534	628	167	400	-	200	0 - 303	63 - 509 mm	41.7	458100 2125	3.040,–
125	598	692	199	500	480	250	0 - 367	63 - 573 mm	45.1	458100 3125	3.360,–

4195

Interchangeable slider

Designation	art.no.	€
For MH-S 125	458113 0125	299,–

4195

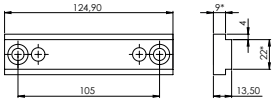




Top stepped jaws for interchangeable slider

Designation	art.no.	€
For MH-S 125	458112 0125	184,–

4195

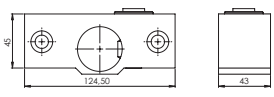




Angle drive

Designation	art.no.	€
For MH-S 125	458117 0125	570,–

4195



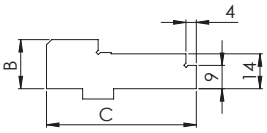


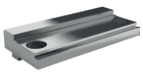
Top stepped jaws

- Price per unit

Width x height x depth mm	Designation	art.no.	€
125 x 19 x 58	Without grip	458111 0125	242,–
125 x 19 x 58	With grip insert	458111 1125	330,–

4195



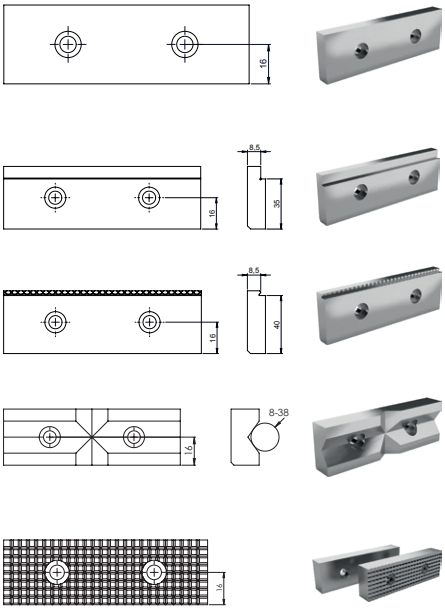


Screw-in jaws

• Price per unit

Designation	Width x height x depth mm	Hole distance mm	art.no.	€
With grinding allowance	125 x 43.4 x 15.4	80	458110 0125	38,80
Stepped jaws	125 x 43 x 11.5	80	458110 1125	110,–
Stepped jaws with grip	125 x 43 x 11.5	80	458110 2125	210,–
V-block jaws horiz. and vert.	125 x 43 x 20	80	458110 4125	176,–
Indexable jaws	125 x 43 x 15	80	458110 5125	83,–

4195

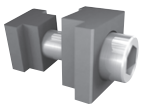


Clamp set for MH-S 125

• Price per set = 4 pieces

Designation	art.no.	€
Clamp set for bench groove 14 mm	458118 0014	128,–
Clamp set for bench groove 16 mm	458118 0016	136,–
Clamp set for bench groove 18 mm	458118 0018	128,–
Clamp set for bench groove 20 mm	458118 0020	132,–
Clamp set for bench groove 22 mm	458118 0022	134,–

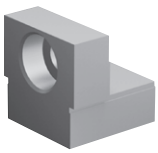
4195



Positioning slot nut for MH-S 125

Designation	art.no.	€
Positioning slot nut for bench groove 14	458119 2014	34,–
Positioning slot nut for bench groove 16	458119 2016	51,–
Positioning slot nut for bench groove 18	458119 2018	34,–
Positioning slot nut for bench groove 20	458119 2020	51,–
Positioning slot nut for bench groove 22	458119 2022	51,–

4195



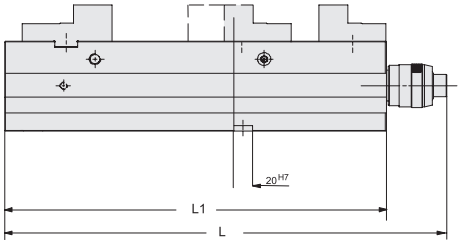
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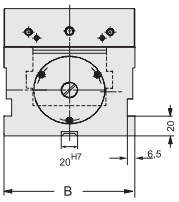


ATORN MM-G NC high-pressure machine vice

- **Mechanical/mechanical**
- Base body made from spheroidal graphite iron
- Base clamping
- Pull-down jaws and other accessories available on request
- Stepped jaws, reversible, hardened and ground
- Long clamping slide assembly including a transverse slot drive spindle with pre-set clamping force
- M12 mounting thread for workpiece stop
- Clamping surfaces for clamping claws
- Rugged chip guard prevents chip ingress into the body
- **Incl. clamping fitting bore (pitch 200 mm) for ATORN zero-point clamping system**







Compact clamp

- Incl. stepped jaws and regulator

Jaw width mm	Height mm	L mm	Jaw height mm	L1 mm	Min./max. clamping width	Clamp force kN	Weight kg	art.no.	€
125	100	463	40	400	0-312 mm	40	41	458800 0125	2.299,–
160	115	618	50	530	0-451 mm	60	79	458800 0160	4.159,–

4144



With pendulum jaws and collar inserts

Type	Jaw width mm	Jaw height mm	art.no.	€
MM-G 125	160	20	458801 0125	3.089,–
MM-G 160	200	25	458801 0160	5.139,–

4144

Clamping claw

- With screw and T-slot nut
- Price per unit



For T-slot width mm	Suitable for thread	art.no.	€
12	M10	458805 1210	44,20
14	M12	458805 1412	47,30
16	M12	458805 1612	47,30
18	M16	458805 1816	52,90
20	M16	458805 2016	52,90
22	M16	458805 2216	52,90

4144

Standard top jaws

- Price per 1-set pack



Width mm	Height mm	art.no.	€
125	40	458810 0125	719,–
160	50	458810 0160	1.189,–

4144

Stepped jaws

- Price per 1-set pack



Width mm	Height mm	art.no.	€
125	20	458811 0125	739,–
160	25	458811 0160	1.219,–

4144

Base jaw set for grip attachments

- Price per 1-set pack

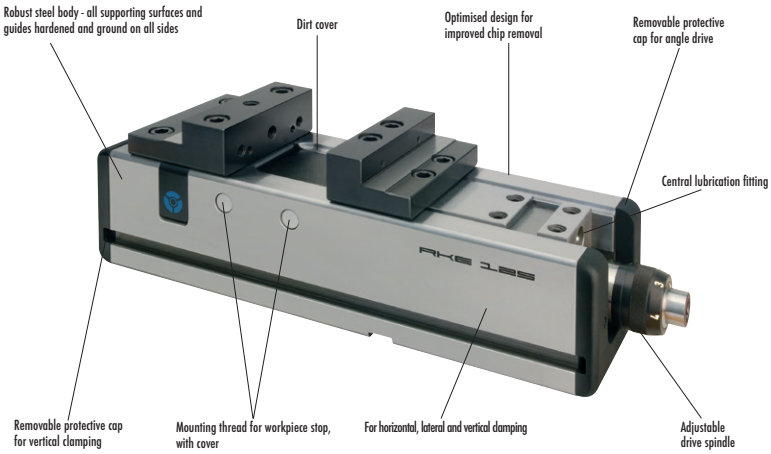


Width mm	Height mm	art.no.	€
125	20	458814 0125	1.189,–

4144

RÖHM *RKE* NC high-pressure machine vice

- Particularly suitable for use on machining centres
- Horizontal, lateral, or vertical clamping with a base plate, for example as a DUO clamping tower (back to back)
- **Size 92**
  Mechanical-hydraulic clamping system with power transmission, manually operated.
- **Size 125, 160**
  Mechanical-mechanical clamping system with power transmission, manually operated
- Base body and all guides are hardened and ground on all sides
- Long clamping slide with transverse slots, hardened on all sides, functional surfaces ground
- Drive spindle with pre-set clamping force
- Clamping surface for clamping claws
- Central lubrication fitting for easy guide and spindle thread lubrication
- Stable chip guard prevents chips from entering into the body
- Threaded bores for holding all RÖHM flat clamping jaws with jaw widths of 125 / 160 mm
- Angle drive connecting thread



NC compact clamp

Jaw width mm	Height mm	Jaw height mm	Total length mm	Clamping range mm	Groove dimensions device mm	Clamp force kN	Weight kg	art.no.	€
125	100	40	479	0-312	20H7	40	41	458200 0125	3.319,–
160	115	50	634	0-451	20H7	60	79	458200 0160	5.149,–

4190

Supporting jaw set with pendulum jaws

- Supplied without grip attachments
- Price per set

for type	Jaw width mm	Height mm	art.no.	€
RKE 125	160	20	458812 0125	1.109,–
RKE 160	200	25	458812 0160	1.769,–

4190



Grip attachments

- Price per unit

Jaw width mm	Height mm	art.no.	€
125	28	458815 1125	49,90
160	30	458815 1160	57,40

4190



ATORN Interchangeable jaws for ATORN MM-G, Röhm RKE, Hilma NC and Allmatic

Reversible jaw type WB-S longitudinally grooved / smooth

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	grooved lengthwise and smooth	458830 0125	194,–
for ATORN MM-G and Röhm RKE	160	grooved lengthwise and smooth	458830 0160	242,–
for Hilma-NC	125	grooved lengthwise and smooth	458830 2125	194,–
for Hilma-NC	160	grooved lengthwise and smooth	458830 2160	242,–
for Allmatic-NC	125	grooved lengthwise and smooth	458830 1125	194,–
for Allmatic-NC	160	grooved lengthwise and smooth	458830 1160	242,–

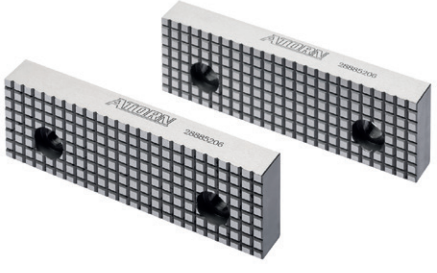
4183



Reversible jaw type WB-K cross fluted / smooth

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	cross-ribbed and smooth	458831 0125	258,–
for ATORN MM-G and Röhm RKE	160	cross-ribbed and smooth	458831 0160	306,–
for Hilma-NC	125	cross-ribbed and smooth	458831 2125	258,–
for Hilma-NC	160	cross-ribbed and smooth	458831 2160	306,–
for Allmatic-NC	125	cross-ribbed and smooth	458831 1125	258,–
for Allmatic-NC	160	cross-ribbed and smooth	458831 1160	306,–

4183



Stepped jaw type SB-K/G with step, smooth

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	smooth with 3 mm step	458832 3125	234,–
for ATORN MM-G and Röhm RKE	160	smooth with 3 mm step	458832 3160	270,–
for ATORN MM-G and Röhm RKE	125	smooth with 5 mm step	458832 5125	234,–
for ATORN MM-G and Röhm RKE	160	smooth with 5 mm step	458832 5160	270,–
for Hilma-NC	125	smooth with 3 mm step	458832 8125	234,–
for Hilma-NC	160	smooth with 3 mm step	458832 8160	270,–
for Hilma-NC	125	smooth with 5 mm step	458832 9125	234,–
for Hilma-NC	160	smooth with 5 mm step	458832 9160	270,–
for Allmatic-NC	125	smooth with 3 mm step	458832 6125	234,–
for Allmatic-NC	160	smooth with 3 mm step	458832 6160	270,–
for Allmatic-NC	125	smooth with 5 mm step	458832 7125	234,–
for Allmatic-NC	160	smooth with 5 mm step	458832 7160	270,–

4183



Claw jaw type KB-K/G with step

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	Claw with 3 mm step	458833 3125	452,–
for ATORN MM-G and Röhm RKE	160	Claw with 3 mm step	458833 3160	486,–
for ATORN MM-G and Röhm RKE	125	Claw with 5 mm step	458833 5125	452,–
for ATORN MM-G and Röhm RKE	160	Claw with 5 mm step	458833 5160	486,–
for Hilma-NC	125	Claw with 3 mm step	458833 6125	452,–
for Hilma-NC	160	Claw with 3 mm step	458833 6160	486,–
for Hilma-NC	125	Claw with 5 mm step	458833 7125	452,–
for Hilma-NC	160	Claw with 5 mm step	458833 7160	486,–
for Allmatic-NC	125	Claw with 3 mm step	458833 1125	452,–
for Allmatic-NC	160	Claw with 3 mm step	458833 1160	486,–
for Allmatic-NC	125	Claw with 5 mm step	458833 2125	452,–
for Allmatic-NC	160	Claw with 5 mm step	458833 2160	486,–

4183



Claw jaw type KB-O without step

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	with claw without step	458834 0125	452,–
for ATORN MM-G and Röhm RKE	160	with claw without step	458834 0160	486,–
for Hilma-NC	125	with claw without step	458834 2125	452,–
for Hilma-NC	160	with claw without step	458834 2160	486,–
for Allmatic-NC	125	with claw without step	458834 1125	452,–
for Allmatic-NC	160	with claw without step	458834 1160	486,–

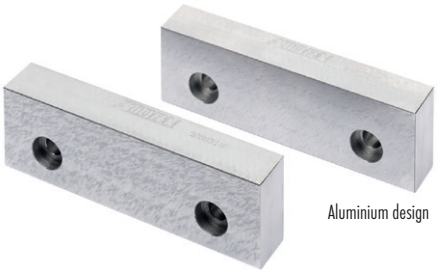
4183



Clamping jaw soft type SBW-S/A Steel and aluminium version

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	Steel design	458835 0125	126,–
for ATORN MM-G and Röhm RKE	160	Steel design	458835 0160	152,–
for ATORN MM-G and Röhm RKE	125	Aluminium design	458835 1125	99,–
for ATORN MM-G and Röhm RKE	160	Aluminium design	458835 1160	120,–
for Hilma-NC	125	Steel design	458835 4125	126,–
for Hilma-NC	160	Steel design	458835 4160	152,–
for Hilma-NC	125	Aluminium design	458835 5125	99,–
for Hilma-NC	160	Aluminium design	458835 5160	120,–
for Allmatic-NC	125	Steel design	458835 2125	126,–
for Allmatic-NC	160	Steel design	458835 2160	152,–
for Allmatic-NC	125	Aluminium design	458835 3125	99,–
for Allmatic-NC	160	Aluminium design	458835 3160	120,–

4183



Aluminium design

Steel design

Prismatic jaw type PB ground vertically and horizontally

Designation	suitable for jaw width mm	Type	art.no.	€
for ATORN MM-G and Röhm RKE	125	Prism vertical and horizontal	458836 0125	218,–
for ATORN MM-G and Röhm RKE	160	Prism vertical and horizontal	458836 0160	254,–
for Hilma-NC	125	Prism vertical and horizontal	458836 2125	218,–
for Hilma-NC	160	Prism vertical and horizontal	458836 2160	254,–
for Allmatic-NC	125	Prism vertical and horizontal	458836 1125	218,–
for Allmatic-NC	160	Prism vertical and horizontal	458836 1160	254,–

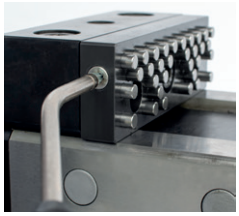
4183

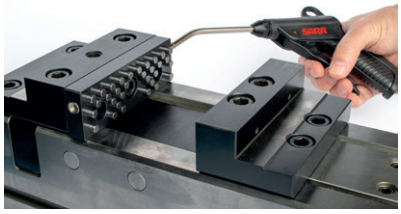


ATORN Clamping jaws with positioning pins

- Fast and precise machining of various workpieces
- Retooling in seconds for various machining tasks
- Loose underlays are no longer needed, nor is time-consuming cleaning
- Stable and robust lightweight design
- Also suitable for high clamping forces.
- Compressed air flow via vents on both front faces
- Recommended air pressure: 5.5 bar
- Closed on all sides when installed, so very low-maintenance
- Premium tool steel, hardened, ground and treated with a special oxidation process





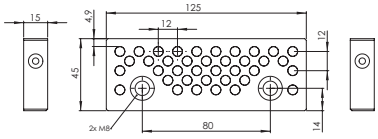


Clamping jaws for Hilma

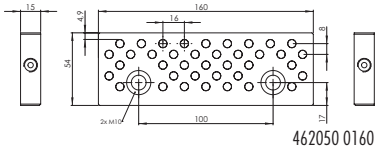
- **Hima** NC125/160, EL125/160, KNC125/160

Jaw width mm	art.no.	€
125	462050 0125	328,–
160	462050 0160	449,–

4183



462050 0125



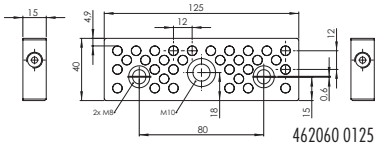
462050 0160

Clamping jaws for ATORN, Allmatic, Röhm, Gressel, Kesel

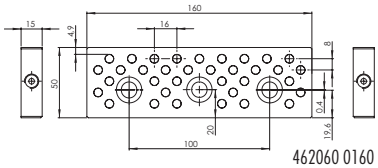
- **ATORN** MM-G 125/160
- **Allmatic** 125/160
- **Arno** 125/160
- **Gressel** Gripos 125/160, Grepos-5X, Grefors, Duogrip, Ecopos, C2
- **Röhm** RKE 125/160, RKG 125/160

Jaw width mm	art.no.	€
125	462060 0125	328,–
160	462060 0160	449,–

4183



462060 0125



462060 0160

SARA® Gripper jaws with support bar

- Hardened tool steel
- **Variable support height 3 mm and 5 mm** by simply turning the support bar

For ATORN MM-G, Röhm RKG-M, RKD, RKE and Allmatic Basic

- Price per pair

Jaw width mm	art.no.	€
125	461020 0125	380,–

4166



For Hilma-NC and EL

- Price per pair

Jaw width mm	art.no.	€
125	461021 0125	380,–

4166



SARA® Parallel underlays sets

- All surfaces are plane-parallel, rectangular and ground in pairs
- Height tolerance ± 0.01 mm
- For height adjustment when clamping workpieces; particularly suitable for seating in machine vices, marking tables or machine tools
- Supplied in a wooden box





Contents	L mm	Width mm	Height mm	art.no.	€
8 pairs	120	8	12 | 17 | 22 | 25 | 28 | 32 | 36 | 38	465002 1208	309,–
8 pairs	160	8	12 | 17 | 22 | 25 | 28 | 32 | 36 | 38	465002 1608	389,–
9 pairs	100	4	10 | 14 | 18 | 22 | 26 | 30 | 34 | 38 | 42	465002 1004	325,–
9 pairs	160	4	10 | 14 | 18 | 22 | 26 | 30 | 34 | 38 | 42	465002 1604	389,–

4153

ATORN Parallel supports, magnetic

- Hardened tool steel
- Burnished
- Height tolerance ± 0.01 mm
- 2.5 mm wide, allowing bores to be drilled near vice jaws

Single

Jaw width mm	Height mm	art.no.	€
125	20	465006 1220	93,50
125	25	465006 1225	93,50
125	30	465006 1230	93,50
125	37	465006 1237	93,50
125	39	465006 1239	93,50

4183





Sets

Parallel rest length mm	Contents	art.no.	€
100	Height 20, 27, 29, 31, 32 mm	465006 0100	425,–
125	Height 15, 30, 35, 37, 39 mm	465006 0125	456,–
160	Height 22, 30, 37, 42, 47 mm	465006 0160	480,–

4183

Parallel support sets

- **In a wooden stand**
- Aged steel, case-hardened and ground in pairs
- Pair tolerance hight ± 0.01 mm
- Machined to plane-parallel and true-angle finish
- The cross section is stamped into the ground front face
- For use as parallel workpiece mounts in machine vices, marking tables or machine tools for drilling, grinding, milling, planing, marking and measuring; especially suitable for holding in machine vices, marking tables or machine tools



L mm	Pair/set increasing at intervals of 1 mm	Cross section mm	art.no.	€
125	24 pairs, 8-42 (except 9 mm)	8x11 8x16 8x21 8x26 8x31 8x36 , 10x13 10x18 10x23 10x28 10x33 10x38 , 12x15 12x20 12x25 12x30 12x35 12x40 , 14x17 14x22 14x27 14x32 14x37 14x42	465005 0025	689,–
150	24 pairs, 8-42 (except 9 mm)	8x11 8x16 8x21 8x26 8x31 8x36 , 10x13 10x18 10x23 10x28 10x33 10x38 , 12x15 12x20 12x25 12x30 12x35 12x40 , 14x17 14x22 14x27 14x32 14x37 14x42	465005 0050	719,–

4153

RÖHM *RKZ-M* NC compact centric clamp

- **Steel base frame**
- **All guides are hardened and ground on all sides**
- Mechanical, manually-actuated clamping system without power intensifier
- Central clamping with two mobile jaws
- Optimised for 5-axis machining
- Short, compact design
- Large clamping range
- Middle clamping accuracy: ±0.02 mm
- Precision 0.01 mm
- **Supplied with:** 1 pair of hard stepped jaws and crank



Base body with staggered top jaws

Jaw width mm	Total height mm	Height mm	Jaw height mm	Base body length mm	Clamping range	Clamp force kN	Weight kg	art.no.	€
50	75	55	20	167	0 - 111	10	3.5	458300 0050	1.569,–
70	95	70	25	219	0 - 153	15	7	458300 0070	1.849,–
92	117	85	32	295	0 - 208	20	18	458300 0092	2.689,–
125	145	105	40	366	0 - 269	25	32.5	458300 0125	3.409,–

4189

fresmak ARNOLD *SC* mechanical centring vice

- Self-centring high-precision clamp
- Repetition precision 0.01mm
- Centring accuracy 0.02mm
- Compact design with external guide
- **Supplied with lever-reversible ratchet and clamping claws**
- **suitable torque wrench art.no. 7026020004**



Base body with smooth jaws incl. support bars

Jaw width mm	Total height mm	Height mm	Jaw height mm	Base body length mm	Clamping range	Clamp force kN	Weight kg	Wr. width	art.no.	€
90	130	100	30	250	12 - 245	20	14.3	12 mm	458662 0090	2.150,–
125	133	103	30	350	14 - 342	40	30	16 mm	458662 0125	2.609,–

4143

Claw jaws for hard jaws

- Price per unit

Jaw width mm	Height mm	Depth mm	l4 mm	art.no.	€
90	30	11/14	2.5	458755 0090	270,–
125	30	13/16	2.5	458755 0125	310,–

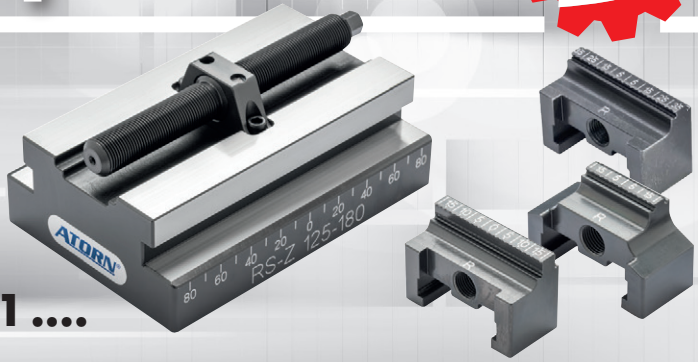
4143



Centering clamp RS-Z

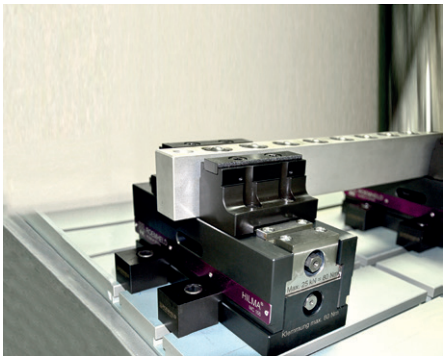
- Stable tension for high cutting performance thanks to extremely stable base body, solid guides and high-lying spindle
- Clamping jaws for every area of application

Article no. 459150..../459151....



ROEMHELD HILMA ▪ STARK Balance MCP machine vice

Besides 5-axis machining and concentric clamping, the position flexible workholding system HILMA.MCP Balance offers the solution for individual or series clamping of bars, rails, profiles, guide rails or housings.
The compensating function prevents tensioning and deformation on the workpiece.
Workpieces that are fixed by internal contours or positioning elements can also be clamped concentrically.
For this purpose, customer-specific dowel holes or tapped holes can be provided in the guide bars of the HILMA.MCP Balance in which the workpiece supports or stops can be fixed.



Function
The workholding systems HILMA.MCP Z Balance have a floating clamping point (with released locking). After operation of the clamping spindle, first the two clamping slides concentrically approach a location-fixed workpiece position.
When both clamping jaws are in contact with the workpiece, the desired clamping force is applied using a torque wrench.
Up to this point, the clamping point is still floating.
Once the desired clamping force is reached, the clamping point, which was floating up to this point, will be safely fixed by the clamping point.
By adapting the clamping point to the fixed workpiece position, deformation of the workpiece is prevented.

- Patented segment design
- Clamping without deformation of workpieces by position flexible clamping point
- Clamping system also suitable for concentric clamping
- Compact design
- High precision and accuracy of the manufactured workpieces thanks to high rigidity
- Sturdy design and good swarf protection
- Large jaw openings
- Extensive range of jaws
- Clamping of raw and finished parts without retrofitting
- Easy to maintain
- **Supplied without clamping jaws**



Balance MCP machine vice
- Repetitive clamping accuracy with closed clamps +/- 0.015 mm
- Supplied without clamping jaws
- Height without top jaws (base body)
- Weight without clamping jaws

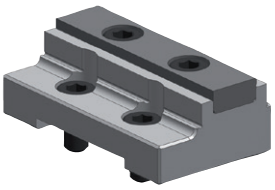
Jaw width mm	Length x width x height mm	Clamp force kN	Clamping width mm	Wr. width	Weight kg	art.no.	€
60	170 x 60 x 70	15 at max. 60Nm	6 - 150	12 mm	4.6	457022 0060	1.559,–
100	260 x 100 x 100	25 at max. 90Nm	6 - 204	14 mm	17.5	457022 0100	2.669,–
125	465 x 125 x 130	40 at max. 180Nm	6 - 400	17 mm	52.3	457022 0125	4.299,–

4207

Stepped reversible jaws flat for interchangeable use
- Height including interchangeable insert
- l4 = clamping depth including interchangeable insert

Designation	Length x width x height mm	l4 mm	art.no.	€
for MCP 60	56 x 60 x 22	4	457122 0060	218,–
for MCP 100	59 x 100 x 29	4	457122 0100	236,–
for MCP 125	91 x 125 x 34	4	457122 0125	310,–

4207



Stepped reversible jaws for interchangeable use
- Height including interchangeable insert
- l4 = clamping depth including interchangeable insert

Designation	Length x width x height mm	l4 mm	art.no.	€
for MCP 60	56 x 60 x 34	4	457123 0060	184,–
for MCP 100	59 x 100 x 54	4	457123 0100	282,–
for MCP 125	91 x 125 x 66	4	457123 0125	324,–

4207

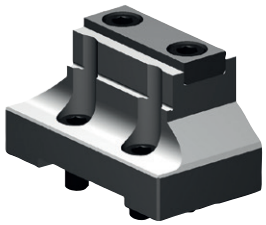


Stepped reversible jaws, narrow for interchangeable use

- Height including interchangeable insert
- l4 = clamping depth including interchangeable insert

Designation	Length x width x height mm	l4 mm	art.no.	€
for MCP 60	56 x 35 x 34	4	457124 0060	194,50
for MCP 100	59 x 65 x 50	4	457124 0100	265,–
for MCP 125	91 x 80 x 66	4	457124 0125	254,–

4207



Interchangeable inserts grip/smooth

- for workpiece material e.g. C45, 20 Mn Cr 5, 31 Cr Mo V9

Designation	Jaw width mm	art.no.	€
for MCP 60	35	457125 0060	83,90
for MCP 60	60	457125 1060	81,–
for MCP 100	65	457125 0100	91,–
for MCP 100	100	457125 1100	87,70
for MCP 125	80	457125 0125	105,–
for MCP 125	125	457125 1125	99,20

4207



Block jaw soft

- l = max. milling depth

Designation	Length x width x height mm	l mm	art.no.	€
for MCP 60	42 x 60 x 25	8	457126 0060	62,60
for MCP 100	64 x 100 x 35	18	457126 0100	113,–
for MCP 125	88 x 125 x 55	32	457126 0125	168,50

4207



Clamping jaw set

Designation	Suitable for thread	art.no.	€
for MCP 60	M10	457127 1012	95,40
for MCP 60	M12	457127 1212	100,50
for MCP 100	M12	457127 1224	115,–
for MCP 125	M12	457127 1227	116,–
for MCP 125	M16	457127 1627	117,–

4207



ATORN 5-axis compact clamp

- Body made from ductile iron, GJS 600
- Guideways hardened and ground
- Clamping force 40 kN at 110 Nm
- Patented quick adjustment of the clamping width
- Enclosed spindle
- Secure holding forces due to re-tensioning spring package
- Supplied without crank or torque wrench
- **Suitable torque wrench: article no. 702602 0004 (to be used without sockets)**



Illustration shows Art. No. 459500 0125, 459501 0003, 459501 0004 and 459501 0005



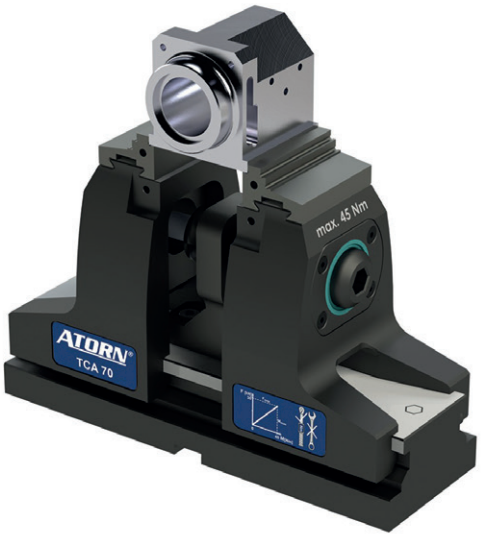
Base body incl. clamping claws

Length x width x height mm	Clamp force kN	Weight kg	art.no.	€
250 x 126 x 100	40	23	459500 0125	2.040,–

4172

ATORN 5-axis clamping system *TCA70*

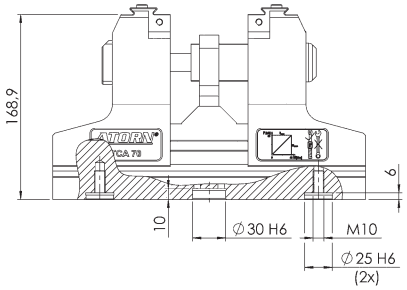
With central clamp for 5-sided machining. Thanks to the design and central telescopic spindles, the protruding contours remain unchanged regardless of the clamp width. Excellent accessibility of all sides is guaranteed. The series-standard quick-change jaw system reduces tooling times and increases flexibility.

