

KELCH

PSK Tool Holders

Chapter 2 of the Product Catalogue 2010/2011 Precision Tools



PSK - Polygonal Taper Shanks





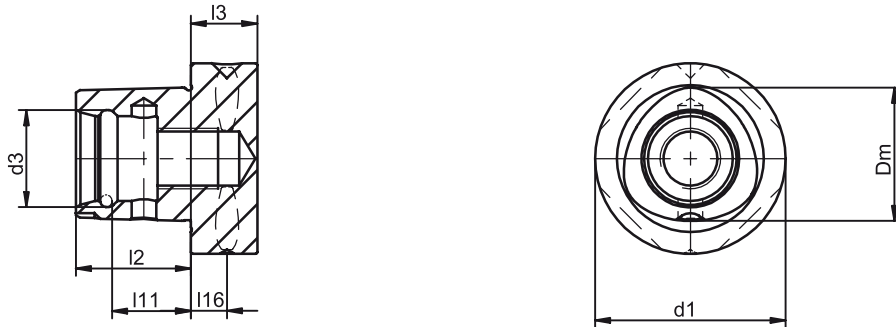
PSK Tool Holders

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Tool Holders for Polygonal Taper Shanks

Technical Data and Standard Specification

ISO 26623-1



PSK	d1	d3 ± 0.05	l2 ± 0.1	l3	l11 ± 0.1	l16	Dm
63	63	32	38	22	26	12	44

Design

Polygonal taper shank according to ISO 26623-1 without bore for identification chip.

If there is no other specification:

Hardened by means of a special low-distortion hardening process. Vickers hardness 670 ± 40 HV 30 (HRC 58 ± 2). Hardness depth Eht = 0.3 - 0.6 mm.

Taper surface roughness index of the PSK $Rz \leq 0.001$ mm.

For details of concentricity of PSK to tool holder, refer to appropriate page of the catalogue.

Material

If there is no other specification: Case-hardened alloy steel with a core tensile strength after case hardening of min. 980 N/mm².

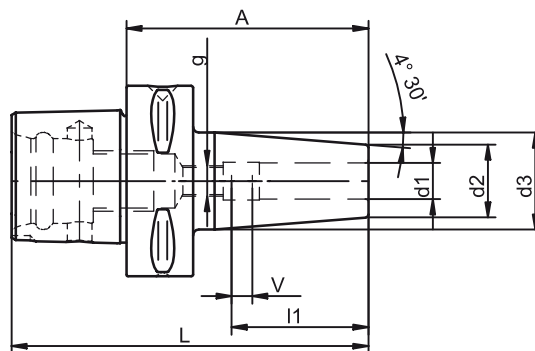
Standard Specification

Prices and delivery conditions are shown in the corresponding price list valid at the time in question.

Manufacturer reserves the right to make technical modifications. All dimensions in mm.

Coolant tube for tool holders has to be ordered separately. It prevents coolant from flowing back into machine spindles or the clamping mechanism.

