



ISO Tool Holders

Chapter 3 of the Product Catalogue 2010/2011 Precision Tools



ISO - Steep Tapers





DIN 69 871

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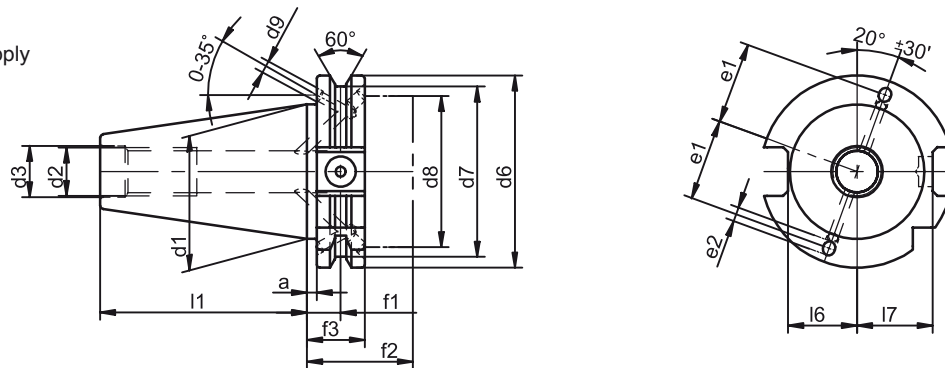
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ISO Tool Holders DIN 69 871

Technical Data and Standard Specification

DIN 69 871-1 type AD/B
with through-hole
for central coolant supply
and for lateral coolant supply
via the tool flange



ISO	d1	d2	d3 H7	d6 - 0.1	d7 - 0.5	d8	d9	l1 - 0.3
40	44.45	M16	17	63.55	56.25	50	4	68.40
50	69.85	M24	25	97.50	91.25	80	6	101.75

ISO	l6 - 0.4	l7 - 0.4	e1 ± 0.1	e2	a	f1	f2	f3
40	22.8	25.0	27	5	3.2	11.1	35	19.1
50	35.5	37.7	42	7	3.2	11.1	35	19.1

DIN 69 871-1 type AD
with through-hole
for central coolant supply



Design

Steep taper acc. to DIN 69 871 with bore for identification chip according to DIN 69 873. Hardened by means of a special low-distortion hardening process. Vickers hardness 670 ± 40 HV 30 (HRC 58 ± 2). Hardness depth Eht = min. 0.5 mm. Taper-angle tolerance quality AT3 according to DIN 2080-1.

Taper surface roughness index
Rz ≤ 0.001 mm.

For details of concentricity of steep taper to tool holder, refer to appropriate page of 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.

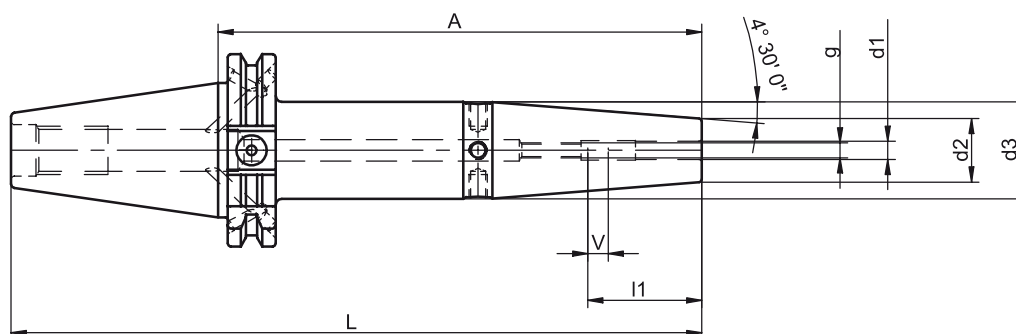
Standard Specification

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.

i-tec® Shrink Fit Chucks Standard Version

Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	l1	g	L	V	kg
40	3	70	311.0011.292	12	17	-	-	138	10	0.9
40	3	120	311.0012.292	12	17	-	-	188	10	0.9
40	4	70	311.0013.292	12	17	-	-	138	10	0.9
40	4	120	311.0014.292	12	17	-	-	188	10	0.9
40	5	70	311.0015.292	12	17	-	-	138	10	0.9
40	5	120	311.0016.292	12	17	-	-	188	10	0.9
40	6	80	311.0001.292	21	31	36	M 5	148	10	1.1
40	6	120	311.0031.292	21	32	36	M 5	188	10	1.3
40	8	80	311.0002.292	21	31	36	M 6	148	10	1.1
40	8	120	311.0032.292	21	32	36	M 6	188	10	1.3
40	10	80	311.0003.292	24	34	41	M 8 x 1	148	10	1.1
40	10	120	311.0033.292	24	34	41	M 8 x 1	188	10	1.3
40	12	80	311.0004.292	24	34	47	M10 x 1	148	10	1.2
40	12	120	311.0034.292	24	34	47	M10 x 1	188	10	1.3
40	14	80	311.0005.292	27	37	47	M10 x 1	148	10	1.2
40	16	80	311.0006.292	27	37	50	M12 x 1	148	10	1.2
40	16	120	311.0036.292	27	36	50	M12 x 1	188	10	1.4
40	18	80	311.0007.292	33	43	50	M12 x 1	148	10	1.2
40	20	80	311.0008.292	33	43	52	M16 x 1	148	10	1.2
40	20	120	311.0038.292	33	44	52	M16 x 1	188	10	1.6
40	25	100	311.0009.292	44	50	58	M16 x 1	168	10	1.7
50	6	80	311.0001.291	21	31	36	M 5	182	10	2.9
50	8	80	311.0002.291	21	31	36	M 6	182	10	2.9
50	10	80	311.0003.291	24	34	41	M 8 x 1	182	10	3.0
50	12	80	311.0004.291	24	34	47	M10 x 1	182	10	3.0
50	14	80	311.0005.291	27	37	47	M10 x 1	182	10	3.0
50	16	80	311.0006.291	27	37	50	M12 x 1	182	10	3.0
50	18	80	311.0007.291	33	43	50	M12 x 1	182	10	3.1
50	20	80	311.0008.291	33	43	52	M16 x 1	182	10	3.1
50	25	100	311.0009.291	44	53	58	M16 x 1	202	10	3.5
50	32	100	311.0010.291	44	56	61	M16 x 1	202	10	3.4

For adjusting screws see accessories page 7.13.

Use

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to location hole d1 = 0.003 mm (measured at 3 x D cantilever length).
Chucks are fine balanced according to ISO 1940-1 G 2.5 at 25,000 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

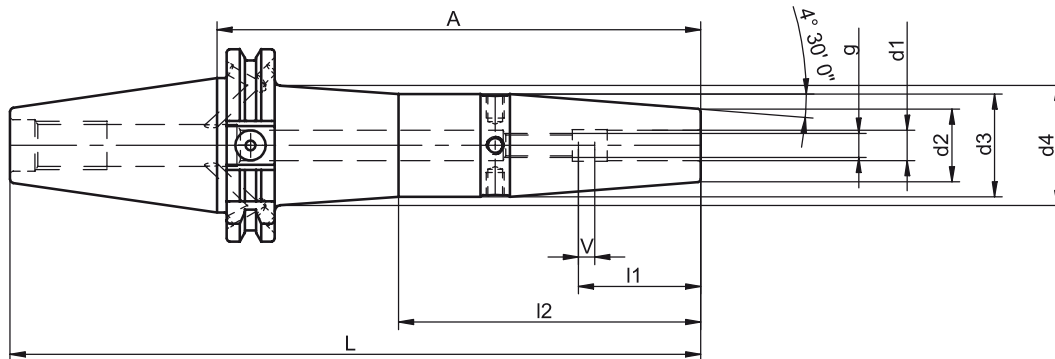
For further fine balancing of the chucks threaded holes are fitted on the coverage (for ISO 40).
Can be rebalanced with threaded pins.

Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.

Other designs and sizes are available on request.

i-tec® Shrink Fit Chucks Conical Version

Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	d4	l1	l2	g	L	V	kg
40	6	160	311.0081.292	21	27	42	36	90	M 5	228	10	1.5
40	8	160	311.0082.292	21	27	42	36	90	M 6	228	10	1.5
40	10	160	311.0083.292	24	34	40	41	100	M 8 x 1	228	10	1.7
40	12	160	311.0084.292	24	34	40	47	100	M10 x 1	228	10	1.6
40	14	160	311.0085.292	27	36	42	47	100	M10 x 1	228	10	1.8
40	16	160	311.0086.292	27	36	42	50	100	M12 x 1	228	10	1.7
40	18	160	311.0047.292	33	44	--	50	--	M12 x 1	228	10	2.1
40	20	160	311.0048.292	33	44	--	52	--	M16 x 1	228	10	2.1
40	25	160	311.0049.292	44	50	--	58	--	M16 x 1	228	10	2.6
50	6	160	311.0081.291	21	27	46	36	75	M 5	262	10	3.4
50	6	200	311.0091.291	21	27	50	36	130	M 5	302	10	3.7
50	8	160	311.0082.291	21	27	43	36	85	M 6	262	10	3.3
50	8	200	311.0092.291	21	27	50	36	130	M 6	302	10	3.7
50	10	160	311.0083.291	24	34	49	41	90	M 8 x 1	262	10	3.6
50	10	200	311.0093.291	24	34	49	41	130	M 8 x 1	302	10	3.8
50	12	160	311.0084.291	24	34	49	47	90	M10 x 1	262	10	3.6
50	12	200	311.0094.291	24	34	49	47	130	M10 x 1	302	10	3.8
50	14	160	311.0085.291	27	36	51	47	90	M10 x 1	262	10	3.7
50	14	200	311.0095.291	27	36	51	47	130	M10 x 1	302	10	4.0
50	16	160	311.0086.291	27	36	51	50	90	M12 x 1	262	10	3.6
50	16	200	311.0096.291	27	36	51	50	130	M12 x 1	302	10	3.9
50	18	160	311.0087.291	33	44	53	50	110	M12 x 1	262	10	4.0
50	18	200	311.0097.291	33	44	59	50	130	M12 x 1	302	10	4.5
50	20	160	311.0088.291	33	44	53	52	110	M16 x 1	262	10	3.8
50	20	200	311.0098.291	33	44	59	52	130	M16 x 1	302	10	4.3
50	25	160	311.0089.291	44	53	61	58	100	M16 x 1	262	10	4.5
50	25	200	311.0099.291	44	53	64	58	130	M16 x 1	302	10	5.2
50	32	160	311.0090.291	44	53	61	61	100	M16 x 1	262	10	4.4
50	32	200	311.0100.291	44	53	64	61	130	M16 x 1	302	10	5.0

For adjusting screws see accessories page 7.13.

Design

ISO according to DIN 69 871-1, type AD/B with bore for identification chip.
Permissible concentricity deviation of ISO taper to location hole d1 = 0.003 mm (measured at 3 x D cantilever length).
Chucks are fine balanced according to ISO 1940-1 G 2.5 at 25,000 min⁻¹.
The clamping diameter is designed for a shank tolerance of h6.

Standard Specification

Adjusting screw for length adjustment not included.

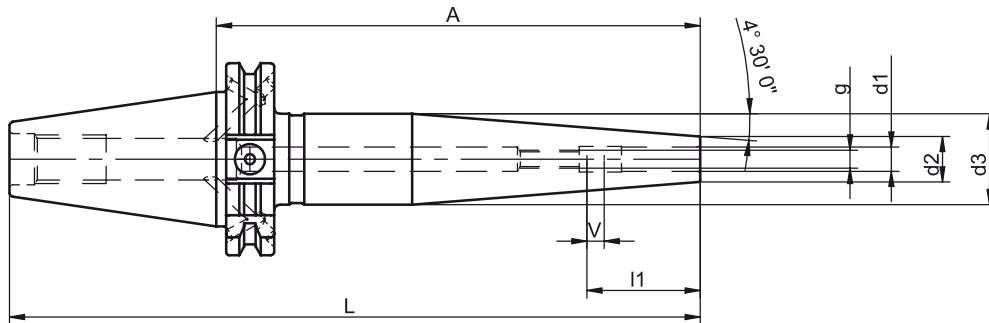
Note

For further fine balancing of the chucks threaded holes are fitted on the coverage (for ISO 40).
Can be rebalanced with threaded pins.
Coolant bores for type B are closed with

threaded pins on delivery.
If required, unscrew the threaded pins.
Other designs and sizes are available on request.

i-tec® Shrink Fit Chucks Slim Version

Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	l1	g	L	V	kg
40	3	120	311.0700.292	9	25	-	-	188	-	1.0
40	3	160	311.0710.292	9	25	-	-	228	-	1.1
40	4	120	311.0701.292	9	25	-	-	188	-	1.0
40	4	160	311.0711.292	9	25	-	-	228	-	1.1
40	5	120	311.0702.292	9	25	-	-	188	-	1.0
40	5	160	311.0712.292	9	25	-	-	228	-	1.1
40	6	120	311.0703.292	15	31	36	M 5	188	10	1.1
40	6	160	311.0713.292	15	30	36	M 5	228	10	1.3
40	8	120	311.0704.292	15	31	36	M 6	188	10	1.1
40	8	160	311.0714.292	15	30	36	M 6	228	10	1.3
40	10	120	311.0705.292	18	34	41	M 8 x 1	188	10	1.2
40	10	160	311.0715.292	18	32	41	M 8 x 1	228	10	1.4
40	12	120	311.0706.292	18	34	47	M10 x 1	188	10	1.1
40	12	160	311.0716.292	18	32	47	M10 x 1	228	10	1.6
50	3	120	311.0700.291	9	25	-	-	222	-	2.8
50	3	160	311.0710.291	9	25	-	-	262	-	2.9
50	4	120	311.0701.291	9	25	-	-	222	-	2.8
50	4	160	311.0711.291	9	25	-	-	262	-	2.9
50	5	120	311.0702.291	9	25	-	-	222	-	2.8
50	5	160	311.0712.291	9	25	-	-	262	-	2.9
50	6	120	311.0703.291	15	31	36	M 5	222	10	2.9
50	6	160	311.0713.291	15	30	36	M 5	262	10	3.1
50	8	120	311.0704.291	15	31	36	M 6	222	10	2.9
50	8	160	311.0714.291	15	30	36	M 6	262	10	3.1
50	10	120	311.0705.291	18	34	41	M 8 x 1	222	10	3.0
50	10	160	311.0715.291	18	32	41	M 8 x 1	262	10	3.2
50	12	120	311.0706.291	18	34	47	M10 x 1	222	10	2.9
50	12	160	311.0716.291	18	32	47	M10 x 1	262	10	3.1

Design

ISO according to DIN 69 871-1, type AD/B with bore for identification chip.

Permissible concentricity deviation of ISO taper to location hole $d1 = 0.003$ mm (measured at $3 \times D$ cantilever length).

Chucks are fine balanced according to ISO 1940-1 G 2.5 at $25,000 \text{ min}^{-1}$.

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

Standard Specification

Adjusting screw for length adjustment (from $\varnothing 6$) not included.

Note

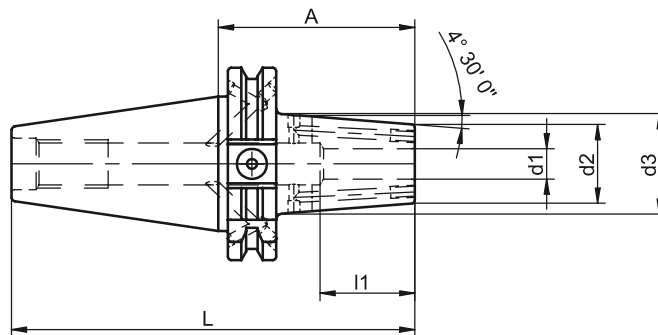
Coolant bores for type B are closed with threaded pins on delivery.