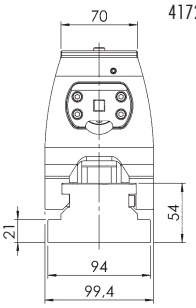


- Ideal for use on 5-axis machining centres
- Conventional clamping and grip clamping possible
- Telescopic spindle, protruding contour remains unchanged
- Central, simple programming without zero offset
- Material allowance is distributed symmetrically
- Repetition precision 0.01 mm
- Centring accuracy 0.02 mm
- Workpiece accessibility irrespective of the clamp width
- Symmetrical design = workpiece remains central and parallel
- Workpiece support height = 192 mm
- Quick-change jaw system, tool-free jaw changing thanks to quick-release lock
- Reversible jaws: for min. / max. clamp width with one pair of jaws
- Constant clamp force thanks to low-maintenance telescopic spindle
- Supplied as standard with locating bores for zero-point clamping system, pitch 200 mm
- Work table attachment also with through-bolts / fitting screws
- In 50 / 63 mm grid or clamping claws
- Integrated scale ring for fine adjustment of the central position
- Clamp force 30 kN at 45 Nm linear
- Operation with torque wrenches
- **Supplied with**
  1 ATORN TCA70 without jaws
  1 support plate for transportation
  1 hand crank for pre-setting
  Please order clamping jaws separately

Jaw width mm	Height mm	Clamp force kN	Weight kg	L mm	art.no.	€
70	169	30	21,0	286	459700 2070	3.520,–
100	169	30	24,5	351	459700 1100	3.700,–
125	179	40	35,0	398	459700 1125	4.340,–

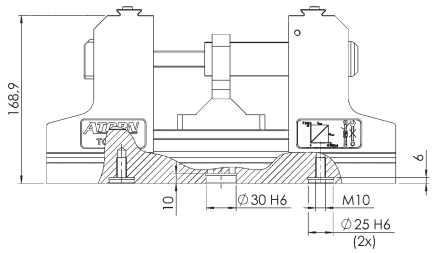
4172

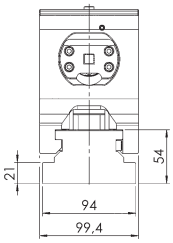






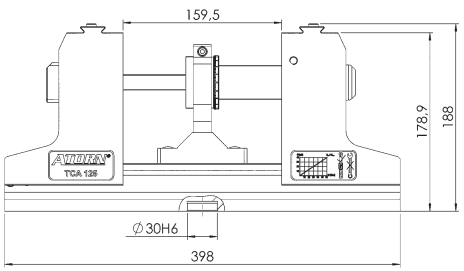
459700 2070

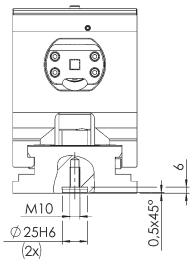






459700 1100







459700 1125

ATORN Accessories for 5-axis clamping system *TCA70*

Clamp width adapter

- Suitable for TCA70-M
- Clamp width reduction from 9 mm
- Made from case-hardened steel (burnished)

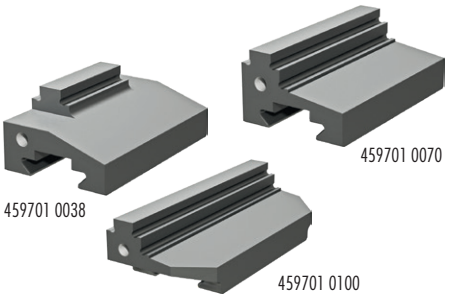


suitable for	art.no.	€
	459715 0070	275,–
	459715 0100	300,–
	459715 0125	300,–

4172

Stepped jaws, carbide-coated

- For clamping workpieces to be machined in parallel
- Clamping surfaces (step) with additional carbide coating to guarantee secure clamping
- Price per unit
- **Clamp width**
  Type 70K 9-135 mm
  Type 70M 42-200 mm

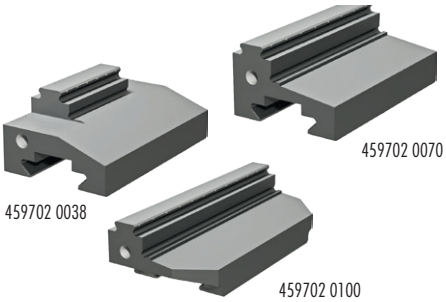


Jaw width mm	suitable for	art.no.	€
38		459701 0038	452,–
70		459701 0070	496,–
100		459701 0100	530,–
100		459701 1100	386,–
125		459701 2125	373,–

4172

Grip jaws

- Minimal lost clamping edge of 4 mm
- Positive form fitting through the penetration of the pointed tips into the material without pre-shaping
- Integrated grip row, thus rigid vibration-resistant construction particularly in upright parts
- Additional clamping surfaces, ground on both sides
- Suitable for material strength up to 1000 N/mm²
- Price per unit
- **Clamp width**
  Type 70K 9-134 mm
  Type 70M 42-199 mm



Jaw width mm	suitable for	Design	art.no.	€
38		fine teeth	459702 0038	386,–
70		fine teeth	459702 0070	380,–
100		fine teeth	459702 0100	520,–
100			459702 1100	290,–
125			459702 2125	272,–
125			459702 3125	272,–

4172

V-block jaws

- For the horizontal and vertical clamping of round and flat workpieces
- Price per unit
- **Clamp width**
  Type 70K horizontal Ø 10 mm - Ø 40 mm; vertical Ø 16 mm - Ø 80 mm
  Type 70M horizontal Ø 10 mm - Ø 40 mm; vertical Ø 47 mm - Ø 110 mm

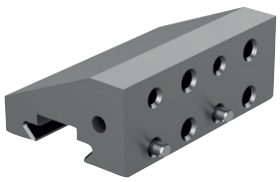


Jaw width mm	art.no.	€
70	459703 0070	699,–

4172

Zero jaw

- Clamping of parallel, pre-machined workpieces
- Clamp width 0 - 69 mm
- Cylindrical pins as support surface; setting at heights of 176 mm and 191 mm possible
- Minimal clamping edge: 20 mm for height 176 mm, 5 mm for height 191 mm
- Material: case-hardened steel
- Includes 4 cylindrical pins 4x10 DIN EN ISO 8734
- Price per unit



Jaw width mm	Weight kg	art.no.	€
70	0.6	459705 0070	449,–

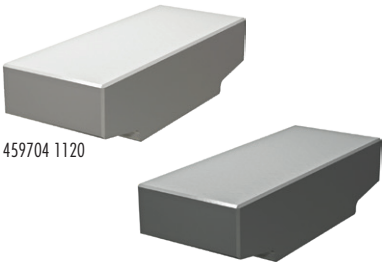
4172

Soft jaws

- Material: case-hardened steel or aluminium
- For self-assembly of special jaws
- Maximum machining depth: 15 mm
- Price per unit
- **Clamp width**
  Type 70K 0 mm - 70 mm
  Type 70M 34 mm - 135 mm

Jaw width mm	Material	Weight kg	art.no.	€
120	Steel	1.2	459704 0120	234,–
120	Aluminium	0.4	459704 1120	234,–

4172



459704 1120

459704 0120

Supporting jaw for grip inserts

- Clamping of raw parts, misshapen and round workpieces
- Suitable for mounting various grip inserts (pointed/smooth)
- Material: case-hardened steel
- Price per unit

Jaw width mm	Weight kg	art.no.	€
120	0.5	459706 0120	340,–

4172



Grip insert for supporting jaw

- for clamping raw parts
- also firmly holds soft materials with lower clamp force
- linear impression in the material ensures less deformation in soft materials
- lost clamping edge: adjustable from 3.7 to 5.2mm
- Grip height: adjustable from 2.6 to 4.1mm
- for tools with ≤ 0.2mm / 100mm parallelism
- grip inserts suitable for materials up to approx. 1000N/mm² strength

D mm	Height mm	art.no.	€
16	8	459716 0001	63,–

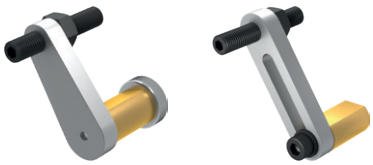
4172



Workpiece stop

Design	art.no.	€
Magnetic	459713 0002	72,–
Mechanical	459713 0001	65,–

4172



459713 0002

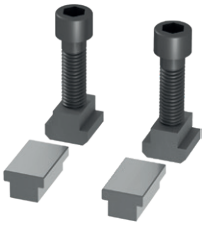
459713 0001

Alignment and fastening set for bottom section

- For alignment (positioning) and attachment of the clamp lower section to pallet and work table
- Price per set = 2 pieces

Suitable for groove width mm	Thread diameter mm	art.no.	€
14	M12	459720 1412	126,–
16	M12	459720 1612	172,–
18	M12	459720 1812	124,–

4172



Alignment and fastening set for T-slot

- For attachment to pallet and work table with clamping claws

Suitable for groove width	Thread diameter mm	art.no.	€
12	M10	459710 1210	222,–
14	M12	459710 1412	170,–
16	M14	459710 1614	220,–
18	M16	459710 1816	172,–
22	M16	459710 2216	308,–

4172



Clamping claws

- For attaching the clamp to the work table
- Price per set = 2 pieces

Suitable for thread	suitable for	art.no.	€
M12-M16		459711 0001	57,–
M12-M16		459711 0002	45,80

4172



ATORN 5-axis clamp AVM-125

The ATORN-AVM 125 is a manually mechanically actuated component clamp without power transmission for clamping workpieces made of all conventional materials.
It is designed as a 5-axis clamp with a fixed and a movable jaw.
The fixed jaw can be adjusted and clamped using a clamping screw and offers optimal accessibility and flexible application options.
These properties facilitate the precise transfer of machine accuracy to the workpiece.

- Manual workpiece clamp for 5-axis machining
- Large clamping range of up to 195 mm for machining workpieces of various sizes and geometries
- High accuracy transfer from the machine to the workpiece
- Good accessibility (low interference contour)
- Easy handling and cleaning
- Bearing-supported spindle for clamping force generation
- High clamping force (40kN at 100Nm tightening torque)
- Central clamping screw for loosening and locking of the fixed base jaw on the base rail
- Base body with scale for adjustment and pre-positioning of the fixed base jaw
- Quick clamping range adjustment through jaw quick-change system reduces set-up times



5-axis clamp AVM-125

- Supplied without clamping jaws

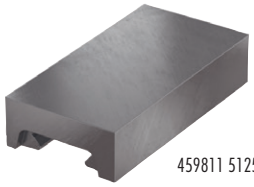
Jaw width mm	Length x height	Groove width mm	Clamp force kN	Weight kg	art.no.	€
125	345 x 152 mm without jaws	20	40	32 without top jaws	459810 0125	3.189,–

4197

Jaw sets

Jaw width mm	Step height mm	Jaw height mm	Designation	art.no.	€
125	3 with claws	26	Grip/smooth	459811 3125	689,–
125	5 with claws	28	Grip/smooth	459811 5125	689,–
125	3 with claws	28	Grip/smooth	459811 3040	689,–
125	3 with claws	28	Grip/smooth	459811 3060	689,–
125	3 with claws	28	Grip/smooth	459811 3080	689,–
125	-	32	Raw part/steel	459811 1125	298,–

4197


459811 5125


459811 3125 | 459811 3040 | 459811 1125 | 459811 3060 | 459811 3080

Slot nut sets for AVM-125

Designation	art.no.	€
Sliding block set 20 x 12	459812 2012	39,90
Sliding block set 20 x 14	459812 2014	42,80
Sliding block set 20 x 16	459812 2016	45,60
Sliding block set 20 x 18	459812 2018	48,70
Sliding block set 20 x 20	459812 2020	51,90
Sliding block set 20 x 22	459812 2022	54,60

4197



Clamping jaws for AVM-125

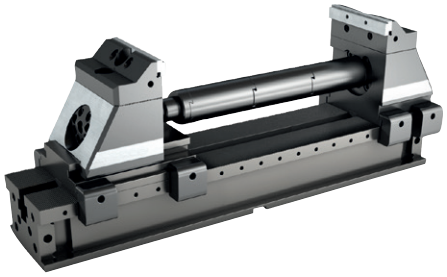
Designation	art.no.	€
Clamping jaw groove 12 mm (M10)	459813 1210	44,30
Clamping jaw groove 14 mm (M12)	459813 1412	47,40
Clamping jaw groove 16 mm (M12)	459813 1612	47,40
Clamping jaw groove 18 mm (M16)	459813 1816	53,–
Clamping jaw groove 20 mm (M16)	459813 2016	53,–

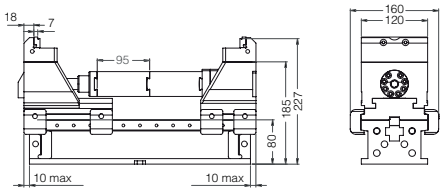
4197



ATORN 5-axis slide rail set 120 mm

- For stable, low-vibration machining
- 40 kN clamping force at 85 Nm tightening torque
- Form-fit jaw connection
- Coated spindle and spindle nut
- Spindle can be extended without tools
- Extendable to all required lengths (extensions included)
- Retooling in seconds
- Extensive range of accessories and jaws

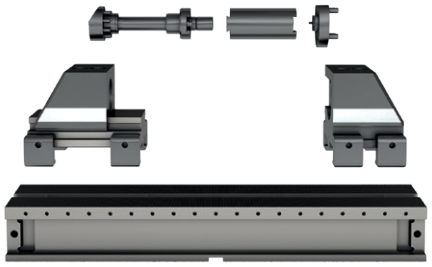




Slide rail set 120 mm, without jaws

Length x width mm	Clamping width mm	Extensions mm	art.no.	€
300 x 120	0-270	1	464100 1230	2.699,–
400 x 120	0-370	2	464100 1240	2.840,–
500 x 120	0-470	3	464100 1250	3.260,–
600 x 120	0-570	4	464100 1260	3.780,–

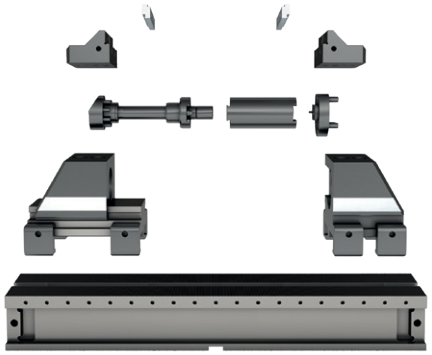
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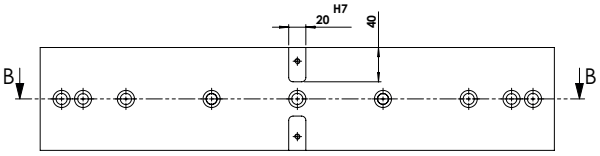


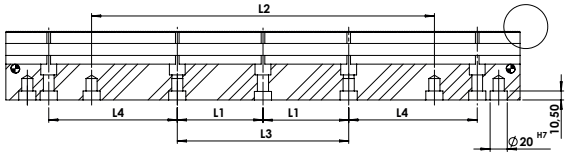
Slide rail set 120 mm, with jaws

Length x width mm	Clamping width mm	Extensions mm	art.no.	€
300 x 120	0-270	1	464101 1230	3.499,–
400 x 120	0-370	2	464101 1240	3.660,–
500 x 120	0-470	3	464101 1250	4.060,–
600 x 120	0-570	4	464101 1260	4.580,–

4197



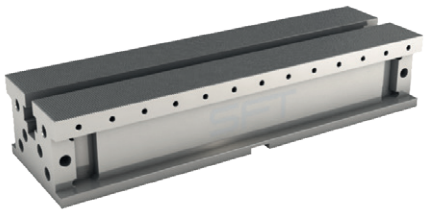


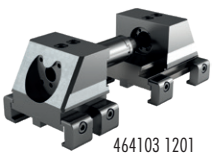


Slide rail 120 mm wide 80 mm high without body

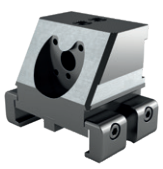
Length x width x height mm	Drilling clearance mm	for thread	art.no.	€
200 x 120 x 80	L3 = 100	M16	464102 1220	940,–
300 x 120 x 80	L1 = 100	M16	464102 1230	1.060,–
400 x 120 x 80	L1 = 150	M16	464102 1240	1.240,–
500 x 120 x 80	L1 = 200	M16	464102 1250	1.640,–
600 x 120 x 80	L2 = 400 / L3 = 250 / L4 = 400	M16	464102 1260	1.999,–

4197





464103 1201



464103 1202



464103 1203



464103 1204



464103 1205

Accessories for 5-axis body

Designation	art.no.	€
5-axis body for slide rails, complete	464103 1201	1.799,–
Fixed base block	464103 1202	610,–
Base block clamping unit (moving jaws)	464103 1203	820,–
Spindle, complete	464103 1204	360,–
Spindle extension	464103 1205	106,–

4197

Clamping jaws for 5-axis body

• Price per unit

Designation	art.no.	€
Standard jaws 120 mm wide for clamping width 120 mm	464104 1201	284,–
Standard jaws 120 mm wide for clamping width 60 mm	464104 1202	304,–
Jaws 120 mm wide for clamping large workpieces	464104 1203	372,–
Standard jaws (soft) 120 mm wide for clamping width 120 mm	464104 1204	206,–
Smooth jaws, clamping width 120 mm for parallel supports, Article No. 464107 12..	464104 1205	268,–
Smooth jaws, clamping width 60 mm for parallel supports, Article No. 464107 06..	464104 1206	292,–

4197


464104 1205


464104 1203


464104 1204


464104 1202


464104 1201

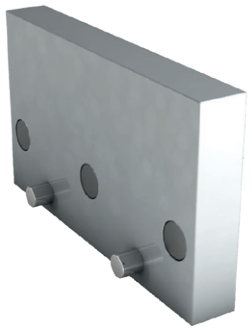

464104 1206

Parallel supports, ground

• Price per unit

Length x width x height mm	art.no.	€
60 x 8 x 12	464107 0612	70,–
60 x 8 x 17	464107 0617	70,–
60 x 8 x 25	464107 0625	70,–
60 x 8 x 30	464107 0630	70,–
60 x 8 x 35	464107 0635	70,–
60 x 8 x 40	464107 0644	57,–
120 x 8 x 12	464107 1212	70,–
120 x 8 x 17	464107 1217	70,–
120 x 8 x 25	464107 1225	70,–
120 x 8 x 30	464107 1230	70,–
120 x 8 x 35	464107 1235	70,–
120 x 8 x 40	464107 1244	62,–

4197



Pendulum jaws with accessories for 5-axis body

• Price per unit

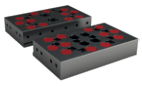
Designation	Length x width x height mm	D mm	art.no.	€
Base jaws set with rotary plate for Flex clamping jaws	150 x 90 x 30	-	464105 1501	1.240,–
Flex clamping jaw, smooth	-	18	464105 1502	52,–
Flex clamping jaw with claws	-	18	464105 1503	69,–
Flex clamping jaw with carbide gripper	-	18	464105 1504	75,–
Standard swivel jaws with rotary table	120 x 68 x 44.4	-	464105 1202	510,–
Swivel jaws with rotary plate for large workpieces	120 x 68 x 44.4	-	464105 1201	510,–

4197


464105 1502


464105 1503


464105 1504


464105 1501


464105 1201


464105 1202

Screw-in jaws for clamping jaws

• Price per unit

Designation	art.no.	€
Soft screw-in jaws 120 mm	464106 0001	67,–
Soft screw-in jaws 60 mm	464106 0002	62,–
Screw-in jaws with claw and steps 3 mm and 5 mm 120 x 19 x 11	464106 0003	156,–
Screw-in jaws with claw and steps 3 mm and 5 mm 60 x 19 x 11	464106 0004	148,–
Screw-in jaws with steps 3 mm and 5 mm 120 x 19 x 11	464106 0005	136,–
Screw-in jaws with steps 3 mm and 5 mm 60 x 19 x 11	464106 0006	132,–
Combi screw-in jaws 120 mm (step 1 smooth with claws, step 2 smooth)	464106 0007	156,–
Combi screw-in jaws 60 mm (step 1 smooth with claws, step 2 smooth)	464106 0008	144,–

4197


464106 0001


464106 0002


464106 0003


464106 0004


464106 0005

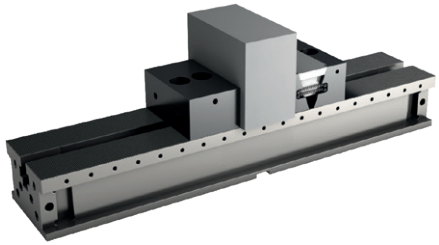

464106 0006


464106 0007


464106 0008

ATORN Modular multi-clamping fixture 120 mm

- Extremely high basic rigidity
- Clamp force 40 kN
- Compatible with 50 mm and 80 mm slide rails
- All standard wedge clamps and jaws suitable
- Extendable to all required lengths



With smooth clamping surface

- Supplied with: 1x slide rail, 1x fixed jaw, 1x wedge clamp with fixed jaws

Length x width x height mm	art.no.	€
200 x 120 x 80	464108 1220	1.499,–
300 x 120 x 80	464108 1230	1.620,–
400 x 120 x 80	464108 1240	1.760,–
500 x 120 x 80	464108 1250	2.160,–
600 x 120 x 80	464108 1260	2.520,–

4197

With 3 mm step and claw

- Supplied with: 1x slide rail, 1x fixed jaw, 1x wedge clamp with fixed jaws

Length x width x height mm	art.no.	€
200 x 120 x 80	464109 1220	1.620,–
300 x 120 x 80	464109 1230	1.720,–
400 x 120 x 80	464109 1240	1.899,–
500 x 120 x 80	464109 1250	2.260,–
600 x 120 x 80	464109 1260	2.620,–

4197

Grooved design

- Supplied with: 1x slide rail, 1x fixed jaw, 1x wedge clamp with fixed jaws

Length x width x height mm	art.no.	€
200 x 120 x 80	464110 1220	1.620,–
300 x 120 x 80	464110 1230	1.720,–
400 x 120 x 80	464110 1240	1.880,–
500 x 120 x 80	464110 1250	2.260,–
600 x 120 x 80	464110 1260	2.620,–

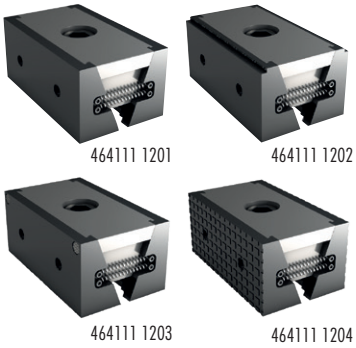
4197

Wedge clamp 120 mm

- For use with 50 mm and 80 mm slide rails, a slot nut art.no. 4640100009, a screw bushing art.no. 4640100012 and a screw M12 must be used

Type	Jaw width mm	Height mm	Max. height	Min. length mm	Max. length mm	for thread	Clamp force daN	art.no.	€
Smooth	120	54	65	66	78	M16	4000	464111 1201	394,–
3 mm step and claw	120	54	65	66	78	M16	4000	464111 1202	454,–
Smooth with carbide gripper	120	54	65	66	78	M16	4000	464111 1203	498,–
Squared	120	54	65	66	78	M16	4000	464111 1204	449,–

4197



464111 1201 464111 1202 464111 1203 464111 1204

Wedge clamp with fixed jaw 120 mm

- For use with 50 mm and 80 mm slide rails, 2x slot nut art.no. 4640100009, 2x screw bushing art.no. 4640100012 and 2x screw M12 must be used

Type	Jaw width mm	Height mm	Max. height	Min. length mm	Max. length mm	for thread	Clamp force daN	art.no.	€
Smooth	120	54	62	85	97	M16	4000	464112 1201	394,–
With 3 mm step and claw	120	54	62	85	97	M16	4000	464112 1202	454,–
With carbide gripper	120	54	62	85	97	M16	4000	464112 1203	498,–
Squared	120	54	62	85	97	M16	4000	464112 1204	449,–

4197



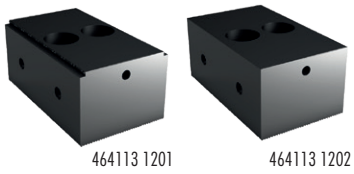
464112 1201 464112 1202 464112 1203 464112 1204

Fixed jaw 120 mm

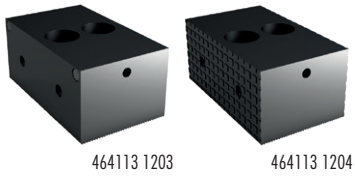
- For use with 50 mm and 80 mm slide rails, 2x slot nut art.no. 4640100009, 2x screw bushing art.no. 4640100012 and 2x screw M12 must be used

Type	Jaw width mm	Length x height	for thread	art.no.	€
Smooth	120	72 x 54 mm	M16	464113 1201	222,–
With 3 mm step and claw	120	72 x 54 mm	M16	464113 1202	246,–
With carbide gripper	120	72 x 54 mm	M16	464113 1203	258,–
Squared	120	72 x 54 mm	M16	464113 1204	254,–

4197



464113 1201 464113 1202



464113 1203 464113 1204

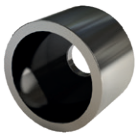
Accessories for clamping rail 120 mm

Designation	art.no.	€
Clamping jaw set 40 mm for screw M16 (1 PK = 4 pcs.)	464010 0007	104,–
Slot nut, short M8	464010 0008	8,70
Slot nut, long M12	464010 0011	9,20
Screw bushing reduction from M16 to M12	464010 0012	14,40
Adapter set for slide rails extension	464010 0013	206,–

4197



464010 0007



464010 0012

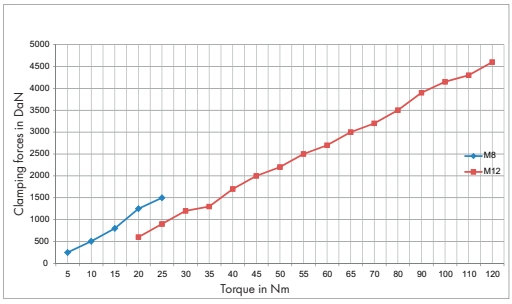
ATORN Modular multi-clamping fixture

- Quick and precise workpiece clamping on vertical and horizontal machining centres, milling and grinding machines
- Standard clamping device for different workpieces
- Wedge clamps of various sizes can be used
- Allows different workpieces to be clamped in extremely confined spaces
- Multiple slide rails combined by means of a connection system, optimum length adjustment to the work table
- **Tombstones available on request**
- **60° toothing**



Particular benefits:

- Perform numerous clamping tasks with one clamping system
- Can also be used on ATORN zero-point clamping systems
- All system components are compatible
- Easy-to-install stop system
- Cost-effective clamping system



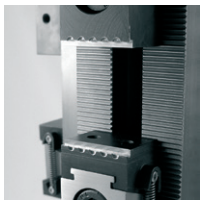


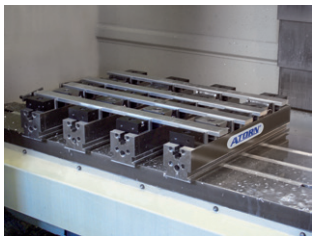
Multi-clamping slide rail sets

- Rail-mounted clamping elements
- Other combinations available on request

Length x width x height mm	Contents	art.no.	€
200 x 50 x 80	1x slide rail, 2x smooth fixed jaws, 1x smooth wedge clamp	464001 2050	1.120,–
200 x 80 x 80	1x slide rail, 2x smooth fixed jaws, 1x smooth wedge clamp	464001 2080	1.360,–
300 x 50 x 80	1x slide rail, 3x smooth fixed jaws, 2x smooth wedge clamps	464001 3050	1.499,–
300 x 80 x 80	1x slide rail, 3x smooth fixed jaws, 2x smooth wedge clamps	464001 3080	1.820,–
400 x 50 x 80	1x slide rail, 3x smooth fixed jaws, 2x smooth wedge clamps	464001 4050	1.580,–
400 x 80 x 80	1x slide rail, 3x smooth fixed jaws, 2x smooth wedge clamps	464001 4080	1.920,–
500 x 50 x 80	1x slide rail, 3x smooth fixed jaws, 2x smooth wedge clamps	464001 5050	1.899,–
500 x 80 x 80	1x slide rail, 3x smooth fixed jaws, 2x smooth wedge clamps	464001 5080	2.199,–

4195

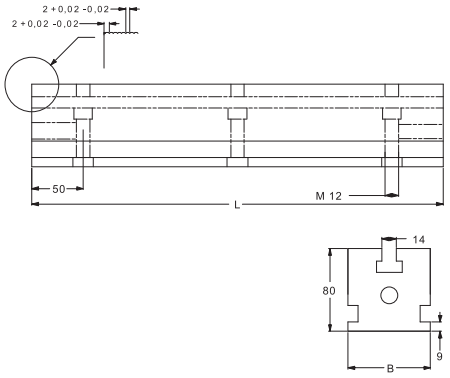




Multi-clamping slide rails, individual

Length x width x height mm	Number of holes	art.no.	€
200 x 50 x 80	2	464002 2050	780,–
200 x 80 x 80	2	464002 2080	830,–
300 x 50 x 80	3	464002 3050	830,–
300 x 80 x 80	3	464002 3080	910,–
400 x 50 x 80	3	464002 4050	920,–
400 x 80 x 80	3	464002 4080	1.020,–
500 x 50 x 80	3	464002 5050	1.280,–
500 x 80 x 80	3	464002 5080	1.360,–

4195

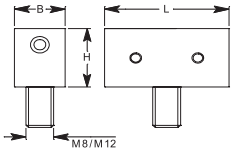


Fixed jaws

- Includes slot nut and screw

Jaw width mm	Jaws thickness mm	Jaw height mm	for thread	Smooth art.no.	Smooth €	Serrated art.no.	Serrated €	With claw fasteners art.no.	With claw fasteners €
22	22	54	M8	464003 2215	51,–	464004 2215	80,–	464005 2215	75,–
32	22	54	M8	464003 3215	53,–	464004 3215	82,–	464005 3215	76,–
42	22	54	M8	464003 4215	55,–	464004 4215	83,–	464005 4215	79,–
30	42	54	M12	464003 3022	110,–	464004 3022	149,–	464005 3022	136,–
40	42	54	M12	464003 4022	112,–	464004 4022	152,–	464005 4022	136,–
50	42	54	M12	464003 4229	128,–	464004 4229	168,–	464005 4229	152,–
42	42	54	M12	464003 5022	112,–	464004 5022	156,–	464005 5022	138,–
57	42	54	M12	464003 5729	132,–	464004 5729	176,–	464005 5729	156,–
72	42	29	M12	464003 7229	136,–	464004 7229	178,–	464005 7229	160,–
				4195		4195		4195	







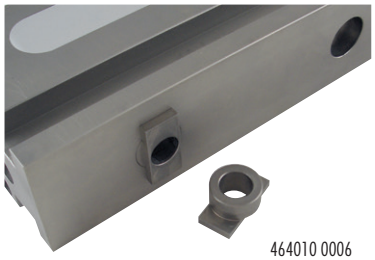
464010 0002



464010 0003



464010 0004



464010 0006

Accessories

- Price per pack

Designation	art.no.	€
2 x adjustable limit stop	464010 0002	66,–
Fixed limit stop	464010 0003	30,20
Clamping jaws	464010 0004	104,–
Positioning socket 20 x 14 mm	464010 0005	33,40
Positioning bush 20 x 18 mm	464010 0006	33,40

4195



Wedge clamp

- Includes slot nut and screw
- 464008.... with M8 thread = 3 mm allowance per side
- 464008.... with M12 thread = 5 mm allowance per side
- except 464007 all jaws are including thread in the clamping surface
- Jaw width refers to the clamping surface

Jaw width mm	Jaw height mm	Min. length mm	Max. length mm	Lift height mm	for thread	Clamp force kN	Smooth art.no.	Smooth €	Serrated art.no.	Serrated €	With allowance art.no.	With allowance €	With claw fasteners art.no.	With claw fasteners €
22	15	27.5	33	5	M8	15	464006 3015	104,–	464007 3015	110,–	464008 3015	110,–	464009 3015	132,–
32	15	27.5	33	5	M8	15	464006 4015	124,–		88,–	464008 4015	132,–	464009 4015	146,–
42	15	27.5	33	5	M8	15	464006 5015	146,–	464007 5015	152,–	464008 5015	152,–	464009 5015	166,–
30	22	28	46.5	7	M12	45	464006 4022	156,–	464007 4022	164,–	464008 4022	164,–	464009 4022	182,–
40	22	38	46.5	7	M12	45	464006 5022	170,–	464007 5022	178,–	464008 5022	178,–	464009 5022	196,–
50	22	38	46.5	7	M12	45	464006 6022	198,–	464007 6022	206,–	464008 6022	206,–	464009 6022	220,–
42	29	46.5	59.5	11	M12	45	464006 5429	206,–	464007 5429	214,–	464008 5429	214,–	464009 5429	236,–
57	29	46.5	59.5	11	M12	45	464006 6929	226,–	464007 6929	240,–	464008 6929	240,–	464009 6929	256,–
72	29	46.5	59.5	11	M12	45	464006 8429	299,–	464007 8429	314,–	464008 8429	314,–	464009 8429	322,–
							4195		4195		4195		4195	

ATORN Aluminium multi-clamping device set

The **ATORN aluminium slide rail** offers a reduction in weight of 55% compared to the steel version.
At the same time, the basic rigidity is maintained and system flexibility is not limited.
The rail is designed for low weight, compatibility with existing clamping components and straightforward handling.

Features of the aluminium slide rail:

- Very good basic rigidity for stable clamping
- Flexible use in single and multiple clamping systems
- Compatibility with all standard clamping wedges and clamping jaws
- Preparation for automation already integrated
- Modular extension to various lengths
- Can be used with standard clamping adapters with a pitch of 200 mm

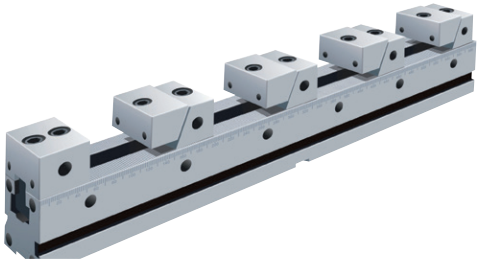


Length x width x height mm	Contents	art.no.	€
300 x 80 x 80		464309 8030	1.559,–

4195

SARA Modular multi-clamping fixture

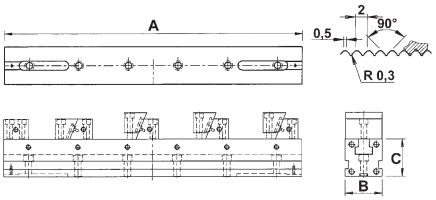
- Mechanical clamping fixture with a modular design
- Accuracy within 0.02 mm
- Base body made from hardened steel, 60 HRC
- Depending on clamping rail length, fully equipped for clamping four workpieces
- Clamping jaws are 1 mm narrower than the base body, allowing lateral use of the clamp
- Also available with stepped jaws on request, prismatic jaws available as accessories
- **Supplied** with four tool stops, clamping claws, slot nuts, alignment blocks, lifting screws and a clamping key, one fixed jaw and four intermediate jaws



Slide rail, width 50 mm

Clamping rail length mm	Clamping rail width mm	Clamping rail height mm	art.no.	€
300	50	50	460250 0300	1.419,–
400	50	50	460250 0400	1.529,–
500	50	50	460250 0500	1.679,–
600	50	50	460250 0600	1.829,–

4148



Slide rail, width 75 mm

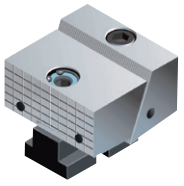
Clamping rail length mm	Clamping rail width mm	Clamping rail height mm	art.no.	€
400	75	75	460275 0400	1.859,–
500	75	75	460275 0500	1.989,–
700	75	75	460275 0700	2.279,–

4148

Movable jaw - grooved

Length x width x height mm	art.no.	€
55/58 x 49 x 25	460282 0050	185,–
70/75 x 74 x 40	460282 0075	215,–

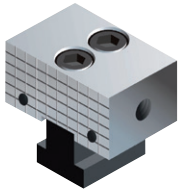
4148



Fixed jaw

Length x width x height mm	art.no.	€
38 x 49 x 25	460281 0050	109,–
50 x 74 x 40	460281 0075	128,50

4148



Movable jaw - smooth

Length x width x height mm	art.no.	€
55/58 x 49 x 25	460280 0050	183,–
70/75 x 74 x 40	460280 0075	208,–

4148



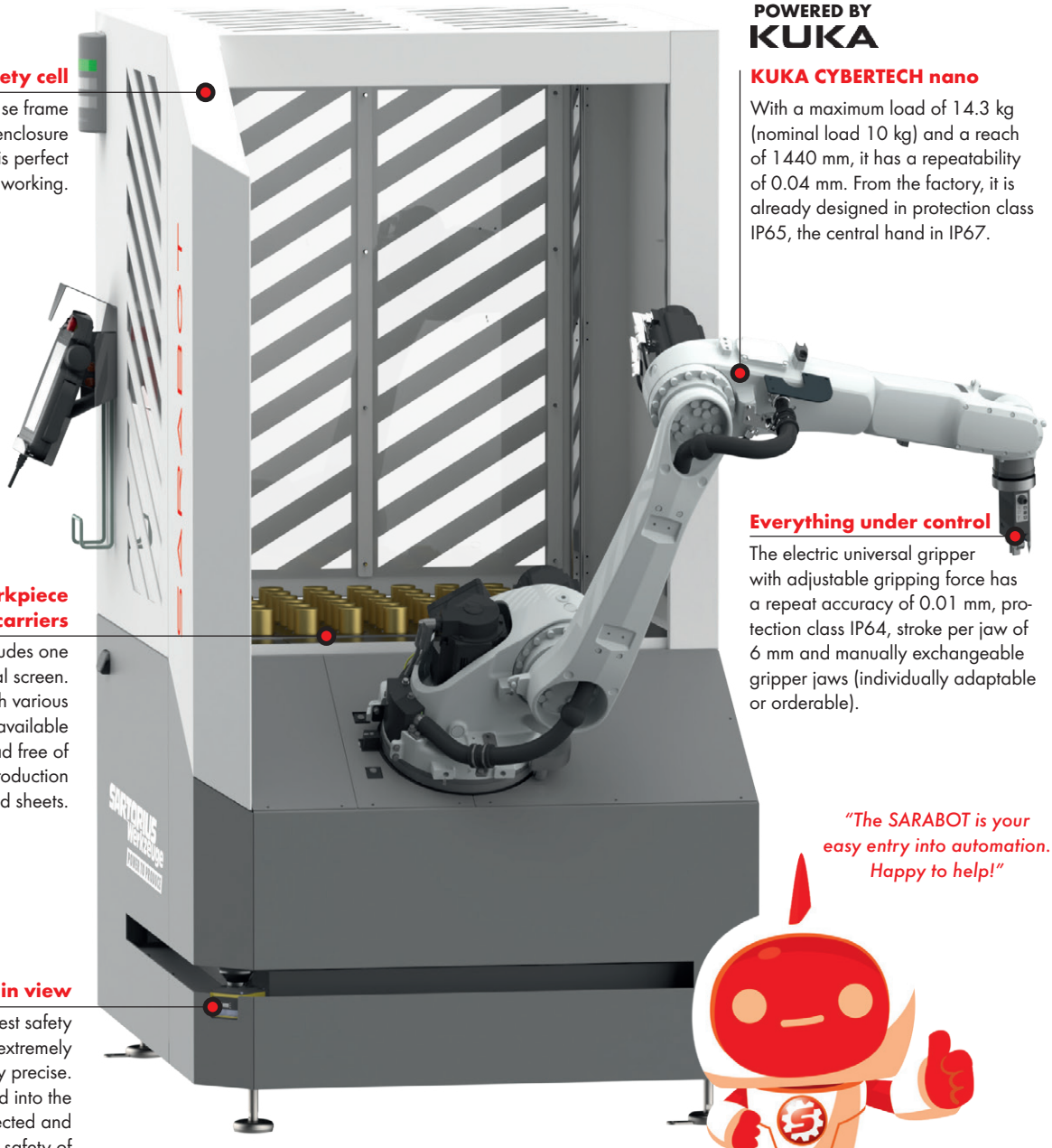
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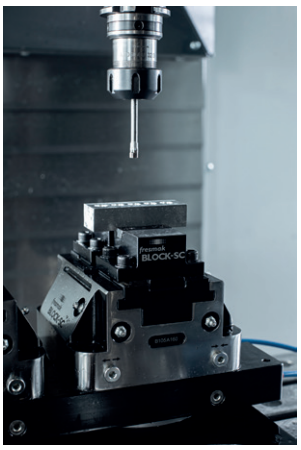
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Power clamping block *BLOCK-SC* pneumatic and hydraulic

The BLOCK-SC create the best conditions for the automated clamping of workpieces in small or medium-sized machining centres. Optimised for use in multi-axis machines. Workpieces can be machined from all sides with short tools. Their design allows positioning with minimal intermediate distance and thus optimal use of the machine table. The BLOCK-SC power clamping blocks combine clamping force with a long automatic advance and return stroke for easy workpiece changes in automation. The BLOCK-SC guarantees a wide range of problem-free clamping operations with maximum precision and repeat accuracy.