i-tec® Shrink Fit Chucks Standard Version



PSK	d1	A	Ref.no.	d2	d3	l1	g	L	V	kg
63	3	80	311.0011.384	12	17	--	--	118	--	0.9
63	4	80	311.0014.384	12	17	--	--	118	--	0.9
63	5	80	311.0017.384	12	17	--	--	118	--	0.9
63	6	80	311.0001.384	21	27	36	M 5	118	10	1.0
63	6	120	311.0031.384	21	27	36	M 5	158	10	1.2
63	8	80	311.0002.384	21	27	36	M 6	118	10	1.0
63	8	120	311.0032.384	21	27	36	M 6	158	10	1.2
63	10	80	311.0003.384	24	32	41	M 8 x 1	118	10	1.0
63	10	120	311.0033.384	24	32	41	M 8 x 1	158	10	1.3
63	12	80	311.0004.384	24	32	47	M10 x 1	118	10	1.0
63	12	120	311.0034.384	24	32	47	M10 x 1	158	10	1.3
63	14	85	311.0005.384	27	34	47	M10 x 1	123	10	1.1
63	14	120	311.0035.384	27	36	47	M10 x 1	158	10	1.4
63	16	85	311.0006.384	27	34	50	M12 x 1	123	10	1.1
63	16	120	311.0036.384	27	36	50	M12 x 1	158	10	1.3
63	18	85	311.0007.384	33	42	50	M12 x 1	123	10	1.2
63	18	120	311.0037.384	33	44	50	M12 x 1	158	10	1.6
63	20	85	311.0008.384	33	42	52	M16 x 1	123	10	1.2
63	20	120	311.0038.384	33	44	52	M16 x 1	158	10	1.6
63	25	90	311.0009.384	44	53	58	M16 x 1	128	10	1.6
63	25	120	311.0039.384	44	53	58	M16 x 1	158	10	2.0
63	32	95	311.0010.384	44	53	61	M16 x 1	133	10	1.5
63	32	120	311.0040.384	44	53	61	M16 x 1	158	10	1.9

Adjusting screws see accessories page 7.13.

Design

Permissible concentricity deviation of PSK to location hole d1 = 0.003 mm.

Chucks are balanced according to ISO 1940-1 G 6.3 at 15,000 min⁻¹.

The clamping diameter is designed for a shank tolerance of h6.

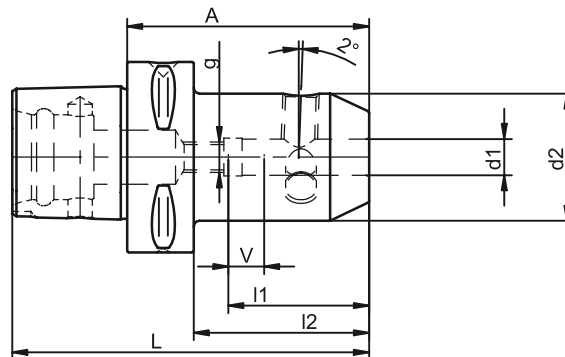
Standard Specification

Adjusting screw for length adjustment (from Ø 6) is not included.

Note

Other designs and sizes are available on request.

Reduction Sleeves for Straight Shanks with Lateral Driving and Inclined Clamping Surface



PSK	d1	A	Ref.no.	d2	l1	l2	g	L	d1 tolerance	V	kg
63	6	75	420.0201.384	25	38	53	M 5	113	+ 0.005	10	1.0
63	8	80	420.0202.384	28	38	58	M 6	118	+ 0.005	10	1.0
63	10	80	420.0203.384	35	42	58	M 8	118	+ 0.005	10	1.2
63	12	80	420.0204.384	42	47	58	M10	118	+ 0.005	10	1.3
63	14	80	420.0205.384	44	47	58	M10	118	+ 0.005	10	1.4
63	16	80	420.0206.384	48	50	58	M12	118	+ 0.005	10	1.5
63	18	80	420.0207.384	48	50	58	M12	118	+ 0.005	10	1.5
63	20	85	420.0208.384	52	52	63	M16	118	+ 0.007	10	1.6
63	25	90	420.0209.384	65	58	68	M16	128	+ 0.007	10	2.1
63	32	90	420.0210.384	72	61	68	M16	128	+ 0.007	10	2.3
63	40	95	420.0211.384	80	67	73	M16	133	+ 0.007	10	2.7

For clamping screws see accessories page 7.16.

For adjusting screws see accessories page 7.13.

Use

For holding shank tools with inclined clamping surface (2°), DIN 1835 type E and DIN 6535 type HE, as well as for holding shank tools with lateral driving surface, DIN 1835 type B and DIN 6535 type HB.

Design

Permissible concentricity deviation of PSK to location hole $d1 = 0.003$ mm.