If required, unscrew the threaded pins. Other designs and sizes are available on request.

i-tec® Shrink Fit Chucks

Ultra Short Version

Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	l1	L	kg
40	10	65	311.4353.292	26	33	41	133	1.0
40	12	65	311.4354.292	26	33	45	133	1.0
40	16	65	311.4356.292	29	36	52	133	1.0
40	20	65	311.4358.292	35	42	54	133	1.1
40	25	75	311.4359.292	45	50	59	143	1.4

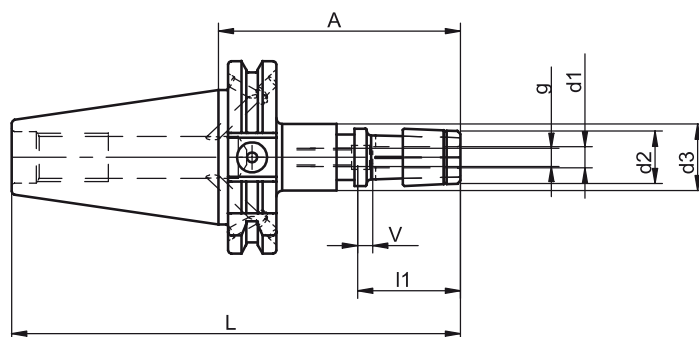
Design

ISO according to DIN 69 871-1, type AD/B with bore for identification chip.
Permissible concentricity deviation of ISO taper to location hole $d1 = 0.003$ mm (measured at 3 x D cantilever length).

Chucks are fine balanced according to ISO 1940-1 G 2.5 at 25,000 min⁻¹.
The clamping diameter is designed for a shank tolerance of h6.
With closable Cool Stream bores.

Note

Coolant bores for type B are closed with threaded pins on delivery.
If required, unscrew the threaded pins.
Other designs and sizes are available on request.



ISO	d1	A	Ref.no.	d2	d3	l1	g	L	V	kg
40	3	80	285.0000.292	19	22	-	-	149	-	0.8
40	4	80	285.0002.292	19	22	-	-	149	-	0.8
40	5	80	285.0003.292	19	22	-	-	149	-	0.8
40	6	80	285.0004.292	19	22	35	M 6	149	5	0.9
40	7	80	285.0005.292	19	22	35	M 6	149	5	0.9
40	8	80	285.0006.292	19	22	35	M 6	149	5	0.9
40	9	80	285.0007.292	19	22	37	M 6	149	5	0.9
40	10	80	285.0008.292	22	22	37	M 6	149	5	1.0
40	11	80	285.0009.292	22	22	37	M 6	149	5	1.0
40	12	80	285.0010.292	27	22	37	M 6	149	5	1.0
40	12	80	285.0020.292	27	30	37	M 6	149	5	1.1
40	16	80	285.0012.292	27	30	40	M 6	149	5	1.1

For adjusting screws see accessories page 7.13.

For shrink rings see accessories page 7.2.

Design

ISO according to DIN 69 871-1, type AD/B.
The clamping diameter is designed for a shank tolerance of h9.

Standard Specification

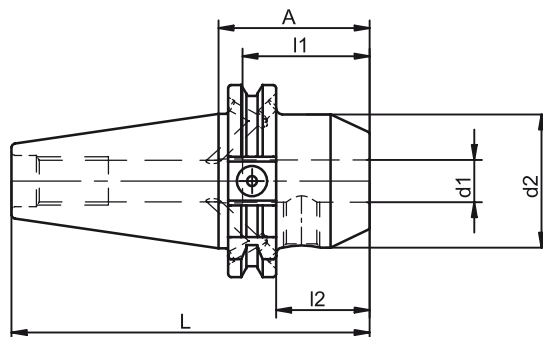
Shrink ring and adjusting screw for length adjustment (from Ø 6) are included.

Note

Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.
Other designs and sizes are available on request.

Reduction Sleeves for Straight Shanks with Lateral Driving Surface (Weldon)

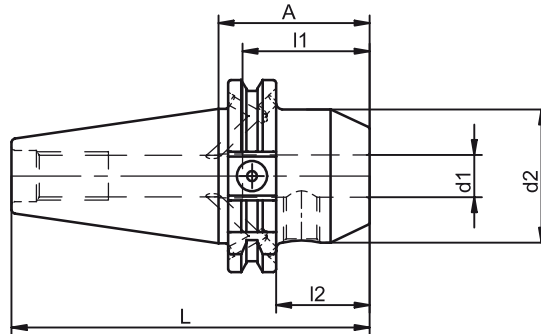
DIN 6359-2



ISO	d1	A	Ref.no.	d2	l1	l2	L	d1 tolerance	kg
40	6	50	420.0051.292	25	35	31	118	+ 0.005	0.9
40	6	100	420.0060.292	25	35	81	168	+ 0.005	1.1
40	8	50	420.0052.292	28	35	31	118	+ 0.005	0.9
40	8	100	420.0061.292	28	35	81	168	+ 0.005	1.1
40	10	50	420.0053.292	35	39	31	118	+ 0.005	1.0
40	10	100	420.0062.292	35	39	81	168	+ 0.005	1.4
40	12	50	420.0054.292	42	44	31	118	+ 0.005	1.2
40	12	100	420.0063.292	42	44	81	168	+ 0.005	1.7
40	14	50	420.0058.292	44	44	31	118	+ 0.005	1.2
40	14	100	420.0064.292	44	44	81	168	+ 0.005	1.7
40	16	63	420.0055.292	48	47	44	131	+ 0.005	1.2
40	16	100	420.0065.292	48	47	81	168	+ 0.005	1.7
40	18	63	420.0059.292	50	47	44	131	+ 0.005	1.5
40	18	100	420.0066.292	50	47	81	168	+ 0.005	1.9
40	20	63	420.0056.292	52	49	44	131	+ 0.007	1.3
40	20	100	420.0067.292	52	49	81	168	+ 0.007	1.8
40	25	100	420.0057.292	65	54	81	168	+ 0.007	2.3
40	32	100	420.0068.292	72	58	81	168	+ 0.007	2.5
50	6	63	420.0051.291	25	35	44	165	+ 0.005	2.7
50	6	100	420.0071.291	25	35	81	202	+ 0.005	2.8
50	8	63	420.0052.291	28	35	44	165	+ 0.005	2.7
50	8	100	420.0072.291	28	35	81	202	+ 0.005	2.9
50	10	63	420.0053.291	35	39	44	165	+ 0.005	2.9
50	10	100	420.0073.291	35	39	81	202	+ 0.005	3.2
50	12	63	420.0054.291	42	44	44	165	+ 0.005	3.0
50	12	100	420.0074.291	42	44	81	202	+ 0.005	3.3
50	14	63	420.0064.291	44	44	44	165	+ 0.005	3.0
50	14	100	420.0075.291	44	44	81	202	+ 0.005	3.4
50	16	63	420.0055.291	48	47	44	165	+ 0.005	3.0
50	16	100	420.0076.291	48	47	81	202	+ 0.005	3.5
50	18	63	420.0068.291	50	47	44	165	+ 0.005	3.0
50	18	100	420.0077.291	50	47	81	202	+ 0.005	3.4

Reduction Sleeves for Straight Shanks with Lateral Driving Surface (Weldon)

DIN 6359-2



ISO	d1	A	Ref.no.	d2	l1	l2	L	Toleranz von d1	kg
50	20	63	420.0056.291	52	49	44	165	+ 0.007	3.1
50	20	100	420.0078.291	52	49	81	202	+ 0.007	3.6
50	25	80	420.0057.291	65	54	61	182	+ 0.007	3.7
50	25	100	420.0079.291	65	54	81	202	+ 0.007	4.4
50	32	100	420.0058.291	72	58	81	202	+ 0.007	4.5
50	40	100	420.0059.291	80	68	81	202	+ 0.007	4.7

For clamping screws see accessories page 7.16.

