

BILZ TOOL CO., INC.



CNC-2007

**Rotating
Toolholders
& Accessories**



Leitz Metalworking Technology Group
**BELIN • BILZ • BOEHLERIT •
FETTE • KIENINGER • ONSRUD**

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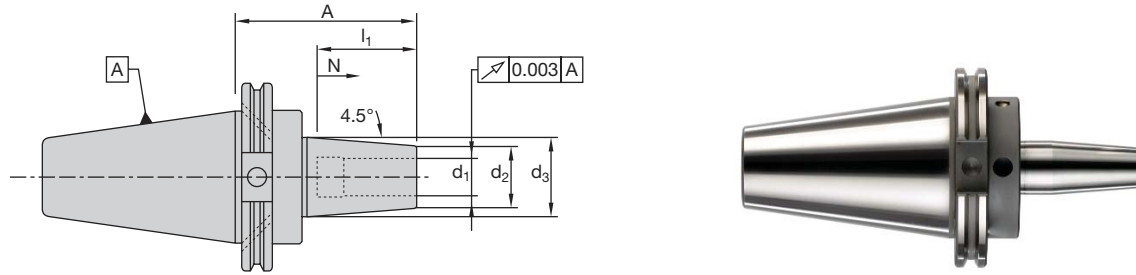
FETTE

KIENINGER

ONSRUD

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CAT40 – Inch

Balanced to G6.3 @ 15,000 RPM

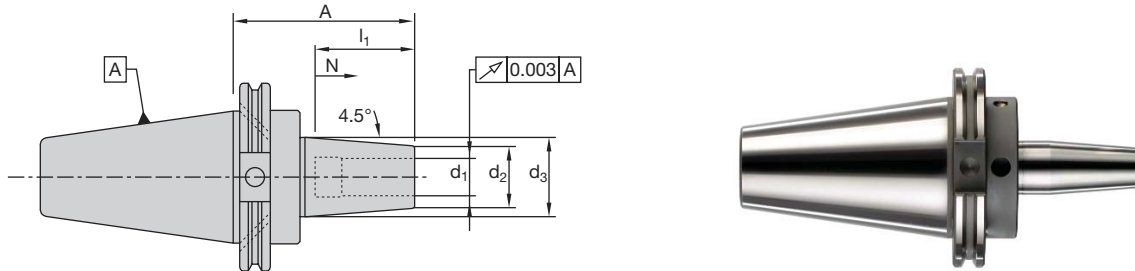
d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
0.1250	T0318-95/CAT-40	3.740 (95.0)	0.591 (15.0)	0.787 (20.0)	0.787 (20.0)	0.197 (5.0)
0.1875	T0476-95/CAT-40	3.740 (95.0)	0.591 (15.0)	0.787 (20.0)	0.787 (20.0)	0.197 (5.0)
0.2500	T0635-95/CAT-40	3.740 (95.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-95/CAT-40	3.740 (95.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-95/CAT-40	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-95/CAT-40	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-95/CAT-40	3.740 (95.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-100/CAT-40	3.940 (100.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
1.2500	T3175-100/CAT-40	3.940 (100.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
LONG PROJECTION						
0.1250	T0318-120/CAT-40	4.724 (120.0)	0.591 (15.0)	0.787 (20.0)	0.787 (20.0)	0.197 (5.0)
0.1875	T0476-120/CAT-40	4.724 (120.0)	0.591 (15.0)	0.787 (20.0)	0.787 (20.0)	0.197 (5.0)
0.2500	T0635-120/CAT-40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/CAT-40	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/CAT-40	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/CAT-40	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-120/CAT-40	4.724 (120.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-120/CAT-40	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
1.2500	T3175-120/CAT-40	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
EXTRA LONG PROJECTION						
0.1250	T0318-160/CAT-40	6.300 (160.0)	0.591 (15.0)	0.787 (20.0)	0.787 (20.0)	0.197 (5.0)
0.1875	T0476-160/CAT-40	6.300 (160.0)	0.591 (15.0)	0.787 (20.0)	0.787 (20.0)	0.197 (5.0)
0.2500	T0635-160/CAT-40	6.300 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-160/CAT-40	6.300 (160.0)	0.945 (24.0)	1.338 (34.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-160/CAT-40	6.300 (160.0)	1.063 (27.0)	1.653 (42.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-160/CAT-40	6.300 (160.0)	1.063 (27.0)	1.653 (42.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-160/CAT-40	6.300 (160.0)	1.299 (33.0)	1.748 (44.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-160/CAT-40	6.300 (160.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
1.2500	T3175-160/CAT-40	6.300 (160.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)

NOTE: All Holders Have 5/8" -11 UNC Thread for Retention Knob & DIN FORM "B" Flange Coolant Delivery Option Standard

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm



CAT40 – Metric

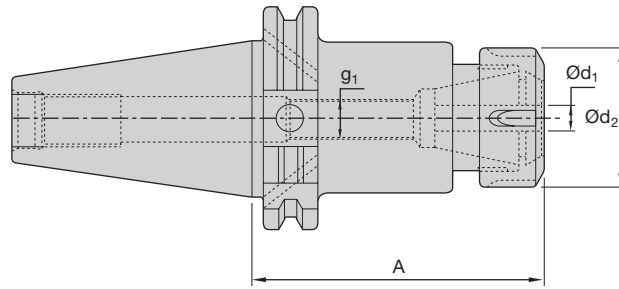


Balanced to G6.3 @ 15,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
3.0 (0.118)	T0300-95/CAT-40	95.0 (3.740)	15.0 (0.591)	20.0 (0.787)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	T0400-95/CAT-40	95.0 (3.740)	15.0 (0.591)	20.0 (0.787)	20.0 (0.787)	5.0 (0.197)
5.0 (0.197)	T0500-95/CAT-40	95.0 (3.740)	15.0 (0.591)	20.0 (0.787)	25.0 (0.984)	5.0 (0.197)
6.0 (0.236)	T0600-95/CAT-40	95.0 (3.740)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-95/CAT-40	95.0 (3.740)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-95/CAT-40	95.0 (3.740)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-95/CAT-40	95.0 (3.740)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-95/CAT-40	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-95/CAT-40	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-95/CAT-40	95.0 (3.740)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-95/CAT-40	95.0 (3.740)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-100/CAT-40	100.0 (3.940)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-100/CAT-40	100.0 (3.940)	44.0 (1.732)	53.0 (2.086)	62.0 (2.440)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/CAT-40	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/CAT-40	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/CAT-40	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/CAT-40	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-120/CAT-40	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-120/CAT-40	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-120/CAT-40	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-120/CAT-40	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-120/CAT-40	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-120/CAT-40	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	62.0 (2.440)	10.0 (0.394)
EXTRA LONG PROJECTION						
6.0 (0.236)	T0600-160/CAT-40	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-160/CAT-40	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-160/CAT-40	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-160/CAT-40	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-160/CAT-40	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-160/CAT-40	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-160/CAT-40	160.0 (6.300)	33.0 (1.299)	44.0 (1.748)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-160/CAT-40	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
25.0 (0.984)	T2500-160/CAT-40	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	62.0 (2.440)	10.0 (0.394)
32.0 (1.260)	T3200-160/CAT-40	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	62.0 (2.440)	10.0 (0.394)

NOTE: All Holders Have 5/8" -11 UNC Thread for Retention Knob & DIN FORM "B" Flange Coolant Delivery Option Standard