- 6 and 8 mm stroke
- Long guides and with hardened basic components
- Basic surfaces are ground
- Compact design and fully protected against chips
- Total lubrication system. Greasing channels within the base jaw and base body
- Oil or air can be supplied for actuation and lubrication both laterally and through the base plate
- **Double effect actioning**
- **Supplied without jaws, including 2 fixing pins and 4 fastening screws**

Power clamping block BLOCK-SC hydr.

- 40 kN clamping force at 120 bar oil pressure
- Serration 1.5 x 60°
- All dimensions without jaws

Length x width x height mm	Repetition precision µm	Jaw lift distance mm	Weight kg	art.no.	€
100 x 100 x 74.2	10	6	5	459916 1100	2.089,–
160 x 160 x 89.2	20	8	14	459916 1160	2.719,–

4195



Power clamping block BLOCK-SC pneum.

- 20 kN clamping force at 9 bar air pressure
- Serration 1.5 x 60°
- All dimensions without jaws

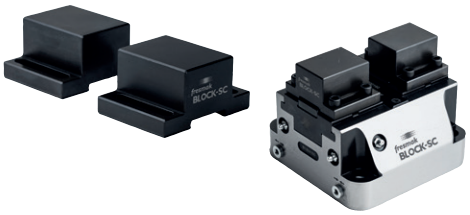
Length x width x height mm	Repetition precision µm	Jaw lift distance mm	Weight kg	art.no.	€
100 x 100 x 74.2	10	6	4.5	459915 1100	2.090,–
160 x 160 x 89.2	20	8	12.5	459915 1160	2.719,–

4195

Jaws for *BLOCK-SC*







Jaw set for BLOCK-SC

Designation	Length x width x height mm	art.no.	€
wide jaw for SC100	47 x 55 x 50	459917 1100	95,–
wide jaw for SC160	76 x 80 x 80	459917 1160	166,–
wide jaw with fixing pin for SC100	47 x 55 x 48	459917 2100	109,–
wide jaw with fixing pin for SC160	80 x 80 x 77.5	459917 2160	184,–
narrow jaw for SC100	42 x 24 x 16	459917 0100	95,–
narrow jaw for SC160	60 x 45 x 28	459917 0160	166,–

4195

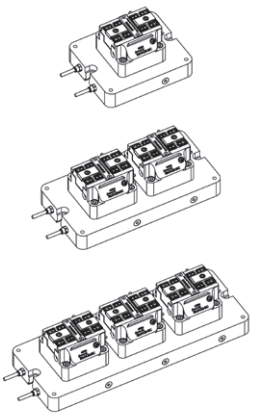
Base plate for *BLOCK-SC* pneumatic and hydraulic

The BLOCK-SC can be supplied for actuation both laterally and through the base plate.
If fed through the base plate, the BLOCK-SC must be attached to an intermediate plate.
This serves as a support for the clamping blocks and enables internal holes to be drilled for the oil supply or compressed air lines.
The base plates are intended for either one, two or three parallel BLOCK-SC (more on request).
This type of feed allows the insertion of a larger number of BLOCK-SC in a minimal space, which increases production output.



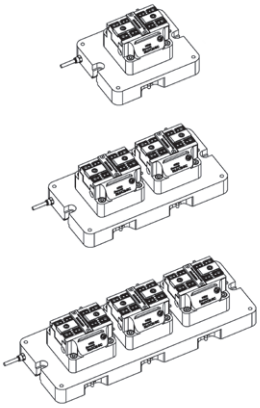
Base plate for BLOCK-SC hydraulic

Type	Length x width x height mm	Fresmak Arnold art.no.	€
for 1 Block-SC BB100	190 x 160 x 36	459918 1100	1.199,–
for 1 Block-SC BB160	240 x 160 x 36	459918 1160	1.319,–
for 2 Block-SC BB100	315 x 160 x 36	459918 2100	1.409,–
for 2 Block-SC BB160	420 x 160 x 36	459918 2160	1.525,–
for 3 Block-SC BB100	440 x 160 x 36	459918 3200	1.679,–
for 3 Block-SC BB160	600 x 160 x 36	459918 3160	1.819,–
		4195	



Base plate for BLOCK-SC pneumatic

Type	Length x width x height mm	art.no.	€
for 1 Block-SC BB100	190 x 160 x 36	459919 1100	1.485,–
for 1 Block-SC BB160	240 x 160 x 36	459919 1160	1.595,–
for 2 Block-SC BB100	315 x 160 x 36	459919 2100	1.820,–
for 2 Block-SC BB160	420 x 160 x 36	459919 2160	1.929,–
for 3 Block-SC BB100	440 x 160 x 36	459919 3100	2.150,–
for 3 Block-SC BB160	600 x 160 x 36	459919 3160	2.199,–
		4195	

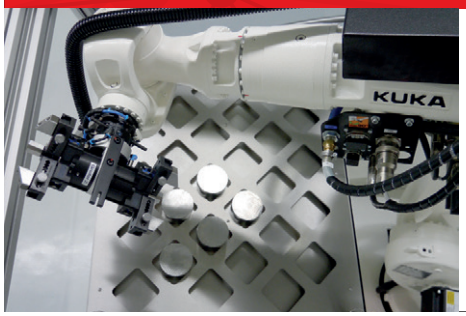


FLEXIBLE AUTOMATION FOR NC MANUFACTURING AND PRODUCTION

Automation solutions from single batch to series production

Are you looking for a flexible robotic cell to automate your NC manufacturing or production?
We are pleased to be your competent partner with comprehensive expertise and target-oriented ideas from the field of automation technology! Using our tried-and-tested modular system, we will be happy to create complex solutions for you to help you get ahead – even in day-to-day competition!

Please request further information or a consultation appointment!

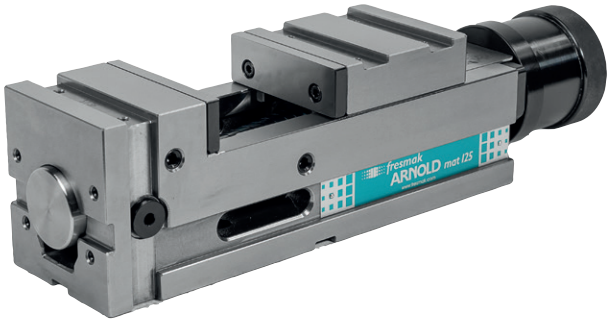






ARNOLD-Mat Pneumatic-hydraulic high-pressure clamp.

TIPS FOR USE
The air must be filtered (dry air).
Should control pedal be used, the set of valves supplied with the vice must be placed between the compressor and the pedal, not between the pedal and the vice.



ELEMENTS REQUIRED
Connection of the compressor to the vice.
Filter unit, gauge and lubricator of the air inlet.

- **Supplied by compressed air at 6 bars**
- Designed to automate processes and robotise them
- With pneumo-hydraulic high pressure single acting intensifier
- Supplied by compressed air at 6 bars
- Clamping force adjustable by the air pressure (see manual)
- 3 mm automatic stroke for closing and opening
- The vice operation may be manual (used with a valve unit sent with the vice) or by using a pedal situated near the machine or may be controlled by CNC by using a solenoid valve
- Supplied with
  Base body
  Pneumatic-hydraulic spindle
  Return valve
  1 set of smooth clamping jaws
  4 flanges

ARNOLD-Mat pneumatic-hydraulic

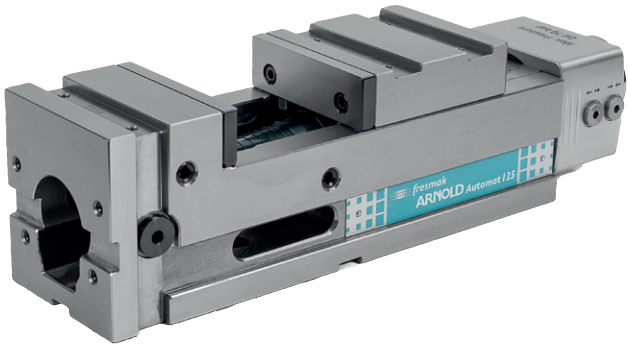
Jaw width mm	Jaw height mm	Base body length mm	Base body height mm	Max. length mm	Clamping range	Weight kg	Max. tension force kN	art.no.	€
90	40	300	75	446	0 - 208	16	25	459911 0090	3.329,–
125	40	410	100	552	0 - 336	35	40	459911 0125	3.629,–
160	50	570	110	719	0 - 474	70	50	459911 0160	4.739,–
200	63	570	110	719	0 - 469	93	50	459911 0200	5.259,–

4143

ARNOLD-MAT Automatic hydraulic high-pressure clamp

TIPS FOR USE
Should reverse clamping be needed, just place the spindle at the rear part of the fixed head, clamped by four screws.
Then rotate the spindle shoe and the moveable jaw.

ELEMENTS REQUIRED
Hydraulic unit or double effect 70 bar pneumo-hydraulic pump with vice unit connection hose, pressure control switch, safety valve integrated into the unit and ON-OFF switch and manometer.



- Designed to automate processes and robotise them
- Two clamping possibilities of the workpiece, either towards the fixed head or in reverse direction
- 4 mm automatic stroke for closing and opening
- Oil-dynamic, double-acting spindle
- Clamping force directly proportional to oil pressure input
- Supplied with
  Base body
  Automatic spindle
  1 set of smooth clamping jaws
  1 handle
  4 flanges

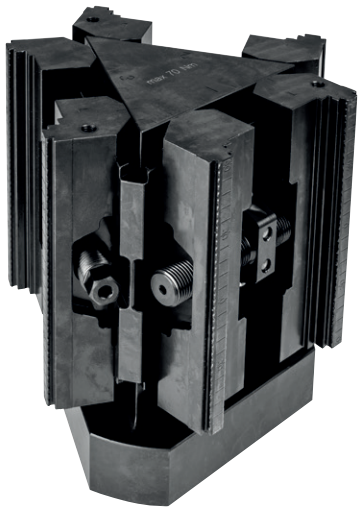
ARNOLD-Mat automatic hydraulic

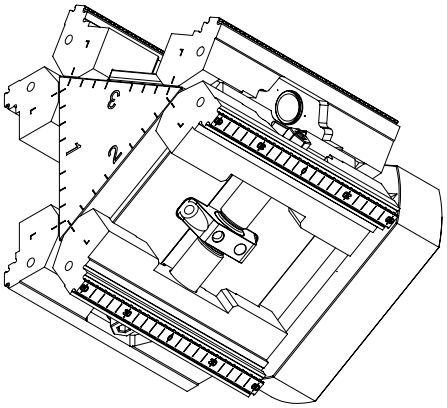
Jaw width mm	Jaw height mm	Base body length mm	Base body height mm	Max. length mm	Clamping range	Weight kg	Max. tension force kN	art.no.	€
125	40	410	100	515	0 - 322	35	40	459912 0125	3.649,–
160	50	570	110	675	0 - 456	70	50	459912 0160	4.829,–
200	63	570	110	675	0 - 456	93	50	459912 0200	5.359,–

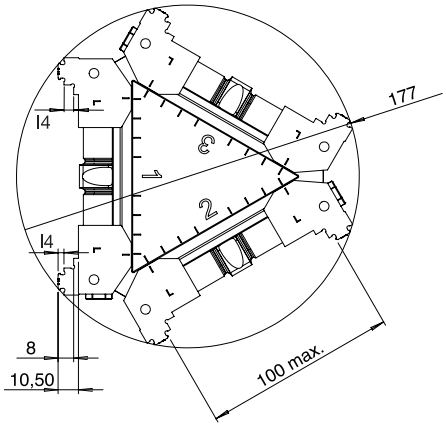
4143

ATORN 3-way clamping tower RS-T

- ultra-efficient, compact and space-saving
- high productivity thanks to considerably higher machine productivity during unmanned shifts
- fewer tool changes thanks to multiple set-ups
- max. parts size 100 x 100mm x variable length with a displacement circle of 350mm
- high efficiency
- prepared for ATORN ZPS K20 and Lang Quick Point 52
- **clamping jaws also suitable for embossing systems**
- **other adaptations for your machine tables available on request**



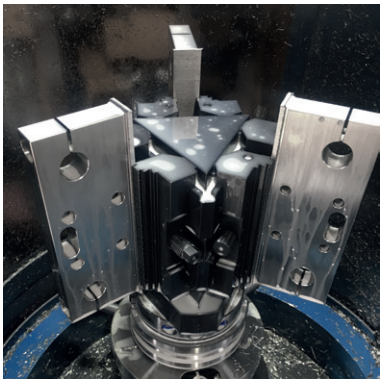


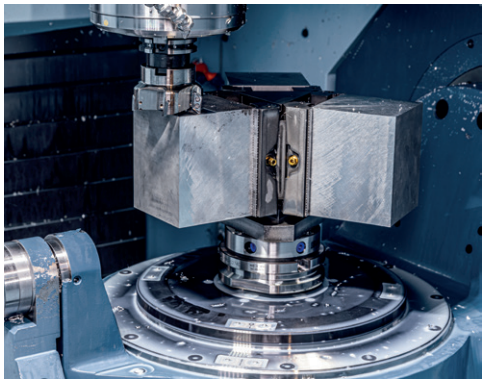


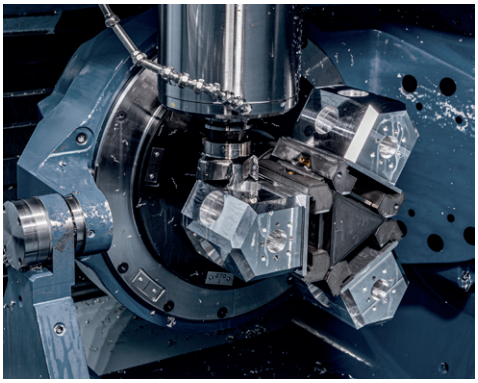
for ATORN ZPS K20 and Lang Quick Point 52

Jaw width mm	l4 mm	Clamping range	Total height mm	art.no.	€
125	3+5	8-100 mm	170	469100 0125	3.939,–

4197







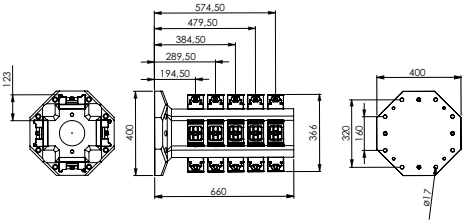
ATORN 20-way clamping tower *RS-T*

for NC machines and machining centres; to increase economic efficiency through fewer tool changes and shorter running times per workpiece

- Stable steel base body
- Functional surfaces hardened and ground
- Centric clamping through left-hand and right-hand thread of the spindle
- High repeat accuracy, compact and space-saving
- Max. parts size 100 x 100 mm x variable length with a displacement circle of 350 mm
- Fewer tool changes due to multiple clamping
- High productivity due to significantly higher utilisation of the machine with unmanned shift
- Prepared for ATORN ZPS K20, ATORN Easy Point and Lang Quick Point 52
- Clamping jaws also suitable for embossing systems
- **Other adaptations for your machine table available on request**
- **Delivery ex works, excluding packaging and without interchangeable pallet**

Delivery as in image but without jaws.





Includes centric clamping vice without jaws

Designation	Weight kg	art.no.	€
20-place clamping tower	290	459115 1660	18.349,–

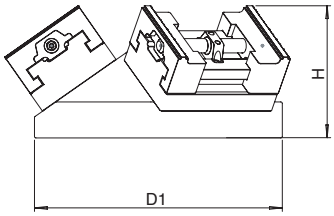
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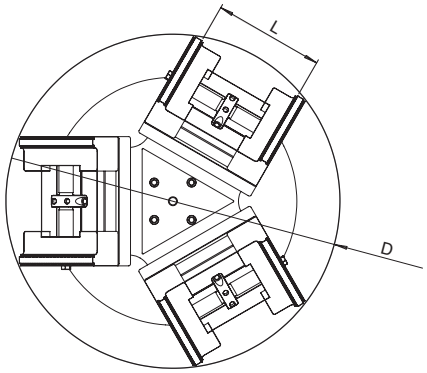
ATORN 3-place clamping pyramid

- Highly efficient, compact and space-saving
- High productivity thanks to considerably higher machine productivity during unmanned shifts
- Fewer tool changes thanks to multiple set-ups
- Max. parts size 100 x 100mm x variable length with a displacement circle of 350mm
- High efficiency
- Prepared for ATORN ZPS K20 and Lang Quick Point 52
- **Clamping jaws also suitable for embossing systems**
- **Other adaptations for your machine tables available on request**

Profitability calculator

User video





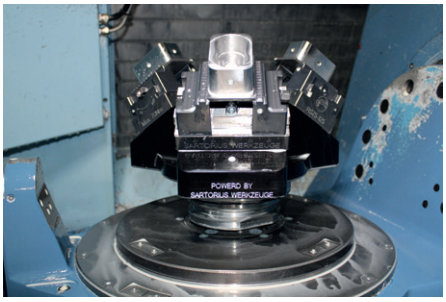


Includes centric clamping vice without jaws

- 4694002310 suitable for DMG MORI DMU40 and all 5-axis machining centres with swivel range 110°
- 4694004310 suitable for Matsuura MX330 / MAM35V

Jaw width mm	External Ø mm	Clamping range	Surface area	Height mm	L mm	Weight kg	art.no.	€
75	310	8-100 mm	Ø305 mm	146	125	15	469400 0310	2.779,–
75	317	8-100 mm	Ø315 mm	146	125	15	469400 2310	2.779,–
75	310	8-100 mm	Ø305 mm	145	125	15	469400 4310	2.779,–
125	465	8-150 mm	Ø345 mm	184	180	54	469400 0465	4.039,–

4197



ATORN 6-way clamping pyramid

- Sturdy, compact 6-position clamping pyramid made of high-strength aluminium
- High productivity with multiple clamping in a very small area
- Perfect 5-axis accessibility
- Integrated RS-NP zero-point clamping system for precise, fast refitting procedures
- High repeat accuracy and reliable clamping process
- **Significant** reduction in refitting and machining times
- Suitable for raw and finished part machining in one clamping system
- Scope of delivery:
  1 base body
  3x RS-Z centric clamping vices (without jaws)
- Clamping jaws available separately as accessories



Includes centric clamping vice without jaws

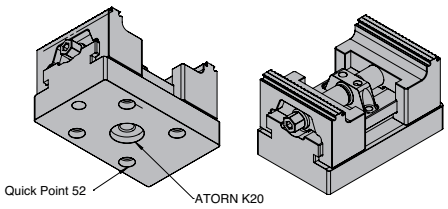
- 469406 0054 contains 3x **RS-Z 54-70** clamps
- 469406 0075 contains 3x **RS-Z 75-125** clamps

Jaw width mm	External Ø mm	Clamping range	Surface area	Height mm	L mm	Weight kg	art.no.	€
54	185	8-55 mm	Ø185 mm	155	70	12	469406 0054	4.299,–
75	185	8-100 mm	Ø185 mm	250	125	50	469406 0075	6.099,–

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ATORN Centric clamping vice RS-Z without jaws

- **With patented pull-down system, for use with RS embossing station**
- Clamping jaws also suitable for embossing systems
- Firm clamping for high cutting output
- Prepared for ATORN ZPS K20 and Lang Quick Point 52
- Other adaptations for your machine tables available on request
- **RS embossing station and RS embossing jaws for Lang embossing station available on request**



Jaw width 54 mm

- No jaws
- Prepared for ZPS K20, RS-NP 52 and Lang QP52

Jaw width mm	Clamping range	art.no.	€
54	8 - 47 mm	459149 0070	280,–

4197

Jaw width 75mm

- without jaws



Jaw width mm	Clamping range	art.no.	€
75	8-100 mm	459150 0125	339,–
75	8-125 mm	459150 0150	360,–
75	8-150 mm	459150 0175	419,–
75	8-175 mm	459150 0200	469,–

4197

Jaw width 125 mm

- without jaws

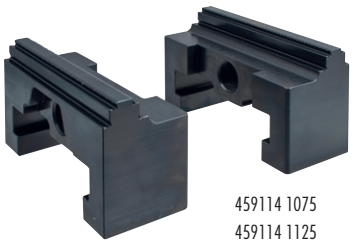
Jaw width mm	Clamping range	art.no.	€
125	8-150 mm	459151 0180	679,–
125	8-200 mm	459151 0230	759,–
125	8-250 mm	459151 0280	869,–
125	8-300 mm	459151 0330	929,–

4197

Jaw set

Jaw width mm	Designation	art.no.	€
54		459114 1254	335,–
54		459114 1154	310,–
75	Gripp	459114 0075	345,–
125	Gripp	459114 0125	609,–
75 to 44	Gripp	459114 7544	379,–
125 to 85	Gripp	459114 2585	649,–
75	double row of teeth	459114 3075	425,–
125	double row of teeth	459114 3125	749,–
75	Grip / smooth	459114 2075	415,–
125	Grip / smooth	459114 2125	669,–
75	Smooth with step	459114 1075	370,–
125	Smooth with step	459114 1125	639,–

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459114 1075
459114 1125





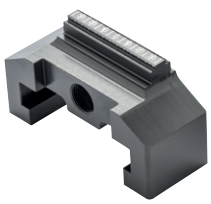


459114 3075,
459114 3125





459114 0075
459114 0125



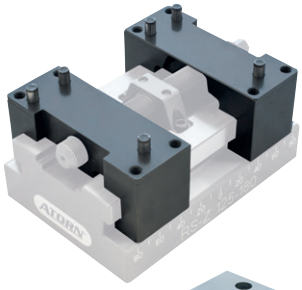


459114 2585
459114 7544

Base jaws for centric clamping vice RS-Z

Jaw width mm	for type	art.no.	€
75	RS-Z 75	459112 0075	364,–
125	RS-Z 125	459112 0125	649,–

4197



Top jaws

Jaw width mm	Material of the jaws	Length x width x thickness mm	art.no.	€
116	Aluminium	45 x 115 x 40	459113 0075	91,–
165	Aluminium	55 x 165 x 60	459113 0125	134,–
116	Steel	45 x 115 x 40	459113 1075	108,–
165	Steel	55 x 165 x 60	459113 1125	149,–

4197



ATORN Centric clamping vice RS-Z with threaded spindle M25

- **M25 threaded spindle for higher clamping forces**
- Clamping jaws also suitable for embossing systems
- Firm clamping for high cutting performance
- Prepared for ATORN ZPS K20, ATORN RS-NP 52/96, Lang Quick Point 52 and Quick Point 96
- Other adaptations for your machine tables available on request



Jaw width 125 mm

- No jaws
- Prepared for ZPS K20, RS-NP 52/96 and Lang QP52/QP96

Jaw width mm	Clamping range	art.no.	€
125	8 - 400 mm	459251 0430	2.439,–
125	8 - 500 mm	459251 0530	2.899,–

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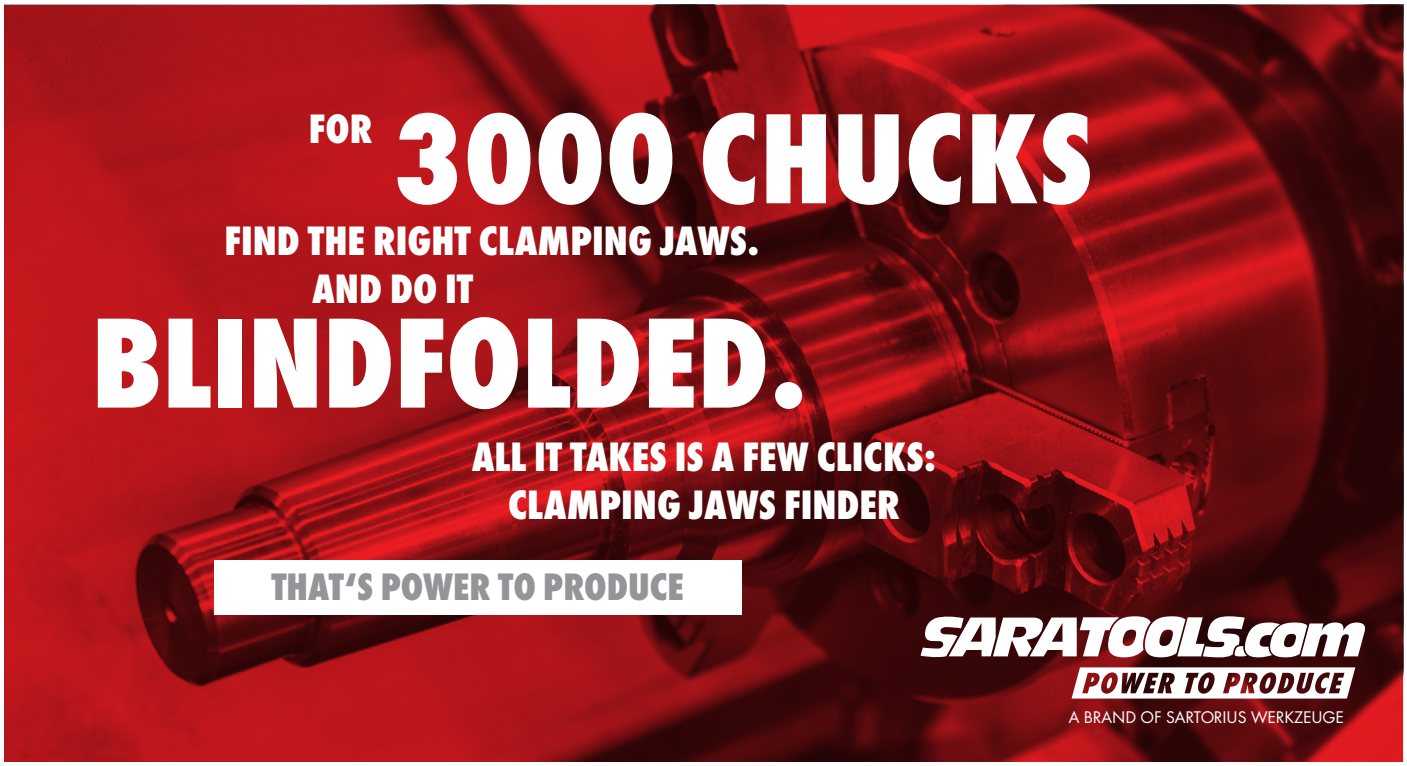
Jaw set

Suitable for base body RS-Z with threaded spindle M25

Jaw width mm	Designation	art.no.	€
125		459214 0125	659,–
125		459214 1125	659,–

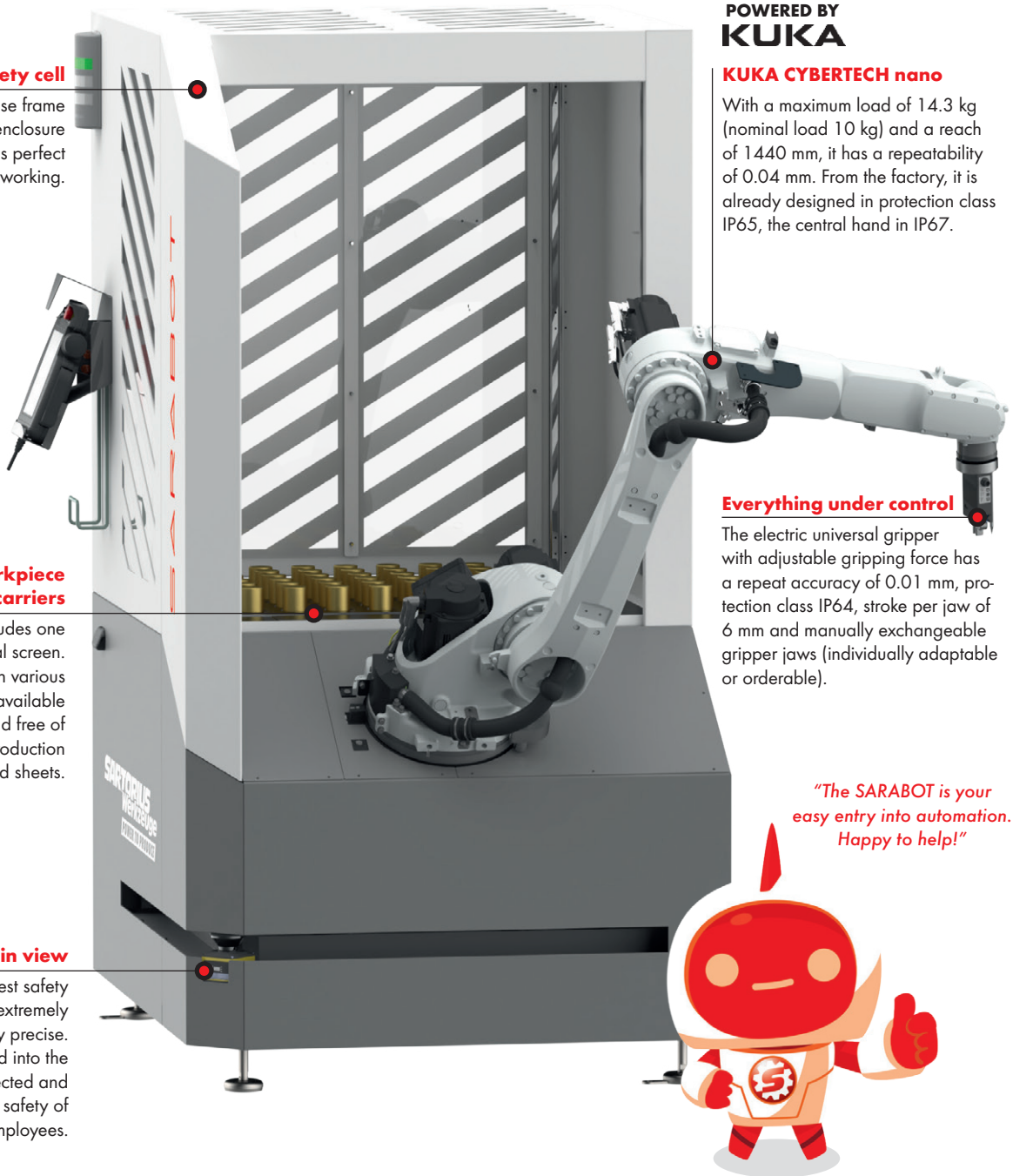
4197





AUTOMATION IN PERFECTION: SARABOT

The new SARTORIUS tools SARABOT is your answer to increasing demands in production. It is ideal for the production of small to medium series and always guarantees consistent quality. The improved efficiency of the processes achieves a high level of cost-effectiveness with rapid amortisation. SARABOT can be easily integrated into your production, is space-saving, innovative and offers maximum process reliability with short throughput times. This is POWER TO PRODUCE!



Safety cell
The stable base frame with protective enclosure on three sides is perfect for ergonomic working.

Universal workpiece carriers
Delivery includes one metal screen. Drawings with various dimensions are available for download free of charge for the production of individual grid sheets.

Everything in view
The world's smallest safety laser scanner is extremely robust and highly precise. Completely integrated into the cell, it is well protected and always ensures the safety of your employees.

POWERED BY KUKA

KUKA CYBERTECH nano
With a maximum load of 14.3 kg (nominal load 10 kg) and a reach of 1440 mm, it has a repeatability of 0.04 mm. From the factory, it is already designed in protection class IP65, the central hand in IP67.

Everything under control
The electric universal gripper with adjustable gripping force has a repeat accuracy of 0.01 mm, protection class IP64, stroke per jaw of 6 mm and manually exchangeable gripper jaws (individually adaptable or orderable).

"The SARABOT is your easy entry into automation. Happy to help!"

Technology to get excited

The new ATORN zero-point clamping system fares well in any comparison

Experience the ATORN zero-point clamping system, which presents the advantages of its innovative and trend-setting characteristics in use.

Advantages that lift the ATORN zero-point clamping system well above the competition

- **Use of different clamping fittings for maximum positioning precision:**
  - Zero-point fitting: Positions at the absolute zero reference point
  - Strut fitting: Fixes the remaining free axis in place
  - Undersize fitting: Is used exclusively for clamping and restraint
- **Two ways of setting different zero points**
  - Classic: The zero point is defined via the zero point fitting in combination with the strut fitting
  - Based on temperature effects: The zero point is defined via the centre axis by solely using strut fittings
- **System requires no maintenance**
  - Completely sealed system made of stainless steel to eliminate the need to maintenance when working
- **Advantages in use**
  - Absolute simplicity in use thanks to the large catchment tolerance and the non-jamming feed-in facility
- **Process safety thanks to advanced technology**
  - The characteristics of the ‚three-cycle principle, form fit and a large ball diameter' further enhance the process safety. These characteristics optimally distribute the force, losing no effect in the process

Advantages in use

Large catchment tolerance

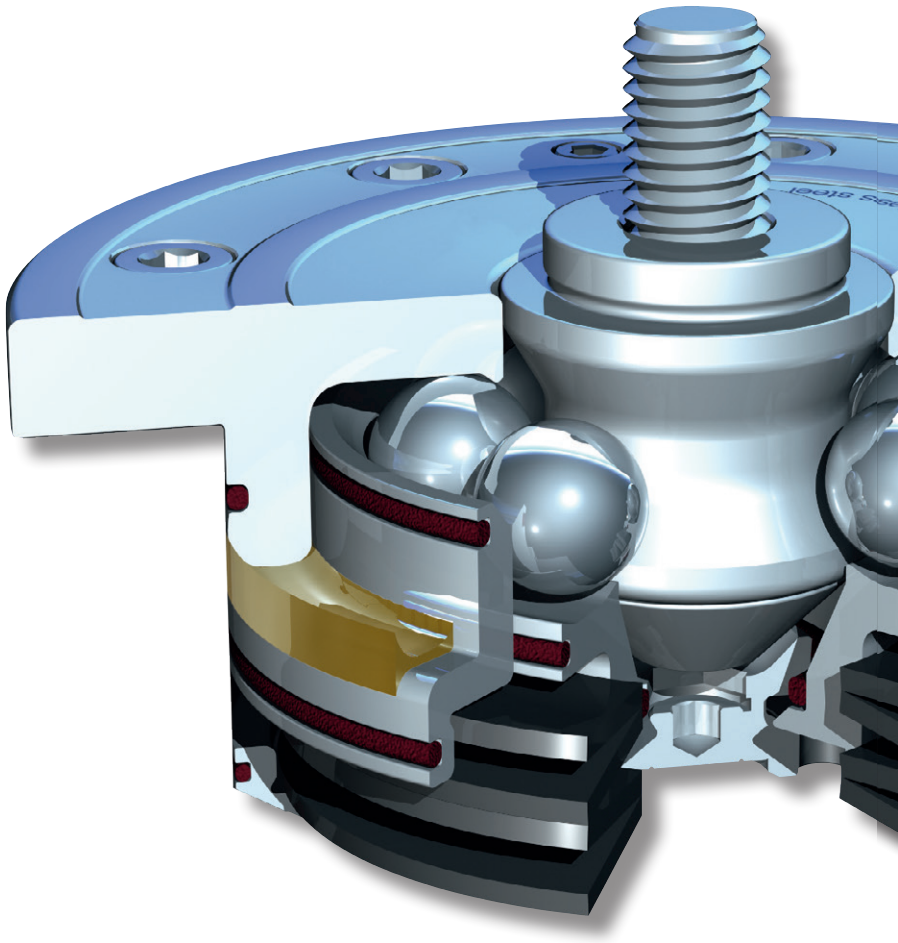


For the purpose of retracting a pallet into the clamping module, a pre-positioning of 6.5 mm or 12 mm is sufficient.