Use

For holding shank tools with lateral driving surface, DIN 1835 type B and DIN 6535 type HB.

Design

ISO according to DIN 69 871-1, type AD/B. Permissible concentricity deviation of ISO to location hole d1 = 0.003 mm.

ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.
ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.

Standard Specification

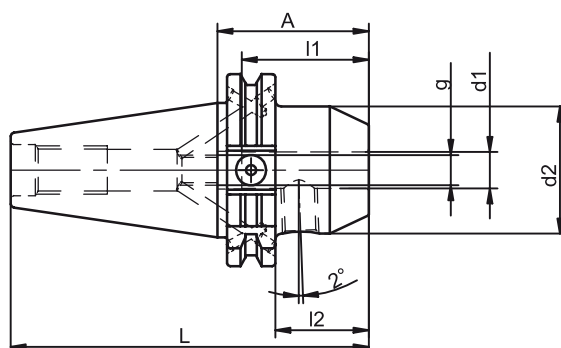
Clamping screw included.
From location hole d1 = 25 mm
2 clamping screws are included.

Note

For an increased machining accuracy the bore tolerance is much reduced compared to DIN 1835.
Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.
Other designs and styles are available on request.

Reduction Sleeves for Straight Shanks with Inclined Clamping Surface (Whistle Notch)

DIN 6359-2



ISO	d1	A	Ref.no.	d2	l1	l2	g	L	d1 tolerance	V	kg
40	6	50	420.0151.292	25	35	31	M 5	118	+ 0.005	10	0.9
40	8	50	420.0152.292	28	35	31	M 6	118	+ 0.005	10	0.9
40	10	50	420.0153.292	35	39	31	M 8	118	+ 0.005	10	1.0
40	12	50	420.0154.292	42	44	31	M10	118	+ 0.005	10	1.1
40	14	50	420.0164.292	44	44	31	M10	118	+ 0.005	10	1.2
40	16	63	420.0155.292	48	47	44	M12	131	+ 0.005	10	1.2
40	18	63	420.0168.292	50	47	44	M12	131	+ 0.005	10	1.5
40	20	63	420.0156.292	52	49	44	M16	131	+ 0.007	10	1.9
40	25	100	420.0157.292	65	54	81	M20	168	+ 0.007	10	2.3
40	32	100	420.0158.292	72	58	81	M20	168	+ 0.007	10	2.5
50	6	63	420.0151.291	25	35	44	M 5	165	+ 0.005	10	2.7
50	8	63	420.0152.291	28	35	44	M 6	165	+ 0.005	10	2.8
50	10	63	420.0153.291	35	39	44	M 8	165	+ 0.005	10	2.9
50	12	63	420.0154.291	42	44	44	M10	165	+ 0.005	10	2.9
50	14	63	420.0164.291	44	44	44	M10	165	+ 0.005	10	3.0
50	16	63	420.0155.291	48	47	44	M12	165	+ 0.005	10	3.0
50	18	63	420.0168.291	50	47	44	M12	165	+ 0.005	10	3.0
50	20	63	420.0156.291	52	49	44	M16	165	+ 0.005	10	3.1
50	25	80	420.0157.291	65	54	61	M20	182	+ 0.007	10	3.8
50	32	100	420.0158.291	72	58	81	M20	202	+ 0.007	10	4.5

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.

Design

ISO according to DIN 69 871-1, type AD/B. Permissible concentricity deviation of ISO taper to location hole d1 = 0.003 mm. ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.

ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.

Standard Specification

Clamping screw and adjusting screw included. From location hole d1 = 25 mm 2 clamping screws are included.

Note

For an increased machining accuracy the bore tolerance is much reduced compared

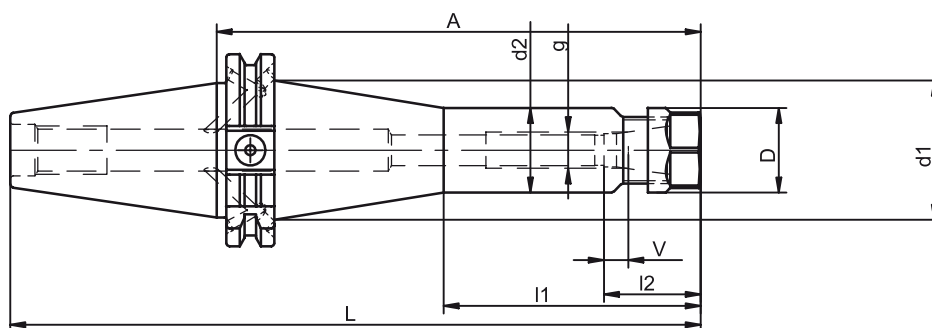
to DIN 1835.

Bored through adjusting screw for coolant. Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.

Other designs and sizes are available on request.

Collet Chucks for ER/ESX ER-11/16 with Internal Thread

DIN ISO 15488 (DIN 6499)



ISO	Clamping range	A	Ref.no.	d1	d2	D	I1	I2	g	L	V	kg
40	0.5 - 7	63	698.0061.292	--	18.5	19	--	18	M 6	131	10	0.9
40	0.5 - 7	100	698.0062.292	--	18.5	19	--	18	M 6	168	10	0.9
40	0.5 - 10	63	698.0051.292	--	28	28	--	27	M12	131	10	0.9
40	0.5 - 10	100	698.0052.292	--	28	28	--	27	M12	168	10	1.1
40	0.5 - 10	160	698.0053.292	46	28	28	85	27	M12	228	10	1.6
50	0.5 - 10	100	698.0051.291	--	28	28	--	27	M12	202	10	2.9
50	0.5 - 10	160	698.0052.291	78	28	28	85	27	M12	262	10	3.4

For adjusting screws see accessories page 7.13.

For further accessories such as 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

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to inner taper 0.003 mm.
Chucks are balanced without clamping nut.

ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.
ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.
Clamping nut is balanced according to ISO 1940-1 G 6.3 at 18,000 min⁻¹.

Standard Specification

Collet chuck including clamping nut.

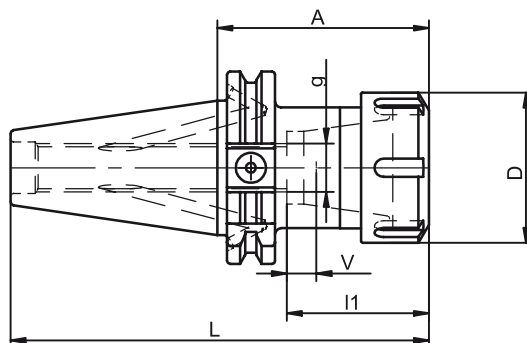
Note

Collet chucks are equipped with internal thread for adjusting screws.
Coolant bores for type B are closed with threaded pins on delivery.
If required, unscrew the threaded pins.
Other designs and sizes are available on request.

Collet Chucks

for ER/ESX ER-25/32/40 for Internal Thread

DIN ISO 15488 (DIN 6499)



ISO	Clamping range	A	Ref.no.	D	I1	g	L	V	kg
40	1 - 16	70	697.0050.292	42	36	M16	138	10	0.8
40	1 - 16	100	697.0055.292	42	36	M16	168	10	1.2
40	2 - 20	70	697.0051.292	50	40	M16	138	10	1.0
40	2 - 20	100	697.0053.292	50	40	M16	168	10	1.3
40	3 - 26	80	697.0052.292	63	58	M16	148	10	1.5
40	3 - 26	120	697.0054.292	63	58	M16	188	10	1.6
50	3 - 26	80	697.0052.291	63	58	M16	182	10	3.2
50	3 - 26	120	697.0053.291	63	58	M16	222	10	3.2

For further accessories such as 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

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to inner taper 0.003 mm.
Chucks are balanced without clamping nut.

ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.
ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.
Clamping nut is balanced according to ISO 1940-1 G 6.3 at 18,000 min⁻¹.

Standard Specification

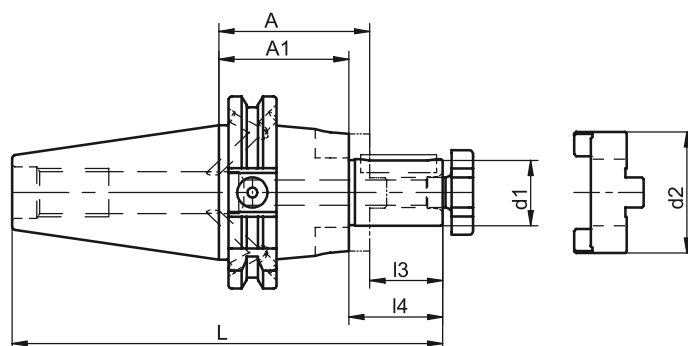
Collet chuck including clamping nut.

Note

Collet chucks are equipped with internal thread for adjusting screws.
Coolant bores for type B are closed with threaded pins on delivery. If required unscrew the threaded pins.
Other designs and sizes are available on request.

Shell End Mill Arbors for Milling Cutters with Longitudinal Slot or Tenon Drive

DIN 6358



ISO	d1	A	Ref.no.	d2	l3	l4	L	A1	kg
40	16	55	489.0011.292	32	17	27	140	45	1.1
40	16	100	489.0031.292	32	17	27	185	90	1.4
40	22	55	489.0012.292	40	19	31	142	43	1.3
40	22	100	489.0032.292	40	19	31	187	88	1.8
40	27	55	489.0013.292	48	21	33	144	43	1.5
40	27	100	489.0033.292	48	21	33	189	88	2.1
40	32	60	489.0004.292	58	24	38	152	46	1.8
40	32	100	489.0034.292	58	24	38	192	88	2.6
40	40	60	489.0005.292	70	27	41	155	46	2.1
50	16	55	489.0001.291	32	17	27	174	45	2.9
50	22	55	489.0002.291	40	19	31	176	43	3.0
50	22	100	489.0032.291	40	19	31	221	88	3.5
50	27	55	489.0003.291	48	21	33	178	43	3.2
50	27	100	489.0033.291	48	21	33	223	88	3.8
50	32	55	489.0004.291	58	24	38	181	41	3.7
50	32	100	489.0034.291	58	24	38	226	86	4.5
50	40	55	489.0005.291	70	27	41	184	41	4.0
50	40	100	489.0035.291	70	27	41	229	86	5.3
50	50	70	489.0006.291	90	30	46	202	54	5.5

For further accessories such as cutter retaining screws, keys, feather keys or drive rings 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

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to arbor d1 = 0.01 mm.
ISO 40 chucks are balanced according to

ISO 1940-1 G 6.3 at 12,000 min⁻¹.

ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.
Cutter drive according to DIN 138.

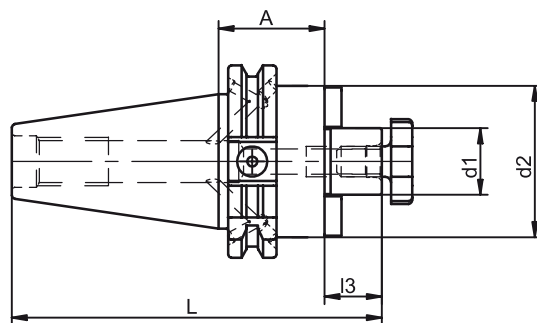
Standard Specification

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

Note

Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.
Other designs and sizes are available on request.

Shell End Mill Arbors with Enlarged Contact Diameter



ISO	d1	A	Ref.no.	d2	l3	L	kg
40	16	35	579.0005.292	40	17	120	0.9
40	22	35	579.0001.292	50	19	122	1.0
40	27	35	579.0002.292	50	21	124	1.1
40	32	50	579.0003.292	78	24	142	1.3
40	40	50	579.0004.292	89	27	145	1.6
50	22	35	579.0001.291	50	19	156	2.9
50	27	40	579.0002.291	60	21	163	3.3
50	32	50	579.0003.291	78	24	176	3.6
50	40	50	579.0004.291	89	27	179	4.2
50	50	50	579.0005.291	120	30	182	5.2

For further accessories such as cutter retaining screws, keys or drive keys see accessories from page 7.16 to page 7.18.

For size 40 x 27 use drive key ref.no. 36.020.

Use

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

Design

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to arbor d1 = 0.01 mm.

ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.

ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.
Central boring for coolant supply.
Clamping diameter 40 with 4 threaded holes for holding cutters with tool holding according to DIN 2079.

Standard Specification

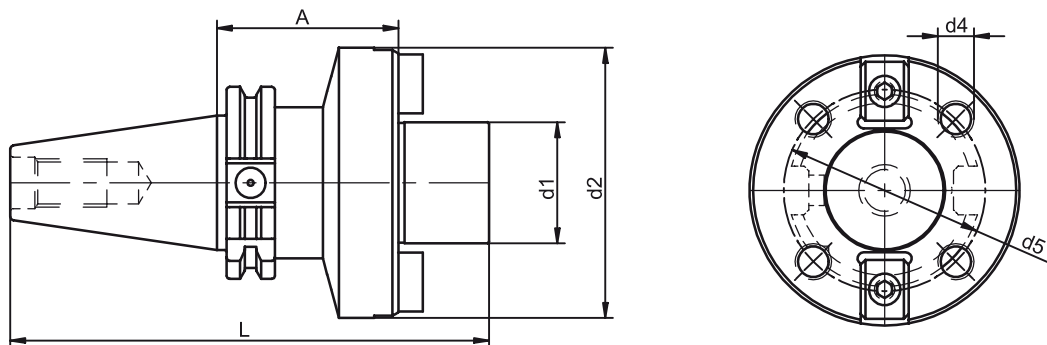
Cutter retaining screw and tightened drive keys included.

Note

Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins .

Other designs and sizes are available on request.

Holding Arbors for Milling Cutters with Internal Centering



ISO	d1	A	Ref.no.	d2	d4	d5	L	kg
40	40	60	478.0003.292	89.3	M 12	66.7	158	2.3
50	40	70	478.0003.291	89.3	M 12	66.7	202	4.0
50	60	70	478.0005.291	129.1	M 16	101.6	212	7.3

Design

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to arbor d1 = 0.02 mm.
Tool side according to DIN 2079.

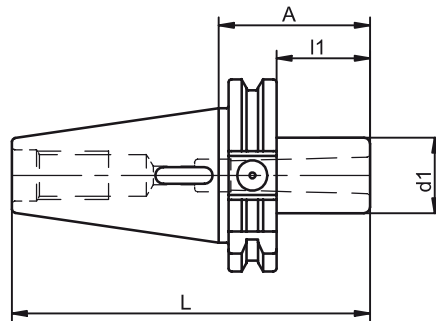
Standard Specification

Tightened drive keys included.

Note

Other designs and sizes are available on request.

Reduction Sleeves for Morse Tapers with Tang



ISO	MT	A	Ref.no.	d1	l1	L	kg
40	1	50	454.0001.292	25	31	118	0.9
40	2	50	454.0002.292	32	31	118	0.9
40	3	70	454.0003.292	40	51	138	1.0
40	4	95	454.0004.292	48	76	163	1.3
50	1	45	454.0001.291	25	26	147	2.6
50	2	60	454.0002.291	32	41	162	2.7
50	3	65	454.0003.291	40	46	167	2.7
50	4	95	454.0004.291	48	76	197	3.0
50	5	105	454.0005.291	63	86	207	3.2

Design

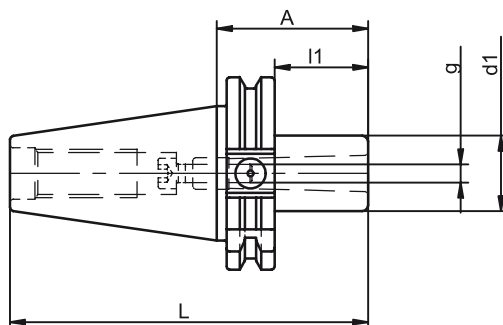
ISO according to DIN 69 871-1, type AD.
Permissible concentricity deviation of ISO taper to inner taper 0.008 mm.

ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.
ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.

Note

Other designs and sizes are available on request.

Reduction Sleeves for Morse Tapers with Thread



ISO	MT	A	Ref.no.	d1	l1	g	L	kg
40	1	50	458.0001.292	25	31	M 6	118	0.9
40	2	50	458.0002.292	32	31	M10	118	0.9
40	3	70	458.0003.292	40	51	M12	138	1.1
40	4	(95) 110	458.0004.292	63	91	M16	178	2.2
50	1	45	458.0001.291	25	26	M 6	147	2.7
50	2	60	458.0002.291	32	41	M10	162	3.0
50	3	65	458.0003.291	40	46	M12	167	3.0
50	4	(70) 85	458.0004.291	63	66	M16	187	3.6
50	5	(100) 118	458.0005.291	78	99	M20	220	4.6

For further accessories such as retaining screws, keys or threaded rings see accessories from page 7.18 to page 7.19.

Design

ISO according to DIN 69 871-1, type A.
Permissible concentricity deviation of ISO taper to inner taper 0.008 mm.
ISO 40 chucks are balanced according to ISO 1940-1 G 6.3 at 12,000 min⁻¹.

ISO 50 chucks are balanced according to ISO 1940-1 G 6.3 at 8,000 min⁻¹.

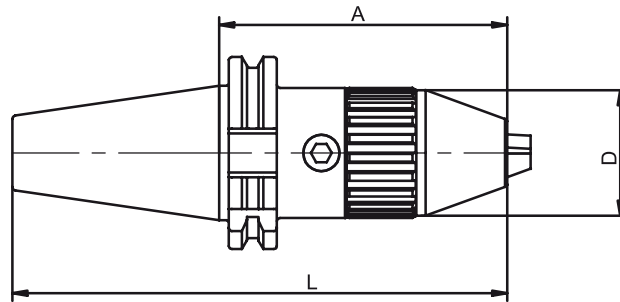
Standard Specification

Retaining screw and threaded ring included.

Note

Other designs and sizes are available on request.

Drill Chucks



ISO	Clamping range	A	Ref.no.	D	L	kg
40	1 - 13	88	490.0050.292	50	156.5	1.3
40	3 - 16	88	490.0051.292	55	157.2	1.5
50	1 - 13	88	490.0050.291	50	189.9	3.0
50	3 - 16	88	490.0051.291	55	190.5	3.3

Use

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

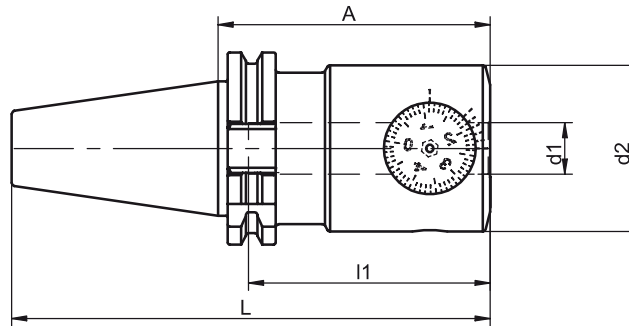
Design

ISO according to DIN 69 871-1, type AD/B. High precision and truth of running. For clockwise and anti-clockwise rotation. Simple to operate, clamping and releasing by an allen key.

Note

Other designs and sizes are available on request.

Fine Boring Tools



ISO	d1	A	Ref.no.	Boring range	d2	l1	L	kg
40	16	90	493.0011.292	3 - 88.1	55	80	159	1.8

For boring bars see accessories page 7.21.

Use

For boring bars with a shank diameter of 16 mm. For precision boring with close tolerances and high surface finish quality in the 3 to 88.1 mm diameter range.

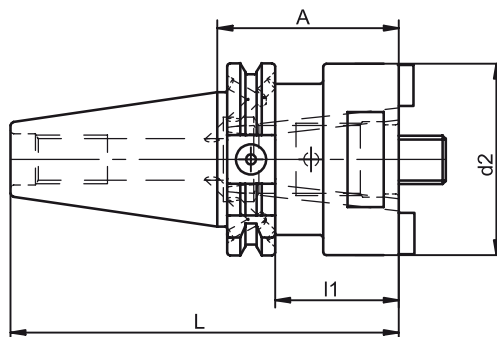
Design

- Setting accuracy of 0.01 mm or 0.002 mm using a vernier scale
- Micrometer spindle with a large scale for exact setting and easy reading
- Minimum backlash
- Variable overhang bar length positions
- Internal coolant capability for chip clearance

Standard Specification

Boring bars to be ordered separately.

Tooling System KELCH FLEXIBORE



ISO	d2	A	Ref.no.	l1	L	kg
40	25	40	494.0301.292	21	108	0.8
40	32	40	494.0302.292	21	108	0.9
40	40	40	494.0303.292	21	108	1.0
40	50	40	494.0305.292	21	108	1.0
40	63	60	494.0304.292	41	128	1.5
50	25	40	494.0301.291	21	142	2.7
50	32	40	494.0302.291	21	142	2.7
50	40	40	494.0303.291	21	142	2.7
50	50	40	494.0306.291	21	142	2.8
50	63	40	494.0304.291	21	142	3.0
50	100	60	494.0305.291	41	162	4.5

For anti-fatigue bolts see accessories page 7.19.

For allen keys see accessories page 7.19.

Design

ISO according to DIN 69 871-1, type AD/B.
Permissible concentricity deviation of ISO taper to location hole 0.005 mm.
Permissible axial runout deviation of ISO taper to contact face 0.003 mm.

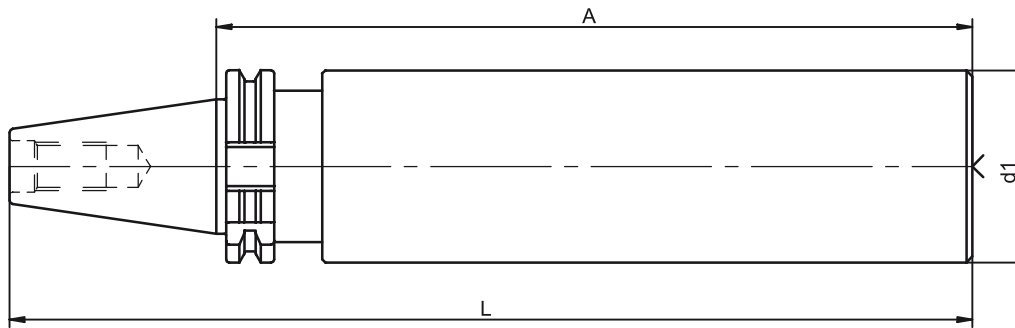
Standard Specification

Anti-fatigue bolt and tightened driving dogs included.

Note

Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.
Other designs and sizes are available on request.

Tool Blanks



ISO	d1	A	Ref.no.	L	kg
40	40	250	517.0001.292	318	3.1
40	63	250	517.0002.292	318	6.3
50	50	315	517.0001.291	417	7.2
50	63	315	517.0002.291	417	9.5
50	95	315	517.0003.291	417	22.5

Use

For self-manufacturing special tools.

Design

Taper including flange hardened.
Vickers hardness min. HV 670 kp/mm
(min. HRC 58).

Taper ground, shank not ground, prepared
to be finished, unhardened.
Centre hole according to DIN 332 type R.