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

CAT40


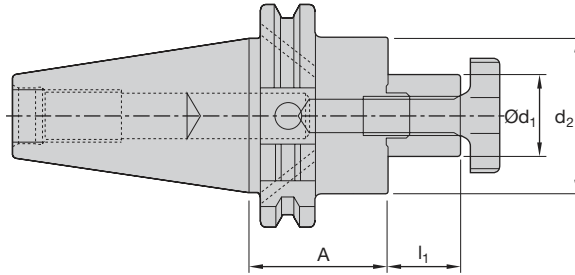
Balanced to G6.3 @ 8,000 RPM

Type	Catalog No.	Dimensions (inches/mm)				
		A	d ₁	d ₂	l ₁	g ₁
SHORT PROJECTION						
ER16	90065	3.000 (76.20)	.020-.393 (.50-10)	1.110 (28.00)	2.000 (50.80)	7/16-20 LH
ER20	90069	3.000 (76.20)	.039-.511 (1.0-13)	1.259 (34.00)	2.000 (50.80)	9/16-18 LH
ER32	90077	3.000 (76.20)	.078-.787 (2.0-20)	1.970 (50.00)	2.000 (50.80)	13/16-16 LH
STANDARD PROJECTION						
ER16	90066	4.000 (101.60)	.020-.393 (.50-10)	1.110 (28.00)	3.000 (76.20)	7/16-20 LH
ER20	90070	4.000 (101.60)	.039-.511 (1.0-13)	1.259 (34.00)	3.000 (76.20)	9/16-18 LH
ER32	90078	4.000 (101.60)	.078-.787 (2.0-20)	1.970 (50.00)	3.000 (76.20)	13/16-16 LH
LONG PROJECTION						
ER16	90067	6.000 (152.40)	.020-.393 (.50-10)	1.110 (28.00)	4.000 (101.60)	7/16-20 LH
ER20	90071	6.000 (152.40)	.039-.511 (1.0-13)	1.259 (34.00)	4.000 (101.60)	9/16-18 LH
ER32	90079	6.000 (152.40)	.078-.787 (2.0-20)	1.970 (50.00)	4.000 (101.60)	13/16-16 LH
EXTRA LONG PROJECTION						
ER16	90068	8.000 (203.20)	.020-.393 (.50-10)	1.110 (28.00)	4.000 (101.60)	7/16-20 LH
ER20	90072	8.000 (203.20)	.039-.511 (1.0-13)	1.259 (34.00)	4.000 (101.60)	9/16-18 LH
ER32	90080	8.000 (203.20)	.078-.787 (2.0-20)	1.970 (50.00)	4.000 (101.60)	13/16-16 LH

NOTE: All Holders Have 5/8" -11 UNC Thread for Retention Knob & DIN FORM B Flange Coolant Delivery Option Standard

 l₁ = Maximum Socket Depth Behind Collet with Back Up Screw Installed

For Collets, see pages 64 and 65.

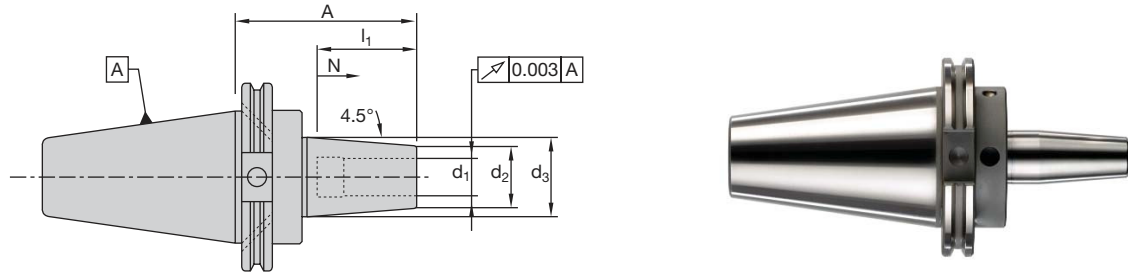
**CAT40 – Inch****Balanced to G6.3 @ 8,000 RPM**

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	l ₁	Key	Thread
STANDARD PROJECTION						
0.750	90085	2.000 (50.80)	1.750 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90088	2.250 (57.20)	2.250 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90091	2.250 (57.20)	2.750 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90094	2.500 (63.50)	3.750 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF
LONG PROJECTION						
0.750	90086	4.000 (101.60)	1.750 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90089	4.000 (101.60)	2.250 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90092	4.000 (101.60)	2.750 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90095	4.000 (101.60)	3.750 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF
EXTRA LONG PROJECTION						
0.750	90087	6.000 (152.40)	1.750 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90090	6.000 (152.40)	2.250 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90093	6.000 (152.40)	2.750 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90096	6.000 (152.40)	3.750 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF

NOTE: All Holders Have 5/8" -11 UNC Thread for Retention Knob & DIN FORM B Flange Coolant Delivery Option Standard
Coolant Delivery Through Face of Pilot



CAT50 – Inch



Balanced to G6.3 @ 15,000 RPM

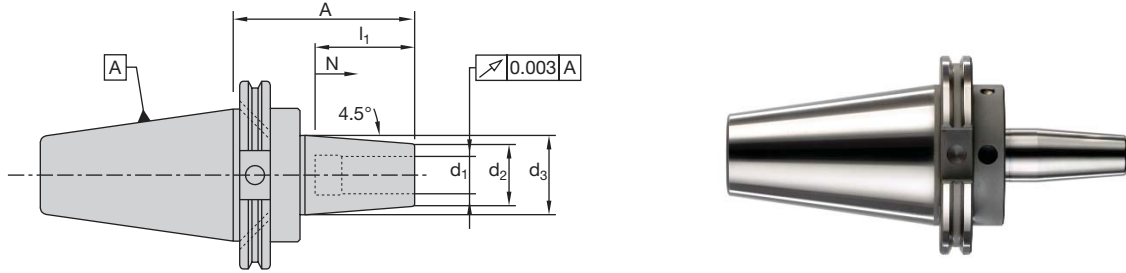
d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
0.2500	T0635-95/CAT-50	3.740 (95.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-95/CAT-50	3.740 (95.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-95/CAT-50	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-95/CAT-50	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-95/CAT-50	3.740 (95.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-105/CAT-50	4.134 (105.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
1.2500	T3175-105/CAT-50	4.134 (105.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
LONG PROJECTION						
0.2500	T0635-120/CAT-50	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/CAT-50	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/CAT-50	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/CAT-50	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-120/CAT-50	4.724 (120.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-120/CAT-50	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
1.2500	T3175-120/CAT-50	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.440 (62.0)	0.394 (10.0)
EXTRA LONG PROJECTION						
0.2500	T0635-160/CAT-50	6.300 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-160/CAT-50	6.300 (160.0)	0.945 (24.0)	1.338 (34.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-160/CAT-50	6.300 (160.0)	1.063 (27.0)	1.653 (42.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-160/CAT-50	6.300 (160.0)	1.063 (27.0)	1.653 (42.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-160/CAT-50	6.300 (160.0)	1.299 (33.0)	2.007 (51.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-160/CAT-50	6.300 (160.0)	1.732 (44.0)	2.362 (60.0)	2.440 (62.0)	0.394 (10.0)
1.2500	T3175-160/CAT-50	6.300 (160.0)	1.732 (44.0)	2.362 (60.0)	2.440 (62.0)	0.394 (10.0)

NOTE: All Holders Have 1"-8 UNC Thread for Retention Knob & DIN FORM B Flange Coolant Delivery Option Standard