Non-jamming



Non-jamming extension and retraction thanks to the ideal form of the clamp fitting



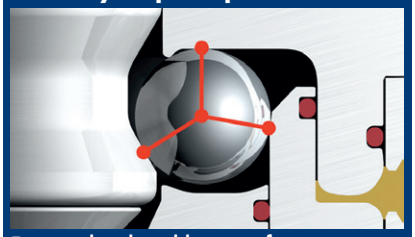
Advantages in the technology

Large retention, catchment and sealing forces



Size	Retention force (kN)	FCatchment/sealing force (kN)
		hydr.
K 10.2	25	10
K 20	55	20

Three-cycle principle



Force is distributed by way of a three-cycle principle. This avoids exert shear loads on the balls.

Form fit

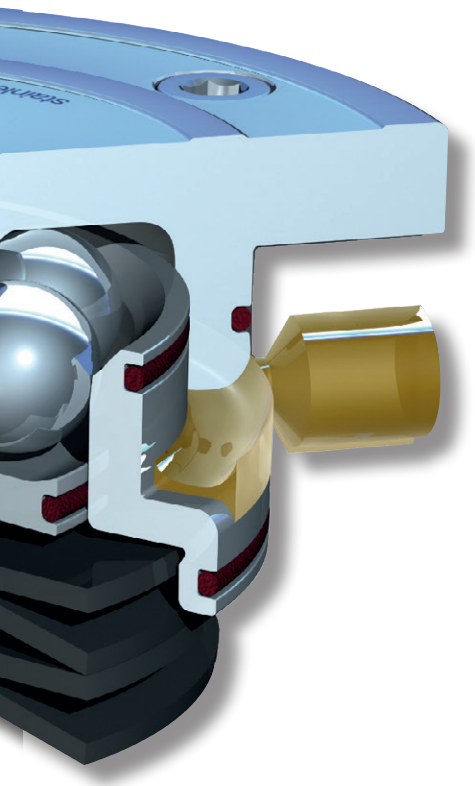


The balls are encompassed from three sides in a form-fit fashion. The forces are exerted evenly over the balls and are optimally spread out.

Large ball diameter



Better distribution of forces thanks to larger ball diameter.



Advantages in maintenance

Rust-free – Robust – Suitable for industrial use



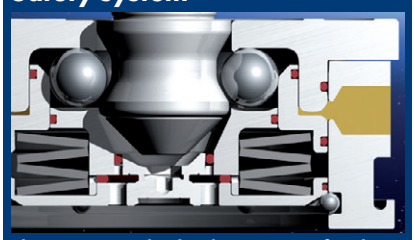
High-alloy, hardened tool steel. – This prevents corrosion. Robust, suitable for industrial use and with a long service life.

No ball cage



The balls are placed freely in the ball duct and continuously reposition themselves. As the balls are not in a cage, it is a quite simple process to blow out dirt using air.

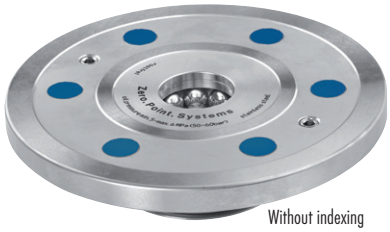
Safety system



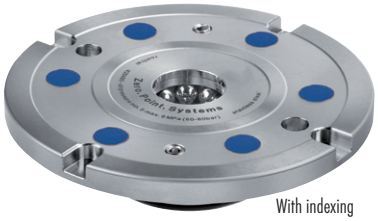
The system is absolutely process-safe. The clamping module can be opened at any time.

ATORN K10.2 and K20 installation clamping modules

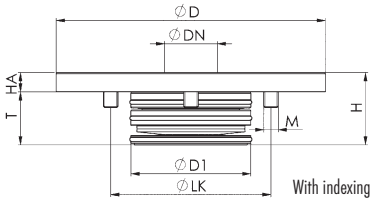
- Hydraulic unlocking
- Hardened cover and piston
- Precision < 0.005 mm
- **Use:** Zero-point clamping system for optimised tooling times when clamping; for all areas of chip-forming and chip-free machining as well as the food, pharmaceutical and chemical industries.
- **Note:** Installation clamping modules boast high holding, pull-in and locking forces despite their extremely small dimensions. Hydraulic pressure is only required for releasing (min. 50 bar / max. 60 bar). The modules are mechanically locked when clamped. The advantage to this is the lack of inconvenient lines and of any risk of leaks.
- Available on request:
  - Installation drawings
  - Automation solutions
  - Also available as an individual flange version



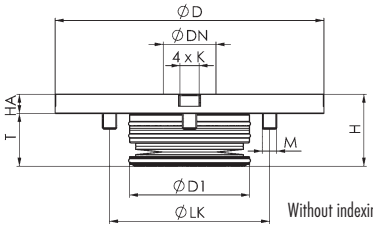
Without indexing



With indexing



With indexing



Without indexing

K10.2 with and without indexing

Model	Retaining force N	Retraction force/closing force kN	D mm	d4 mm	Adapter diameter mm	Total height mm	H mm	Pitch circle diameter mm	Thread diameter mm	Groove width mm	Depth mm	Weight kg	art.no.	€
without indexing	25	10 kN	112	22	50	30	8	77	M6	-	22	0.6	459051 1010	580,–
with indexing	25	10 kN	112	22	50	30	8	77	M6	8	22	0.6	459051 2010	718,–

4195

K20 with and without indexing

Model	Retaining force N	Retraction force/closing force kN	D mm	d4 mm	Adapter diameter mm	Total height mm	H mm	Pitch circle diameter mm	Thread diameter mm	Groove width mm	Depth mm	Weight kg	art.no.	€
without indexing	55	20 kN	112	32	78	44	10	88	M6	-	34	1.4	459051 0020	987,–
with indexing	55	20 kN	112	32	78	44	10	88	M6	8	34	1.4	459051 1020	1.075,–

4195

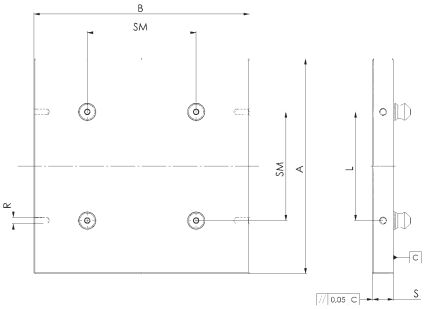
ATORN Interchangeable pallets for K10.2 and K20

- High-strength aluminium
- Includes clamping bolts and clamping bolt screws
- **Note:** Attachment holes can be provided in interchangeable pallets on request.
- Other dimensions, pitch variation and clamping bolt quantities are available on request



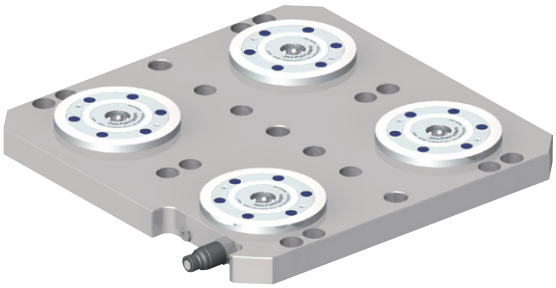
for clamping station	L mm	Width mm	Hole distance mm	Connection thread	Total height mm	SM mm	Weight kg	art.no.	€
K10.2 / 2-fold	166	396	90	M12	30	200	6	459070 1002	576,–
K10.2 / 4-fold	366	366	200	M12	30	200	10	459070 1004	886,–
K10.2 / 6-fold	366	566	200	M12	30	200	16	459070 1006	1.215,–
K20 / 2-fold	196	396	120	M12	40	200	6	459070 2002	576,–
K20 / 4-fold	396	396	200	M12	40	200	16	459070 2004	977,–
K20 / 6-fold	396	596	200	M12	40	200	25	459070 2006	1.360,–

4195



ATORN Multi-clamping stations K10.2 and K20

- Hydraulic unlocking
- Repeatability < 0.005 mm
- Steel, unhardened
- The clamping systems are pre-equipped with attachment holes (for common table slot sizes 63, 100 and 125 mm) and positioning aids. The clamping stations are ready for immediate operation. Connections are pre-screwed.
- The clamping station with blow-out has 2 connections: 1 x hydr. opening, 1 x pneum. Blow-out
- Installation drawings, further sizes as well as customised clamping stations for your machine available on request
- **Total height K10.2 of just 44 mm**
- **Total height K20 of just 56 mm**

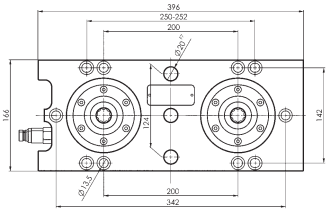


Double clamping station

- For common table slot sizes 63, 100 and 125 mm

Designation	Retraction force/closing force kN	Retaining force kN	Weight kg	art.no.	€
K10,2	2 x 10 kN	2 x 25	14	459071 1002	2.440,–
K20	2 x 20 kN	2 x 55	21.9	459071 2002	3.775,–

4195



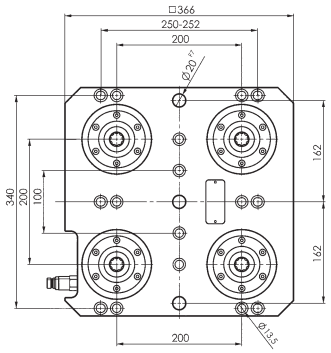
K10.2 for groove spacing 63, 100 and 125 mm

4-place clamping station

- For common table slot sizes 63, 100 and 125 mm

Designation	Retraction force/closing force kN	Retaining force kN	Weight kg	art.no.	€
K10,2	4 x 10 kN	4 x 25	30	459073 1002	4.315,–
K20	4 x 20 kN	4 x 55	44	459073 2002	5.470,–

4195



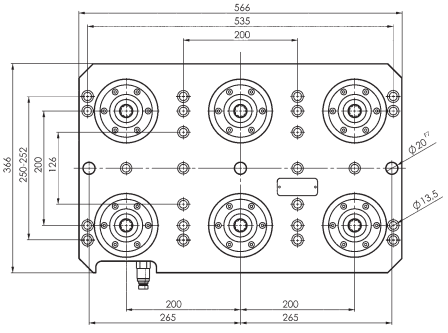
K10.2 for groove spacing 63, 100 and 125 mm

6-place clamping station

- For common table slot sizes 63, 100 and 125 mm

Designation	Retraction force/closing force kN	Retaining force kN	Weight kg	art.no.	€
K10,2	6 x 10 kN	6 x 25	46	459075 1002	6.100,–
K20	6 x 20 kN	6 x 55	75	459075 2002	10.140,–

4195



K10.2 for groove spacing 63, 100 and 125 mm

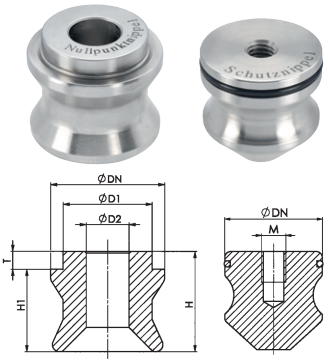
ATORN Clamping bolts and clamping bolt screws

Clamping bolts

- Hardened, for hydraulic clamping modules

Type	External Ø mm	Adapter diameter mm	Drill hole diameter mm	Height mm	h5 mm	Thread diameter mm	Depth mm	art.no.	€
Zero-point fitting K10.2	22.0	15	8	19	16	-	3	459061 1001	44,–
Strut fitting K10.2	22.0	15	8	19	16	-	3	459061 1002	44,–
Undersize fitting K10.2	21.8	15	8	19	16	-	3	459061 1003	44,–
Protective fitting K10.2	21.8	-	-	-	-	M8	-	459061 1004	44,–
Zero-point fitting K20	32.0	25	12	28	23	-	5	459061 2001	84,–
Strut fitting K20	32.0	25	12	28	23	-	5	459061 2002	84,–
Undersize fitting K20	31.8	25	12	28	23	-	5	459061 2003	84,–
Protective fitting K20	31.8	-	-	-	-	M8	-	459061 2004	84,–

4195

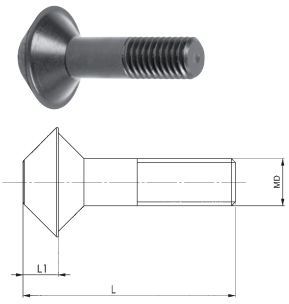


Clamping bolt screws

- Strength class 12.9
- Versions in other lengths and materials (e.g. stainless steel) available on request

Type	L mm	L1 mm	MD	art.no.	€
K10,2	37	6	M8	459062 1001	16,60
K20	54	9	M12	459062 2001	19,40

4195



Adapter set from K20 to K10.2 and K10.3

Designation	art.no.	€
for through-hole drilling	459065 2110	73,30
for standard drilling	459065 2010	63,10

4195



ATORN Air hydraulic pump and connection set

- For opening hydraulic clamping modules or clamping stations.
- Compact, pneumatically operated hydraulic pump for single-acting circuits
- Integrated safety valve for regulating the hydraulic output pressure (factory-set to a maximum operating pressure of 60 bar)
- The expansion body in the oil tank enables the pump to be used horizontally and vertically.
- Connecting thread, air: G1/4
- Connecting thread, oil: G1/4
- **Note**: the pump is filled with a standard commercial hydraulic oil (HLP32) ready for use

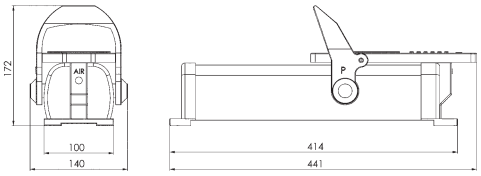


1. Air intake, 2. Hydraulic outlet

Air hydraulic pump

Air pressure min. bar	Air pressure max. bar	Max. feed quantity l/min	Effective oil volume cm³	Weight kg	art.no.	€
4	6	0.75	1000	5.9	459078 0001	886,–

4195



Connection set

- For connecting the clamping station and air hydraulic pump

Designation	art.no.	€
Connection set incl. manometer	459078 0007	239,–

4195

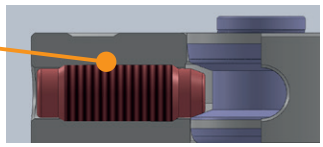


ATORN Easy Point mechanical zero-point clamping system

- Repeatability < 0.005 mm
- Retention force up to 50 kN
- Process reliability with mechanical safety lock
- Safe from chips and dirt thanks to open spaces on the module
- Wide and solid clamping surfaces for high stability and low vibrations
- Precise indexing via 4 grooves with 8 mm width



Maximum tightening torque of 60 Nm



Maximum tightening torque of 60 Nm

Single clamping module

D mm	Height mm	art.no.	€
130	32	459090 0032	472,–
130	72	459090 0072	669,–
150	125	459090 0125	759,–

4197

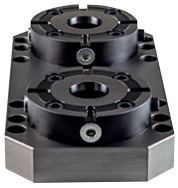


Double clamping station

- Pitch 200 mm

Length x width x height mm	art.no.	€
340 x 175 x 72	459091 2072	1.579,–

4197



Quadruble clamping station

- Pitch 200 mm

Length x width x height mm	art.no.	€
340 x 375 x 72	459092 4072	2.899,–

4197



Interchangeable pallet

Designation	Length x width x height mm	art.no.	€
For single clamping module	180 x 180 x 26	459093 0001	289,–
For double clamping station	346 x 156 x 26	459093 0002	465,–
For quadruple clamping station	346 x 346 x 26	459093 0004	839,–

4197



Clamping bolts

Designation	Connection thread	art.no.	€
Positioning bolts	M12	459094 0001	90,–
Alignment bolts	M12	459094 0002	90,–
Securing bolts	M12	459094 0003	90,–
Cover bolts	-	459094 0004	67,–

4197



4590940001



4590940002



4590940003



459094 0004

ATORN Zero-point clamping system NP52/96

- Interface between machine table and clamp
- Suitable for reducing refitting times and downtime
- Universal use in vertical and horizontal machining centres
- Flexible for single and multiple clamping
- Sturdy steel base body with hardened and ground functional surfaces
- High repeat accuracy
- Fast and easy replacement of RS-Z and RS-ZS clamps
- Patented quick-action clamping system
- Clamping without change of direction



Design	Length x width x height mm	art.no.	€
RS-NP 52	102 x 102 x 27	459190 0052	469,–
RS-NP 96	248 x 102 x 27	459190 2052	749,–
RS-NP 52 double	165 x 165 x 27	459190 0096	839,–

4197

Locating pin

- Suitable for RS-NP

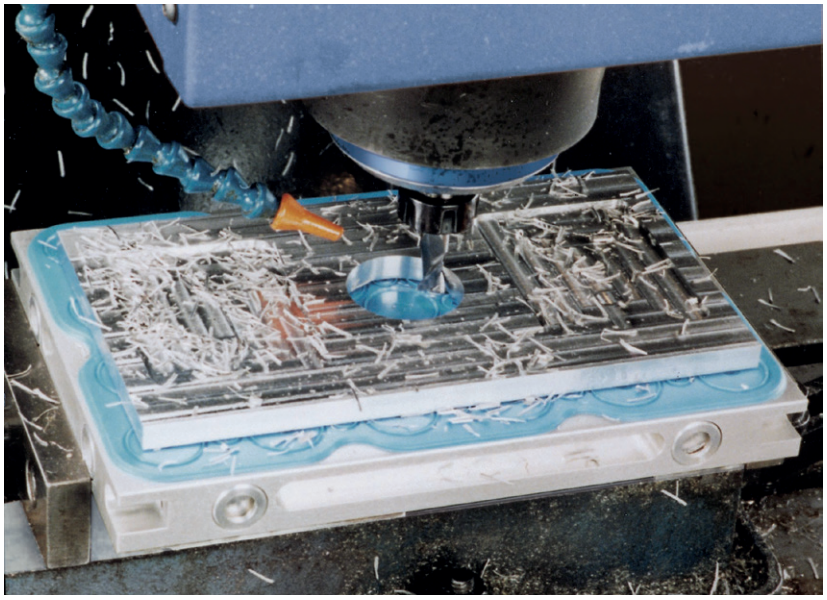
Design	Wr. width	art.no.	€
52er	6 mm	459194 0052	11,10
96er	8 mm	459194 0096	12,90

4197



Clamping with a vacuum

Innovative ATORN vacuum clamping technology



When the focus lies on tooling time and safety

Vacuum clamping technology is particularly suitable for minimized setup time and process-safe clamping of flat workpieces with level undersides that are to be clamped and machined non-destructively.
For this we offer innovative and sophisticated solutions with many accessories – for optimum and individual clamping.
When it comes to precision and you want to handle workpieces made of aluminium, non-ferrous metals, graphite, plastics, glass, wood, ceramic, titanium and steel, the ATORN clamping plate sets lay down an excellent foundation for the work. These sets allow firm and precise clamping of your workpieces, delivering in turn good results from milling or drilling.
Vacuum systems hold the workpiece fast through suction and provide an excellent grip. Using a Venturi tube or a vacuum pump has proven very useful here.

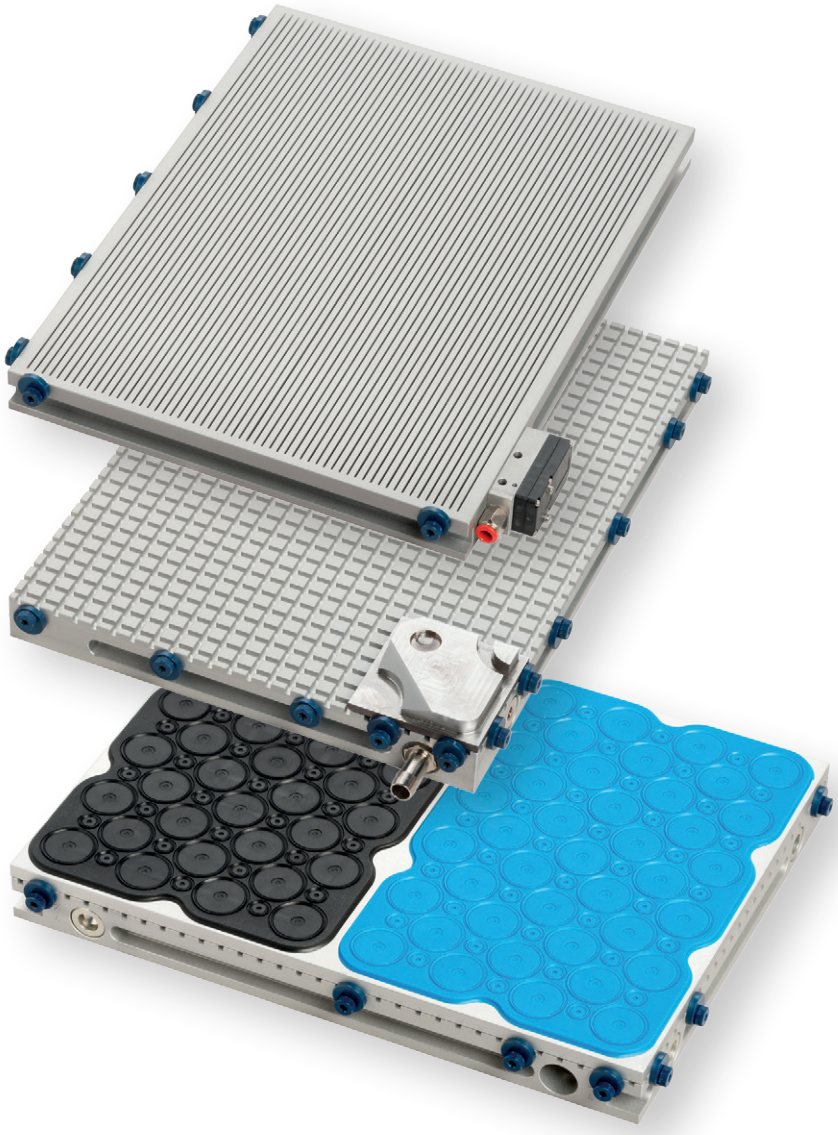
Why you will achieve more with the ATORN vacuum clamping technology

One set, two options. This is what makes the new ATORN vacuum clamping system stand out.
The new low-cost entry into the vacuum clamping technology for short-term wins out through its use of the Venturi principle. The vacuum is created through a direct connection to the compressed air supply without a vacuum pump unit. For energy-saving continuous use in series production, a vacuum pump unit is advisable.
You can clamp indirectly by means of sandwich adapter mats or directly on a grid plate. The use of adapter plates or rubber adapter mats offers two important advantages:

- Producing break-outs in the workpiece machining
- Marked reduction of the clamping times, since, in comparison with fastening directly to the grid plate, no packing cords are needed

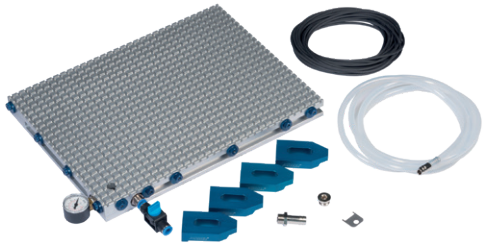
Variants:

- ATORN slot plate for clamping micro-components and workpieces with the most widely varied contours
- ATORN grid plates for clamping simple workpieces for heavy machining
- ATORN adapter mats for workpieces with and without break-outs



ATORN Vacuum clamping technology

Grid vacuum plate sets with Venturi nozzles

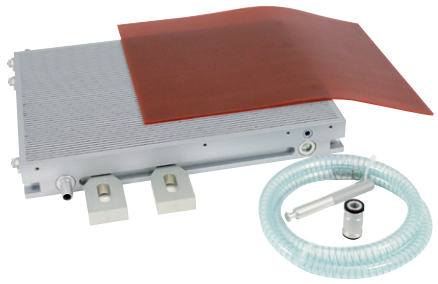


- **Can be extended with conventional vacuum pumps, making it suitable for wet machining**
- For workpieces with simple geometric shapes
- Good seal: also suitable for rough (e.g. sawn) surfaces
- High holding forces
- Minor irregularities and concavities are sealed and compensated by flexible sealing cords
- **Each set comprises:**
- 1x vacuum grid plate with 12.5 mm pattern, incl. integrated Venturi nozzle
- Height-adjustable stop discs
- 4x clamping claws with slot width = 14 mm
- 3 m plastic hose with hose connection and quick-action coupling
- 10 m vacuum sealing cord, Ø 4 mm black
- Incl. silencer and shut-off valve
- 1x hose connection for conventional vacuum pumps

Model	Length x width x height mm	art.no.	€
RV 1	300 x 200 x 32.5	475081 3020	1.250,–
RV 2	400 x 300 x 32.5	475081 4030	2.130,–
RV 3	600 x 400 x 32.5	475081 6040	2.585,–

4182

Slotted vacuum plates

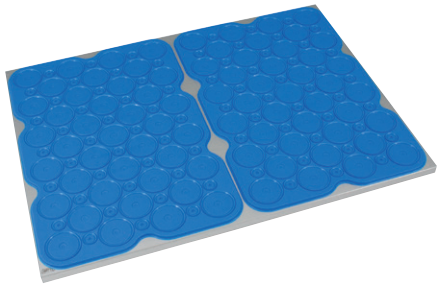


- For clamping workpieces on adapter mats and rubber holding mats
- For machining complicated workpiece shapes
- Very small workpieces can be clamped
- Workpiece positioning by height-adjustable eccentric stops
- **Supplied with** vacuum hose connector piece, connection element, assembly tool, aluminium clamping claws, rubber adapter mat (brown), 1 m vacuum hose with wire helix and quick-coupling plug

Type	Length x width x height mm	art.no.	€
MS1	300 x 200 x 48	475089 2030	1.275,–
MS2	400 x 300 x 48	475089 3040	1.620,–
MS3	600 x 400 x 48	475089 4060	2.770,–

4182

Adapter plates for slotted vacuum plates

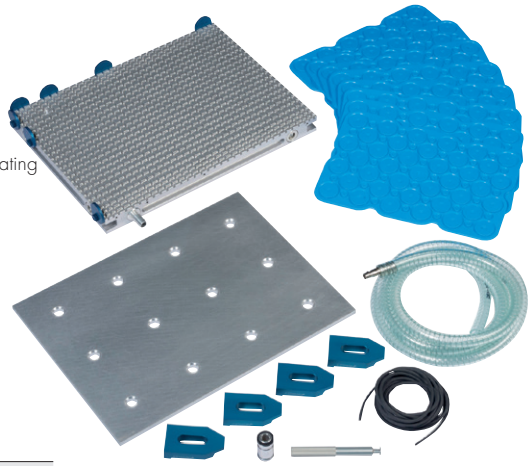


- For adapter mats with Article No. 475085....
- **Supplied with** 10x adapter mat (blue), 2 m sealing cord

Length x width x height mm	art.no.	€
300 x 200 x 10	475090 2030	370,–
400 x 300 x 10	475090 3040	390,–
600 x 400 x 10	475090 4060	490,–

4182

Vacuum clamping system with adapter mats



- **For wet and dry machining, with vacuum pump, no Venturi nozzle**
- **For workpieces with openings**
  Construction with sealing cord, aluminium adapter plate and adapter mats
- **For workpieces without openings**
  Construction with sealing cord only, directly on the grid plate
- The modular construction allows multiple vacuum plates to be connected with overlapping grids. The operating vacuum is supplied to the individual plates via the connection elements.
- **Each set comprises:**
  1x modular grid plate with 12.5 mm grid
  1x aluminium adapter plate with 12.5 mm grid
  Set VM1: 10 blue adapter mats
  Set VM2: 9 blue adapter mats, 1 black
  Set VM3: 8 blue adapter mats, 2 black
  4x clamping claws with slot width = 14 mm
  1x assembly tool for replacing blind plugs
  3 m vacuum hose with wire helix
  10 m vacuum sealing cord, Ø 4 mm, black

Model	Length x width x height mm	art.no.	€
VM 1	300 x 200 x 32.5	475083 3021	1.285,–
VM 2	400 x 300 x 32.5	475083 4031	2.080,–
VM 3	600 x 400 x 32.5	475083 6041	2.665,–

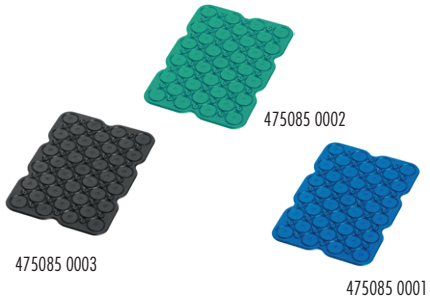
4182

Adapter mats

- For vacuum clamping systems with adapter mats

Length x width x height mm	Colour	art.no.	€
300 x 200 x 2.5	Blue	475085 0001	8,95
300 x 200 x 2.5	Green	475085 0002	8,95
300 x 200 x 2.5	Black	475085 0003	8,95

4182



Rubber fixing mats

- For slotted vacuum plates with and without Venturi nozzles
- Material may be removed during milling
- Black mats suitable for plane milling
- Blue mat for use with slotted vacuum plates

Length x width x height mm	Colour	art.no.	€
300 x 200 x 3	Brown	475086 0001	17,80
400 x 300 x 3	Brown	475086 0006	23,40
600 x 400 x 3	Brown	475086 0004	43,30
300 x 200 x 3	Black	475086 0002	17,80
400 x 300 x 3	Black	475086 0003	28,50
600 x 400 x 3	Black	475086 0005	38,70
2000 x 400 x 1	Blue	475086 1001	117,–

4182



Accessories

- For vacuum clamping systems with adapter mats

Designation	L m	art.no.	€
Sealing cord	50	475084 0001	94,10
Vacuum suction hose with wire helix	10	475084 0002	66,10

4182



Vacuum pumps

- For the liquid ring vacuum pump, defoamer article no. 742036 0001 is recommended
- Maintenance and care kit for vacuum pump 16 m³/h article no. 4750841001 is recommended
- Maintenance and care kit for vacuum pump 21 m³/h, article no. 4750841002 is recommended

Max. suction capacity l/min	Length x width	Sound-pressure level dB	Clamping surface	Weight kg	Motor output	art.no.	€
16 m³/h	Ø 320 x 690 mm	60	< 0.5 m²	31	400 V / 0.55 kW	475087 0002	3.209,–
21 m³/h	Ø 320 x 690 mm	62	< 1 m²	34	400 V / 0.75 kW	475087 0005	3.890,–
25 m³/h	463 x 432 x 602 mm	50	< 1 m²	38	400 V / 0.88 kW	475087 0003	5.049,–

4182



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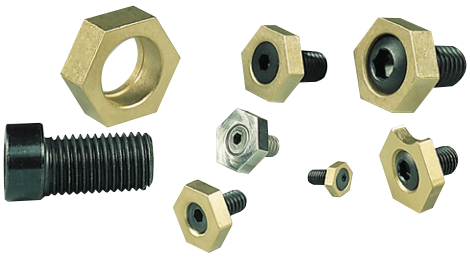


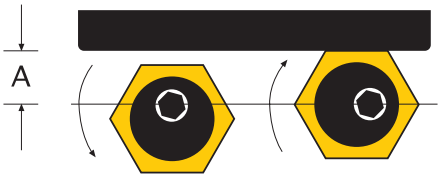
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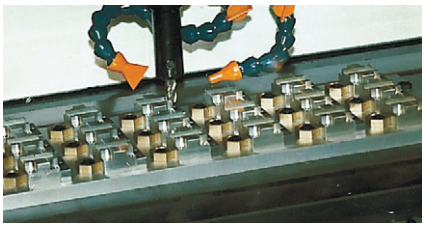
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Eccentric clamps

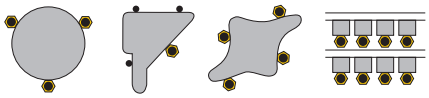
- For fixture plates
- Eccentric head causes the clamping motion and clamping force (up to 27 kN)
- The hexagonal brass washer acts as a clamp
- Any workpiece shape can be clamped with positioning pins and one or two clamping screws
- Low height allows workpiece surfaces to be machined easily
- No need to consider the position of clamping claws in CNC programming
- Space-saving multi-clamping due to low height







It is easy and cost-effective to clamp parts of all shapes:



Eccentric anchor clamps

Clamp force kN	Interior hexagon mm	Thread	Thread length mm	Wr. width	Wr. width height mm	Eccentric travel mm	Contents	art.no.	€
0.9	3	M4	10	8 mm	2.8	0.8	10 units	475001 0003	85,40
3.4	4	M6	12	16 mm	4.8	1.3	10 units	475001 0004	80,60
3.6	5	M8	16	20 mm	4.8	1	12 units	475001 0005	114,10
3.63	5	M8/V2A	16	20 mm	6.4	1	4 units	475001 0015	148,10
9	7	M10	20	20 mm	6.4	1.6	10 units	475001 0007	97,70
18	8	M12	25	25 mm	9.5	2	8 units	475001 0008	127,60
27	12	M16	30	30 mm	12.7	2.5	4 units	475001 0012	178,20

4156



Spare hexagonal washers

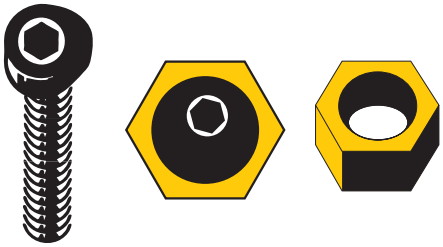
Thread	Contents	art.no.	€
M4	10 units	475005 0004	48,90
M6	10 units	475005 0006	49,80
M8 V2A	8 units	475005 0080	119,90
M8	8 units	475005 0008	42,20
M10	4 units	475005 0010	22,80
M12	4 units	475005 0012	40,40
M16	4 units	475005 0016	63,10

4156

Spare screws

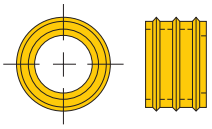
Thread	Contents	art.no.	€
M4	10 units	475003 0004	60,70
M6	10 units	475003 0006	71,10
M8 V2A	8 units	475003 0080	226,–
M8	8 units	475003 0008	65,80
M10	4 units	475003 0010	38,30
M12	4 units	475003 0012	52,90
M16	4 units	475003 0016	104,50

4156



Fastening disc

- Suitable for clamping raw and cast parts as well as untreated surfaces
- Made from case-hardened steel
- Each pack contains fastening discs and eccentric screws





Clamp force kN	Interior hexagon mm	Thread	Thread length mm	Height mm	Ø mm	Contents	Eccentric travel mm	art.no.	€
9	7	M10	20	6.4	20.6	8 units	1.27	475007 0010	227,–
18	8	M12	22.5	9.6	25.4	8 units	2	475007 0012	226,50
27	12	M16	26.8	12.7	30.1	4 units	2.5	475007 0016	173,–