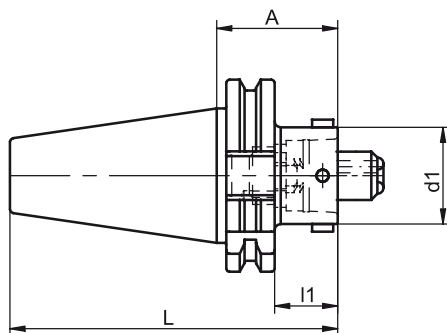
Material

Alloyed case-hardened steel.

Note

Without bore for identification chip.
The dimensions quoted here for d1 are
finished dimensions. Delivery with 0.5 mm
allowance in the diameter.
Other designs and sizes are available
on request.

Adapters ISO - HSK



ISO	d1	A ± 0.01	Ref.no.	l1	L	kg
40	25	40	716.0001.292	20.9	108.4	0.8
40	32	40	716.0002.292	20.9	108.4	0.9
40	40	40	716.0003.292	20.9	108.4	1.0
40	50	40	716.0004.292	20.9	108.4	1.0
40	63	80	716.0005.292	60.9	148.4	1.6
50	25	40	716.0001.291	20.9	142	2.6
50	32	40	716.0002.291	20.9	142	2.7
50	40	40	716.0003.291	20.9	142	2.8
50	50	40	716.0004.291	20.9	142	2.9
50	63	40	716.0005.291	20.9	142	3.1
50	80	60	716.0006.291	40.9	162	3.8
50	100	100	716.0007.291	60.9	202	4.6

For clamping cartridges see accessories page 7.19.

For cover rings see accessories page 7.20.

Use

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

Permissible concentricity deviation of ISO taper to inner taper 0.005 mm.

Note

Without bore for identification chip. Special designs are available on request.

Design

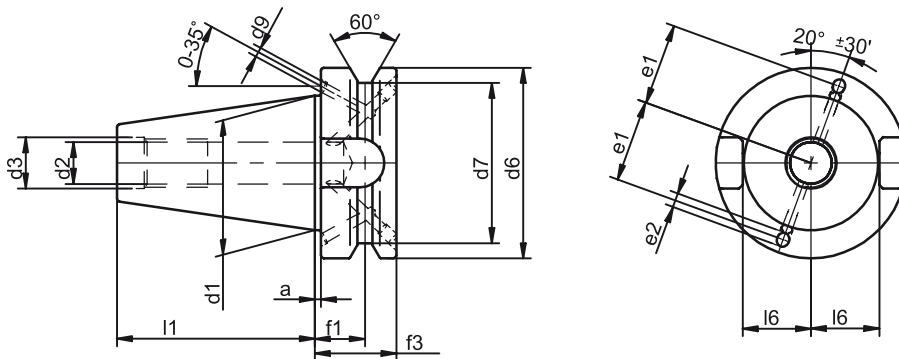
ISO according to DIN 69 871 AD.

Standard Specification

Complete with clamping cartridge and cover ring.

ISO Tool Holders JIS B 6339 Technical Data and Standard Specification

JIS B 6339 - 1986 (MAS 403 BT)



ISO	d1	d2	d3 H8	d6 h8	d7	d9	l1 ± 0.15	l6 - 0.2
40	44.45	M16	17	63	53	4	65.40	22.6
50	69.85	M24	25	100	85	6	101.80	35.4

ISO	e1 ± 0.1	e2	a	f1	f3
40	27	5	2	16.6	27
50	42	7	3	23.2	38

Design

Hardened by means of a special low-distortion hardening process. Vickers hardness 670 ± 40 HV 30 (HRC 58 ± 2). Hardness depth Eht = min. 0.5 mm. Taper-angle tolerance quality AT 3 according to DIN 2080-1.

Taper surface roughness index
 $Rz \leq 0.001$ mm.

For details of concentricity of hollow taper shank to tool holder, refer to appropriate page of 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.

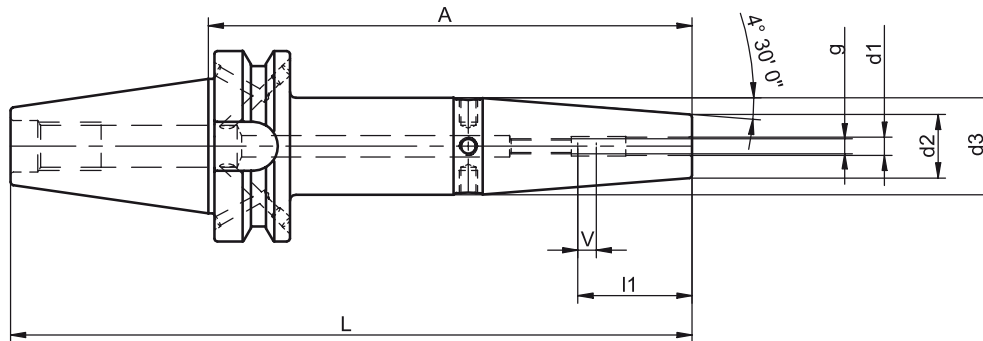
Note

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.

i-tec® Shrink Fit Chucks Standard Version

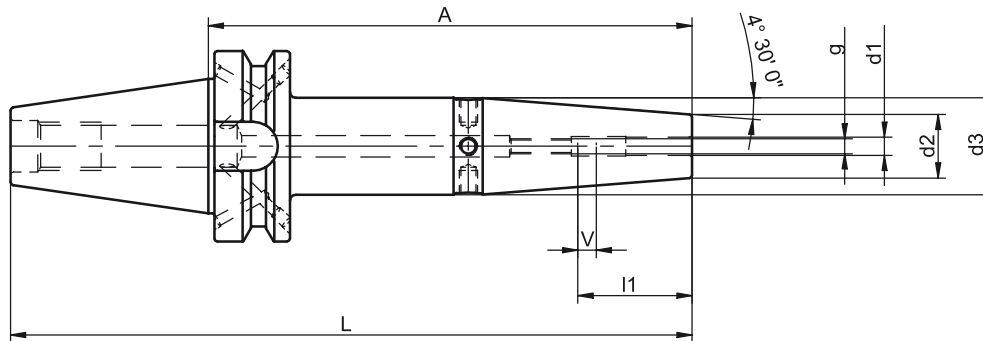
Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	l1	g	L	V	kg
40	3	80	311.0111.265	12	17	-	-	146	-	1.1
40	4	80	311.0113.265	12	17	-	-	146	-	1.1
40	5	80	311.0115.265	12	17	-	-	146	-	1.1
40	6	90	311.0101.265	21	31	36	M 5	156	10	1.2
40	6	160	311.0151.265	21	32	36	M 5	226	10	1.6
40	8	90	311.0102.265	21	31	36	M 6	156	10	1.2
40	8	160	311.0152.265	21	32	36	M 6	226	10	1.6
40	10	90	311.0103.265	24	34	41	M 8 x 1	156	10	1.3
40	10	160	311.0153.265	24	34	41	M 8 x 1	226	10	1.7
40	12	90	311.0104.265	24	34	47	M10 x 1	156	10	1.3
40	12	160	311.0154.265	24	34	47	M10 x 1	226	10	1.7
40	14	90	311.0105.265	27	37	47	M10 x 1	156	10	1.3
40	14	160	311.0155.265	27	36	47	M10 x 1	226	10	1.7
40	16	90	311.0106.265	27	37	50	M12 x 1	156	10	1.3
40	16	160	311.0156.265	27	36	50	M12 x 1	226	10	1.8
40	18	90	311.0107.265	33	43	50	M12 x 1	156	10	1.4
40	18	160	311.0157.265	33	44	50	M12 x 1	226	10	2.2
40	20	90	311.0108.265	33	43	52	M16 x 1	156	10	1.4
40	20	160	311.0158.265	33	44	52	M16 x 1	226	10	2.1
40	25	100	311.0109.265	44	53	58	M16 x 1	166	10	1.8
40	25	160	311.0159.265	44	53	58	M16 x 1	226	10	2.6
50	6	100	311.0101.225	21	31	36	M 5	202	10	3.8
50	6	160	311.0151.225	21	32	36	M 5	262	10	4.1
50	8	100	311.0102.225	21	31	36	M 6	202	10	3.8
50	8	160	311.0152.225	21	32	36	M 6	262	10	4.1
50	10	100	311.0103.225	24	34	41	M 8 x 1	202	10	3.9
50	10	160	311.0153.225	24	34	41	M 8 x 1	262	10	4.2
50	12	100	311.0104.225	24	34	47	M10 x 1	202	10	3.8
50	12	160	311.0154.225	24	34	47	M10 x 1	262	10	4.2
50	14	100	311.0105.225	27	37	47	M10 x 1	202	10	3.9
50	14	160	311.0155.225	27	36	47	M10 x 1	262	10	4.3
50	16	100	311.0106.225	27	37	50	M12 x 1	202	10	3.8
50	16	160	311.0156.225	27	36	50	M12 x 1	262	10	4.2
50	18	100	311.0107.225	33	43	50	M12 x 1	202	10	4.0
50	18	160	311.0157.225	33	44	50	M12 x 1	262	10	4.6
50	20	100	311.0108.225	33	43	52	M16 x 1	202	10	3.9
50	20	160	311.0158.225	33	44	52	M16 x 1	262	10	4.5