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm



CAT50 - Metric

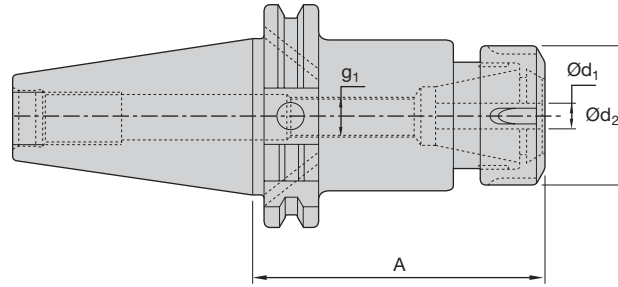


Balanced to G6.3 @ 15,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
6.0 (0.236)	T0600-95/CAT-50	95.0 (3.740)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-95/CAT-50	95.0 (3.740)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-95/CAT-50	95.0 (3.740)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-95/CAT-50	95.0 (3.740)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-95/CAT-50	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-95/CAT-50	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-95/CAT-50	95.0 (3.740)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-95/CAT-50	95.0 (3.740)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-105/CAT-50	105.0 (4.130)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-105/CAT-50	105.0 (4.130)	44.0 (1.732)	53.0 (2.086)	62.0 (2.440)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/CAT-50	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/CAT-50	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/CAT-50	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/CAT-50	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-120/CAT-50	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-120/CAT-50	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-120/CAT-50	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-120/CAT-50	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-120/CAT-50	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-120/CAT-50	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	62.0 (2.440)	10.0 (0.394)
EXTRA LONG PROJECTION						
6.0 (0.236)	T0600-160/CAT-50	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-160/CAT-50	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-160/CAT-50	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-160/CAT-50	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-160/CAT-50	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-160/CAT-50	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-160/CAT-50	160.0 (6.300)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-160/CAT-50	160.0 (6.300)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-160/CAT-50	160.0 (6.300)	44.0 (1.732)	60.0 (2.362)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-160/CAT-50	160.0 (6.300)	44.0 (1.732)	60.0 (2.362)	62.0 (2.440)	10.0 (0.394)

NOTE: All Holders Have 1"-8 UNC Thread for Retention Knob & DIN FORM B Flange Coolant Delivery Option Standard

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

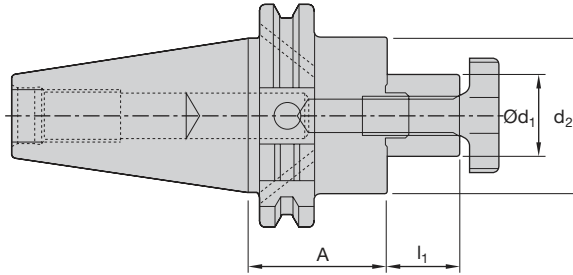
CAT50

Balanced to G6.3 @ 8,000 RPM

Type	Catalog No.	Dimensions (inches/mm)				
		A	d ₁	d ₂	l ₁	g ₁
SHORT PROJECTION						
ER16	90191	3.000 (76.20)	.020-.393 (.50-10)	1.110 (28.00)	2.000 (50.80)	7/16-20 LH
ER20	90195	3.000 (76.20)	.039-.511 (1.0-13)	1.259 (34.00)	2.000 (50.80)	9/16-18 LH
ER32	90203	3.000 (76.20)	.078-.787 (2.0-20)	1.970 (50.00)	2.000 (50.80)	13/16-16 LH
STANDARD PROJECTION						
ER16	90192	4.000 (101.60)	.020-.393 (.50-10)	1.110 (28.00)	3.000 (76.20)	7/16-20 LH
ER20	90196	4.000 (101.60)	.039-.511 (1.0-13)	1.259 (34.00)	3.000 (76.20)	9/16-18 LH
ER32	90204	4.000 (101.60)	.078-.787 (2.0-20)	1.970 (50.00)	3.000 (76.20)	13/16-16 LH
LONG PROJECTION						
ER16	90193	6.000 (152.40)	.020-.393 (.50-10)	1.110 (28.00)	4.000 (101.60)	7/16-20 LH
ER20	90197	6.000 (152.40)	.039-.511 (1.0-13)	1.259 (34.00)	4.000 (101.60)	9/16-18 LH
ER32	90205	6.000 (152.40)	.078-.787 (2.0-20)	1.970 (50.00)	4.000 (101.60)	13/16-16 LH
EXTRA LONG PROJECTION						
ER16	90194	8.000 (203.20)	.020-.393 (.50-10)	1.110 (28.00)	4.000 (101.60)	7/16-20 LH
ER20	90198	8.000 (203.20)	.039-.511 (1.0-13)	1.259 (34.00)	4.000 (101.60)	9/16-18 LH
ER32	90206	8.000 (203.20)	.078-.787 (2.0-20)	1.970 (50.00)	4.000 (101.60)	13/16-16 LH

NOTE: All Holders Have 1"-8 UNC Thread for Retention Knob & DIN FORM B Flange Coolant Delivery Option Standard

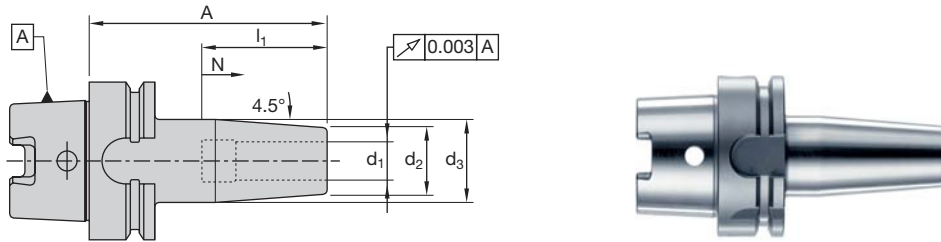
 l₁ = Maximum Socket Depth Behind Collet with Back Up Screw Installed

For Collets, see pages 64 and 65.

**CAT50 – Inch****Balanced to G6.3 @ 8,000 RPM**

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	l ₁	Key	Thread
STANDARD PROJECTION						
0.750	90211	2.000 (50.80)	1.750 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90214	2.250 (57.20)	2.250 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90217	2.250 (57.20)	2.750 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90220	2.500 (63.50)	3.750 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF
2.500	90223	2.500 (63.50)	4.880 (123.95)	1.120 (28.45)	1.00 X 1.00	1.00-14 UNF
LONG PROJECTION						
0.750	90212	4.000 (101.6)	1.750 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90215	4.000 (101.6)	2.250 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90218	4.000 (101.6)	2.750 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90221	4.000 (101.6)	3.750 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF
2.500	90224	4.000 (101.6)	4.880 (123.95)	1.120 (28.45)	1.00 X 1.00	1.00-14 UNF
EXTRA LONG PROJECTION						
0.750	90213	6.000 (152.4)	1.750 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90216	6.000 (152.4)	2.250 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90219	6.000 (152.4)	2.750 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90222	6.000 (152.4)	3.750 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF
2.500	32004	6.000 (152.4)	4.880 (123.95)	1.120 (28.45)	1.00 X 1.00	1.00-14 UNF

NOTE: All Holders Have 1"-8 UNC Thread for Retention Knob & DIN FORM B Flange Coolant Delivery Option Standard
Coolant Delivery Through Face of Pilot

HSK-A40 – Inch*

Balanced to G6.3 @ 18,000 RPM

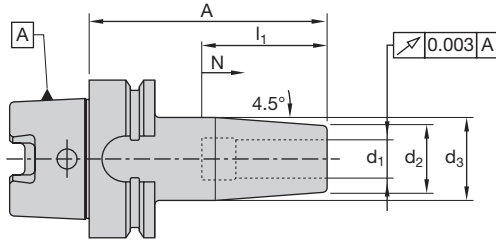
d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
0.1250	T0318-60/HSK-A40	2.360 (60.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-60/HSK-A40	2.360 (60.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-80/HSK-A40	3.150 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-80/HSK-A40	3.150 (80.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-90/HSK-A40	3.540 (90.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-90/HSK-A40	3.540 (90.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
LONG PROJECTION						
0.1250	T0318-120/HSK-A40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-120/HSK-A40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-120/HSK-A40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/HSK-A40	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/HSK-A40	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/HSK-A40	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK40-12 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

*Non-stocked item—Price on application

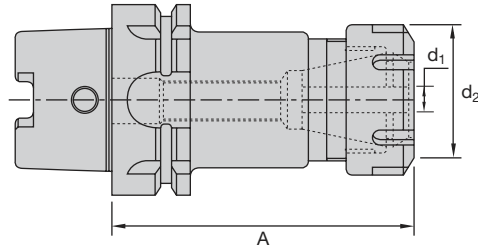
**HSK-A40 - Metric****Balanced to G6.3 @ 18,000 RPM**