Standard Specification

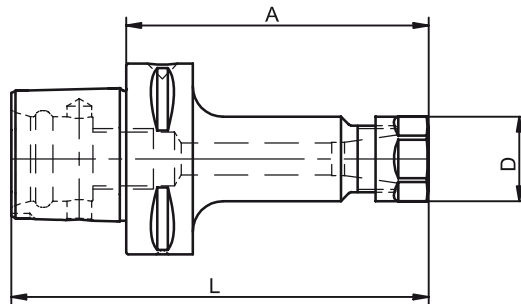
Clamping screw and adjusting screw are included. From location hole $d1 = 25$ mm 4 clamping screws are included.

Note

Other designs and styles are available on request.

Collet Chucks

for ER/ESX ER-16 without Internal Thread



PSK	Clamping range	A	Ref.no.	D	L	kg
63	0.5 - 10	60	698.0001.384	28	98	0.9
63	0.5 - 10	100	698.0031.384	28	138	1.1

For collets, clamping nuts or clamping keys see accessories from page 7.3 to page 7.8.

Use

For clamping tools with straight shank according to DIN ISO 15488 (DIN 6499) type A and B.

Design

Permissible concentricity deviation of PSK to inner taper 0.003 mm.
 Chucks are balanced without clamping nut according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.
 Clamping nut balanced according to ISO 1940-1 G 6.3 at 18,000 min⁻¹.

Standard Specification

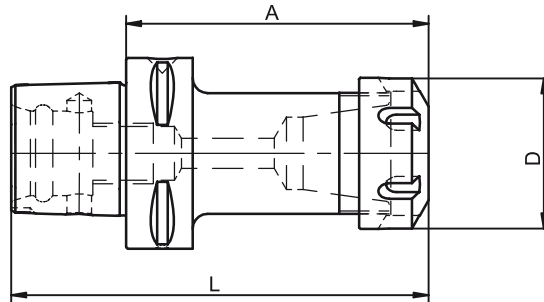
Collet chuck including clamping nut.

Note

Other designs and styles are available on request.

Collet Chucks

for ER/ESX ER-20/25/32/40 without Internal Thread



PSK	Clamping range	A	Ref.no.	D	L	kg
63	1 - 13	60	697.0001.384	34	98	0.9
63	1 - 13	100	697.0031.384	34	138	1.0
63	1 - 16	60	697.0002.384	42	98	0.9
63	1 - 16	100	697.0032.384	42	138	1.1
63	2 - 20	60	697.0003.384	50	98	0.9
63	2 - 20	100	697.0033.384	50	138	1.2
63	3 - 26	65	697.0004.384	63	103	0.9
63	3 - 26	100	697.0034.384	63	138	1.4

For collets, clamping nuts or clamping keys see accessories from page 7.3 to page 7.8.

Use

For clamping tools with straight shank according to DIN ISO 15488 (DIN 6499) type A and B.

Design

Permissible concentricity deviation of PSK to inner taper 0.003 mm.
 Chucks are balanced without clamping nut according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.
 Clamping nut balanced according to ISO 1940-1 G 6.3 at 18,000 min⁻¹.

Standard Specification

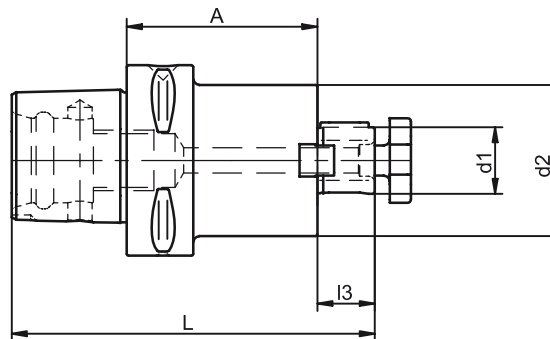
Collet chuck including clamping nut.

Note

Other designs and styles are available on request.

Shell End Mill Arbors

for Milling Cutters with Longitudinal Slot or Tenon Drive



PSK	d1	A	Ref.no.	d2	l3	L	kg
63	16	63	489.0031.384	40	17	118	1.2
63	22	28	489.0002.384	50	19	85	0.9
63	22	63	489.0032.384	50	19	120	1.2
63	27	28	489.0003.384	58	21	87	1.0
63	27	63	489.0033.384	58	21	122	1.7
63	32	22	489.0004.384	62	24	84	0.9
63	32	86	489.0034.384	62	24	148	2.3

For cutter retaining screws or keys see accessories from page 7.16 to page 7.17.