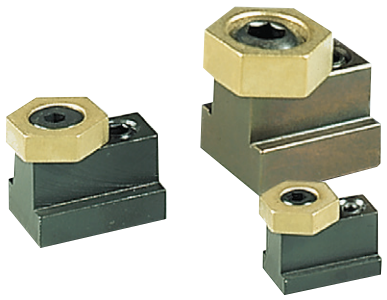
4156



Eccentric clamping screws

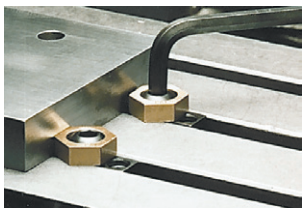
- **For T-slots**
- Connecting the normal clamping elements to slot nuts using eccentric screws (with brass hexagonal washers or fastening discs) allows workpieces to be clamped cost-effectively on work tables or clamping plates with T-slots.
- A screw secures the T-slot nut in the T-slot
- Low height; surfaces of flat parts can also be machined
- Rapid adjustment to various workpiece sizes and parts of any shape, no rectangular lateral surfaces required
- Clamping force up to 27 kN
- Supplied with brass washer and slot nut





Clamp force kN	Interior hexagon mm	Thread	Thread length mm	Wr. width	Wr. width height mm	Eccentric travel mm	for T-slot mm	Contents	art.no.	€
3.4	4	M 6	12	16 mm	4.8	1	8	2 units	475012 0408	68,–
3.4	4	M 6	12	16 mm	4.8	1	10	2 units	475012 0410	67,40
3.6	5	M 8	16	21 mm	4.8	1	12	2 units	475012 0512	68,20
9	7	M10	20	21 mm	6.4	1.6	14	2 units	475012 0714	67,60
18	8	M12	25	25 mm	9.5	2	16	2 units	475012 0816	85,80
18	8	M12	25	25 mm	9.5	2	18	2 units	475012 0818	73,20
27	12	M16	30	30 mm	12.7	2.5	20	2 units	475012 1220	91,30
27	12	M16	30	30 mm	12.7	2.5	22	2 units	475012 1222	132,50

4156



Set

- 6 x eccentric clamping screws (with brass washers)
- 4 x slot nuts
- 2x hex keys

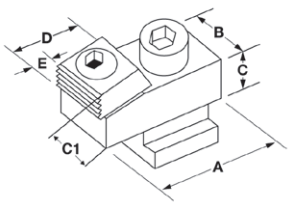
T-slot size mm	art.no.	€
8	475014 0008	211,–
10	475014 0010	211,–
12	475014 0012	211,–
14	475014 0014	218,–
16	475014 0016	212,–
18	475014 0018	244,–
20	475014 0020	319,–
22	475014 0022	452,–

4156



Pull-down clamping claw

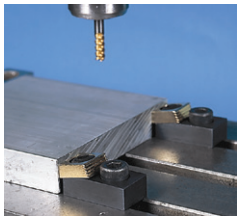
- Pull-down effect
- For 14 mm, 16 mm and 18 mm T-slots, and for mounting directly on the fixture plate or work table
- M12 eccentric clamping screw for clamping force of 18 kN
- Body and clamping washer case-hardened
- Clamping washer with toothed edge for raw parts and smooth edge for machined parts
- The clamping washer adapts to the angular position of the workpiece, i.e. the workpiece does not have to be rectangular





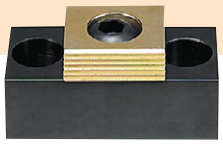
A mm	B mm	C mm	C front side mm	D mm	Eccentric travel mm	T-slot size mm	art.no.	€
50	28.5	16	12.7	25.5	2	14	475050 0014	90,90
50	28.5	16	12.7	25.5	2	16	475050 0016	95,–
50	28.5	16	12.7	25.5	2	18	475050 0018	98,60
50	28.5	16	12.7	25.5	2	Without T-slot nut	475050 0000	82,70

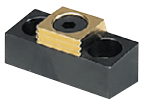
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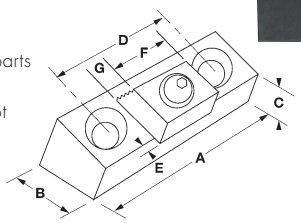


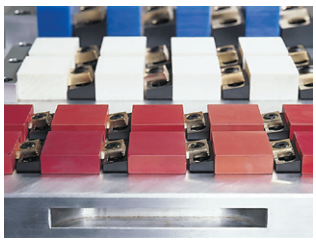
Combination pull-down claw

- The pull-down effect ensures that the workpiece is secured to the support
- The front side is used for clamping, the rear side can be used as a stop
- Space-saving multi-clamping
- Clamping washer with toothed surface for raw parts and smooth surface for machined parts
- Preferably for mounting in a slot of width B (+0.05 mm)
- The engagement height of the clamping washer can be changed by the depth of the slot
- Body and clamping washer are case-hardened
- Supplied with fastening screws







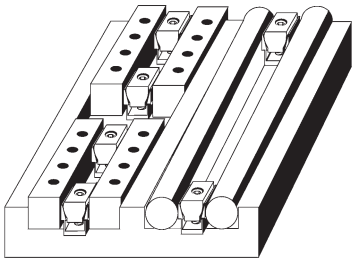


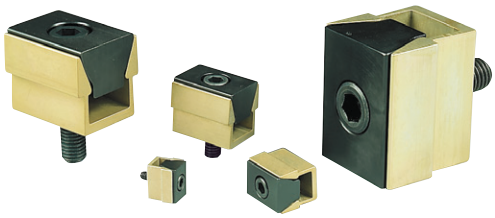
A mm	B mm	C mm	D mm	E mm	F mm	G mm	Eccentric screw	Eccentric travel mm	Attachment screw	art.no.	€
43.2	19	12.7	25.4	2.3	19	6.4	M10 x 1.5	1.6	M8 x 16	475051 0008	82,60
54	25.4	11.4	33.5	2.8	25.4	9.7	M12 x 1.75	2	M10 x 20	475051 0010	96,60
75	38.1	25.2	50.8	3.3	38.1	12.7	M16 x 2	2.5	M12 x 30	475051 0012	207,–

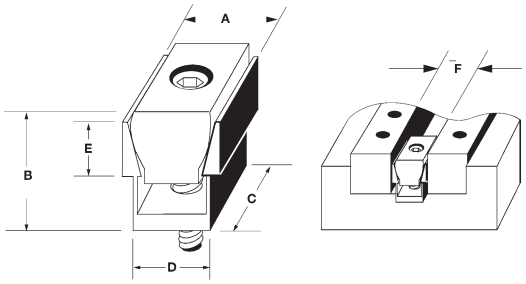
4156

Double wedge clamp

- One clamping element simultaneously clamps two work-pieces
- Space-saving multi-clamping reduces auxiliary processing times and therefore unit costs
- Cost-effective clamping fixture
- For round and rectangular parts
- Clamping force up to 27 kN
- The use of a support and clamping bar further simplifies the process of constructing clamping fixtures









Clamp force kN	Spread mm	Interior hexagon mm	Thread	A mm	B mm	D mm	C mm	E mm	F mm	Contents	art.no.	€
0.9	0.6	1.5	M2	6.1	6.9	5.3	8.1	3.6	6.3	6 units	475034 0002	140,60
1.4	0.9	2	M2.5	9.1	9.7	7.9	11.9	4.7	9.5	6 units	475034 0025	140,70
2.2	0.9	3	M4	12.3	14.5	10.4	15.9	5.6	12.7	8 units	475034 0004	135,–
6.8	1.7	5	M6	18.6	19	16.1	23.8	9.5	19	6 units	475034 0006	140,50
8.9	2.1	6	M8	24.8	25.9	20.8	31.7	12.7	25.4	4 units	475034 0008	121,–
15.6	2.6	10	M12	37.3	38.6	30.8	47.6	19	38.1	2 units	475034 0012	250,–
26.7	3.3	14	M16	49.7	51.5	41.2	63.4	25.3	50.8	2 units	475034 0016	379,–

4156

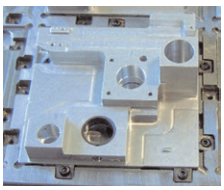
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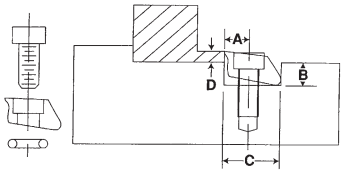


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Pitbull anchor clamps

- Pull-down effect with clamping forces up to 50 kN
- Sharp-edged for raw parts (cast iron, forged, cut parts) or with a blunt edge to avoid clamping marks
- Space-saving
- Low height
- Compact design
- High clamping force
- Strong pull-down
- No protruding edges to interfere with tools
- Multi-sided machining
- Ideal for multi-clamping
- **Note:** Dimensions B and D are guideline values






Brass


Hard. steel, blunt

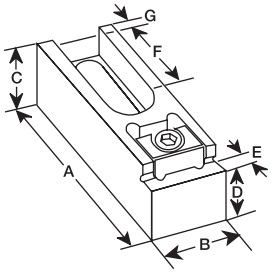

Hard. steel, sharp

Type of clamping edge	Substance	A mm	B mm	C mm	D mm	Thread	Clamping width mm	Clamping force N·m	Clamping route mm		art.no.	€
Sharp	Hard. Steel	3.8	3.6	9.5	1.9	M 2.5	9.5	2800	0.15	1	475036 0250	189,–
Blunt	Hard. Steel	3.8	3.6	9.5	1.9	M 2.5	9.5	2800	0.15	1	475036 0251	169,–
Blunt	Brass	3.8	3.6	9.5	1.9	M 2.5	9.5	900	0.15	1	475036 0252	179,50
Sharp	Hard. Steel	5.1	4.8	12.7	2.6	M 4	12.7	6600	0.4	1	475036 0400	185,–
Blunt	Hard. Steel	5.1	4.8	12.7	2.6	M 4	12.7	6600	0.4	1	475036 0401	183,–
Blunt	Brass	5.1	4.8	12.7	2.6	M 4	12.7	1800	0.4	1	475036 0402	196,–
Sharp	Hard. Steel	7.6	7.2	19.05	3.8	M 6	19.1	16000	0.6	1	475036 0600	179,–
Blunt	Hard. Steel	7.6	7.2	19.05	3.8	M 6	19.1	16000	0.6	1	475036 0601	177,50
Blunt	Brass	7.6	7.2	19.05	3.8	M 6	19.1	4200	0.6	1	475036 0602	188,50
Sharp	Hard. Steel	10.2	11.4	25.4	6.3	M 10	25.4	26000	1.7	1	475036 1000	190,–
Blunt	Hard. Steel	10.2	11.4	25.4	6.3	M 10	25.4	26000	1.7	4	475036 1001	190,–
Sharp	Hard. Steel	15.2	16.3	38.1	9.5	M 12	38.1	50000	1.9	2	475036 1200	163,50
Blunt	Hard. Steel	15.2	16.3	38.1	9.5	M 12	38.1	50000	1.9	2	475036 1201	163,50

4156

Pitbull universal anchor clamps

- **For T-slots**
- Can be used on fixture plates, T-slot work tables, grid plates, clamping cubes, etc.
- Base body hardened, supporting surfaces ground
- Supplied without fastening screw or T-slot nut





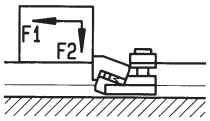
A mm	B mm	C mm	D h6 mm	E mm	F mm	G mm	H mm	Clamping force N·m	Screw	for T-slot mm	Clamping width mm	art.no.	€
104	31.7	25	18.54	9.1	43.2	12.7	0.6	1600	M 12	14, 16, 18	19.1	475038 0120	154,50
107	38.1	41	35	9.1	38.6	10.9	1.25	2600	M 16	22, 24	25.4	475038 0160	322,–

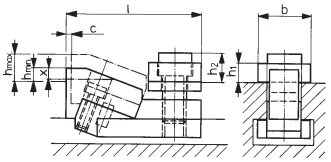
4156

Mini-Bulle flat clamp

- Hardened and tempered to a burnished shade
- h1 = at maximum T-slot depth in accordance with DIN 650
- To obtain low clamping heights with minimum slot depths, the clamp can be ground down by x mm
- Allows particularly flat workpieces to be clamped
- Clamping jaws have a wedge effect that ensures the workpiece is securely fixed to the work table
- Horizontal forces are absorbed by a screw corresponding to the slot size; this holds the clamp securely in position without damaging the table
- **Supplied in pairs**, boxed, complete with fastening screws (DIN 912, 8.8 / ISO 4762) and a hexagonal screwdriver (ISO 2936)
- Prices per pair





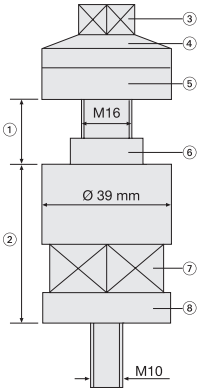


c mm	h min. mm	h max. mm	x mm	l max. mm	b mm	h1 mm	h2 mm	F1 kN	F2 kN	Groove width mm	art.no.	€
1.8	2.5	13.5	5	52	18	7	11	5	0.6	12	466102 0012	127,50
1.8	1.5	13.5	5	55	22	8	11	5.5	0.7	14	466102 0014	142,50
2.5	2.5	17	6	68	25	9	15	8	0.9	16	466102 0016	159,–
2.5	1.5	16	6	71	28	10	15	9	1	18	466102 0018	169,–
3	4.5	21.5	9	89	35	14	20	16	1.9	22	466102 0022	254,–

4157

Clamping bolts

- Secure, safe, precise and powerful clamping for practically any workpiece shape
- Also suitable as a clamping support
- Length tolerance class js6, ensures that clamping is parallel to the table
- Standard clamping range 8 - 40 mm, can be extended to a maximum of 87 mm using clamping screws
- Description:
  1. Clamping range
  2. Length (js6)
  3. Wrench size 18
  4. Clamping screw
  5. Clamping ring
  6. Diameter 22 mm
  7. Wrench size 36 mm
  8. Spacer washer





Clamping bolts

- Supplied with M10 threaded bolts, spacer washer, clamping screw, clamping ring

Description	L mm	Clamping range mm	art.no.	€
With fixed thread M10	50	8 - 40	476001 0050	144,–
With replaceable threaded bolts M10	100	8 - 40	476001 0100	162,–
With replaceable threaded bolts M10	150	8 - 40	476001 0150	198,50

4197

Clamping screws

Clamping range mm	art.no.	€
8 - 40	476002 0840	45,50
40 - 67	476002 4067	89,30
65 - 87	476002 6587	107,50

4197



Clamping ring

Designation	art.no.	€
Clamping ring	476003 0001	31,30

4197

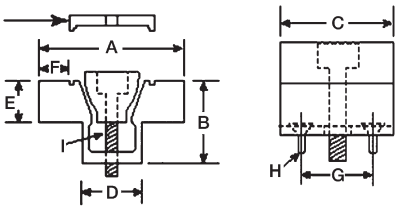
Threaded bolts

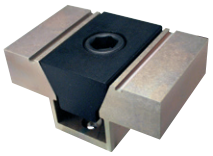
Thread	art.no.	€
M10	476004 0010	31,30
M12	476004 0012	31,30
M14	476004 0014	31,30
M16	476004 0016	31,30

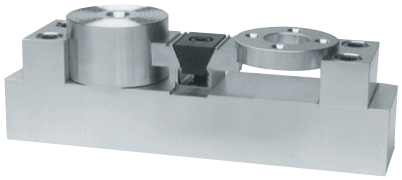
4197

Form-fit double wedge clamp

- Extra wide jaws, can be milled to fit the shape of the workpiece
- For securely clamping difficult parts
- Clamps unstable parts without distortion
- Space-saving
- Allows two workpieces to be clamped simultaneously
- Higher productivity due to reduced auxiliary processing times
- Ideal for machining centres as well as milling and drilling machines
- **Note:** A locking plate is used during form milling to ensure that the jaws remain in a stable position and vibration-free.
- Supplied with wedge clamp and screw

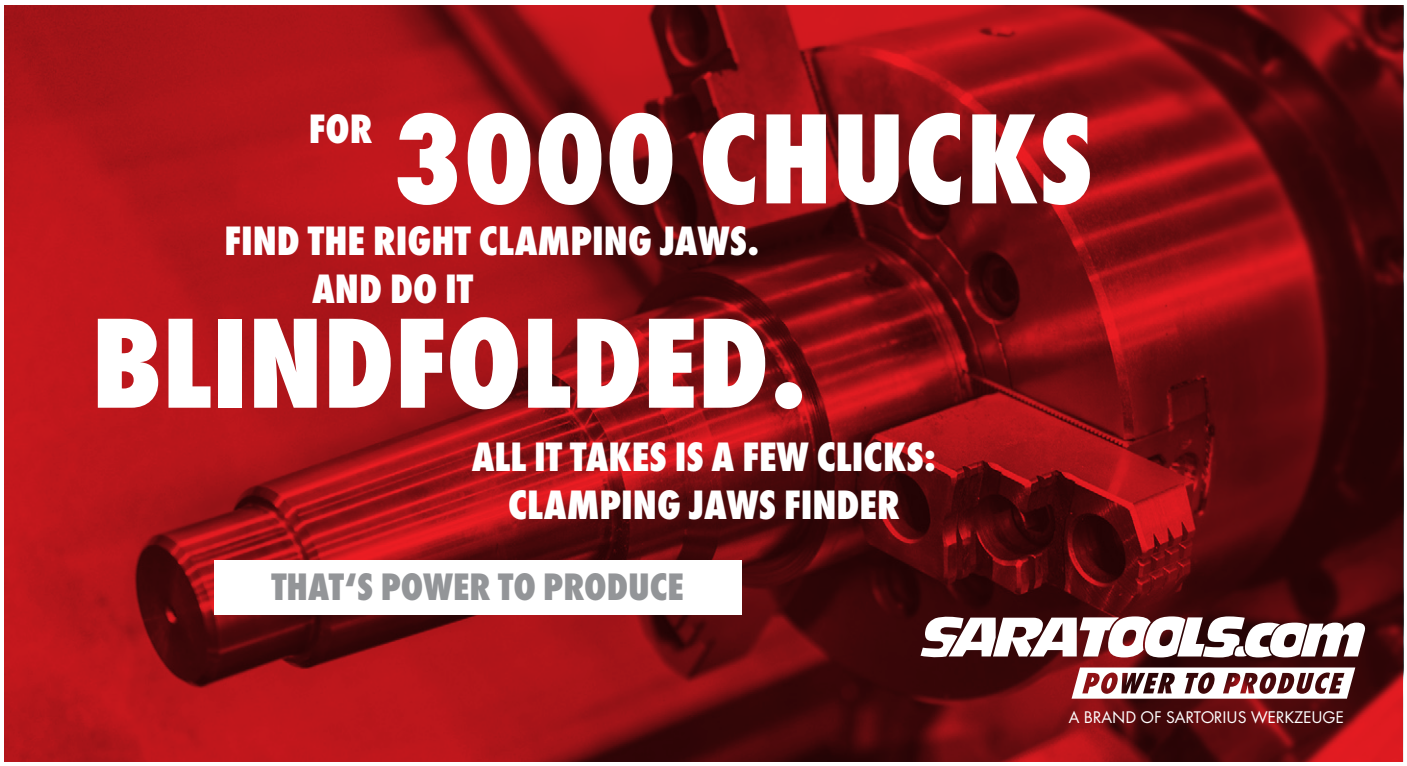






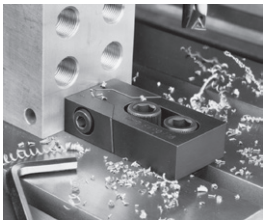
Clamp force kN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Locking plate	art.no.	€
2.2	28.6	12.7	15.7	10.6	6.3	4.6	10.2	M 2	M 4	Yes	475035 0040	50,30
2.2	28.6	12.7	15.7	10.6	6.3	4.6	10.2	M 2	M 4	No	475035 0041	39,20
6.8	38.1	19	23.9	16.1	9.4	6.6	15.9	M 4	M 6	Yes	475035 0060	52,30
6.8	38.1	19	23.9	16.1	9.4	6.6	15.9	M 4	M 6	No	475035 0061	41,60
9	50.8	25.4	31.8	20.8	12.7	9.9	20.6	M 4	M 8	Yes	475035 0080	72,70
9	50.8	25.4	31.8	20.8	12.7	9.9	20.6	M 4	M 8	No	475035 0081	61,–
16	76.2	38.1	47.5	30.9	19.1	15.7	30.5	M 5	M 12	Yes	475035 0120	201,–
16	76.2	38.1	47.5	30.9	19.1	15.7	30.5	M 5	M 12	No	475035 0121	184,–
27	101.6	50.8	63.5	41.3	25.4	20.3	41	M 6	M 16	Yes	475035 0160	329,–
27	101.6	50.8	63.5	41.3	25.4	20.3	41	M 6	M 16	No	475035 0161	298,–

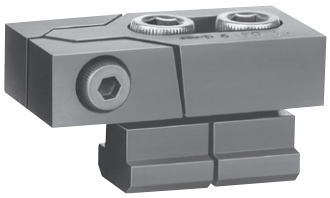
4156



Bulle deep clamping jaws

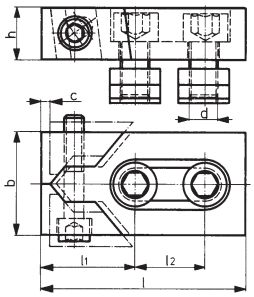
- Hardened and tempered to a burnished shade
- **Supplied in pairs**, boxed, complete with fastening screws (DIN 912, 10.9 / ISO 4762), T-slot nuts (DIN 508) and a hexagonal screwdriver (ISO 2936)
- Prices per pair





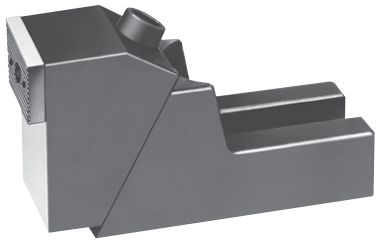
Groove width mm	c mm	h mm	b mm	l mm	l1 mm	l2 mm	d mm	F1 kN	F2 kN	art.no.	€
12	3	20	40	80	26	39	M10	16	0.6	466103 0012	136,50
14	3	20	40	80	26	39	M12	22	0.9	466103 0014	150,50
16	3	20	40	80	26	39	M12	22	0.9	466103 0016	158,50
16	4	25	50	100	34	46	M14	32	1.2	466103 1016	188,–
18	4	25	50	100	34	46	M16	36	1.4	466103 0018	195,–
20	4	25	50	100	34	46	M16	36	1.4	466103 0020	208,–
22	5	30	78	140	50	65	M20	36	1.4	466103 0022	349,–
24	5	30	78	140	50	65	M20	36	1.4	466103 0024	372,–
28	5	30	78	140	50	65	M24	40	1.6	466103 0028	446,–

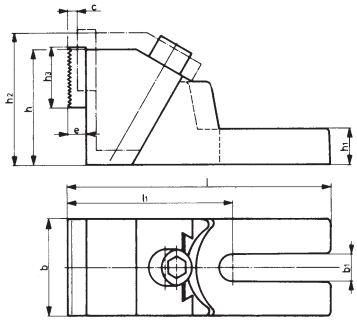
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Heavy-duty clamping jaws

- **Reversible clamping jaws**
- High design with precise V-shaped guide
- Base body: Malleable cast iron
- Clamping jaws: Case-hardened steel
- Reversible clamping jaws with smooth side for machined workpieces and grooved side for raw clamping surfaces
- Robust clamping jaws with large clamping surfaces, ideal for laterally clamping high workpieces
- We recommend using two clamping screws to secure the heavy-duty clamping jaws to the work table! DIN 787 T-slot screws must be ordered separately for use as fastening screws (two per clamping jaw), depending on the slot width.





Groove width mm	b1 mm	c mm	h mm	h1 mm	h2 mm	h3 mm	b mm	l mm	l1 mm	e mm	art.no.	€
12 - 18	19	8	85	38	99	40	65	179	112.5	12	466105 0019	371,–
20 - 30	26	11	100	45	118	40	75	230	138.5	12	466105 0026	503,–
32 - 42	38	15	120	56	145	40	90	265	158	12	466105 0038	734,–

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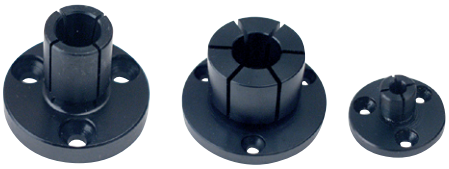
Hydraulic expansion chucks



- Reduced-vibration tool clamping
- Increased tool endurance
- Reduced micro-nicks on the tool cutting edge
- High torque transfer
- High level of positioning accuracy and precision

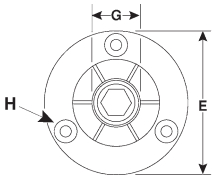
Mandrels

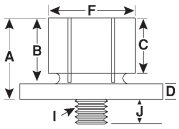
- Almost every workpiece has at least one bore. These are suitable for clamping the workpiece (turning, milling, drilling part) to allow machining on the second side.
- 5-sided machining
- Space saving design for multi-clamping
- Mandrel can be easily turned and milled to the desired diameter
- Easy to use



For through-holes

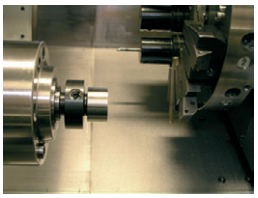
- Fastening flange diameter is concentric to the clamping diameter
- Clamping screw, hardened and coated
- Supplied with 3 fastening screws (H)





A mm	B mm	C mm	D mm	E mm	D min./max.	H mm	I mm	J mm	art.no.	€
10.7	7.6	6.1	3	20 h9	4.1 - 7.4 mm	M2 on PC Ø 13.7	M 2	4.1	475041 0020	95,40
21.8	16	15	5.9	29.72 h9	7.2 - 12.4 mm	M3 on PC Ø 21	M 4	8	475041 0040	76,10
24.9	19	15	5.9	31.5 h9	12.2 - 14.2 mm	M3 on PC Ø 23.1	M 6	12	475041 0060	90,–
24.9	19	15	5.9	37.5 h9	13.5 - 20 mm	M3 on PC Ø 29	M 8	14	475041 0080	94,70
28.6	22.2	17.5	6.4	50 h8	18 - 27 mm	M4 on PC Ø 39.4	M 10	17	475041 0100	122,–
31.8	25.4	20.6	6.4	56 h8	23 - 35.3 mm	M4 on PC Ø 45.5	M 12	21	475041 0120	145,–
39.6	31.8	27	7.9	69.5 h8	30 - 42 mm	M5 on PC Ø 55.9	M 16	22	475041 0160	185,50
39.6	31.8	27	7.9	75.5 h8	30 - 51 mm	M5 on PC Ø 63.9	M 16	22	475041 0161	212,–
45.5	37.6	32.3	7.9	107.5 h8	30 - 77 mm	M6 on PC Ø 92.5	M 16	20	475041 0162	329,–
45.5	38	32	8	132.9 h9	30 - 103 mm	M6 on PC Ø 118	M 16	20	475041 0163	422,–

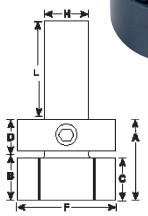
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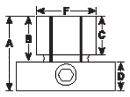


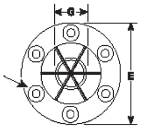


For blind bores

- Available in various sizes, although turned or milled by the user to the specific diameter of the workpiece
- Supplied with lock ring





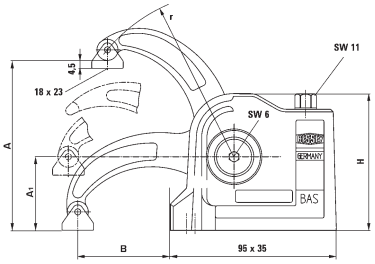


suitable for	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	L mm	Interior hexagon mm	Clamp force kN	art.no.	€
Lathe	44.4	25	21	19	5.3	53.3	18	25	45	6	20	475042 0444	317,–
Milling machine	41.0	22	17.5	19	50	28.7	17.8	M 4	39.4	6	20	475042 0410	207,–

4156

Compact clamp

- Compact design
- Clamping force up to 16 kN
- Special polyamide seal protects the inside from dirt
- Ideal access when machining
- Clamps workpieces quickly
- Supplied without chuck key or clamping screw



Casing and lever arm made from tempering steel



Figure 1

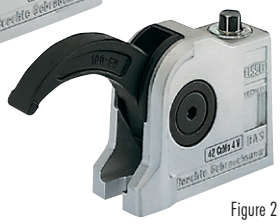
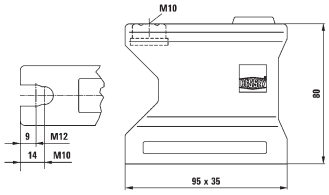


Figure 2

Compact clamp

A mm	A1 mm	B mm	r mm	H mm	Cyl. Screws DIN 912	Clamp force kN	Illustration	art.no.	€
88	42	40	75	78	M10 / M12	16	1	468010 0088	337,–
97	42	60	94	78	M10 / M12	12	1	468010 0097	349,–
97	42	60	94	78	M10 / M12	12	2	468010 0197	348,–

4192





Clamp base

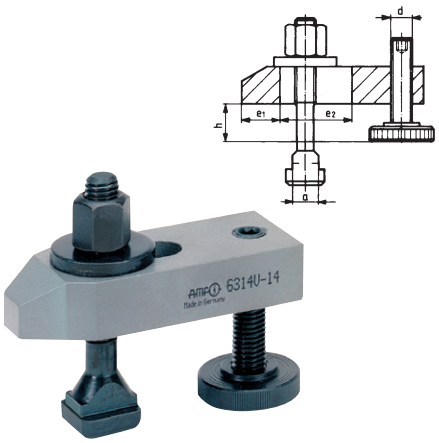
Clamping height mm	Cyl. Screws DIN 912	art.no.	€
80	M10 / M12	468011 0010	106,50

4192

Clamp sets

DIN 6314V DIN 6316V

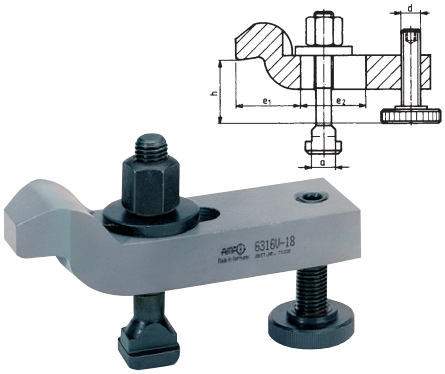
- **With adjustable support screw**
- Tempering steel, painted
- Complete with DIN 787 T-slot screws, nuts and washers
- Supplied without notched clamping lever, please order separately



Bevelled, DIN 6314 V

T-groove dimension a mm	T-groove screw DIN 787	Clamping height mm	d mm	e1 mm	e2 mm	art.no.	€
10	M10 x 80	8 - 32	M10	15	30	466005 0010	37,20
12	M12 x100	10 - 40	M12	21	40	466005 0012	43,10
14	M12 x100	10 - 38	M12	21	40	466005 0014	43,10
16	M16 x125	13 - 48	M16	26	45	466005 0016	59,–
18	M16 x125	13 - 46	M16	26	45	466005 0018	61,60
20	M20 x160	16 - 65	M20	30	60	466005 0020	96,20
22	M20 x160	16 - 65	M20	30	60	466005 0022	96,70

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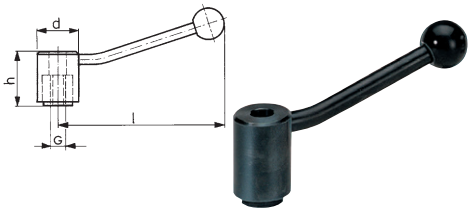
Offset, DIN 6316 V

T-groove dimension a mm	T-groove screw DIN 787	Clamping height mm	d mm	e1 mm	e2 mm	art.no.	€
10	M10 x 80	22 - 46	M10	36	32	466010 0010	50,10
12	M12 x100	28 - 58	M12	44	40	466010 0012	58,–
14	M12 x100	28 - 56	M12	44	40	466010 0014	58,–
16	M16 x125	36 - 71	M16	51.5	50	466010 0016	78,90
18	M16 x125	36 - 69	M16	51.5	50	466010 0018	79,40
20	M20 x160	43 - 92	M20	59	70	466010 0020	124,–
22	M20 x160	43 - 92	M20	59	70	466010 0022	125,–

4157

Notched clamping lever

- Steel, burnished

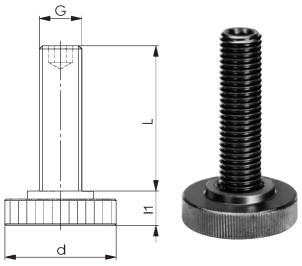


Thread	l mm	d mm	h mm	suitable for	art.no.	€
M12	135	33	48	4660050012 4660050014 4660100012 4660100014	466011 0012	81,90
M16	158	40	64	4660050016 4660050018 4660100016 4660100018	466011 0016	94,60

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Support screw, DIN 6314 S

- Hardened and tempered
- Strength class 8.8

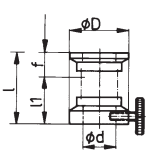


Thread	d mm	l1 mm	l mm	art.no.	€
10	30	8	39	466012 0010	15,30
12	36	10	49	466012 0012	16,10
12	36	10	94	466012 0112	23,–
16	42	13	55	466012 0016	20,30
16	42	13	90	466012 0116	27,20
20	50	16	69	466012 0020	30,20
20	50	16	109	466012 0120	35,–

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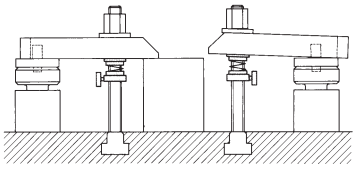
Clamp holder

- **Spring-loaded, with brass locking screw**
- The clamp holder supports the clamp when positioning and removing the workpiece. This makes unclamping both quick and safe.





f = spring deflection



Model	D mm	d mm	l mm	l1 mm	suitable for screws	art.no.	€
1	22	10.5	30	22	M8 - M10	466055 0001	27,70
2	26	14.5	32	22	M12 - M14	466055 0002	29,90
3	32	18.5	38	26	M16 - M18	466055 0003	31,30
4	38	22.5	40	28	M20 - M22	466055 0004	35,20
5	45	27.5	44	32	M24 - M27	466055 0005	42,80

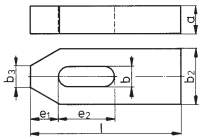
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Clamps

DIN 6314 | DIN 6315B | DIN 6316

- Tempering steel, painted





Standard version, DIN 6314

Slot width mm	l mm	a mm	b2 mm	b3 mm	e1 mm	e2 mm	for screws	art.no.	€
6.6	50	10	20	8	10	20	M6	466020 0007	8,65
9	60	12	25	10	13	22	M8	466020 0009	10,05
11	80	15	30	12	15	30	M10	466020 0011	12,55
14	100	20	40	14	21	40	M12 M14	466020 0014	12,55
18	125	25	50	18	26	45	M16 M18	466020 0018	18,05
22	160	30	60	22	30	60	M20 M22	466020 0022	33,10
26	200	30	70	26	35	80	M24	466020 0026	45,20
33	250	40	80	34	45	100	M30	466020 0033	140,–

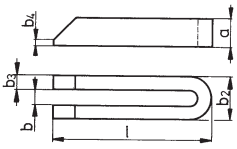
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Forked clamp, bevelled, DIN 6315 B

Slot width mm	l mm	a mm	b2 mm	b3 mm	b4 mm	for screws	art.no.	€
6.6	60	12	19	6	3	M6	466025 0007	10,40
9	80	15	25	8	4	M8	466025 0009	11,–
11	100	20	31	10	5	M10	466025 0011	12,85
14	125	25	38	12	6	M12 M14	466025 0014	14,05
18	160	30	48	15	8	M16 M18	466025 0018	19,95
22	200	40	52	15	10	M20 M22	466025 0022	30,40
26	200	40	66	20	10	M24	466025 0026	38,80
33	250	50	74	20	12	M30	466025 0034	64,60

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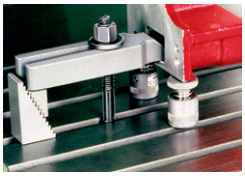


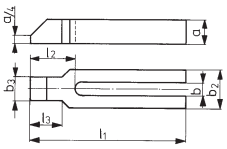


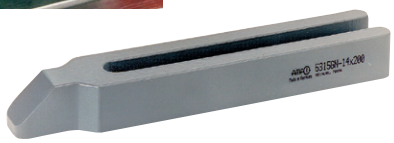
Forked clamp with nose

Slot width mm	l1 mm	a mm	b2 mm	b3 mm	l2 mm	l3 mm	for screws	art.no.	€
9	100	15	30	16	32	18	M8	466030 0009	33,30
11	125	20	30	20	38	24	M10	466030 0011	41,50
14	160	25	40	24	47	30	M12 M14	466030 0014	33,50
18	200	30	50	28	57	36	M16 M18	466030 0018	44,20
22	250	40	60	35	68	45	M20 M22	466030 0022	81,40
26	315	40	70	43	83	56	M24	466030 0026	99,20
33	400	50	80	50	88	56	M30	466030 0034	194,–

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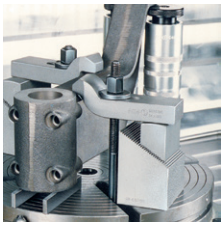


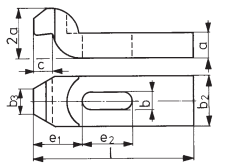


Standard, offset, DIN 6316

Slot width mm	l mm	a mm	b2 mm	b3 mm	c mm	e1 mm	e2 mm	for screws	art.no.	€
6.6	60	10	20	10	8	22	20	M6	466040 0007	18,55
9	80	12	25	12	9	27.5	25	M8	466040 0009	19,85
11	100	15	30	15	12	36	32	M10	466040 0011	21,10
14	125	20	40	20	16	44	40	M12 M14	466040 0014	21,40
18	160	25	50	25	20	51.5	50	M16 M18	466040 0018	31,10
22	200	30	60	30	24	59	70	M20 M22	466040 0022	50,70
26	250	35*	70	35	25	76.5	80	M24	466040 0026	98,20
33	315	50	80	40	40	96	100	M30	466040 0033	215,–

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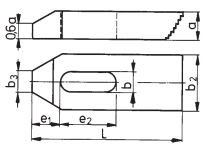


With stepped teeth

- Compatible with universal clamping supports 466047 0001-0002-0003
- The long version is designed for large spans due to wide slot spacing or greater workpiece clamping depths, e.g. on engraving machines.