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
3.0 (0.118)	T0300-60/HSK-A40	60.0 (2.360)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	T0400-60/HSK-A40	60.0 (2.360)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	5.0 (0.197)
5.0 (0.197)	T0500-60/HSK-A40	60.0 (2.360)	15.0 (0.591)	21.0 (0.826)	25.0 (0.984)	5.0 (0.197)
6.0 (0.236)	T0600-80/HSK-A40	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-80/HSK-A40	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-80/HSK-A40	80.0 (3.150)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-90/HSK-A40	90.0 (3.540)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-90/HSK-A40	90.0 (3.540)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-90/HSK-A40	90.0 (3.540)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/HSK-A40	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/HSK-A40	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/HSK-A40	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/HSK-A40	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-120/HSK-A40	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-120/HSK-A40	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK40-12 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-A40

Balanced to G6.3 @ 15,000 RPM

Type	Catalog No.	Dimensions (inches/mm)				
		A	d ₁	d ₂	l ₁	g ₁
STANDARD PROJECTION						
ER16	90283	3.150 (80.00)	.020-.393 (.50-10)	1.110 (28.00)	0.984 (25.00)	M10 X 1.5 RH
ER20	90284	3.150 (80.00)	.039-.511 (1.0-13)	1.259 (34.00)	0.787 (20.00)	M12 X 1.75 RH
LONG PROJECTION						
ER32	90286	3.937 (100.00)	.078-.787 (2.0-20)	1.970 (50.00)	0.984 (25.00)	M22 X 1.5 RH

All holders can be run with internal coolant

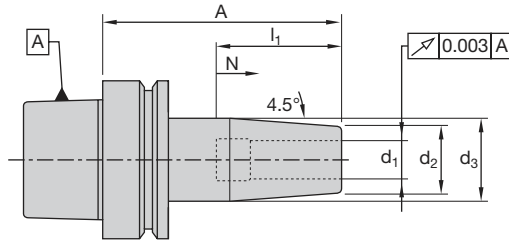
Please Order Coolant Tube Catalog No. HSK40-12 separately

 l₁ = Maximum Socket Depth Behind Collet with Back Up Screw Installed

For Collets, see pages 64 and 65.



HSK-E40 – Inch



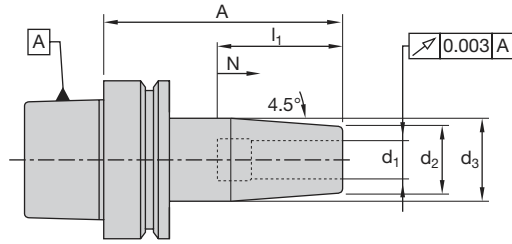
Balanced to G2.5 @ 25,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
0.1250	T0318-60/HSK-E40	2.360 (60.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-60/HSK-E40	2.360 (60.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-80/HSK-E40	3.150 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-80/HSK-E40	3.150 (80.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-90/HSK-E40	3.540 (90.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-90/HSK-E40	3.540 (90.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
LONG PROJECTION						
0.1250	T0318-120/HSK-E40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-120/HSK-E40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-120/HSK-E40	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/HSK-E40	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/HSK-E40	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/HSK-E40	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK40-12 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

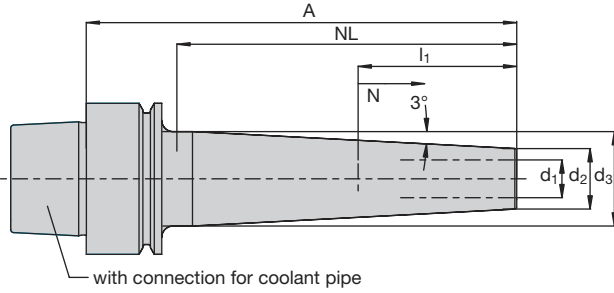
HSK-E40 – Metric

Balanced to G2.5 @ 25,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
3.0 (0.118)	T0300-60/HSK-E40	60.0 (2.360)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	T0400-60/HSK-E40	60.0 (2.360)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	5.0 (0.197)
5.0 (0.197)	T0500-60/HSK-E40	60.0 (2.360)	15.0 (0.591)	21.0 (0.826)	25.0 (0.984)	5.0 (0.197)
6.0 (0.236)	T0600-80/HSK-E40	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-80/HSK-E40	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-80/HSK-E40	80.0 (3.150)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-90/HSK-E40	90.0 (3.540)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-90/HSK-E40	90.0 (3.540)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-90/HSK-E40	90.0 (3.540)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/HSK-E40	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/HSK-E40	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/HSK-E40	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/HSK-E40	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
14.0 (0.551)	T1400-120/HSK-E40	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-120/HSK-E40	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK40-12 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-E40 Slimline - Metric

Balanced for 42,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)					
		NL	A	d ₂	d ₃	l ₁	N
SHORT PROJECTION							
3.0 (0.118)	TSF0300-64/HSK-E40	40.0 (1.570)	64.0 (2.520)	11.0 (0.433)	13.0 (0.512)	20.0 (0.787)	–
4.0 (0.158)	TSF0400-64/HSK-E40	40.0 (1.570)	64.0 (2.520)	11.0 (0.433)	14.0 (0.551)	20.0 (0.787)	–
6.0 (0.236)	TSF0600-60/HSK-E40	38.0 (1.496)	60.0 (2.362)	12.0 (0.472)	16.0 (0.630)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-60/HSK-E40	38.0 (1.496)	60.0 (2.362)	14.0 (0.551)	18.0 (0.709)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-60/HSK-E40	38.0 (1.496)	60.0 (2.362)	16.0 (0.630)	20.0 (0.787)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-60/HSK-E40	38.0 (1.496)	60.0 (2.362)	18.0 (0.709)	22.0 (0.866)	42.0 (1.653)	5.0 (0.197)
STANDARD PROJECTION							
3.0 (0.118)	TSF0300-94/HSK-E40	70.0 (2.76)	94.0 (3.701)	11.0 (0.433)	16.0 (0.630)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	TSF0400-94/HSK-E40	70.0 (2.76)	94.0 (3.701)	11.0 (0.433)	17.0 (0.669)	20.0 (0.787)	5.0 (0.197)
6.0 (0.236)	TSF0600-84/HSK-E40	60.0 (2.36)	84.0 (3.307)	12.0 (0.472)	18.0 (0.709)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-84/HSK-E40	60.0 (2.36)	84.0 (3.307)	14.0 (0.551)	20.0 (0.787)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-84/HSK-E40	60.0 (2.36)	84.0 (3.307)	16.0 (0.630)	22.0 (0.866)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-84/HSK-E40	60.0 (2.36)	84.0 (3.307)	18.0 (0.709)	24.0 (0.945)	47.0 (1.850)	5.0 (0.197)
LONG PROJECTION							
6.0 (0.236)	TSF0600-114/HSK-E40	90.0 (3.540)	114.0 (4.488)	12.0 (0.472)	21.0 (0.826)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-114/HSK-E40	90.0 (3.540)	114.0 (4.488)	14.0 (0.551)	23.0 (0.906)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-114/HSK-E40	90.0 (3.540)	114.0 (4.488)	16.0 (0.630)	25.0 (0.984)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-114/HSK-E40	90.0 (3.540)	114.0 (4.488)	18.0 (0.709)	27.0 (1.063)	47.0 (1.850)	5.0 (0.197)
EXTRA LONG PROJECTION							
6.0 (0.236)	TSF0600-144/HSK-E40	120.0 (4.724)	144.0 (5.669)	12.0 (0.472)	24.0 (0.945)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-144/HSK-E40	120.0 (4.724)	144.0 (5.669)	14.0 (0.551)	26.0 (1.024)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-144/HSK-E40	120.0 (4.724)	144.0 (5.669)	16.0 (0.630)	28.0 (1.102)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-144/HSK-E40	120.0 (4.724)	144.0 (5.669)	18.0 (0.709)	30.0 (1.181)	47.0 (1.850)	5.0 (0.197)