Use

For clamping shell end mills and milling cutters with longitudinal slot or tenon drive.

Design

Permissible concentricity deviation of PSK

to arbor d1 = 0.006 mm.
Cutter drive according to DIN 138.

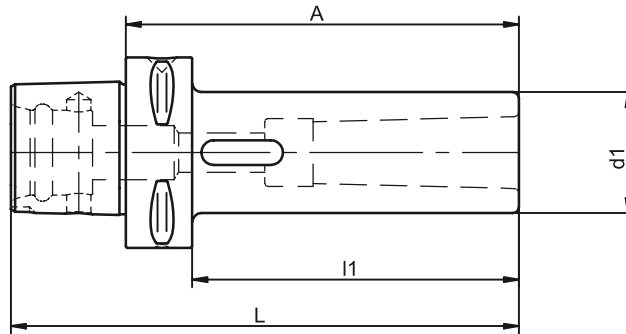
Standard Specification

Cutter retaining screw, feather key with withdrawal thread and drive ring included.

Note

Other designs and sizes are available on request.

Reduction Sleeves for Morse Tapers with Tang



PSK	MT	A	Ref.no.	d1	l1	L	kg
63	2	110	454.0002.384	32	88	148	1.2
63	3	130	454.0003.384	40	108	168	1.5
63	4	150	454.0004.384	52	128	188	1.9

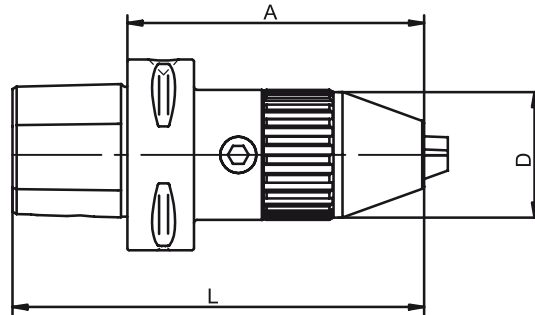
Design

Permissible concentricity deviation of PSK to inner taper 0.008 mm.

Note

Other designs and sizes are available on request.

Drill Chucks



PSK	Clamping range	A	Ref.no.	D	L	kg
63	1 - 13	107	490.0001.384	43	145	2.0

Use

For holding tools with straight shank for use in machining centres and NC machines.

Design

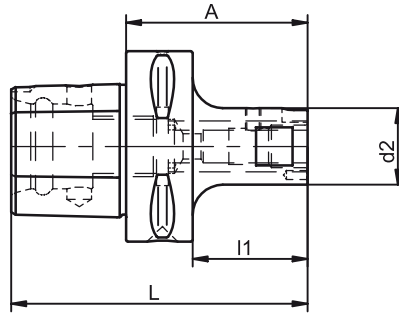
High precision and truth of running.
For clockwise and anti-clockwise rotation.
Simple to operate, clamping and releasing by an allen key.

Note

Other desings and styles are available on request.

Tooling System KELCH FLEXIBORE

Basic Holders



PSK	d2	A	Ref.no.	l1	L	kg
63	25	60	494.0001.384	38	98	0.9
63	32	70	494.0002.384	48	108	1.0
63	40	80	494.0003.384	58	118	1.2
63	50	80	494.0004.384	58	118	1.5
63	63	80	494.0005.384	55	118	2.0

For anti-fatigue bolts see accessories page 7.19.

For allen keys see accessories page 7.19.

Design

Permissible concentricity deviation of PSK to location hole 0.005 mm.

Permissible axial runout deviation of PSK to contact face 0.003 mm.