Slot width mm	l mm	a mm	b2 mm	b3 mm	e1 mm	e2 mm	for screws	art.no.	€
6.6	50	10	20	8	10	20	M6	466046 0007	14,45
9	60	12	25	10	13	22	M8	466046 0009	18,35
11	80	15	30	12	15	30	M10	466046 0011	21,20
14	100	20	40	14	21	40	M12 M14	466046 0014	21,30
18	125	25	50	18	26	45	M16 M18	466046 0018	30,70
22	160	30	60	22	30	60	M20 M22	466046 0022	49,–
26	200	30	70	26	35	80	M24	466046 0026	78,40

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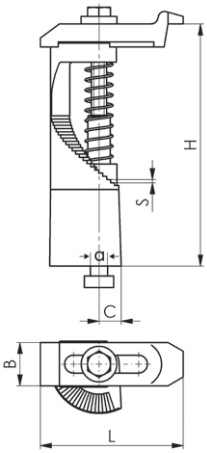




Helical clamp

- Special cast iron
- Screw and threaded sleeve strength class 8.8
- Quick to use as a clamping unit
- Finely graded steps allow rapid adjustment for any workpiece height up to approx. 320 mm
- Requires little space on the work table thanks to the compact design



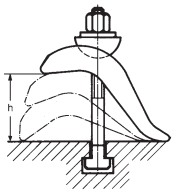


Model	a mm	H mm	S mm	C mm	L mm	B mm	art.no.	€
1	12	15 - 45	0.75	14	110	34	466044 1201	155,50
2	12	30 - 75	1.25	15	112	34	466044 1202	181,–
3	12	60 - 135	2.5	16	112	34	466044 1203	231,–
4	12	120 - 195	2.5	18	112	34	466044 1204	307,–
0	14	0 - 45	0.75	14	140	34	466044 1400	156,50
1	14	15 - 45	0.75	14	112	34	466044 1401	158,–
2	14	30 - 75	1.25	15	112	34	466044 1402	186,–
3	14	60 - 135	2.5	16	112	34	466044 1403	237,–
4	14	120 - 195	2.5	18	112	34	466044 1404	318,–
5	14	180 - 255	2.5	19	112	34	466044 1405	357,–
1	16	25 - 70	1.25	20	125	50	466044 1601	251,–
2	16	50 - 120	2.5	21	125	50	466044 1602	304,–
3	16	100 - 220	3.75	21	125	50	466044 1603	400,–
1	18	25 - 70	1.25	20	125	50	466044 1801	265,–
2	18	50 - 120	2.5	21	125	50	466044 1802	322,–
3	18	100 - 220	3.75	21	125	50	466044 1803	418,–
4	18	200 - 320	3.75	24	125	50	466044 1804	556,–

4157

Clamping claw

- **Infinitely variable**
- Forged steel, hardened and tempered, galvanised
- Complete with DIN 787 T-slot screws, nuts and washers
- For quickly bridging various clamping heights with no additional supports
- Requires little space on the work table
- Designed for maximum loads
- Particularly suitable as a clamping device for cutting and stamping tools





T-groove dimension DIN 787	Clamping height mm	T-groove screw DIN 787	Clamps L x W mm	art.no.	€
12	0 - 50	12 M12 x 125	140 x 50	466001 0012	67,70
14	0 - 50	14 M12 x 125	140 x 50	466001 0014	69,20
16	0 - 75	16 M16 x 160	140 x 50	466001 0016	73,80
18	0 - 75	18 M16 x 160	140 x 50	466001 0018	73,80
20	0 - 85	20 M20 x 200	175 x 60	466001 0020	102,50
22	0 - 85	22 M20 x 200	175 x 60	466001 0022	104,50

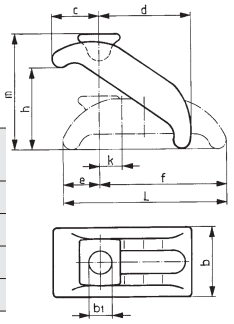
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Clamping claw, short

- **Without clamping screw; with U-section**
- Infinitely variable
- Hardened and tempered, galvanised and blue passivated
- Supplied without T-slot screws or nuts



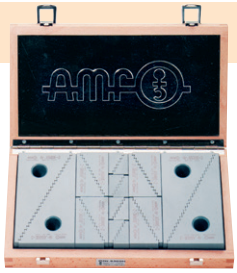


T-groove dimension DIN 787	T-groove screw DIN 787	L mm	b mm	b1 mm	c mm	d mm	e mm	f mm	h mm	k mm	m mm	art.no.	€
12/14	M12	88	38	13	28	48	23	68	0 - 35	14	30-55	466002 0012	37,30
16/18	M16	130	56	18	38	74	29	101	0 - 55	18	42-84	466002 0016	46,10
20/22	M20	140	66	22	46	80	32	112	0 - 65	20	50-100	466002 0020	60,10
24/28	M24	174	76	26	52	100	39	135	0 - 75	24	54-111	466002 0024	85,–

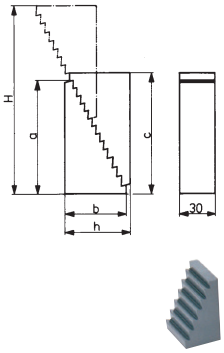
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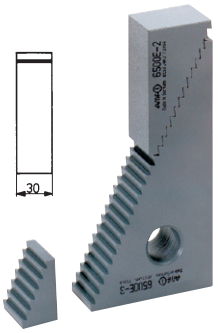
Universal clamping supports

- **Individual and as a set**
- Tempering steel, painted
- Can be used in pairs with all clamps and individually with the toothed clamps
- Vertical step height 4.65 mm, horizontal step height 2.3 mm



466047 0020





Model	h - H mm	a mm	b mm	c mm	art.no.	€
1	23 - 51	33	19	33	466047 0001	6,75
2	39 - 107	66	35.5	66	466047 0002	10,70
3	71 - 208	131	68	131	466047 0003	26,50
Set consisting of 8x Model 1, 8x Model 2, 4x Model 3	22 - 208				466047 0020	248,–

4157

Correcting wedge *HERKULES*

- **Height wedge**
- Centring hole Ø 12 mm
- Ductile iron and steel hardened and tempered to a burnished shade, incl. ball attachment 466019 0001
- Correcting wedge can still be adjusted slightly at a load equal to one third of the maximum load capacity
- Precision-machined wedge surfaces enable smooth, sensitive adjustments (< 1/10 mm) using either a knurled-head screw or hexagonal screwdriver
- Double wedge effect, produces considerable lift and precise vertical movement without lateral displacement
- Height wedge tried and tested with heavy cast iron or forged parts on large machine tools



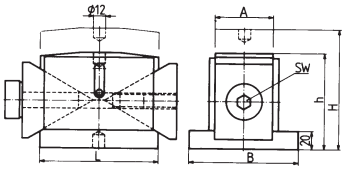
466050 0063



466050 0125

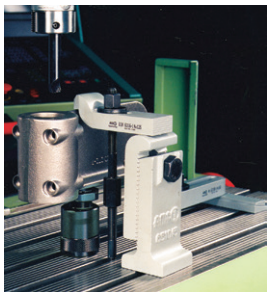
h - H mm	A mm	B mm	L mm	Wr. width	H mm/rev	Load capacity kN	art.no.	€
50 - 63	40	40	63	13 mm	0.86	40	466050 0063	386,–
100 - 125	60	115	125	24 mm	1.16	100	466050 0125	826,–
170 - 190	80	145	175	36 mm	2.02	250	466050 0190	2.169,–

4157

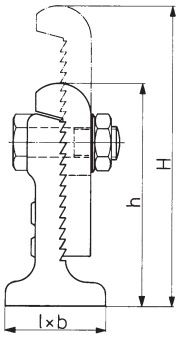


Clamping supports, toothed

- **(Serrated jacks)**
- Malleable cast iron, painted
- Step height 5.2 mm
- Plane-milled standing surface







Model	h - H mm	l mm	b mm	Load capacity kN	art.no.	€
3	155 - 223	60	60	60	466049 0003	136,–
4	220 - 340	80	80	90	466049 0004	247,–

4157

Screw jack

- **With flat support**
- Tempering steel, painted
- Spindle: Trapezoidal thread, self-locking, with end stop body



Centre hole Ø mm	Head Ø mm	Load capacity kN	Base body Ø mm	Support surface height mm	art.no.	€
12	31	25	31	38 - 50	466015 3150	36,90
12	50	100	50	42 - 52	466015 5052	49,20
12	50	100	50	50 - 70	466015 5070	52,40
12	50	100	50	70 - 100	466015 5010	59,50
12	68	120	68	100 - 140	466015 7014	106,–
12	80	170	70	140 - 210	466015 7021	191,50
12	100	350	80	190 - 300	466015 8010	348,–

4157

Aluminium screw jack

- **With chip guard**
- Wiper protects the vice thread against the ingress of swarf
- Centring hole Ø 12 mm
- Spindle made from tempering steel, burnished
- Trapezoidal thread, self-locking, with end stop body

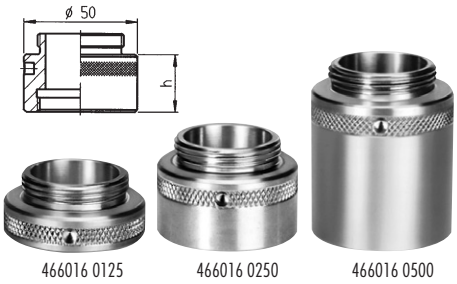


Description	Head Ø mm	Base body Ø mm	Load capacity kN	Support surface height mm	art.no.	€
	50	50	30	75 - 88	466016 0001	140,50
	50	50	30	75 - 88	466016 0002	175,50

4157

Aluminium spacer rings

- For subsequent height extension



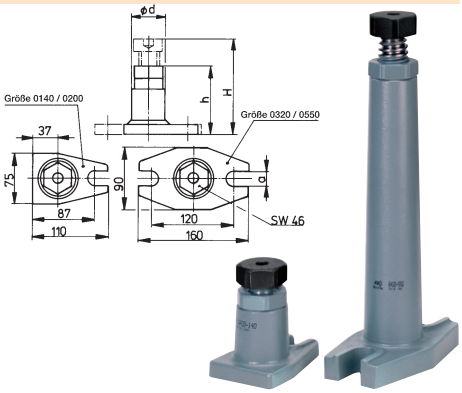
466016 0125 466016 0250 466016 0500

h mm	art.no.	€
12.5	466016 0125	17,60
25	466016 0250	24,30
50	466016 0500	42,80

4157

Screw jack *ATLAS*

- **With locking nut**
- Centring hole Ø 12 mm
- Spindle, complete Tempering steel, with trapezoidal thread
- Spindle head, burnished
- Grey cast iron base body, painted

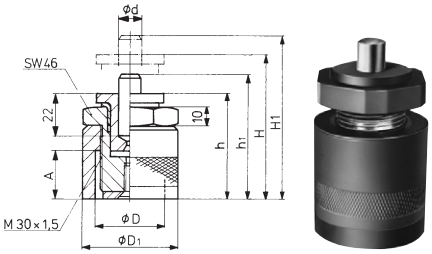


h - H mm	a mm	Load capacity kN	d mm	art.no.	€
100 - 140	18	60	46	466017 0140	113,50
140 - 200	18	60	46	466017 0200	142,–
200 - 320	22	40	46	466017 0320	198,50
320 - 550	22	25	46	466017 0550	231,–

4157

Height-adjustable threaded pedestal

- With DIN 6325 cylindrical pins, 12 x 50 and 12 x 80 (1 of each)
- Centring hole Ø 12 mm
- Tempering steel, burnished
- Spindle: metric fine thread, M30 x 1.5, with end stop body
- Sliding insert runs on pressed-in plain bearing bush

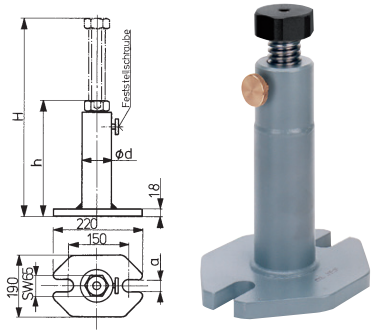


h - H mm	with straight shank 12 x 50 mm	with straight shank 12 x 80 mm	d mm	D1 mm	D mm	Load capacity kN	A mm	art.no.	€
55 - 75	83 - 103	113 - 133	12	50	36	30	25	466050 0075	156,50
75 - 115	103 - 143	133 - 173	12	50	36	30	45	466050 0115	164,–

4157

Screw jack, heavy-duty

- **Heavy-duty design, with brass locking screw**
- Centring hole Ø 12 mm
- Spindle, complete Tempering steel, with trapezoidal thread
- Spindle head, burnished
- Base body made from tempering steel, painted

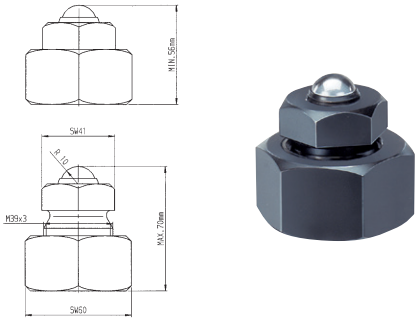


h - H mm	a mm	d mm	Load capacity kN	art.no.	€
200 - 300	26	65	80	466018 0300	372,–
290 - 470	26	65	60	466018 0460	449,–
430 - 750	26	65	50	466018 0750	569,–
710 - 1250	26	65	40	466018 1250	749,–

4157

Threaded pedestal

- **With rotatable ball**
- Steel hardened and tempered to a burnished shade
- Hardened ball
- Punctiform support, particularly suitable for supporting and aligning free-formed surfaces such as cast iron and forged workpieces
- Calibration accuracy approx. 0.1 mm



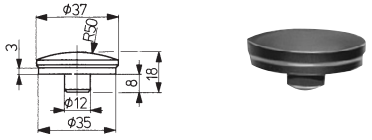
h - H mm	Load capacity kN	art.no.	€
56 - 70	30	466050 0070	66,70

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Attachments

- **For alignment and support elements**
- Steel hardened and tempered to a burnished shade

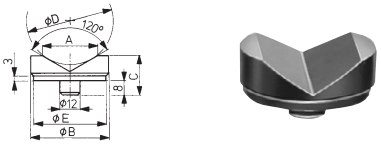
Ball attachment



Ø mm	art.no.	€
37	466019 0001	12,95

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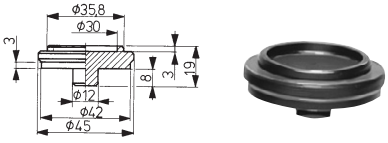
V-block attachment



A mm	B mm	C mm	D min. mm	E mm	art.no.	€
32	45	23	10	42	466019 0010	31,10
56	65	38	22	62	466019 0011	58,–

4157

Centring plate

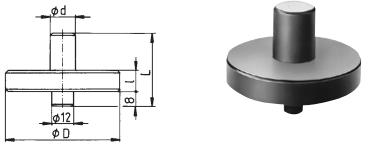


Description	art.no.	€
For mounting Ø 50 mm screw jacks	466019 0020	18,95

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Fixing attachment

- For forked clamps

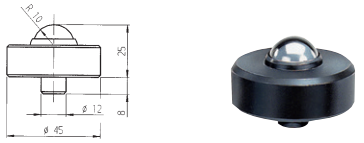


D mm	d mm	L mm	l mm	art.no.	€
63	14	40	12	466019 0030	44,90
78	25	53	15	466019 0031	52,90

4157

Attachment with rotatable ball

- Hardened ball



Load capacity kN	art.no.	€
30	466019 0040	44,80

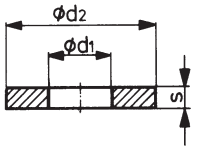
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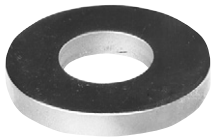
Washers

DIN 6340 | DIN 6319D | DIN 6319C | DIN 6319G

Standard version, DIN 6340

- Hardened and tempered (350 + 80 Hv 30)
- * = DIN-compliant dimensions, but stamped and pressed flat



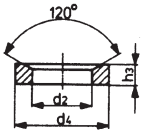


for thread	d1 mm	d2 mm	s mm	art.no.	€
M6	6.4	17	3	466525 0006	0,89
M8	8.4	23	4	466525 0008	0,95
M10	10.5	28	4	466525 0010	1,–
M12	13	35	5	466525 0012	1,18
M14*	15	40	5	466525 0014	1,38
M16	17	45	6	466525 0016	1,67
M18*	19	45	6	466525 0018	2,14
M20	21	50	6	466525 0020	2,68
M22*	23	50	8	466525 0022	3,19
M24	25	60	8	466525 0024	4,01
M27*	28	68	10	466525 0027	6,80
M30	31	68	10	466525 0030	6,85
M36*	38	80	10	466525 0036	11,50

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Spherical washer, DIN 6319 D

- Case-hardened and phosphate-treated, suitable for screw strengths equivalent to class 8.8
- For use only **with flat closed ring surfaces**
- (not permissible for longitudinal slots - for this purpose, we recommend DIN 6319G)



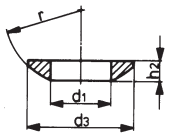


for thread	max. transferable static bolt force kN	d2 mm	d4 mm	h3 mm	art.no.	€
M6	9	7.1	12	2.8	466530 0006	0,77
M8	17	9.6	17	3.5	466530 0008	0,80
M10	26	12	21	4.2	466530 0010	1,04
M12	38	14.2	24	5	466530 0012	1,18
M14	53	16.5	28	5.6	466530 0014	2,14
M16	73	19	30	6.2	466530 0016	2,28
M20	117	23.2	36	7.5	466530 0020	3,52
M24	168	28	44	9.5	466530 0024	5,75
M30	269	35	56	12	466530 0030	10,20
M36	394	42	68	15	466530 0036	22,80

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Spherical washer, DIN 6319 C

- Case-hardened and phosphate-treated



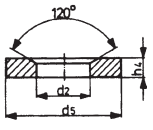


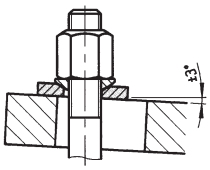
for thread	d1 mm	d3 mm	h2 mm	r mm	art.no.	€
M6	6.4	12	2.3	9	466535 0006	0,67
M8	8.4	17	3.2	12	466535 0008	0,77
M10	10.5	21	4	15	466535 0010	1,04
M12	13	24	4.6	17	466535 0012	1,18
M14	15	28	5	22	466535 0014	1,87
M16	17	30	5.3	22	466535 0016	2,03
M20	21	36	6.3	27	466535 0020	2,87
M24	25	44	8.2	32	466535 0024	4,64
M30	31	56	11.2	41	466535 0030	8,70
M36	37	68	14	50	466535 0036	21,30

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Spherical washer, DIN 6319 G

- Stamped, pressed, hardened and tempered
- Particularly suitable for use with clamp slots
- Enables the respective clamping bolt to swivel out by 3°
- * = deviates from DIN







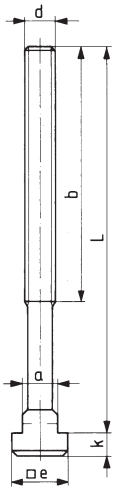
for thread	d2 mm	d5 mm	h4 mm	art.no.	€
M6	7.1	17	4	466540 0006	1,89
M8	9.6	24	5	466540 0008	1,89
M10	12	30	5	466540 0010	1,89
M12	14.2	36*	6	466540 0012	2,22
M14	16.5	40	6	466540 0014	3,36
M16	19	44*	7	466540 0016	3,36
M20	23.2	50	8	466540 0020	4,74
M24	28	60	10	466540 0024	8,–
M30	35	68	10*	466540 0030	12,95
M36	42	80	12	466540 0036	27,20

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Screws for T-slots

DIN 787

- **Complete with nut and washer**
- Forged, with milled T-slot guide and rolled thread
- M6 - M12 hardened and tempered to strength class 10.9
- M14 - M42 hardened and tempered to strength class 8.8
- Further sizes available on request





Groove width mm	d mm	L mm	b mm	a mm	e mm	k mm	art.no.	€
6	M6	25	15	5.7	10	4	466501 0601	10,80
6	M6	40	28	5.7	10	4	466501 0602	10,90
8	M8	32	22	7.7	13	6	466501 0801	11,60
8	M8	50	35	7.7	13	6	466501 0802	12,25
8	M8	80	50	7.7	13	6	466501 0803	12,55
10	M10	40	30	9.7	15	6	466501 1001	11,90
10	M10	63	45	9.7	15	6	466501 1002	11,20
10	M10	80	50	9.7	15	6	466501 1012	12,05
10	M10	100	60	9.7	15	6	466501 1003	12,45
12	M12	50	35	11.7	18	7	466501 1201	12,25
12	M12	63	40	11.7	18	7	466501 1202	12,25
12	M12	80	55	11.7	18	7	466501 1203	12,65
12	M12	100	65	11.7	18	7	466501 1223	13,25
12	M12	125	75	11.7	18	7	466501 1204	13,95
12	M12	160	100	11.7	18	7	466501 1224	16,80
12	M12	200	120	11.7	18	7	466501 1205	17,10
14	M12	50	35	13.7	22	8	466501 1210	12,05
14	M12	63	45	13.7	22	8	466501 1211	12,35
14	M12	80	55	13.7	22	8	466501 1212	12,65
14	M12	100	65	13.7	22	8	466501 1222	13,55
14	M12	125	75	13.7	22	8	466501 1213	14,35
14	M12	160	100	13.7	22	8	466501 1233	15,80
14	M12	200	120	13.7	22	8	466501 1214	16,20
16	M14	63	45	15.7	25	9	466501 1401	14,65
16	M14	80	55	15.7	25	9	466501 1411	16,–
16	M14	100	65	15.7	25	9	466501 1402	16,10
16	M14	125	75	15.7	25	9	466501 1412	16,80
16	M14	160	100	15.7	25	9	466501 1403	17,20
16	M14	250	120	15.7	25	9	466501 1404	22,80
16	M16	63	45	15.7	25	9	466501 1601	16,–
16	M16	80	55	15.7	25	9	466501 1602	16,70
16	M16	100	65	15.7	25	9	466501 1603	17,10
16	M16	125	85	15.7	25	9	466501 1623	19,05
16	M16	160	100	15.7	25	9	466501 1604	19,95
16	M16	200	125	15.7	25	9	466501 1605	21,20
16	M16	250	150	15.7	25	9	466501 1606	24,20

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Groove width mm	d mm	L mm	b mm	a mm	e mm	k mm	art.no.	€
18	M16	63	45	17.7	28	10	466501 1610	16,40
18	M16	80	55	17.7	28	10	466501 1611	17,–
18	M16	100	65	17.7	28	10	466501 1612	17,50
18	M16	125	85	17.7	28	10	466501 1622	19,05
18	M16	160	100	17.7	28	10	466501 1613	20,30
18	M16	200	125	17.7	28	10	466501 1614	21,70
18	M16	250	150	17.7	28	10	466501 1615	24,60
20	M20	80	55	19.7	32	12	466501 2001	24,60
20	M20	100	65	19.7	32	12	466501 2021	25,30
20	M20	125	85	19.7	32	12	466501 2002	26,50
20	M20	160	110	19.7	32	12	466501 2003	27,70
20	M20	200	125	19.7	32	12	466501 2004	31,–
20	M20	250	150	19.7	32	12	466501 2006	35,20
20	M20	315	190	19.7	32	12	466501 2005	38,80
22	M20	80	55	21.7	35	14	466501 2010	24,70
22	M20	100	65	21.7	35	14	466501 2011	26,10
22	M20	125	85	21.7	35	14	466501 2012	26,80
22	M20	160	110	21.7	35	14	466501 2013	28,30
22	M20	200	125	21.7	35	14	466501 2014	31,30
22	M20	250	150	21.7	35	14	466501 2015	35,20
22	M20	315	190	21.7	35	14	466501 2016	39,40
24	M24	100	70	23.7	40	16	466501 2401	38,50
24	M24	125	85	23.7	40	16	466501 2402	39,70
24	M24	160	110	23.7	40	16	466501 2403	41,30
24	M24	200	125	23.7	40	16	466501 2404	44,40
24	M24	250	150	23.7	40	16	466501 2405	48,20
24	M24	315	190	23.7	40	16	466501 2425	59,50
24	M24	400	240	23.7	40	16	466501 2406	67,70
28	M24	100	70	27.7	44	18	466501 2410	38,60
28	M24	125	85	27.7	44	18	466501 2411	40,30
28	M24	160	110	27.7	44	18	466501 2412	42,80
28	M24	200	125	27.7	44	18	466501 2413	45,20
28	M24	250	150	27.7	44	18	466501 2414	50,20
28	M24	315	190	27.7	44	18	466501 2424	60,10
28	M24	400	240	27.7	44	18	466501 2415	68,20

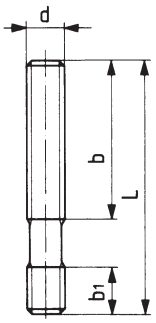
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Studs

DIN 6379

- Rolled thread
- M6 - M12 hardened and tempered to strength class 10.9
- M14 - M42 hardened and tempered to strength class 8.8
- Further sizes available on request







d mm	L mm	b mm	b1 mm	art.no.	€
M6	32	16	9	466505 0632	1,12
M6	40	20	9	466505 0640	1,18
M6	50	30	9	466505 0650	1,38
M6	63	40	9	466505 0663	1,46
M6	80	50	9	466505 0680	1,59
M8	40	20	11	466505 0840	1,99
M8	63	40	11	466505 0863	2,05
M8	80	50	11	466505 0880	2,28
M8	100	63	11	466505 0810	2,56
M8	125	75	11	466505 0812	5,90
M8	160	100	11	466505 0816	6,15
M10	50	25	13	466505 1050	2,16
M10	80	50	13	466505 1080	2,64
M10	100	75	13	466505 1010	2,91
M10	125	75	13	466505 1012	3,23
M10	160	100	13	466505 1016	3,91
M10	200	122	13	466505 1020	4,27
M12	50	25	15	466505 1250	2,44
M12	63	32	15	466505 1263	2,64
M12	80	50	15	466505 1280	2,81
M12	100	63	15	466505 1210	2,87
M12	125	75	15	466505 1212	3,62
M12	160	100	15	466505 1216	4,15
M12	200	122	15	466505 1220	4,33
M14	63	32	17	466505 1463	3,13
M14	80	50	17	466505 1480	4,19
M14	100	63	17	466505 1410	3,99
M14	125	75	17	466505 1412	4,43
M14	160	100	17	466505 1416	4,70
M14	200	122	17	466505 1420	5,80
M14	250	160	17	466505 1425	7,25
M16	63	32	19	466505 1663	3,93
M16	80	50	19	466505 1680	4,07
M16	100	63	19	466505 1610	4,19
M16	125	75	19	466505 1612	4,72
M16	160	100	19	466505 1616	6,05

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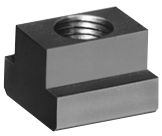
d mm	L mm	b mm	b1 mm	art.no.	€
M16	200	122	19	466505 1620	7,35
M16	250	160	19	466505 1625	8,20
M16	315	180	19	466505 1631	10,60
M16	500	315	19	466505 1650	18,85
M18	80	50	23	466505 1880	8,30
M18	125	75	23	466505 1812	8,70
M18	160	100	23	466505 1816	8,80
M18	200	122	23	466505 1820	11,10
M18	250	150	23	466505 1825	14,45
M18	315	180	23	466505 1831	17,20
M20	80	32	27	466505 2080	6,35
M20	125	70	27	466505 2012	8,05
M20	160	100	27	466505 2016	9,70
M20	200	122	27	466505 2020	11,10
M20	250	160	27	466505 2025	13,55
M20	315	200	27	466505 2031	16,40
M20	400	250	27	466505 2040	21,70
M20	500	315	27	466505 2050	24,70
M22	100	45	31	466505 2210	12,65
M22	160	100	31	466505 2216	12,85
M22	200	122	31	466505 2220	15,90
M22	315	180	31	466505 2231	24,80
M22	400	250	31	466505 2240	25,10
M24	100	45	35	466505 2410	10,70
M24	125	70	35	466505 2412	11,40
M24	160	100	35	466505 2416	12,55
M24	200	122	35	466505 2420	14,95
M24	250	160	35	466505 2425	18,05
M24	315	200	35	466505 2431	21,40
M24	400	250	35	466505 2440	26,70
M24	500	315	35	466505 2450	35,20
M24	630	315	35	466505 2463	46,10
M27	125	56	39	466505 2712	30,90
M27	200	122	39	466505 2720	31,–
M27	315	200	39	466505 2731	35,10
M27	400	250	39	466505 2740	44,40

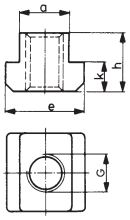
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T-slot nuts

- Hardened and tempered, strength class 10
- The full load capacity for T-slot nuts can only be achieved if the screw connection uses the entire thread length

Standard version, DIN 508





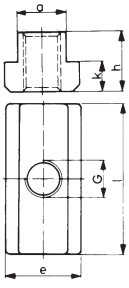
T-slot nominal dimension mm	Thread	a mm	e mm	h mm	k mm	art.no.	€
6	M5	5.7	10	8	4	466545 0006	3,17
8	M6	7.7	13	10	6	466545 0008	2,56
10	M8	9.7	15	12	6	466545 0010	2,71
12	M8	11.7	18	14	7	466545 1208	4,01
12	M10	11.7	18	14	7	466545 0012	2,71
14	M10	13.7	22	16	8	466545 1410	4,39
14	M12	13.7	22	16	8	466545 0014	3,17
16	M10	15.7	25	18	9	466545 1610	6,40
16	M12	15.7	25	18	9	466545 1612	5,25
16	M14	15.7	25	18	9	466545 0016	4,15
18	M12	17.7	28	20	10	466545 1812	6,80
18	M14	17.7	28	20	10	466545 1814	5,80
18	M16	17.7	28	20	10	466545 0018	4,96
20	M16	19.7	32	24	12	466545 2016	8,–
20	M18	19.7	32	24	12	466545 0020	7,45
22	M18	21.7	35	28	14	466545 2218	10,90
22	M20	21.7	35	28	14	466545 0022	8,20
24	M20	23.7	40	32	16	466545 2420	15,30
24	M22	23.7	40	32	16	466545 0024	14,55
28	M20	27.7	44	36	18	466545 2820	21,10
28	M22	27.7	44	36	18	466545 2822	25,60
28	M24	27.7	44	36	18	466545 0028	15,30
30	M24	29.7	48	38	19	466545 3024	38,20
32	M27	31.6	50	40	20	466545 0032	38,30
36	M24	35.6	54	44	22	466545 3624	34,30
36	M30	35.6	54	44	22	466545 0036	32,70
42	M30	41.6	65	52	26	466545 4230	69,20
42	M36	41.6	65	52	26	466545 0042	66,70
48	M42	47.6	75	60	30	466545 0048	123,50

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Long

- Protects the table slots on precision machinery





T-slot nominal dimension mm	Thread	a mm	e mm	l mm	h mm	k mm	art.no.	€
6	M5	5.7	10	20	8	4	466547 0006	5,80
8	M6	7.7	13	26	10	6	466547 0008	5,85
10	M8	9.7	15	30	12	6	466547 0010	5,90
12	M10	11.7	18	36	14	7	466547 0012	6,10
14	M12	13.7	22	44	16	8	466547 0014	6,80
16	M14	15.7	25	50	18	9	466547 0016	8,55
18	M16	17.7	28	56	20	10	466547 0018	10,70
20	M18	19.7	32	64	24	12	466547 0020	15,60
22	M20	21.7	35	70	28	14	466547 0022	18,85
28	M24	27.7	44	88	36	18	466547 0028	35,10

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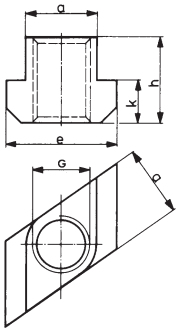
AMF Rhombus T-slot nuts

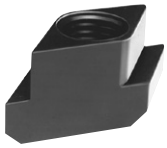
- Hardened and tempered
- Lower load capacity than comparable DIN 508 sizes due to reduced contact surface in the T-slot

T-slot nominal dimension mm	Thread	Strength class	a mm	e mm	h mm	k mm	art.no.	€
12	M10	8	11.7	18	14	7	466548 0012	7,20
14	M10	8	13.7	22	16	8	466548 1410	8,60
14	M12	8	13.7	22	16	8	466548 0014	8,60
16	M14	6	15.7	25	18	9	466548 0016	9,70
18	M16	6	17.7	28	20	10	466548 0018	10,05
20	M16	8	19.7	32	24	12	466548 2016	12,65
20	M18	6	19.7	32	24	12	466548 0020	13,25
22	M20	6	21.7	35	28	14	466548 0022	15,80
28	M20	8	27.7	44	36	18	466548 2820	26,40
28	M24	6	27.7	44	36	18	466548 0028	26,40
36	M30	6	35.6	54	44	22	466548 0036	50,70
42	M36	6	41.6	65	52	26	466548 4236	102,50