i-tec® Shrink Fit Chucks Standard Version

Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	l1	g	L	V	kg
50	25	120	311.0109.225	44	57	58	M16 x 1	222	10	4.5
50	25	160	311.0159.225	44	53	58	M16 x 1	262	10	5.0
50	32	120	311.0110.225	44	57	61	M16 x 1	222	10	4.3
50	32	160	311.0160.225	44	53	61	M16 x 1	262	10	4.9

For adjusting screws see accessories page 7.13.

Design

ISO taper according to JIS B 6339.
Coolant bores according to DIN 69 871, type AD/B.
Permissible concentricity deviation of ISO taper to location hole $d1 = 0.003$ mm (measured at $3 \times D$ cantilever length).
Chucks are balanced according to ISO 1940-1G 2.5 at $18,000 \text{ min}^{-1}$.

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

Standard Specification

Adjusting screw for length adjustment (from $\varnothing 6$) not included.

Note

For further fine balancing of the chucks

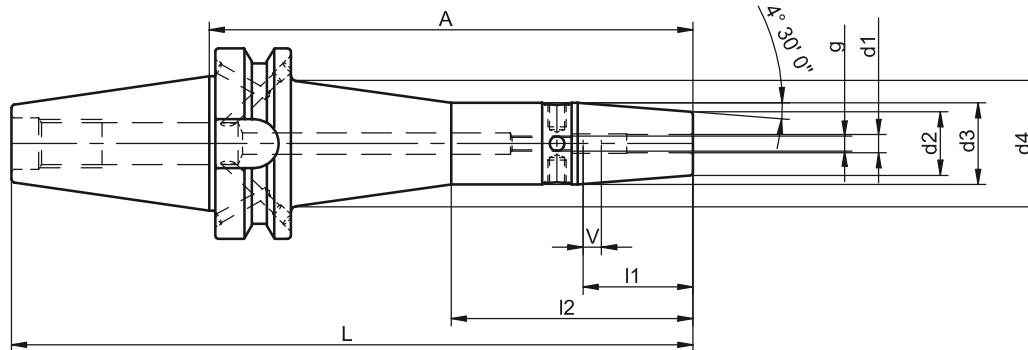
threaded holes are fitted on the coverage (for ISO 40).

Can be rebalanced with threaded pins. Coolant bores for type B are closed with threaded pins on delivery. If required, unscrew the threaded pins.

Other designs and sizes are available on request.

i-tec® Shrink Fit Chucks Conical Version

Similar to DIN 69 882-8, type G



ISO	d1	A	Ref.no.	d2	d3	d4	l1	l2	g	L	V	kg
40	6	160	311.0181.265	21	27	42	36	80	M 5	226	10	1.7
40	8	160	311.0182.265	21	27	42	36	80	M 6	226	10	1.7
40	10	160	311.0183.265	24	34	40	41	90	M 8 x 1	226	10	1.8
40	12	160	311.0184.265	24	34	40	47	90	M10 x 1	226	10	1.7
40	14	160	311.0185.265	27	36	42	47	90	M10 x 1	226	10	1.9
40	16	160	311.0186.265	27	36	42	50	90	M12 x 1	226	10	1.8
50	6	160	311.0181.225	21	27	42	36	70	M 5	262	10	4.2
50	8	160	311.0182.225	21	27	42	36	70	M 6	262	10	4.2
50	10	160	311.0183.225	24	34	45	41	85	M 8 x 1	262	10	4.4
50	12	160	311.0184.225	24	34	45	47	85	M10 x 1	262	10	4.3
50	14	160	311.0185.225	27	36	47	47	85	M10 x 1	262	10	4.4
50	16	160	311.0186.225	27	36	47	50	85	M12 x 1	262	10	4.4
50	18	160	311.0187.225	33	44	55	50	85	M12 x 1	262	10	4.8
50	20	160	311.0188.225	33	44	55	52	85	M16 x 1	262	10	4.6
50	25	160	311.0189.225	44	53	63	58	75	M16 x 1	262	10	5.2
50	32	160	311.0190.225	44	53	63	61	75	M16 x 1	262	10	5.1

For adjusting screws see accessories page 7.13.

Design

ISO tapers according to JIS B 6339.
Coolant bores according to DIN 69 871, type AD/B.
Permissible concentricity deviation of ISO taper to location hole $d_1 = 0.003$ mm (measured at $3 \times D$ cantilever length).
Chucks are balanced according to ISO 1940-1 G 2.5 at $18,000 \text{ min}^{-1}$.
The clamping diameter is designed for a shank tolerance of h6.

Standard Specification

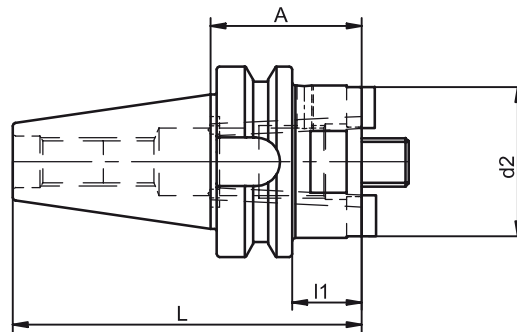
Adjusting screw for length adjustment not included.

Note

For further fine balancing of the chucks threaded holes are fitted on the coverage (for ISO 40).
Can be rebalanced with threaded pins.
Coolant bores for type B are closed with threaded pins on delivery. If required,

unscrew the threaded pins.
Other designs and sizes are available on request.

Tooling System KELCH FLEXIBORE



ISO	d1	A	Ref.no.	l1	L	kg
40	25	50	494.0103.265	23	115	1.0
40	32	50	494.0104.265	23	115	1.1
40	40	50	494.0101.265	23	115	1.1
40	50	50	494.0105.265	23	115	1.2
40	63	50	494.0102.265	23	115	1.4
50	25	60	494.0104.225	23	162	3.6
50	32	60	494.0105.225	23	162	3.7
50	40	60	494.0101.225	23	162	3.8
50	50	60	494.0106.225	22	162	3.9
50	63	60	494.0102.225	22	162	4.1
50	100	60	494.0103.225	32	162	4.8

For anti-fatigue bolts see accessories page 7.19.
 For allen keys see accessories page 7.19.

Design

ISO according to JIS B 6339, type AD.
 Permissible concentricity deviation of ISO taper to location hole 0.005 mm.
 Permissible axial runout deviation of ISO taper to contact face 0.003 mm.

Standard Specification

Anti-fatigue bolt and tightened driving dogs included.

Note

Other designs and sizes are available on request.

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



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