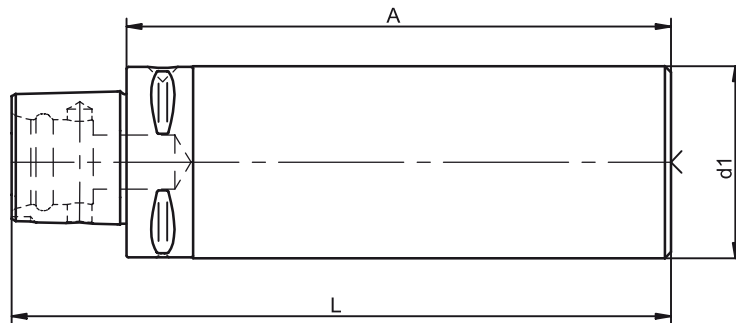
Standard Specification

Anti-fatigue bolt and tightened driving dogs included.

Note

Other designs and styles are available on request.

Tool Blanks



PSK	d1	A	Ref.no.	L	kg
63	63	180	517.0010.384	218	6.2
63	75	195	517.0011.384	233	6.8
63	110	85	517.0012.384	123	5.5
63	120	180	517.0013.384	218	14.8
63	130	95	517.0014.384	133	8.4

Use

For self-manufacturing special tools.

Design

Taper including flange hardened.
Taper and contact face ground.

d1 unhardened for further processing.
Centre hole according to DIN 332 type R.

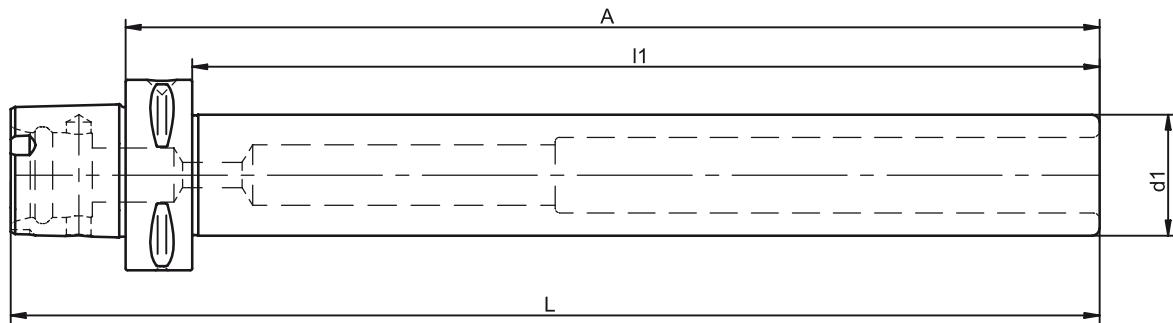
Material

Heat-treatable steel 25 CrMo 4.

Note

For partial hardening induction hardening is recommended.
Other polygon sizes (PSK 32/40/50/80/80x) and dimensions are available on request.

Test Arbors



PSK	d1	A	Ref.no.	Effective measuring length l1	L	kg
50	32	235	418.0001.383	215	265	1.4
63	40	322	418.0001.384	300	360	2.8
80	40	330	418.0001.385	300	300	3.8

Use

For the acceptance test of machine tools in accordance with the ISO recommendation R 230.

Design

Permissible concentricity deviation of PSK to cylindrical part $d_1 = 0.003$ mm.

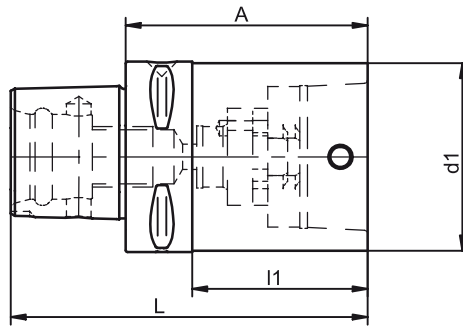
Standard Specification

With wooden stand for vertical storage.

Note

To prevent wrong measuring results caused by their weight, the test arbors are hollowed out with a stepped bore.