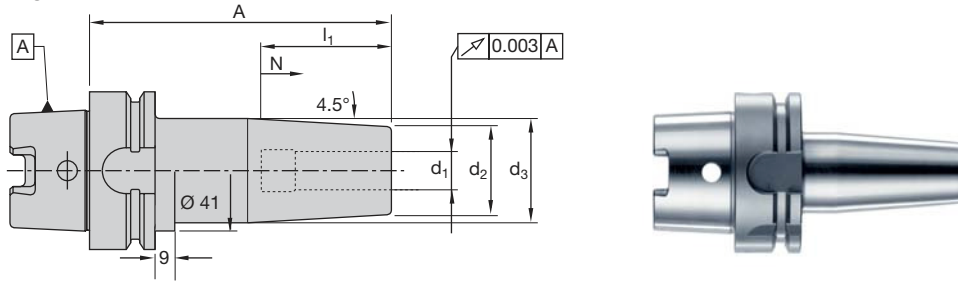
Only for HM and solid carbide tools

All clamping chucks are suitable for central coolant

Please Order Coolant Tube Catalog No. HSK40-12 separately

Delivery including backup screw

Shank tolerance Ø 3; 4 = h 4 / Ø 5 = h 5 / Ø 6 = h 6

HSK-A50 - Inch*

Balanced to G6.3 @ 18,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
0.1250	T0318-80/HSK-A50	3.15 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-80/HSK-A50	3.15 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-80/HSK-A50	3.15 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-85/HSK-A50	3.34 (85.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-90/HSK-A50	3.54 (90.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-95/HSK-A50	3.74 (95.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-100/HSK-A50	3.94 (100.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
LONG PROJECTION						
0.1250	T0318-120/HSK-A50	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0476-120/HSK-A50	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/HSK-A50	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/HSK-A50	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/HSK-A50	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-120/HSK-A50	4.724 (120.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
EXTRA LONG PROJECTION						
0.1250	T0318-160/HSK-A50	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-160/HSK-A50	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-160/HSK-A50	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-160/HSK-A50	6.30 (160.0)	0.945 (24.0)	1.338 (34.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-160/HSK-A50	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-160/HSK-A50	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-160/HSK-A50	6.30 (160.0)	1.299 (33.0)	2.007 (51.0)	2.047 (52.0)	0.394 (10.0)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK50-16 separately

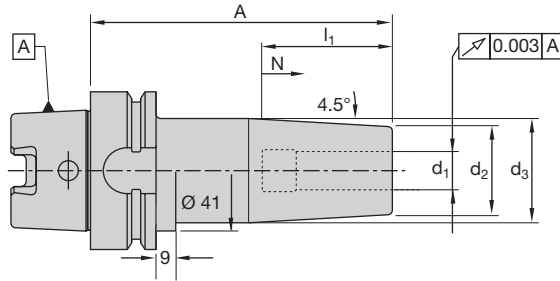
120mm and 160mm Projection Holders have 41mm Diameter Shoulder

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

*Non-stocked item—Price on application



HSK-A50 – Metric



Balanced to G6.3 @ 18,000 RPM

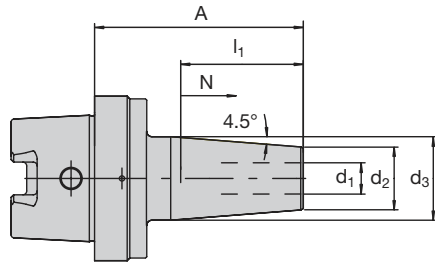
d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
3.0 (0.118)	T0300-80/HSK-A50	80.0 (3.15)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	10.0 (0.394)
4.0 (0.158)	T0400-80/HSK-A50	80.0 (3.15)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	10.0 (0.394)
5.0 (0.197)	T0500-80/HSK-A50	80.0 (3.15)	15.0 (0.591)	21.0 (0.826)	25.0 (0.984)	10.0 (0.394)
6.0 (0.236)	T0600-80/HSK-A50	80.0 (3.15)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-80/HSK-A50	80.0 (3.15)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-85/HSK-A50	85.0 (3.34)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-90/HSK-A50	90.0 (3.54)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-90/HSK-A50	90.0 (3.54)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-95/HSK-A50	95.0 (3.74)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-95/HSK-A50	95.0 (3.74)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-100/HSK-A50	100.0 (3.94)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/HSK-A50	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/HSK-A50	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/HSK-A50	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/HSK-A50	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-120/HSK-A50	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-120/HSK-A50	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10 (0.394)
18.0 (0.709)	T1800-120/HSK-A50	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-120/HSK-A50	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
EXTRA LONG PROJECTION						
6.0 (0.236)	T0600-160/HSK-A50	160.0 (6.30)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-160/HSK-A50	160.0 (6.30)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-160/HSK-A50	160.0 (6.30)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-160/HSK-A50	160.0 (6.30)	24.0 (0.945)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-160/HSK-A50	160.0 (6.30)	27.0 (1.063)	42.0 (1.653)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-160/HSK-A50	160.0 (6.30)	27.0 (1.063)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-160/HSK-A50	160.0 (6.30)	33.0 (1.299)	51.0 (2.007)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-160/HSK-A50	160.0 (6.30)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK50-16 separately

120mm and 160mm Projection Holders have 41mm Diameter Shoulder

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-C50 - Metric

Balanced to G6.3 @ 18,000 RPM

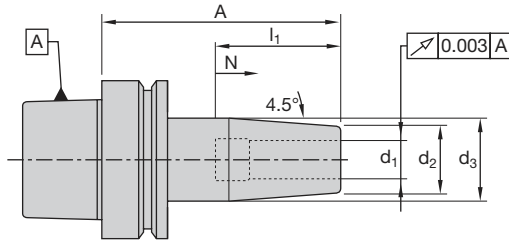
d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
6.0 (0.236)	T0600-70/HSK-C50	70.0 (2.76)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-70/HSK-C50	70.0 (2.76)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-75/HSK-C50	75.0 (2.95)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-80/HSK-C50	80.0 (3.15)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-80/HSK-C50	80.0 (3.15)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-85/HSK-C50	85.0 (3.34)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-85/HSK-C50	85.0 (3.34)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-90/HSK-C50	90.0 (3.54)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)

All holders can be run with internal coolant

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm



HSK-E50 – Inch



Balanced to G2.5 @ 25,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
0.1250	T0318-80/HSK-E50	3.15 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-80/HSK-E50	3.15 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-80/HSK-E50	3.15 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-85/HSK-E50	3.34 (85.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-90/HSK-E50	3.54 (90.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-95/HSK-E50	3.74 (95.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-100/HSK-E50	3.94 (100.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
EXTRA LONG PROJECTION						
0.1250	T0318-160/HSK-E50	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-160/HSK-E50	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-160/HSK-E50	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-160/HSK-E50	6.30 (160.0)	0.945 (24.0)	1.338 (34.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-160/HSK-E50	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-160/HSK-E50	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-160/HSK-E50	6.30 (160.0)	1.299 (33.0)	2.007 (51.0)	2.047 (52.0)	0.394 (10.0)

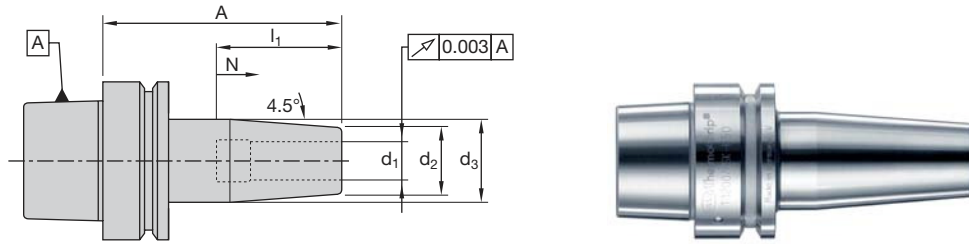
All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK50-16 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm