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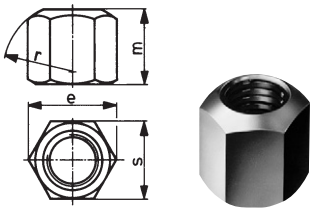


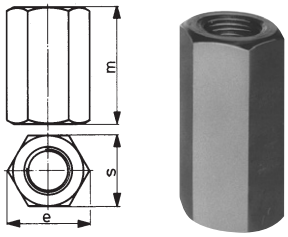


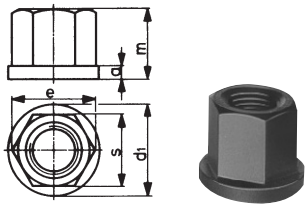


AMF Hexagonal nuts

DIN 6330B | DIN 6334 | DIN 6331







1.5 x D high, DIN6330B

- Hardened and tempered, strength class 10
- With spherical end, can be used directly with DIN 6319D or G conical washers
- With flat end, can be used with DIN 6340 hardened washers

Thread	Wr. width	e mm	m mm	r mm	art.no.	€
M6	10 mm	11.05	9	9	466510 0006	0,62
M8	13 mm	14.4	12	12	466510 0008	0,63
M10	16 mm	17.8	15	15	466510 0110	0,88
M10	17 mm	18.9	15	15	466510 0010	0,88
M12	18 mm	20.03	18	17	466510 0112	1,04
M12	19 mm	21.1	18	17	466510 0012	1,04
M14	21 mm	23.4	21	20	466510 0114	2,40
M14	22 mm	24.5	21	20	466510 0014	2,52
M16	24 mm	26.8	24	22	466510 0016	2,01
M18	27 mm	30.1	27	24	466510 0018	3,72
M20	30 mm	33.5	30	27	466510 0020	3,38
M22	34 mm	37.7	33	30	466510 0122	6,65
M22	32 mm	35.7	33	30	466510 0022	7,65
M24	36 mm	40	36	32	466510 0024	5,50
M27	41 mm	45.6	40	36	466510 0027	9,35
M30	46 mm	51.3	45	41	466510 0030	13,75
M36	55 mm	61.3	54	50	466510 0036	26,50

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3 x D high, DIN6334

- Hardened and tempered, strength class 10
- Connecting element between DIN 787 (T-slot screw) and DIN 6379 (stud)
- **Not a screw-through version**
- Minimum screw-in length = 1xD

Thread	Wr. width	e mm	m mm	art.no.	€
M6	10 mm	11.05	18	466515 0006	2,20
M8	13 mm	14.4	24	466515 0008	2,22
M10	16 mm	17.8	30	466515 0110	2,64
M10	17 mm	18.9	30	466515 0010	2,64
M12	18 mm	20.03	36	466515 0112	2,85
M12	19 mm	21.1	36	466515 0012	2,85
M14	21 mm	23.4	42	466515 0114	5,40
M14	22 mm	24.5	42	466515 0014	5,30
M16	24 mm	26.8	48	466515 0016	4,86
M18	27 mm	30.1	54	466515 0018	8,40
M20	30 mm	33.5	60	466515 0020	8,85
M22	34 mm	37.7	66	466515 0122	13,55
M22	32 mm	35.7	66	466515 0022	14,85
M24	36 mm	40	72	466515 0024	14,55
M27	41 mm	45.6	81	466515 0027	22,20
M30	46 mm	51.3	90	466515 0030	29,30
M36	55 mm	61.3	108	466515 0036	57,50

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1.5 x D high, DIN 6331 with collar

- Hardened and tempered, strength class 10
- Turned and milled

Thread	Wr. width	e mm	m mm	a mm	d1 mm	art.no.	€
M6	10 mm	11.05	9	3	14	466520 0006	3,60
M8	13 mm	14.4	12	3.5	18	466520 0008	3,62
M10	16 mm	17.8	15	4	22	466520 0110	3,72
M10	17 mm	18.9	15	4	22	466520 0010	3,72
M12	18 mm	20.03	18	4	25	466520 0112	3,84
M12	19 mm	21.1	18	4	25	466520 0012	3,84
M14	21 mm	23.4	21	4.5	28	466520 0114	4,56
M14	22 mm	24.5	21	4.5	28	466520 0014	4,56
M16	24 mm	26.8	24	5	31	466520 0016	5,80
M18	27 mm	30.1	27	5	34	466520 0018	7,90
M20	30 mm	33.5	30	6	37	466520 0020	8,10
M22	34 mm	37.7	33	6	40	466520 0122	11,80
M22	32 mm	35.7	33	6	40	466520 0022	11,80
M24	36 mm	40	36	6	45	466520 0024	13,55
M27	41 mm	45.6	40	8	50	466520 0027	29,50
M30	46 mm	51.3	45	8	58	466520 0030	33,10
M36	55 mm	61.3	54	10	68	466520 0036	49,30

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Slot scraper

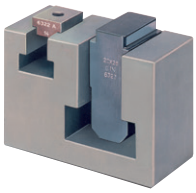


Suitable for groove width mm	art.no.	€
14 - 20	466548 1420	5,85
22 - 32	466548 2232	11,40

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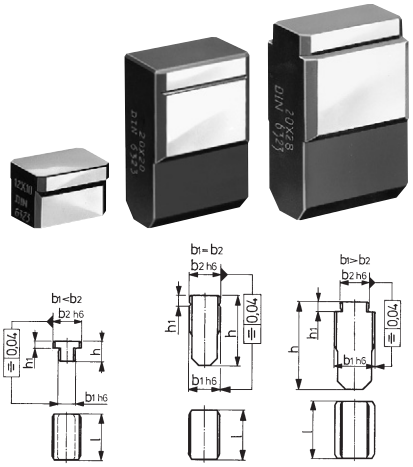
Precision slot nuts

- For quickly aligning fixtures, machine vices and dividers
- Precisely ground to a high level of tolerance all round
- C15 case-hardened and ground



Loose slot nuts, DIN 6323

- For calibration
- No slot nuts protruding from below when the fixture is moved

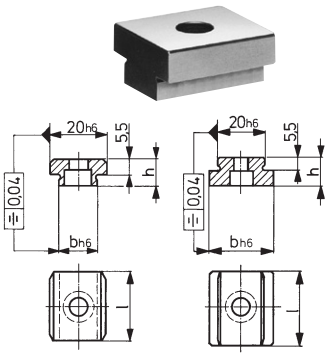


Groove dimensions machine mm	Groove dimensions device mm	h mm	h1 mm	l mm	art.no.	€
10	12	12	3.6	20	466550 1012	29,60
12	12	28.6	5.5	20	466550 1212	25,–
12	20	14	5.5	32	466550 1220	42,90
14	20	14	5.5	32	466550 1420	43,70
16	20	14	5.5	32	466550 1620	43,70
18	20	14	5.5	32	466550 1820	43,70
20	20	45.5	7	32	466550 2020	39,30
22	20	50.5	7	40	466550 2220	62,10
24	20	55.5	7	40	466550 2420	68,20
28	20	61.5	7	40	466550 2820	73,80
36	20	76.5	7	50	466550 3620	96,70

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Fixed slot nuts (previously DIN 6322)

- Screw-in
- Changing slot nuts makes it possible to work on machines with different slot widths

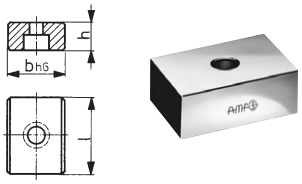


Groove dimensions machine mm	Groove dimensions device mm	h mm	l mm	for DIN 84 or DIN 912 screws	art.no.	€
10	20	10	22	M6 x 10	466551 1020	35,30
12	20	10	22	M6 x 10	466551 1220	35,30
14	20	10	25	M6 x 16	466551 1420	35,30
16	20	10	25	M6 x 16	466551 1620	35,30
18	20	10	25	M6 x 16	466551 1820	35,30
22	20	12	32	M6 x 16	466551 2220	40,60
24	20	12	32	M6 x 16	466551 2420	45,80
28	20	12	32	M6 x 16	466551 2820	46,90
36	20	12	32	M6 x 16	466551 3620	50,60

4157

Flat slot nuts

- Screw-in
- Effective and economical if a fixture will always be used on the same machine



b mm	h mm	l mm	art.no.	€
10	8	20	466552 0010	10,30
12	8	20	466552 0012	10,30
14	10	22	466552 0014	11,–
16	10	22	466552 0016	11,–
18	10	22	466552 0018	11,70
20	10	22	466552 0020	12,05
22	12	32	466552 0022	16,30
24	12	32	466552 0024	16,30

4157

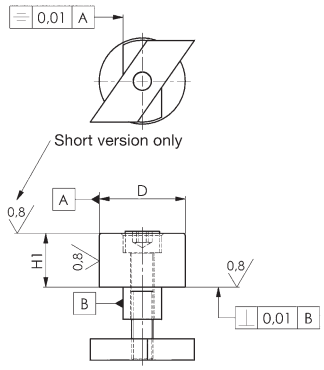
Stop

- Case-hardened and ground
- Short model, ground to ± 0.01 mm height tolerance
- Can also be used as a support



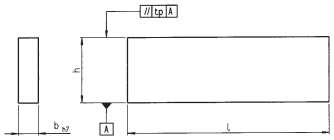
for T-slot mm	D mm	H1 mm	Screw	art.no.	€
12	20	15±0.01	M6 x 25	465015 1215	88,50
12	20	25±0.2	M6 x 35	465015 1220	95,10
14	32	25±0.01	M8 x 35	465015 1425	110,50
14	32	50±0.2	M8 x 60	465015 1450	117,–
16	32	25±0.01	M8 x 45	465015 1625	117,–
16	32	50±0.2	M8 x 70	465015 1650	122,50
18	40	25±0.01	M10 x 50	465015 1825	157,–
18	40	50±0.2	M10 x 75	465015 1850	165,50
20	40	25±0.01	M10 x 55	465015 2225	157,–
20	40	50±0.2	M10 x 80	465015 2250	165,50

4157



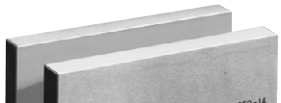
Parallel stop pair

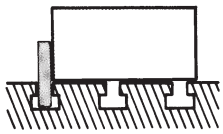
- **For machine slots**
- Case-hardened and height ground in pairs to pair tolerance IT5
- Can also be used as parallel supports
- Height pair tolerance IT5
- Nominal dimension tolerance to the extent of DIN ISO 2768m
- Nominal dimension tolerance, width: h7
- Remaining dimensions in accordance with DIN ISO 2768m
- Prices per pair



b mm	h mm	Pair tolerance tp mm	Nominal dimension toleran-ce DIN 7168 m (mm)	Tolerance h7 mm	l mm	art.no.	€
8	25	0.009	±0.2	-0.02	100	465010 0008	154,–
10	32	0.011	±0.3	-0.02	100	465010 0010	164,50
12	40	0.011	±0.3	-0.02	100	465010 0012	190,50
14	50	0.011	±0.3	-0.02	100	465010 0014	214,–
16	50	0.011	±0.3	-0.02	160	465010 0016	228,–
18	63	0.013	±0.3	-0.02	160	465010 0018	270,–
20	63	0.013	±0.3	-0.02	160	465010 0020	339,–
22	80	0.013	±0.3	-0.02	160	465010 0022	421,–
24	80	0.013	±0.3	-0.02	160	465010 0024	447,–
28	100	0.015	±0.3	-0.02	160	465010 0028	509,–

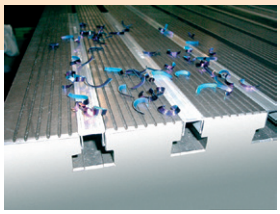
4157





T-slot cover strip

- Made from aluminium profile
- Can easily be shortened to the desired length with a fine sawblade



Suitable for groove width mm	Dimensions	art.no.	€
12	12 x 1000	466549 0120	32,80
14	14 x 1000	466549 0140	35,10
16	16 x 1000	466549 0160	37,60
18	18 x 1000	466549 0180	39,10
20	20 x 1000	466549 0200	41,80
22	22 x 1000	466549 0220	43,40
24	24 x 1000	466549 0240	47,60
28	28 x 1000	466549 0280	51,90
36	36 x 1000	466549 0360	60,10

4157



Boxed clamping tool set

- Designed for machine tools with T-slot tables
- All the necessary elements for quickly clamping tools, fixtures or workpieces
- All parts are replaceable and extensible
- Tempering steel in accordance with DIN or company standards
- Screw parts strength class 8 or 10
- Wooden box with removable hinged lid



M10 x 10 set with deep clamping jaws, slot width 10 mm

Contents of a tool set

- 4 Universal Clamping Pad Model 1
- 4 Universal Clamping Pad Model 2
- 2 Universal Clamping Pad Model 3
- 4 Clamps with Stair Teeth 11 x 80
- 2 DIN 787 Screw for T-slots M10 x 40
- 4 DIN 787 Bolt for T-slots M10 x 63
- 4 DIN 787 Screw for T-slots M10 x 100
- 4 DIN 6379 stud screw M10 x 80
- 6 DIN 6330 B Hex Nut M10
- 6 DIN 6319 G Taper M10
- 4 Extension nut M10
- 4 Deep Clamping Jaw „Bulle" Groove Width 12
- 1 No. 3113 A combination wrench 16x16
- 1 screw paste 75 ml

Groove width mm	art.no.	€
10	466590 1010	685,–
	4158	

M12 x 12 set with deep clamping jaws, slot width 12 mm

Contents of a tool set

- 4 Universal Clamping Pad Model 2
- 4 Universal Clamping Pad Model 3
- 4 Clamps with Stair Teeth 14 x 100
- 2 DIN 787 Screw for T-slots M12 x 50
- 4 DIN 787 Screw for T-slots M12 x 100
- 4 DIN 787 Bolt for T-slots M12 x 125
- 4 DIN 6379 stud screw M12 x 100
- 6 DIN 6330 B Hex Nut M12
- 6 DIN 6319 G Taper M12
- 4 Extension nut M12
- 4 Deep Clamping Jaw „Bulle" Groove Width 12
- 1 No. 3113 A combination wrench 18x18
- 1 screw paste 75 ml

Groove width mm	art.no.	€
12	466590 1212	779,–
	4158	

M12 x 14 set with deep clamping jaws, slot width 14 mm

Contents of a tool set

- 4 Universal Clamping Pad Model 2
- 4 Universal Clamping Pad Model 3
- 4 Clamps with Stair Teeth 14 x 100
- 2 DIN 787 Screw for T-slots M12 x 50
- 4 DIN 787 Bolt for T-slots M12 x 80
- 4 DIN 787 Bolt for T-slots M12 x 125
- 4 DIN 6379 stud screw M12 x 100
- 6 DIN 6330 B Hex Nut M12
- 6 DIN 6319 G Taper M12
- 4 Extension nut M12
- 4 Deep Clamping Jaw „Bulle" Groove Width 14
- 1 slot scraper for groove width 14-20
- 1 No. 3113 A combination wrench 18x18
- 1 screw paste 75 ml

Groove width mm	art.no.	€
14	466590 1214	810,–
	4158	

M16 x 16 set with deep clamping jaws, slot width 16 mm

Contents of a tool set

- 4 Universal Clamping Pad Model 2
- 4 Universal Clamping Pad Model 3
- 4 Clamps with Stair Teeth 18 x 125
- 2 DIN 787 Bolt for T-slots M16 x 63
- 4 DIN 787 Bolt for T-slots M16 x 100
- 4 DIN 787 Bolt for T-slots M16 x 160
- 4 DIN 6379 stud screw M16 x 125
- 6 DIN 6330 B Hex Nut M16
- 6 DIN 6319 G Taper M16
- 4 Extension nut M16
- 4 Deep Clamping Jaw „Bulle" Groove Width 16
- 1 slot scraper for groove width 14-20
- 1 No. 3113 A combination wrench 24x24
- 1 screw paste 75 ml

Groove width mm	art.no.	€
16	466590 1616	1.059,–
	4158	

M16 x 18 set with deep clamping jaws, slot width 18 mm

Contents of a tool set

- 4 Universal Clamping Pad Model 2
- 4 Universal Clamping Pad Model 3
- 4 Clamps with Stair Teeth 18 x 125
- 2 DIN 787 Bolt for T-slots M16 x 63
- 4 DIN 787 Bolt for T-slots M16 x 100
- 4 DIN 787 Bolt for T-slots M16 x 160
- 4 DIN 6379 stud screw M16 x 125
- 6 DIN 6330 B Hex Nut M16
- 6 DIN 6319 G Taper M16
- 4 Extension nut M16
- 4 Deep clamping jaw „Bulle" groove width 18
- 1 slot scraper for groove width 14-20
- 1 No. 3113 A combination wrench 24x24
- 1 screw paste 75 ml

Groove width mm	art.no.	€
18	466590 1618	1.069,–
	4158	

M20 x 22 set with spring type clamp holder, slot width 22 mm

Contents of a tool set

- 4 Universal Clamping Pad Model 2
- 4 Universal Clamping Pad Model 3
- 4 Clamps with Stair Teeth 22 x 160
- 4 DIN 787 Screw for T-slots M20 x 125
- 4 DIN 787 Screw for T-slots M20 x 200
- 4 DIN 6379 stud screw M20 x 125
- 6 DIN 6330 B Hexagon Nut M20
- 6 DIN 6319 G Conical Socket M20
- 4 Extension nut M20
- 1 slot scraper for groove width 14-20
- 1 No. 3113 A combination wrench 30x30
- 4 DIN 6342 Spring Clamp Holder Ø38
- 1 screw paste 75 ml

Groove width mm	art.no.	€
22	466590 2022	1.059,–
	4158	

Clamping screw set

- **For T-slots**
- All parts hardened and tempered, strength classes 8 or 10
- Wooden box with hinged lid



466591 1214

M10 x 10 set, slot width 10 mm

Contents of a tool set

- 2 DIN 787 Screw for T-slots M10 x 40
- 4 DIN 787 Bolt for T-slots M10 x 80
- 4 DIN 787 Screw for T-slots M10 x 100
- 4 DIN 6379 stud screw M10 x 50
- 4 DIN 6379 stud screw M10 x 80
- 4 DIN 6379 stud screw M10 x 200
- 4 DIN 6330 B Hexagon Nut M10
- 4 Extension nut M10
- 4 DIN 6319 C spherical washer
- 4 DIN 6319 G conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
10	466591 1010	220,–

4158

M12 x 12 set, slot width 12 mm

Contents of a tool set

- 2 DIN 787 Screw for T-slots M12 x 50
- 4 DIN 787 Bolt for T-slots M12 x 80
- 4 DIN 787 Bolt for T-slots M12 x 125
- 4 DIN 6379 stud screw M12 x 63
- 4 DIN 6379 stud screw M12 x 100
- 4 DIN 6379 stud screw M12 x 200
- 4 DIN 6330 B Hexagon Nut M12
- 4 Extension nut M12
- 4 DIN 6319 spherical washer
- 4 DIN 6319 G conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
12	466591 1212	247,–

4158

M14 x 16 set, slot width 16 mm

Contents of a tool set

- 2 DIN 787 Screw for T-slots M14 x 63
- 4 DIN 787 Bolt for T-slots M14 x 100
- 4 DIN 6379 stud screw M14 x 63
- 4 DIN 6379 stud screw M14 x 100
- 4 DIN 6379 stud screw M14 x 160
- 4 DIN 6379 stud screw M14 x 250
- 4 DIN 508 Nut for T-slots M14 x 16
- 4 DIN 6330 B Hexagon Nut M14
- 4 Extension nut M14
- 4 DIN 6319 C Spherical washer
- 4 DIN 6319 G Conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
16	466591 1416	298,–

4158

M20 x 22 set, slot width 22 mm

Contents of a tool set

- 2 DIN 787 Bolt for T-Slots M20 x 80
- 4 DIN 787 Screw for T-slots M20 x 125
- 4 DIN 6379 stud screw M20 x 80
- 4 DIN 6379 stud screw M20 x 125
- 4 DIN 6379 stud screw M20 x 200
- 4 DIN 6379 stud screw M20 x 315
- 4 DIN 508 Nut for T-slots M20 x 22
- 4 DIN 6330 B Hexagon Nut M20
- 4 Extension nut M20
- 4 DIN 6319 C Spherical washer
- 4 DIN 6319 G Conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
22	466591 2022	513,–

4158

M12 x 14 set, slot width 14 mm

Contents of a tool set

- 2 DIN 787 Screw for T-slots M12 x 50
- 4 DIN 787 Bolt for T-slots M12 x 80
- 4 DIN 6379 stud screw M12 x 63
- 4 DIN 6379 stud screw M12 x 100
- 4 DIN 6379 stud screw M12 x 125
- 4 DIN 6379 stud screw M12 x 200
- 4 DIN 508 Nut for T-slots M12 x 14
- 4 DIN 6330 B Hexagon Nut M12
- 4 Extension nut M12
- 4 DIN 6319 C spherical washer
- 4 DIN 6319 G Conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
14	466591 1214	248,–

4158

M16 x 18 set, slot width 18 mm

Contents of a tool set

- 2 DIN 787 Bolt for T-slots M16 x 63
- 4 DIN 787 Bolt for T-slots M16 x 100
- 4 DIN 6379 stud screw M16 x 80
- 4 DIN 6379 stud screw M16 x 125
- 4 DIN 6379 stud screw M16 x 160
- 4 DIN 6379 stud screw M16 x 250
- 4 DIN 508 Nut for T-slots M16 x 18
- 4 DIN 6330 B Hex Nut M16
- 4 Extension nut M16
- 4 DIN 6319 C Spherical washer
- 4 DIN 6319 G Conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
18	466591 1618	338,–

4158

M24 x 28 set, slot width 28 mm

Contents of a tool set

- 2 DIN 787 Screw for T-slots M24 x 100
- 4 DIN 787 Bolt for T-slots M24 x 160
- 4 DIN 6379 stud screw M24 x 100
- 4 DIN 6379 stud screw M24 x 160
- 4 DIN 6379 stud screw M24 x 250
- 4 DIN 6379 stud screw M24 x 400
- 4 DIN 508 Nut for T-slots M24 x 28
- 4 DIN 6330 B Hexagon Nut M24
- 4 Extension nut M24
- 4 DIN 6319 C Spherical washer
- 4 DIN 6319 G Conical seat
- 4 DIN 6340 Disc

Groove width mm	art.no.	€
28	466591 2428	835,–

4158

Basic range

- All parts are made from tempering steel, T-slot screws hardened and tempered
- Rolled thread
- Ideal for tool making, production and use in training facilities



466592 1214

M12 x 14 set, slot width 14 mm
- **Clamping force 20 kN**
- **Clamping heights 165 mm (2 clamping positions), 70 mm (4 clamping positions)**Contents of a tool set
- 2 Clamps with Stair Teeth 14 x 100
- 2 Clamps with Stair Teeth 14 x 160
- 4 Universal Clamping Pad Model 2
- 4 Universal Clamping Pad Model 3
- 2 DIN 787 Screw for T-slots M12 x 50
- 4 DIN 787 Bolt for T-slots M12 x 80
- 4 DIN 787 Bolt for T-slots M12 x 125
- 2 DIN 6379 stud screw M12 x 100
- 6 DIN 6330 B Hex Nut M12
- 2 Extension nut M12
- 6 DIN 6340 Washer M12

Groove width mm	art.no.	€
14	466592 1214	383,–
	4158	

M14 x 16 set, slot width 16 mm
- **Clamping force 28 kN**
- **Clamping heights 195 mm (2 clamping positions), 100 mm (4 clamping positions)**Contents of a tool set
- 2 Clamps with Stair Teeth 14 x 100
- 2 Clamps with Stair Teeth 14 x 160
- 4 Universal Clamping Pad Model 2
- Universal Clamping Pad Model 3
- 2 DIN 787 Screw for T-slots M14 x 63
- 4 DIN 787 Bolt for T-slots M14 x 100
- 4 DIN 787 Bolt for T-slots M14 x 160
- 2 DIN 6379 stud screw M14 x 100
- 2 DIN 6379 stud screw M14 x 160
- 6 DIN 6330 B Hex Nut M14
- 2 Extension nut M14
- 6 DIN 6340 Washer M14

Groove width mm	art.no.	€
16	466592 1416	435,–
	4158	

M16 x 18 set, slot width 18 mm
- **Clamping force 40 kN**
- **Clamping heights 205 mm (2 clamping positions), 130 mm (4 clamping positions)**Contents of a tool set
- 2 Clamps with Stair Teeth 18 x 125
- 2 Clamps with Stair Teeth 18 x 200
- 4 Universal Clamping Pad Model 2
- Universal Clamping Pad Model 3
- 2 DIN 787 Bolt for T-slots M16 x 63
- 4 DIN 787 Bolt for T-slots M16 x 100
- 4 DIN 787 Bolt for T-slots M16 x 160
- 4 DIN 6379 stud screw M16 x 160
- 2 DIN 6379 stud screw M16 x 200
- 6 DIN 6330 B Hex Nut M16
- 4 Extension nut M16
- 6 DIN 6340 Washer M16

Groove width mm	art.no.	€
18	466592 1618	507,–
	4158	

Screw paste

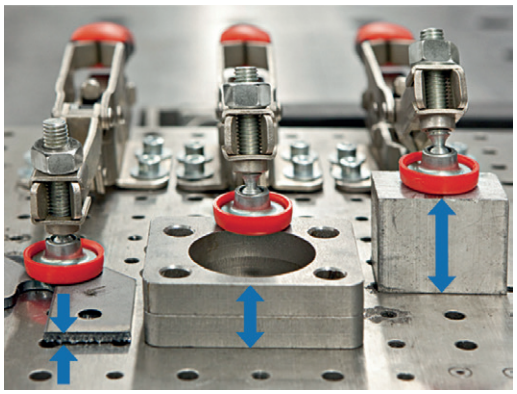
- Mineral grease-based
- Synergistic combination of highly effective white solid lubricants
- Heat-resistant and non-washable
  (Water resistance tested in accordance with DIN 51807, P.2; grease loss after 1 hr. at 37.8 °C = 1.4 %)
- Particularly when aggressive cooling lubricants are used



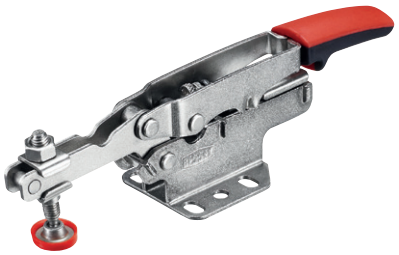
Contents	Usable temperature range °C	art.no.	€
75 ml	-25 to +125	466593 0075	13,65
		4158	

Variable toggle clamps

- **Automatic span adjustment**
  Variable clamping width horizontal clamp 0 to 65 mm,
  Push-rod clamp 0 to 25 mm
  Almost unchanged clamp force
- **Set screw in joint**
  Clamping force adjustment up to 25 kN
- **Large ergonomic handle**
  2 component plastic handle with soft inlay and large handgrip

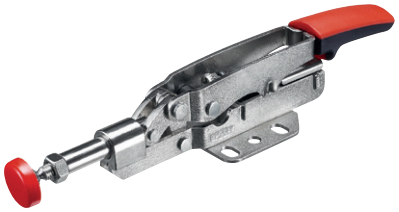






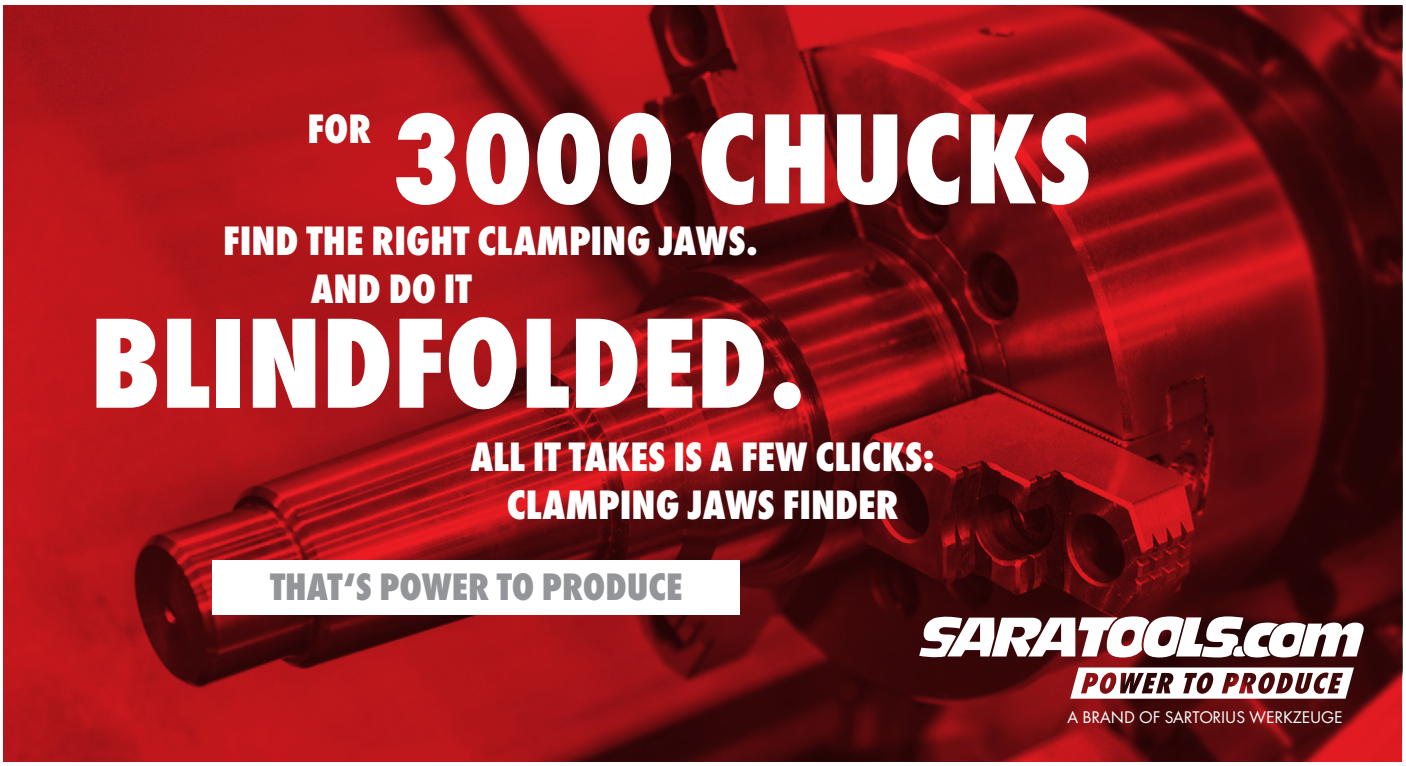
Horizontal clamp with horizontal base plate

Clamping width mm	Clamp force kN	art.no.	€
0-20	1.1	467051 0020	31,70
0-40	2.5	467051 0040	34,60
0-60	2.5	467051 0060	35,60
		4192	



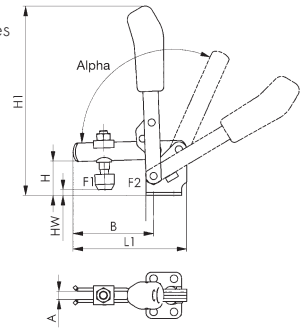
Push-rod clamp with horizontal base plate

Clamping width mm	Clamp force kN	art.no.	€
0-10	1.1	467054 0010	32,50
0-16	2.5	467054 0016	36,40
		4192	



Vertical clamp

- Quick-action clamp with toggle mechanism
- Wide and quick clamp opening, complete workpiece exposure
- High final transmission with low force application, large clamping forces
- Self-locking mechanism prevents the clamp from opening due to machining forces
- **Use:** Drilling, welding, bending, grinding, testing and assembling
- Galvanised and passivated, case-hardened with greased bearing bushes
- Rivet made of stainless steel
- Complete with hardened, tempered and galvanised clamping screw
- Stainless steel version available on request

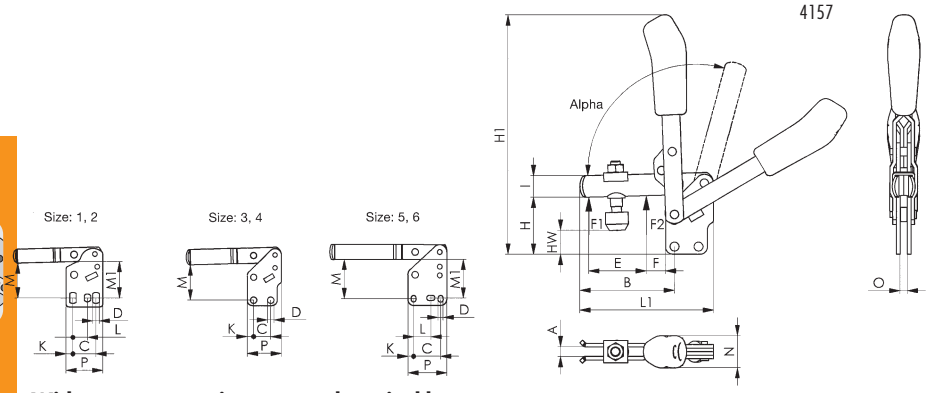




With open supporting arm and horizontal base

Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
0	0.5	0.7	18	81	1.5 to 3.5	4	31	49	M4 x 25	467001 0000	25,20
1	0.6	1.1	19	98.5	-4 to 2	5	39	61	M5 x 30	467001 0001	27,20
2	0.8	1.2	23	139.5	-3 to 4.5	6	52	78	M6 x 35	467001 0002	35,–
3	1.2	2.5	33	186	2 to 11	8	79	112	M8 x 45	467001 0003	42,–
4	1.7	3	42.5	221	-6 to 22.5	10	101	141	M8 x 65	467001 0004	55,–
5	3	5	55.8	281	-3 to 27.5	14	140	195	M12 x 80	467001 0005	88,50
6	3.4	5.5	81	333	-2.5 to 55	14	165.5	231	M12 x110	467001 0006	115,50

4157

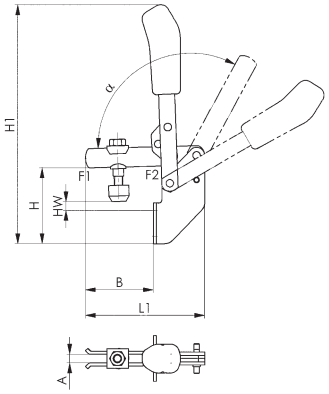




With open supporting arm and vertical base

Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
1	0.6	1.1	29	109	6 to 12.5	5	39	61	M5 x 30	467005 0001	27,20
2	0.8	1.2	38	144.5	11.5 to 19.5	6	52	78	M6 x 35	467005 0002	35,–
3	1.2	2.5	48	200	16.5 to 25	8	79	112	M8 x 45	467005 0003	42,–
4	1.7	3	65	244	16.5 to 45.5	10	101	141	M8 x 65	467005 0004	55,–
5	3	5	77	301	18 to 49	14	140	195	M12 x 80	467005 0005	88,50
6	3.4	5.5	117	369	33 to 90.5	14	165	231	M12 x110	467005 0006	115,50