Adapter PSK - HSK-T



PSK	d1	A ± 0.01	Ref.no.	l1	L	kg
63	40	80	716.0002.384	58	118	1.3
63	63	80	716.0004.384	58	118	1.8

Use

For holding HSK-T tools ISO 12164-3;
DIN 69 893-1, type A and C,
d1 = nominal size HSK.

Design

Permissible concentricity deviation of PSK
to inner taper 0.005 mm.

Standard Specification

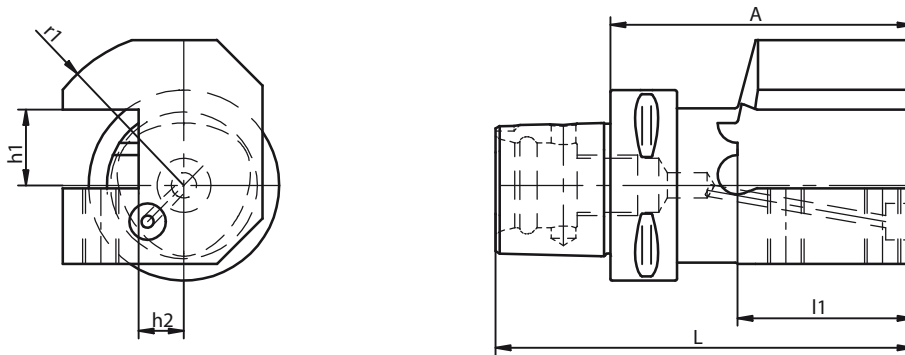
Including clamping cartridge and
cover ring.

Note

Special designs available on request.

Turning Tool Holders Axial

Single



PSK	h1	A	Ref.no.	r1	h2	l1	L	kg
63	20	90 R	586.0503.384	45	15	48	128	2.4
63	20	90 L	586.0003.384	45	15	48	128	2.4
63	25	100 R	586.0504.384	51	15	58	138	2.8
63	25	100 L	586.0004.384	51	15	58	138	2.8
63	32	125 R	586.0505.384	61	15	83	163	3.9
63	32	125 L	586.0005.384	61	15	83	163	3.9

Use

For ISO turning tools with square shank.

Design

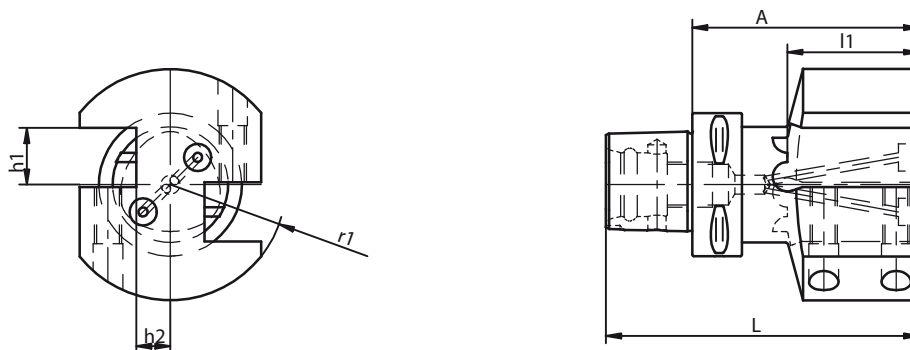
One adjustable coolant nozzle with internal thread.

Standard Specification

Including built-in clamping screws.

Turning Tool Holders Axial

Double



PSK	h1	A	Ref.no.	r1	h2	l1	L	kg
63	20	90	586.0203.384	45	15	48	128	2.8
63	25	100	586.0204.384	51	15	58	138	3.6
63	32	125	586.0205.384	61	15	83	163	5.9

Use

For ISO turning tools with square shank.