HSK-E50 – Metric



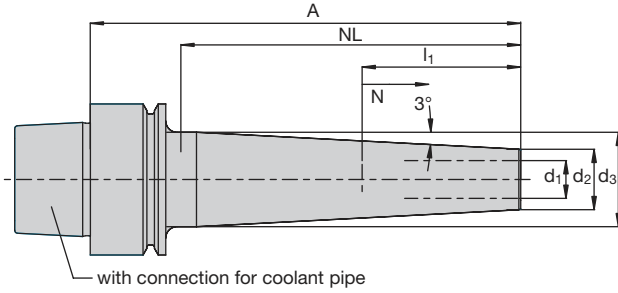
Balanced to G2.5 @ 25,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	I ₁	N
STANDARD PROJECTION						
3.0 (0.118)	T0300-80/HSK-E50	80.0 (3.150)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	10.0 (0.394)
4.0 (0.156)	T0400-80/HSK-E50	80.0 (3.150)	15.0 (0.591)	21.0 (0.826)	20.0 (0.787)	10.0 (0.394)
5.0 (0.197)	T0500-80/HSK-E50	80.0 (3.150)	15.0 (0.591)	21.0 (0.826)	25.0 (0.984)	10.0 (0.394)
6.0 (0.236)	T0600-80/HSK-E50	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-80/HSK-E50	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-85/HSK-E50	85.0 (3.340)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-90/HSK-E50	90.0 (3.540)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-90/HSK-E50	90.0 (3.540)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-95/HSK-E50	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-95/HSK-E50	95.0 (3.740)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T1000-100/HSK-E50	100.0 (3.937)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/HSK-E50	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/HSK-E50	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/HSK-E50	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/HSK-E50	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-120/HSK-E50	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-120/HSK-E50	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-120/HSK-E50	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-120/HSK-E50	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
EXTRA LONG PROJECTION						
6.0 (0.236)	T0600-160/HSK-E50	160.0 (6.30)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-160/HSK-E50	160.0 (6.30)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-160/HSK-E50	160.0 (6.30)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-160/HSK-E50	160.0 (6.30)	24.0 (0.945)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-160/HSK-E50	160.0 (6.30)	27.0 (1.063)	42.0 (1.653)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-160/HSK-E50	160.0 (6.30)	27.0 (1.063)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-160/HSK-E50	160.0 (6.30)	33.0 (1.299)	51.0 (2.007)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-160/HSK-E50	160.0 (6.30)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK50-16 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-E50 Slimline - Metric

Balanced for 35,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)					
		NL	A	d ₂	d ₃	I ₁	N
SHORT PROJECTION							
3.0 (0.118)	TSF0300-70/HSK-E50	40.0 (1.570)	70.0 (2.760)	11.0 (0.433)	13.0 (0.512)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	TSF0400-70/HSK-E50	40.0 (1.570)	70.0 (2.760)	11.0 (0.433)	14.0 (0.551)	20.0 (0.787)	5.0 (0.197)
6.0 (0.236)	TSF0600-70/HSK-E50	42.0 (1.653)	70.0 (2.760)	12.0 (0.472)	16.0 (0.630)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-70/HSK-E50	42.0 (1.653)	70.0 (2.760)	14.0 (0.551)	18.0 (0.709)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-70/HSK-E50	42.0 (1.653)	70.0 (2.760)	16.0 (0.630)	20.0 (0.787)	42.0 (1.653)	-
12.0 (0.472)	TSF1200-70/HSK-E50	42.0 (1.653)	70.0 (2.760)	18.0 (0.709)	22.0 (0.866)	47.0 (1.850)	-
STANDARD PROJECTION							
3.0 (0.118)	TSF0300-100/HSK-E50	70.0 (2.760)	100.0 (3.937)	11.0 (0.433)	16.0 (0.630)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	TSF0400-100/HSK-E50	70.0 (2.760)	100.0 (3.937)	11.0 (0.433)	17.0 (0.669)	20.0 (0.787)	5.0 (0.197)
6.0 (0.236)	TSF0600-90/HSK-E50	60.0 (2.362)	90.0 (3.540)	12.0 (0.472)	18.0 (0.709)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-90/HSK-E50	60.0 (2.362)	90.0 (3.540)	14.0 (0.551)	20.0 (0.787)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-90/HSK-E50	60.0 (2.362)	90.0 (3.540)	16.0 (0.630)	22.0 (0.866)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-90/HSK-E50	60.0 (2.362)	90.0 (3.540)	18.0 (0.709)	24.0 (0.945)	47.0 (1.850)	5.0 (0.197)
16.0 (0.630)	TSF1600-90/HSK-E50	60.0 (2.362)	90.0 (3.540)	22.0 (0.866)	28.0 (1.110)	50.0 (1.968)	5.0 (0.197)
LONG PROJECTION							
6.0 (0.236)	TSF0600-120/HSK-E50	90.0 (3.540)	120.0 (4.724)	12.0 (0.472)	21.0 (0.826)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-120/HSK-E50	90.0 (3.540)	120.0 (4.724)	14.0 (0.551)	23.0 (0.906)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-120/HSK-E50	90.0 (3.540)	120.0 (4.724)	16.0 (0.630)	25.0 (0.984)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-120/HSK-E50	90.0 (3.540)	120.0 (4.724)	18.0 (0.709)	27.0 (1.063)	47.0 (1.850)	5.0 (0.197)
16.0 (0.630)	TSF1600-120/HSK-E50	90.0 (3.540)	120.0 (4.724)	22.0 (0.866)	31.0 (1.220)	50.0 (1.968)	5.0 (0.197)
EXTRA LONG PROJECTION							
6.0 (0.236)	TSF0600-150/HSK-E50	120.0 (4.724)	150.0 (5.906)	12.0 (0.472)	24.0 (0.945)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-150/HSK-E50	120.0 (4.724)	150.0 (5.906)	14.0 (0.551)	26.0 (1.024)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-150/HSK-E50	120.0 (4.724)	150.0 (5.906)	16.0 (0.630)	28.0 (1.102)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-150/HSK-E50	120.0 (4.724)	150.0 (5.906)	18.0 (0.709)	30.0 (1.181)	47.0 (1.850)	5.0 (0.197)
16.0 (0.630)	TSF1600-150/HSK-E50	120.0 (4.724)	150.0 (5.906)	22.0 (0.866)	34.0 (1.338)	50.0 (1.968)	5.0 (0.197)

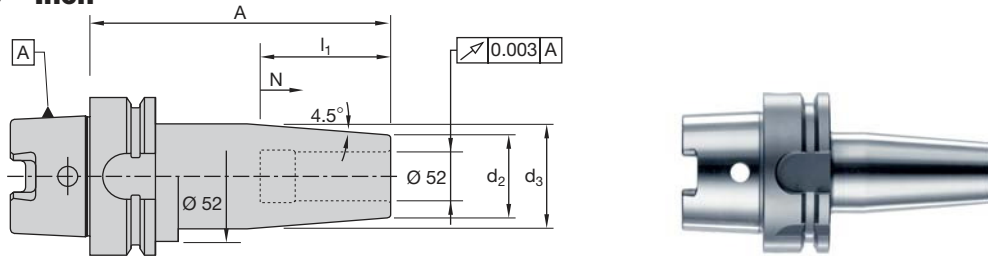
Only for HM and solid carbide tools

All clamping chucks are suitable for central coolant

Please Order Coolant Tube Catalog No. HSK50-16 separately

Delivery including backup screw

 Shank tolerance $\varnothing 3; 4 = h 4 / \varnothing 5 = h 5 / \varnothing 6 = h 6$