4157





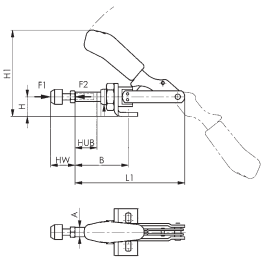
With open supporting arm and angled base

Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
1	0.8	1.1	45	125	-1.5 to 5.5	5	35	61	M 5 x 30	467010 0001	30,70
2	1	1.2	60	167	7.5 to 15.5	6	41	77	M 6 x 35	467010 0002	38,30
3	1.4	2.5	71	223	9 to 17.5	8	63	111	M 8 x 45	467010 0003	42,–
4	2	3	102	280	11 to 40	10	84	141	M 8 x 65	467010 0004	55,–

4157

Push-rod clamp

- Galvanised and passivated
- Case-hardened, with greased bearing bushes
- Stainless steel rivet
- Complete with hardened, tempered and galvanised clamping screw
- Stainless steel version available on request

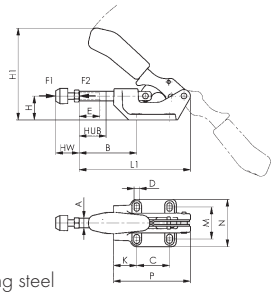




With small angled base

Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
0	0.8	0.8	12	49.3	12 to 20	6.5	17	66.5	M 4 x 20	467025 0000	45,60
1	1	1	15	60.5	12 to 20	8	24.5	91	M 4 x 20	467025 0001	47,10
2	2	2	20	85.5	17 to 25	10	32.5	114	M 6 x 25	467025 0002	51,90
3	2.5	2.5	25	108	22 to 35	12	37	140	M 8 x 35	467025 0003	59,–
5	4.5	4.5	30	129.5	30 to 50	16	41.5	171.5	M 12 x 50	467025 0005	92,10

4157





Heavy-duty version

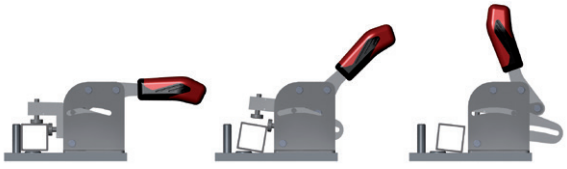
- Base body made from cast steel, lever parts and push rod made from tempering steel

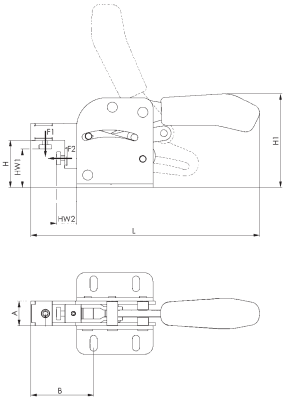
Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
3	4	4	30	116	22 to 35	12	40 - 72	139	M 8 x 35	467027 0003	73,80
5	10	10	38	137.5	30 to 50	16	58 - 98	174	M12 x 50	467027 0005	109,–
7	25	25	55	179	30 to 50	22	59 - 105	218	M12 x 50	467027 0007	225,–

4157

Combination clamp

- Positioning and clamping in a single operation
- Robust and stable construction
- Fully retracted clamping arm allows for easy workpiece removal
- Galvanised and passivated
- Case-hardened, with greased bushes
- Stainless steel rivet
- Oil-resistant handle with a large handgrip surface and soft component





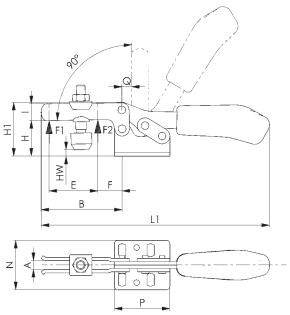


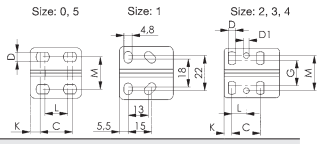
Model	F1 kN	F2 kN	H mm	H1 mm	HW1 mm	HW2 mm	B mm	L mm	A mm	art.no.	€
2	2.0	2.0	46.0	94	30 to 40	14 to 24	56	219	19.5	467030 0002	117,–
3	3.0	3.0	55.5	110	40 to 50	20 to 30	74	270	29.0	467030 0003	143,–

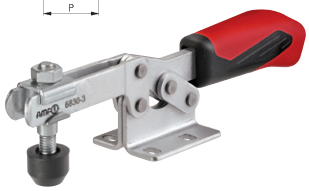
4157

Horizontal clamp

- Quick-action clamp with toggle mechanism
- Wide and quick clamp opening, complete workpiece exposure
- High final transmission with low force application, large clamping forces
- Self-locking mechanism prevents the clamp from opening due to machining forces
- **Use:** Drilling, welding, bending, grinding, testing and assembling
- Galvanised and passivated, case-hardened with greased bearing bushes
- Rivet made of stainless steel
- Complete with hardened, tempered and galvanised clamping screw
- Stainless steel version available on request



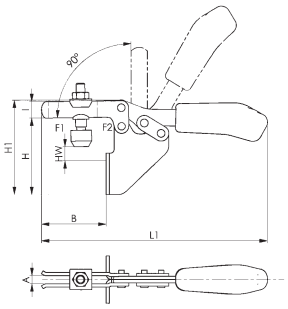


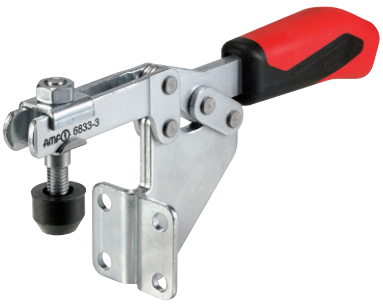


With open supporting arm and horizontal base

Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
0	0.25	0.4	14.5	23	-5.5 to 0	4	28	79	M 4 x 25	467015 0000	21,50
1	0.8	1.1	19	30	-3 to 2.5	5	42	120	M 5 x 30	467015 0001	31,20
2	1	1.2	24	45	-1.5 to 5	6	64	162	M 6 x 35	467015 0002	33,80
3	1.8	2.5	32	48.5	-2 to 9	8	73	206	M 8 x 45	467015 0003	43,10
4	2	3	45	75	-4 to 24	10	113	287	M 8 x 65	467015 0004	53,40
5	3	5	46	73	1.7 to 25	10	123	321	M 8 x 65	467015 0005	84,50

4157





With open supporting arm and angled base

Model	F1 kN	F2 kN	H mm	H1 mm	HW mm	A mm	B mm	L1 mm	Screw	art.no.	€
1	0.8	1.1	57	68	14 to 20	5	32	120	M 5 x 30	467020 0001	31,20
2	1	1.2	73	94	22 to 29.5	6.2	52	162	M 6 x 35	467020 0002	36,90
3	1.8	2.5	70	86.5	5 to 16	8	59	206	M 8 x 45	467020 0003	45,30
4	2	3	102	133	11 to 40	10	93	282	M 8 x 65	467020 0004	53,40

4157

Protective caps

- **For quick-action clamps**
- Made from oil-resistant neoprene to protect delicate workpieces
- Protective cap sizes correspond to the size of the clamping screws

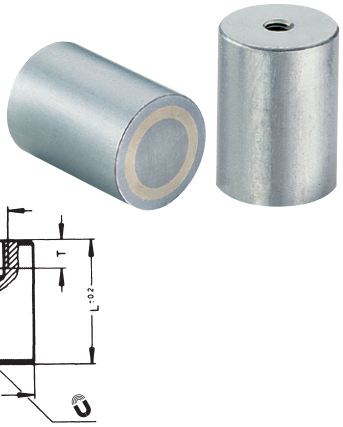


suitable for model	Width mm	Height mm	Screw		art.no.	€
0	11	8.5	M 4	10	467050 0000	1,53
1	12.5	10	M 5	10	467050 0001	1,57
2	15	12	M 6	10	467050 0002	1,65
3+4	19	15	M 8	10	467050 0034	1,83
6	26	20	M12	10	467050 0006	2,54

4157

Pot magnets

- Smooth bar gripper, no fit tolerance
- Galvanised surface, shielded system, operating temperature up to 450 °C
- When changing the holding surface, no more than 2 mm may be removed or the holding power will decrease significantly.



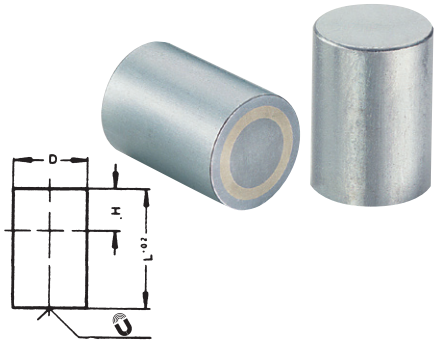
Round (bar gripper with female thread)

D±0.2 mm	L±0.2 mm	D1 mm	T mm	Minimum retention force N	art.no.	€
6	20	M3	5	1.7	471025 0006	5,40
8	20	M3	5	4	471025 0008	5,75
10	20	M4	7	8.5	471025 0010	6,50
16	20	M4	5	20	471025 0016	9,60
20	25	M6	7	45	471025 0020	10,90
25	35	M6	9	100	471025 0025	17,75
32	40	M8	9	190	471025 0032	35,–

4161

Round (bar gripper)

- Dimension H of bar grippers can be shortened without any loss in holding power.

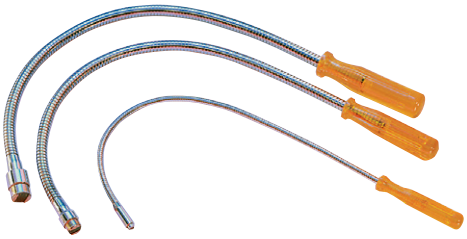


D±0.2 mm	L±0.2 mm	H mm	Minimum retention force N	art.no.	€
6	20	12	1.7	471045 0006	4,53
8	20	11	4	471045 0008	4,89
10	20	10	8.5	471045 0010	5,40
13	20	8	12	471045 0013	5,95
16	20	6	20	471045 0016	7,30
20	25	5	45	471045 0020	9,45
25	35	13	100	471045 0025	16,10
32	40	9	190	471045 0032	33,20

4161

Magnetic pick-up tool

- Polished, flexible brass tubing
- Strong holding magnet at the end



Traction N	L mm	Magnet Ø mm	Largest Ø mm	art.no.	€
5	450	6	8	471015 0006	16,40
10	450	10	12	471015 0010	17,70
18	520	13	15	471015 0013	25,20
30	520	17	19	471015 0017	38,–

4161

Blind hole magnets

- Magnet head consisting of a chrome-plated metal sleeve
- Inset permanent magnet



Magnet Ø mm	L1 mm	Total length mm	art.no.	€
5	40	150	471060 0050	41,10
8	40	175	471060 0080	46,30

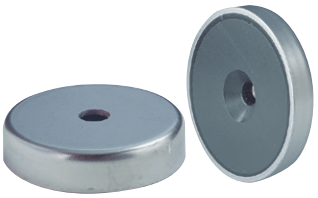
4161

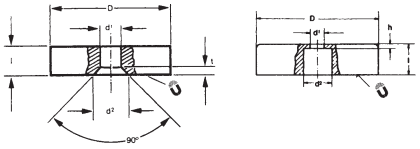
Flat pot magnets

- Galvanised surfaces, shielded system
- Operating temperature up to 200 °C
- **Note:** Hairline cracks on the holding surface of the built-in magnetic material are unavoidable for production reasons. These do not impair the function of the holding magnets in any way.
- Other dimensions available on request

Flat with bore

- Bore with countersink

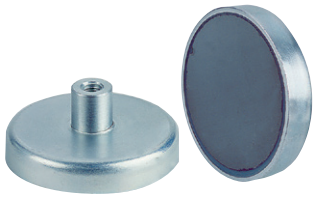


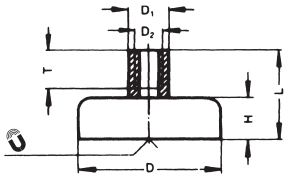


D mm	d1 mm	d2 mm	l mm	h mm	t mm	Minimum retention force N	art.no.	€
16	3.3	7	4.5	Countersink 90º	1.6	14	471005 0016	2,32
20	4.2	9	6	Countersink 90º	2.1	27	471005 0020	2,47
25	5.5	11	7	Countersink 90º	2.5	36	471005 0025	2,68
32	5.5	11	7	Countersink 90º	2.5	72	471005 0032	2,88
40	5.5	11	8	Countersink 90º	2.5	90	471005 0040	3,81
50	8.5	22	10	3		180	471005 0050	4,62
63	6.5	24	14	3		290	471005 0063	8,45
80	6.5	11.5	18	3		540	471005 0080	16,60
100	10.5	34	22	3		680	471005 0100	43,90

4161

Flat with internally threaded pin





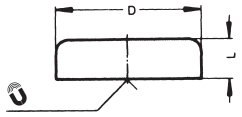
D±0.2 mm	d1 mm	d2 mm	t mm	l mm	h±0.2 mm	Minimum retention force N	art.no.	€
10	6	M 3	7	11.5	4.5	4	471010 0010	2,21
13	6	M 3	7	11.5	4.5	10	471010 0013	2,32
16	6	M 3	7	11.5	4.5	18	471010 0016	2,62
20	6	M 3	7	13	6	30	471010 0020	2,78
25	8	M 4	8	15	7	40	471010 0025	2,93
32	8	M 4	8	15	7	80	471010 0032	3,19
40	10	M 5	10	18	8	125	471010 0040	4,27
50	12	M 6	12	22	10	220	471010 0050	6,05
63	15	M 8	16	30	14	350	471010 0063	10,10
80	20	M10	16	34	18	600	471010 0080	18,40
100	22	M12	21	43	22	900	471010 0100	45,40
125	25	M14	20	50	26	1300	471010 0125	134,–

4161

Flat

- For pressing or gluing in the mounting hole



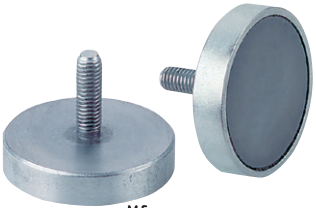


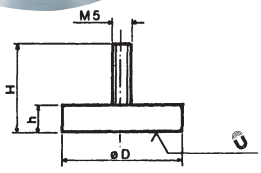
D mm	L mm	Minimum retention force N	art.no.	€
10	4.5	4	471020 0010	1,65
13	4.5	10	471020 0013	1,90
16	4.5	20	471020 0016	2,21
20	6	30	471020 0020	2,32
25	7	40	471020 0025	2,62
32	7	80	471020 0032	2,78
40	8	110	471020 0040	3,81
50	10	200	471020 0050	4,73
63	14	320	471020 0063	8,65
80	18	600	471020 0080	16,60
100	22	900	471020 0100	43,10
125	26	1300	471020 0125	128,–

4161

Flat with externally threaded pin

- Plane-ground holding surface



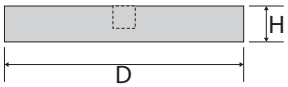


D mm	H mm	h mm	Thread	Minimum retention force N	art.no.	€
16	11.5	4.5	M 3	18	470150 0016	2,83
20	12	6	M 3	30	470150 0020	2,98
25	22	7	M 5	40	470150 0025	3,96
47	17	9	M 6	180	470150 0047	7,70
57	18.5	10.5	M 6	280	470150 0057	12,95
63	29	14	M 6	350	470150 0063	14,90

4161

Flat pot magnets with neoprene protective sheath

- Optimal hold on thin sheet metal
- Neoprene protective sheath for sensitive surfaces
- High lateral frictional force
- Maximum operating temperature 60°C

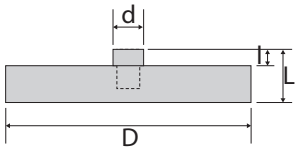




Flat, threaded bore

D mm	H mm	Thread	Minimum retention force N	art.no.	€
18	6	M4	50	471105 0018	5,45
31	6	M5	75	471105 0031	7,90
43	6	M4	85	471105 0043	8,25
66	8.5	M6	180	471105 0066	13,90
88	8.5	M6	550	471105 0088	26,40

4161

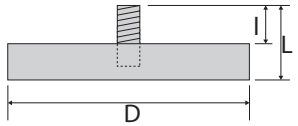




Flat, internally threaded pin

D mm	l mm	L mm	d mm	Female thread	Minimum retention force N	art.no.	€
12	7	14.8	8	M4	10	471110 0012	4,17
18	6	11.5	8	M4	37	471110 0018	5,65
22	6	11.5	8	M4	58	471110 0022	6,30
31	6	11.5	8	M4	75	471110 0031	7,90
43	6	10.5	8	M4	85	471110 0043	8,05
66	8.2	15	10	M5	180	471110 0066	13,80
88	8.2	17	12	M8	420	471110 0088	26,40

4161





Flat, externally threaded pin

D mm	l mm	L mm	Thread	Minimum retention force N	art.no.	€
12	7	15.5	M4	13	470250 0012	3,55
18	6	12	M4	37	470250 0018	5,65
31	6	17	M6	89	470250 0031	7,90
43	6	21	M6	85	470250 0043	8,65
66	8.2	23.5	M8	180	470250 0066	14,10
88	8.2	23.5	M8	420	470250 0088	26,40

4161

SARA® Magnetic clamp (Orga-Magnet)

- White with red printing
- Interior raw magnet
- Price per PU = 4 pcs.



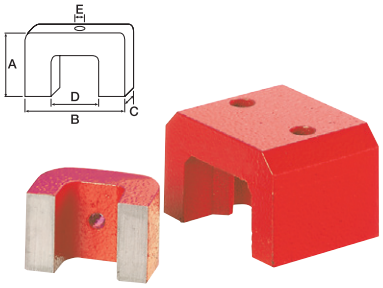
With gear-S

D mm	Height mm	Retaining force N	art.no.	€
36	8.5	9.5	471021 0035	6,95

4161

Strong magnet

- Bridge shape
- With strong magnetic force
- Through-hole

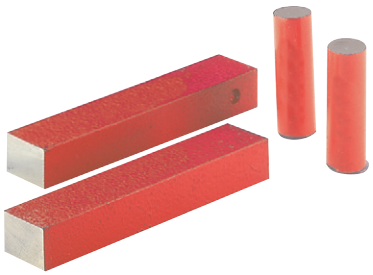


A mm	B mm	C mm	D mm	E mm	Minimum retention force N	Weight kg	art.no.	€
20.3	30.4	20.3	15	5	40	0.063	471071 0811	12,90
25.4	38.1	25.4	19.1	5	90	0.133	471071 0812	27,60
29.5	44.4	28.6	22.2	5.8	120	0.197	471071 0813	43,80
35	58	44	28	8	230	0.5	471071 0814	80,50

4161

Bar magnet

- Round or rectangular cross section
- Notches to mark corresponding poles
- Price per pair



Rectangular

L mm	Width mm	Height mm	Weight per pair g	art.no.	€
20	10	5	5	471076 0844	10,40
40	12.5	5	30	471076 0845	11,60

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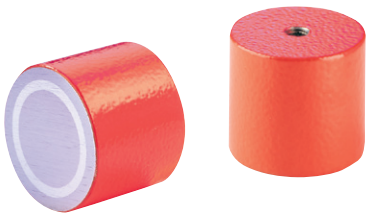
Round

L mm	Ø mm	Weight per pair g	art.no.	€
20	6	3	471077 0805	3,24
24	8	7	471077 0806	4,84
30	10	18	471077 0807	7,95

4161

Pot magnet

- Particularly powerful magnet, embedded in an aluminium casing
- Mounting thread on the upper side of the magnet
- Supplied with protection plate

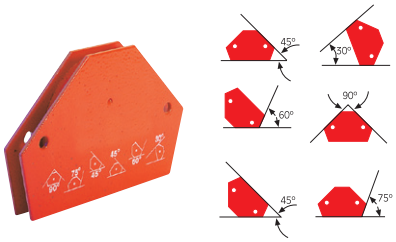


Ø mm	Height mm	Thread	Minimum retention force N	art.no.	€
17	16	M6	20	471003 0831	4,48
21	19	M6	28	471003 0832	6,45
27	25.4	M6	68	471003 0833	11,90
35	30	M6	150	471003 0834	20,50
65	43	M12	400	471003 0835	102,50

4161

Multi-angle magnet

- Welding and assembly aid
- With 30°, 45°, 60°, 75°, 90° and 180° angles

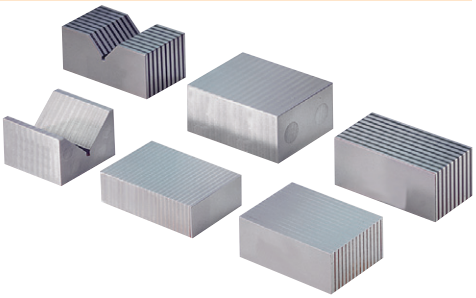


Dimensions	Bore hole Ø mm	Minimum retention force N	Weight kg	art.no.	€
100 x 64 x 12	2 x 5	100	0.26	471558 0951	14,95

4161

Lamellar pole blocks

- Various different versions with longitudinal or transverse pole pitch
- Pole pitch: 3 mm steel, 1 mm brass
- For machining geometric and irregular workpieces
- Used with magnetic clamping plates

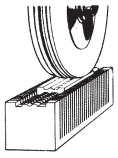


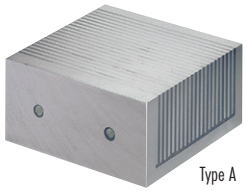
Length x width x height mm	Pole pitch	art.no.	€
100 x 70 x 48	Lengthwise	471540 0002	178,–
72 x 45 x 22	Transverse	471540 0004	122,50
100 x 70 x 41	Transverse	471540 0005	184,–
65 x 60 x 40 (with V-block)	Transverse	471540 0006	174,–
100 x 50 x 40 (with V-block)	Lengthwise	471540 0007	191,50
80 x 50 x 80	Transverse	471540 0010	232,–

4191

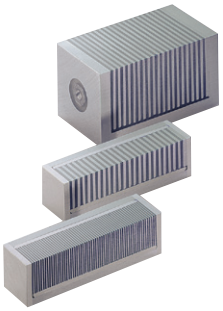
Permanent magnetic clamping block

- **Not switchable**
- Clamping blocks A to C consist of a permanent magnet system with a narrow pole pitch that is effective on 2 to 3 surfaces (polishing: 4 mm)
- For clamping extremely thin steel workpieces = version D with a fine pole pitch of 1.3 mm
- Unlimited magnet life under normal industrial production conditions
- Clamping blocks can be ground and honed to half their height without significantly impairing the holding power





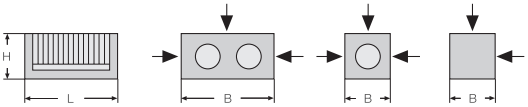
Type A



Type B

Type C

Type D



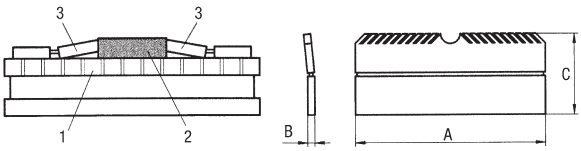
Type	L±0.15 mm	B±0.15 mm	H±0.15 mm	Max. angle deviation °	Pole pitch	Adhesive surfaces mm	Weight kg	art.no.	€
A	100	100	50	5´	4	1 surface 100x100 - 2 surfaces 100x50	3.6	471550 0001	519,–
B	100	50	50	5´	4	3 surfaces 100x50	1.7	471550 0002	339,–
C	100	25	25	5´	4	2 surfaces 100x25	0.5	471550 0003	219,–
D	100	25	25	5´	1.3	2 surfaces 100x25	0.5	471550 0004	409,–

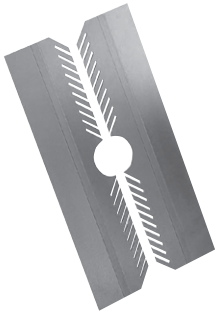
4191

Clamping bars

- For clamping non-magnetic materials
- Ferro-magnetic metal
- Longitudinal side with spring-loaded bar (pull-down effect)
- Price per pair

1. Magnetic plate
2. Workpiece
3. Clamping bar





A mm	B mm	C mm	art.no.	€
100	4	45	471565 1040	218,–
150	1	40	471565 1510	303,–
150	1.6	43	471565 1516	291,–
150	2.8	43	471565 1528	291,–
250	3.7	52	471565 2537	559,–

4191

ATORN NEODIMIO sine table with permanent magnetic clamping plate

- For precise angle grinding and erosion work
- Nominal adhesive force 80 N / cm²
- Rotatable via the longitudinal axis from 0 to 45°
- For small and large workpieces
- Base plate precision-ground and hardened to 60 HRC
- Parallelism tolerance 0.01 / 100 mm
- Sealed against dirt and coolant
- Supplied with 2 stopper bars and chuck key

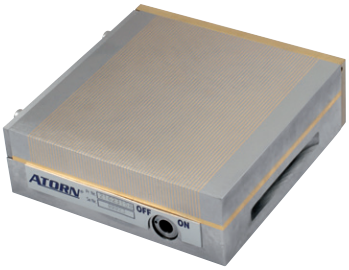


Length x width x height mm	Weight kg	art.no.	€
175 x 100 x 80	10	472104 0175	1.799,–
250 x 150 x 83	20.5	472104 0250	2.020,–
350 x 150 x 85	35	472104 0350	2.600,–
450 x 150 x 85	44	472104 0450	3.900,–

4124

ATORN NEODIMIO permanent magnetic clamping plates

- For precise grinding and erosion work
- Particularly narrow transverse pole pitch
- Universal clamping of small, thin and large workpieces
- Nominal adhesive force 80 N/cm²
- A special switching system prevents deformation during the switching process
- Protection type IP65
- Possible wear-down of the pole plate 8 mm
- Supplied with 2 stopper bars, 2 clamping claws and hexagon key
- Further sizes available on request



Length x width x height mm	Weight kg	art.no.	€
175 x 100 x 49	7	472105 0175	540,–
200 x 100 x 49	8	472105 0200	680,–
250 x 150 x 51	15	472105 0250	720,–
350 x 150 x 51	22	472105 0350	1.080,–
400 x 200 x 51	35	472105 0400	1.520,–

4124

Demagnetisers

Table-top demagnetiser

- Low power consumption
- Field strength increases depending on workpiece volume
- Further sizes available on request



Nominal voltage V	Length x width x height mm	Frequency Hz	art.no.	€
230	250 x 180 x 87	50	472034 0250	699,–

4191

Hand-held demagnetiser

- For bulky parts, effective surface up to 150 x 75 mm
- Lightweight plastic housing
- Further sizes available on request



Nominal voltage V	Length x width mm	Frequency Hz	art.no.	€
230	105 x 75	50 - 60	472035 0105	709,–

4191

FLAIG Magnetsysteme Permanent magnetic clamping plate *PMNEO*

- Magnetic clamping plate for milling work
- Double neodymium magnet system
- Steel base body
- Cross pole pitch 11 + 4 mm
- Magnetic field height approx. 10 mm
- Possible wear-down of the pole plate 6 mm
- Nominal holding force approx. 150 N/cm²



PMNEO

Designation	Length x width x height mm	Weight kg	art.no.	€
PMNEO 2515	250 x 150 x 65	17	473650 2515	1.119,–
PMNEO 3015	300 x 150 x 65	18	473650 3015	1.239,–
PMNEO 4020	400 x 200 x65	35	473650 4020	1.729,–
PMNEO 5020	500 x 200 x 65	44	473650 5020	2.109,–
PMNEO 6030	600 x 300 x 65	78	473650 6030	3.039,–

4195

FLAIG Magnetsysteme Electro-permanent magnetic clamping plates *FXL-50*

- **With switching status display, tells the user about the switching status of the clamping plate even when the cable is disconnected and guarantees increased safety.**
- Plug-in connection with closed cover fulfils protection class IP67
- All poles with M8 tool steel insert and cast with high-performance resin in the extra-sturdy monoblock frame
- Low-vibration machining and clamping of workpieces
- Quick and safe clamping of uneven parts
- Same holding force in all directions with square pole technology
- Minimum set-up times
- Drilling pattern on the back for zero-point clamping systems possible
- For workpieces from approx. 100 x 100 mm
- Penetration depth of the magnetic field approx. 12 mm
- Holding force is 160 N/cm² = 4 kN per pole
- **Supplied with control unit**
- **Magnetisation in 4 holding force levels possible with control unit**
- **Other pole sizes and dimensions available on request**





Switching status display

Model FXL incl. control unit

Designation	Length x width x height mm	Weight kg	art.no.	€
FXL 404/50 with 25 poles	392 x 392 x 66	73	473550 0404	2.739,–
FXL 406/50 with 40 poles	620 x 392 x 66	115	473550 0406	3.549,–
FXL 408/50 with 50 poles	810 x 392 x 66	150	473550 0408	4.179,–
FXL 508/50 with 60 poles	810 x 460 x 66	176	473550 0508	4.699,–

4195



Pole extensions mobile

Designation	art.no.	€
RMP 57 pole extension Ø 50 x 32 mm	473551 1032	45,80
QX pole extension 50 x 50 x 54 mm	473551 2054	43,50

4175



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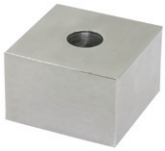
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Pole extensions fixed / square

- Height tolerance ± 0.01

Length x width x height mm	art.no.	€
50 x 50 x 15	473552 5015	9,70
50 x 50 x 32	473552 5032	12,10
50 x 50 x 54	473552 5054	14,50

4175



FLAIG Magnetsysteme Universal lifting magnet *FX*

- Monoblock magnetic shaft, made of one piece, fully nickel-plated, ball bearing mounted, without mechanical weak point
- Solid stator housing made from one piece, nickel-plated all around for maximum corrosion protection
- High-energy half-shell magnets guarantee stable performance up to 80° working temperature in the magnet core
- Safety factor 3.5
- Large forged crane eye
- Very solid shift shaft
- Dust-protected ball bearings on the selector shaft
- One-hand operation without recoil
- Suitable for flat and round materials



Universal lifting magnet FX with safety lock

Designation	Length x width x height mm	Load bearing capacity kg	D mm	Weight kg	art.no.	€
FX-150	161 x 64 x 60	150	Ø50-200 = 75kg	3.6	472510 0150	445,–
FX-300	205 x 87 x 78	300	Ø50-300 = 150kg	8.4	472510 0300	629,–
FX-600	288 x 112 x 94	600	Ø80-400 = 300kg	19	472510 0600	979,–
FX-1000	361 x 152 x 120	1000	Ø100-450 = 500kg	42	472510 1000	1.479,–
FX-2000	472 x 228 x 169	2000	Ø120-600 = 1000kg	115	472510 2000	2.749,–
FX-3000	648 x 228 x 169	3000	Ø120-600 = 1500kg	166	472510 3000	4.069,–

4175

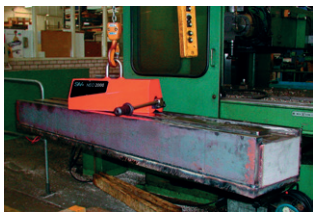
Permanent lifting magnet

- Two-pole design
- Neodymium high-energy magnets for enormous lifting capacity
- High load-bearing capacity even with an air gap
- Suitable for round and flat materials
- Smooth on/off switch **with safety lock**
- Extremely compact, lightweight
- Robust and low maintenance
- For lifting panels, profiles, plates, round material and bar stock, e.g. for loading and unloading machines
- Supplied with individual test certificate









Designation	Length x width x height mm	Load bearing capacity kg	Weight kg	art.no.	€
NEO 150	93 x 60 x 110	150	3	472530 0125	509,–
NEO 300	152 x 100 x 164	300	10	472530 0250	759,–
NEO 600	246 x 120 x 164	600	19	472530 0500	1.089,–
NEO 1000	306 x 146 x 216	1000	36	472530 1000	1.789,–

4164

Edge protection bracket

- Made from cut-resistant polyurethane
- With slots for easy fitting and attachment to a round sling
- WLL = max. load that can be lifted by the gear with a direct in-line pull



Model	Ø mm	L mm	WLL kg	art.no.	€
30	30	80	3000	478001 0030	27,30
50	50	125	5000	478001 0050	82,–
				4138	

HADEF® Lever hoists

- **Highly versatile; for lifting, pulling and clamping**
- Minimal net weight
- Free-wheeling mechanism for quickly feeding out the chain when unloaded
- Self-acting, fully enclosed load brake
- High-quality precision gearing
- 1.5 m lifting height, can be extended by the metre on request



Standard lever hoists

Load bearing capacity kg	Chain strands	Load chain thickness mm	Leverage force approx. daN	Weight kg	A mm	B mm	D mm	E mm	H mm	art.no.	€
750	1	5.6	29	6.2	122	140	266	88	280	472557 0750	289,–
1500	1	7.1	29	9.6	142	167	414	107	350	472557 1500	369,–
3000	1	10	35	15.5	185	188	414	113	420	472557 3000	610,–
6000	2	10	36	27	139	188	414	113	570	472557 6000	1.049,–
										4168	

Mini lever hoist

Load bearing capacity kg	Chain strands	Load chain thickness mm	Leverage force approx. daN	Weight kg	art.no.	€
250	1	4	25	2	472558 0250	172,–
					4168	

Slewing cranes

HADEF®

Wall-mounted slewing crane with 180° slewing range
Pillar slewing crane with 270° slewing range

- **With spur gear hoist or electric chain hoist**
- Slewing range 180°
- Designed in accordance with DIN 15018 H2/B2



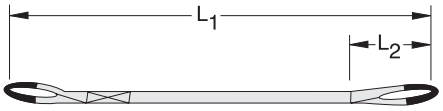
We would be happy to create a quote for you

Lifting belt

- **Compliant with EN 1492-1**
- Made from polyester, double layer stitched design
- With two reinforced end loops (loop width approx. 0.5 x belt width)
- Further sizes available on request







L1 mm	Width mm	L2 mm	Colour	Load bearing capacity direct kg	Load bearing capacity corded kg	Load bearing capacity single sling up to 7° kg	Load bearing capacity single sling 7°-45° kg	Load bearing capacity single sling 45°-60° kg	art.no.	€
1000	30	300	Violet	1000	800	2000	1400	1000	477001 1010	14,80
2000	30	300	Violet	1000	800	2000	1400	1000	477001 1020	19,90
2000	60	350	Green	2000	1600	4000	2800	2000	477001 2020	30,50
3000	90	400	Yellow	3000	2400	6000	4200	3000	477001 3030	62,50
4000	150	550	Red	5000	4000	10000	7000	5000	477001 5040	139,–

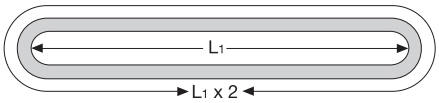
4138

Round sling

- **Compliant with EN 1492-2**
- Made from polyester, double shell
- With woven tonnage stripes
- Further sizes available on request







L1 mm	Width mm	Colour	Load bearing capacity direct kg	Load bearing capacity corded kg	Load bearing capacity single sling up to 7° kg	Load bearing capacity single sling 7°-45° kg	Load bearing capacity single sling 45°-60° kg	art.no.	€
1000	52	Violet	1000	800	2000	700	500	477005 1010	7,50
2000	52	Violet	1000	800	2000	700	500	477005 1020	13,60
1000	57	Green	2000	1600	4000	1400	1000	477005 2010	9,90
2000	57	Green	2000	1600	4000	1400	1000	477005 2020	19,10
1000	71	Yellow	3000	2400	6000	2100	1500	477005 3010	13,40
2000	71	Yellow	3000	2400	6000	2100	1500	477005 3020	26,10
3000	71	Yellow	3000	2400	6000	2100	1500	477005 3030	39,50

4138