Design

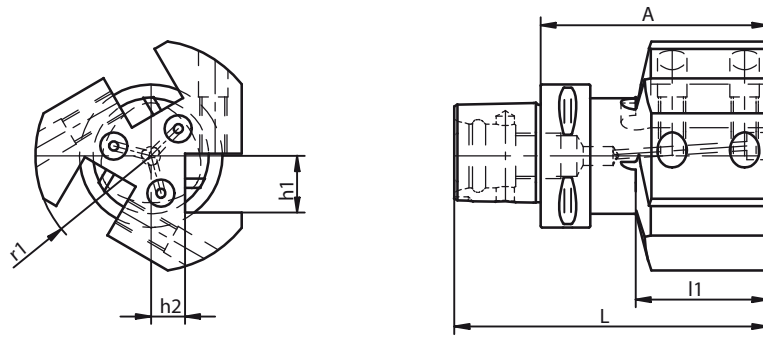
Two adjustable coolant nozzles with internal thread.

Standard Specification

Including built-in clamping screws.

Turning Tool Holders Axial

Triple



PSK	h1	A	Ref.no.	r1	h2	l1	L	kg
63	20	90	586.0303.384	45	15	48	128	2.4
63	25	100	586.0304.384	51	15	58	138	3.0
63	32	125	586.0305.384	61	15	83	163	4.7

Use

For ISO turning tools with square shank.

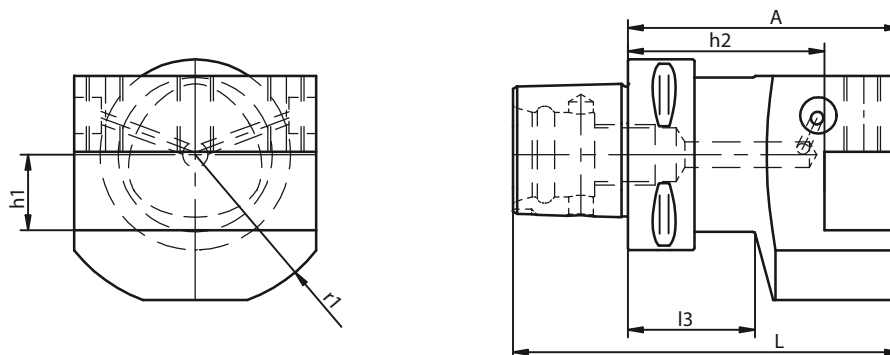
Design

Three adjustable coolant nozzles with internal thread.

Standard Specification

Including built-in clamping screws.

Turning Tool Holders Radial



PSK	h1	A	Ref.no.	r1	h2	l3	L	kg
63	20	80	587.0003.384	45	60	42	118	2.2
63	25	90	587.0004.384	51	65	42	128	2.7
63	32	100	587.0005.384	61	68	42	138	3.4

Use

For ISO turning tools with square shank.

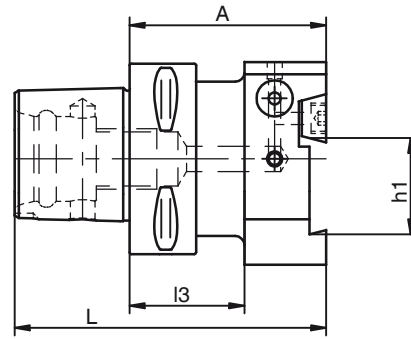
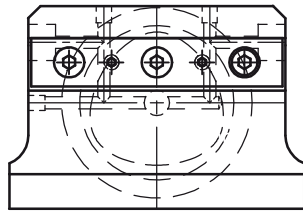
Design

Two adjustable coolant nozzles with internal threads.

Standard Specification

Including built-in clamping screws.

Grooving Tool Holders



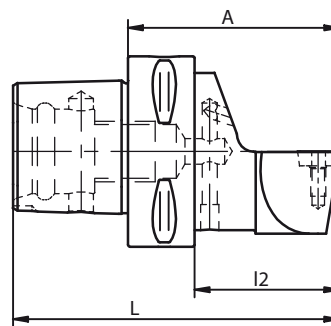
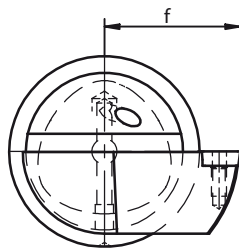
PSK	h1	A	Ref.no.	l3	L	kg
63	26	65	588.0003.384	38	103	1.9
63	32	65	588.0004.384	38	103	2.1

Use
For holding grooving blades.