HSK-A63 - Inch

Balanced to G6.3 @ 18,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
0.1250	T0318-80/HSK-A63	3.150 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-80/HSK-A63	3.150 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-80/HSK-A63	3.150 (80.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-85/HSK-A63	3.340 (85.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-90/HSK-A63	3.540 (90.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-95/HSK-A63	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-100/HSK-A63	3.940 (100.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
LONG PROJECTION						
0.1250	T0318-120/HSK-A63	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-120/HSK-A63	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-120/HSK-A63	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/HSK-A63	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/HSK-A63	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/HSK-A63	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-120/HSK-A63	4.724 (120.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-120/HSK-A63	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)
1.2500	T3175-120/HSK-A63	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)
EXTRA LONG PROJECTION						
0.1250	T0318-160/HSK-A63	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.1875	T0476-160/HSK-A63	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.2500	T0635-160/HSK-A63	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-160/HSK-A63	6.30 (160.0)	0.945 (24.0)	1.338 (34.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-160/HSK-A63	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-160/HSK-A63	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-160/HSK-A63	6.30 (160.0)	1.299 (33.0)	2.007 (51.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-160/HSK-A63	6.30 (160.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)
1.2500	T3175-160/HSK-A63	6.30 (160.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)

All holders can be run with internal coolant

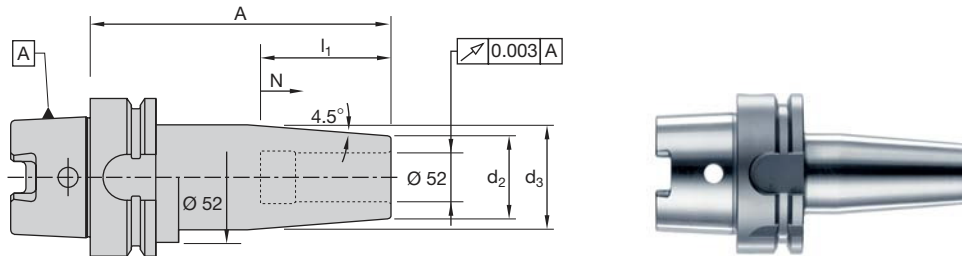
Please Order Coolant Tube Catalog No. HSK63-18 separately

120mm and 160mm Projection Holders have 52mm Diameter Shoulder

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm



HSK-A63 – Metric



Balanced to G6.3 @ 18,000 RPM

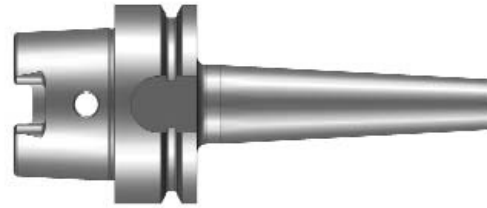
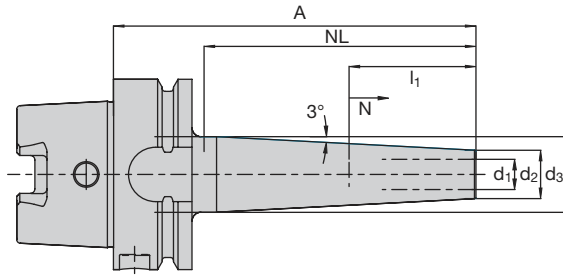
d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
3.0 (0.118)	T0300-80/HSK-A63	80.0 (3.150)	15.0 (0.591)	20.0 (0.787)	20.0 (0.787)	5.0 (0.197)
4.0 (0.158)	T0400-80/HSK-A63	80.0 (3.150)	15.0 (0.591)	20.0 (0.787)	20.0 (0.787)	5.0 (0.197)
5.0 (0.197)	T0500-80/HSK-A63	80.0 (3.150)	15.0 (0.591)	20.0 (0.787)	25.0 (0.984)	5.0 (0.197)
6.0 (0.236)	T0600-80/HSK-A63	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-80/HSK-A63	80.0 (3.150)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-85/HSK-A63	85.0 (3.340)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-90/HSK-A63	90.0 (3.540)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-90/HSK-A63	90.0 (3.540)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-95/HSK-A63	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-95/HSK-A63	95.0 (3.740)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-100/HSK-A63	100.0 (3.937)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-100/HSK-A63	115.0 (4.520)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/HSK-A63	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/HSK-A63	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/HSK-A63	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/HSK-A63	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-120/HSK-A63	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-120/HSK-A63	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-120/HSK-A63	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-120/HSK-A63	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
32.0 (1.260)	T3200-120/HSK-A63	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
EXTRA LONG PROJECTION						
6.0 (0.236)	T0600-160/HSK-A63	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-160/HSK-A63	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-160/HSK-A63	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-160/HSK-A63	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-160/HSK-A63	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-160/HSK-A63	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-160/HSK-A63	160.0 (6.300)	33.0 (1.299)	51.0 (2.007)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-160/HSK-A63	160.0 (6.300)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-160/HSK-A63	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-160/HSK-A63	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK63-18 separately