Design
Two adjustable coolant nozzles with internal thread.

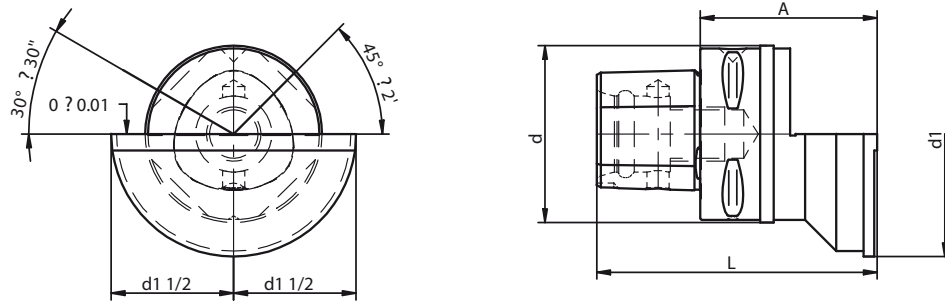
Standard Specification
With built-in clamping unit.

Turning Tools



Of course, we also manufacture turning tools for external and internal turning according to ISO 6598 and ISO 6597 as well as according to your individual demands and drawings.

Adjustment Gauge

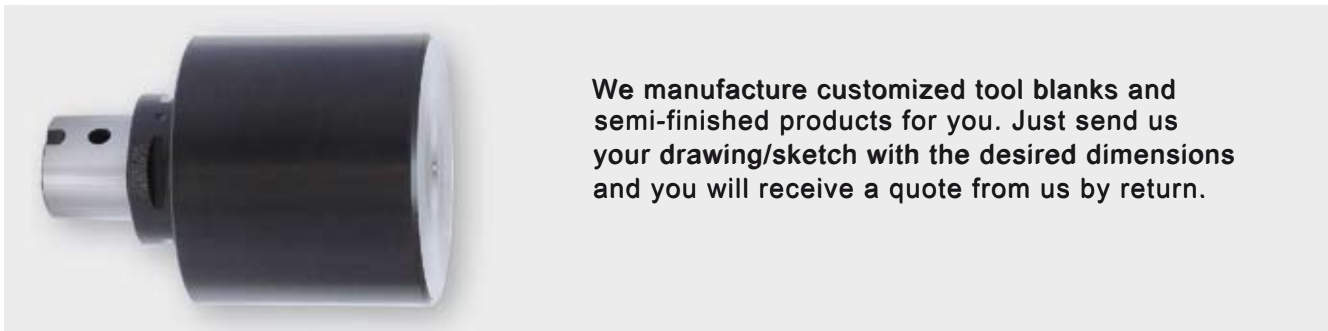
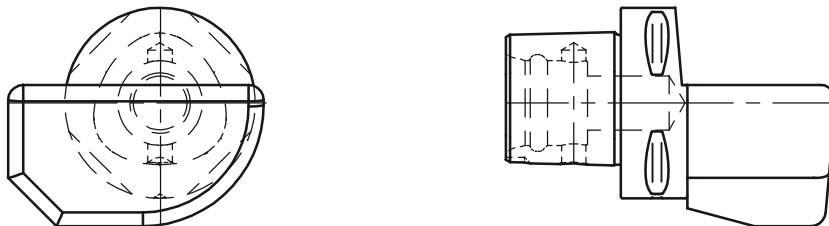


PSK	d1	A	Ref.no.	d	L	kg
63	90	65	680.0001.384	65	103	1.7

Use

For exact adjustment of the turning centre position of the holding adapters in the turret.

Semi-finished Products



We manufacture customized tool blanks and semi-finished products for you. Just send us your drawing/sketch with the desired dimensions and you will receive a quote from us by return.

www.kelchgmbh.de

As of September 2010 · Technical and design modifications are subject to change without notice.



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