120mm and 160mm Projection Holders have 52mm Diameter Shoulder

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-A63 Slimline - Metric

Balanced for 25,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)					
		NL	A	d ₂	d ₃	I ₁	N
SHORT PROJECTION							
3.0 (0.1181)	TSF0300-70/HSK-A63	40.0 (1.570)	70.0 (2.760)	11.0 (0.433)	13.0 (0.512)	20.0 (0.787)	5.0 (0.197)
4.0 (0.1575)	TSF0400-70/HSK-A63	40.0 (1.570)	70.0 (2.760)	11.0 (0.433)	14.0 (0.551)	20.0 (0.787)	5.0 (0.197)
6.0 (0.2362)	TSF0600-90/HSK-A63	60.0 (2.360)	90.0 (3.540)	12.0 (0.472)	18.0 (0.709)	36.0 (1.417)	5.0 (0.197)
8.0 (0.3150)	TSF0800-90/HSK-A63	60.0 (2.360)	90.0 (3.540)	14.0 (0.551)	20.0 (0.787)	36.0 (1.417)	5.0 (0.197)
10.0 (0.3937)	TSF1000-90/HSK-A63	60.0 (2.360)	90.0 (3.540)	16.0 (0.630)	22.0 (0.866)	42.0 (1.653)	5.0 (0.197)
12.0 (0.4724)	TSF1200-90/HSK-A63	60.0 (2.360)	90.0 (3.540)	18.0 (0.709)	24.0 (0.945)	47.0 (1.850)	5.0 (0.197)
16.0 (0.6399)	TSF1600-90/HSK-A63	60.0 (2.360)	90.0 (3.540)	22.0 (0.866)	28.0 (1.110)	50.0 (1.968)	5.0 (0.197)
20.0 (0.7874)	TSF2000-100/HSK-A63	70.0 (2.760)	100.0 (3.937)	27.0 (1.063)	34.0 (1.338)	52.0 (2.047)	5.0 (0.197)
25.0 (0.9843)	TSF2500-105/HSK-A63	75.0 (2.950)	105.0 (4.130)	34.0 (1.338)	41.5 (1.634)	58.0 (2.283)	5.0 (0.197)
STANDARD PROJECTION							
3.0 (0.1181)	TSF0300-100/HSK-A63	70.0 (2.760)	100.0 (3.937)	11.0 (0.433)	16.0 (0.630)	20.0 (0.787)	5.0 (0.197)
4.0 (0.1575)	TSF0400-100/HSK-A63	70.0 (2.760)	100.0 (3.937)	11.0 (0.433)	17.0 (0.669)	20.0 (0.787)	5.0 (0.197)
6.0 (0.2362)	TSF0600-120/HSK-A63	90.0 (3.540)	120.0 (4.724)	12.0 (0.472)	21.0 (0.826)	36.0 (1.417)	5.0 (0.197)
8.0 (0.3150)	TSF0800-120/HSK-A63	90.0 (3.540)	120.0 (4.724)	14.0 (0.551)	23.0 (0.906)	36.0 (1.417)	5.0 (0.197)
10.0 (0.3937)	TSF1000-120/HSK-A63	90.0 (3.540)	120.0 (4.724)	16.0 (0.630)	25.0 (0.984)	42.0 (1.653)	5.0 (0.197)
12.0 (0.4724)	TSF1200-120/HSK-A63	90.0 (3.540)	120.0 (4.724)	18.0 (0.709)	27.0 (1.063)	47.0 (1.850)	5.0 (0.197)
16.0 (0.6399)	TSF1600-120/HSK-A63	90.0 (3.540)	120.0 (4.724)	22.0 (0.866)	31.0 (1.220)	50.0 (1.968)	5.0 (0.197)
20.0 (0.7874)	TSF2000-130/HSK-A63	100.0 (3.937)	130.0 (5.118)	27.0 (1.063)	37.0 (1.457)	52.0 (2.047)	5.0 (0.197)
25.0 (0.9843)	TSF2500-130/HSK-A63	100.0 (3.937)	130.0 (5.118)	34.0 (1.338)	44.0 (1.732)	58.0 (2.283)	5.0 (0.197)
LONG PROJECTION							
3.0 (0.1181)	TSF0300-130/HSK-A63	100.0 (3.937)	130.0 (5.118)	11.0 (0.433)	19.0 (0.748)	20.0 (0.787)	5.0 (0.197)
4.0 (0.1575)	TSF0400-130/HSK-A63	100.0 (3.937)	130.0 (5.118)	11.0 (0.433)	20.0 (0.787)	20.0 (0.787)	5.0 (0.197)
6.0 (0.2362)	TSF0600-150/HSK-A63	120.0 (4.724)	150.0 (5.906)	12.0 (0.472)	24.0 (0.945)	36.0 (1.417)	5.0 (0.197)
8.0 (0.3150)	TSF0800-150/HSK-A63	120.0 (4.724)	150.0 (5.906)	14.0 (0.551)	26.0 (1.024)	36.0 (1.417)	5.0 (0.197)
10.0 (0.3937)	TSF1000-150/HSK-A63	120.0 (4.724)	150.0 (5.906)	16.0 (0.630)	28.0 (1.102)	42.0 (1.653)	5.0 (0.197)
12.0 (0.4724)	TSF1200-150/HSK-A63	120.0 (4.724)	150.0 (5.906)	18.0 (0.709)	30.0 (1.181)	47.0 (1.850)	5.0 (0.197)
16.0 (0.6399)	TSF1600-150/HSK-A63	120.0 (4.724)	150.0 (5.906)	22.0 (0.866)	34.0 (1.338)	50.0 (1.968)	5.0 (0.197)
EXTRA LONG PROJECTION							
6.0 (0.2362)	TSF0600-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	12.0 (0.472)	27.0 (1.063)	36.0 (1.417)	5.0 (0.197)
8.0 (0.3150)	TSF0800-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	14.0 (0.551)	29.0 (1.142)	36.0 (1.417)	5.0 (0.197)
10.0 (0.3937)	TSF1000-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	16.0 (0.630)	31.0 (1.220)	42.0 (1.653)	5.0 (0.197)
12.0 (0.4724)	TSF1200-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	18.0 (0.709)	33.0 (1.299)	47.0 (1.850)	5.0 (0.197)
16.0 (0.6399)	TSF1600-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	22.0 (0.866)	37.0 (1.457)	50.0 (1.968)	5.0 (0.197)
20.0 (0.7874)	TSF2000-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	27.0 (1.063)	42.0 (1.653)	52.0 (2.047)	5.0 (0.197)
25.0 (0.9843)	TSF2500-180/HSK-A63	150.0 (5.906)	180.0 (7.087)	34.0 (1.338)	47.0 (1.850)	58.0 (2.283)	5.0 (0.197)

Only for HM and solid carbide tools

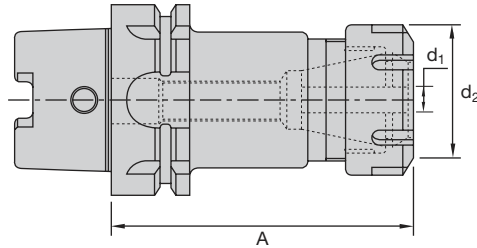
All clamping chucks are suitable for central coolant

Please Order Coolant Tube Catalog No. HSK63-18 separately

Delivery including backup screw

 Shank tolerance $\varnothing 3; 4 = h 4 / \varnothing 5 = h 5 / \varnothing 6 = h 6$

Including data carrier bore

**HSK-A63**

Balanced to G6.3 @ 15,000 RPM

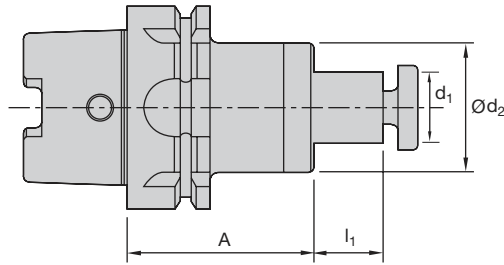
Type	Catalog No.	Dimensions (inches/mm)				
		A	d ₁	d ₂	l ₁	g ₁
SHORT PROJECTION						
ER16	90348	3.150 (80.00)	.020-.393 (.50-10)	1.110 (28.00)	0.787 (20.00)	M10 X 1.5 RH
ER20	90351	3.150 (80.00)	.039-.511 (1.0-13)	1.259 (34.00)	0.591 (15.00)	M12 X 1.75 RH
ER32	90357	3.150 (80.00)	.078-.787 (2.0-20)	1.970 (50.00)	0.591 (15.00)	M22 X 1.5 RH
STANDARD PROJECTION						
ER16	90349	4.720 (120.00)	.020-.393 (.50-10)	1.110 (28.00)	2.000 (101.60)	M10 X 1.5 RH
ER20	90352	4.720 (120.00)	.039-.511 (1.0-13)	1.259 (34.00)	1.570 (40.00)	M12 X 1.75 RH
ER32	90358	4.720 (120.00)	.078-.787 (2.0-20)	1.970 (50.00)	1.570 (40.00)	M22 X 1.5 RH
LONG PROJECTION						
ER16	90350	6.300 (160.00)	.020-.393 (.50-10)	1.110 (28.00)	3.000 (76.20)	M10 X 1.5 RH
ER20	90353	6.300 (160.00)	.039-.511 (1.0-13)	1.259 (34.00)	3.000 (76.20)	M12 X 1.75 RH
ER32	90359	6.300 (160.00)	.078-.787 (2.0-20)	1.970 (50.00)	2.000 (101.60)	M22 X 1.5 RH
EXTRA LONG PROJECTION						
ER16	32145	7.870 (200.00)	.020-.393 (.50-10)	1.110 (28.00)	4.000 (101.60)	M10 X 1.5 RH
ER20	32146	7.870 (200.00)	.039-.511 (1.0-13)	1.259 (34.00)	4.000 (101.60)	M12 X 1.75 RH
ER32	32147	7.870 (200.00)	.078-.787 (2.0-20)	1.970 (50.00)	2.000 (101.60)	M22 X 1.5 RH

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK63-18 separately

l₁ = Maximum Socket Depth behind collet with backup screw installed

For Collets, see pages 64 and 65.

HSK-A63 - Inch

Balanced to G6.3 @ 15,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	l ₁	Key	Thread
STANDARD PROJECTION						
0.750	90363	2.360 (60.0)	1.75 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90366	2.360 (60.0)	2.25 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90369	2.360 (60.0)	2.75 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90372	2.760 (70.0)	3.75 (95.25)	0.940 (23.88)	.500 X .500	5/8-18 UNF
LONG PROJECTION						
0.750	90364	3.937 (100.0)	1.75 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90367	3.937 (100.0)	2.25 (57.2)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90370	3.937 (100.0)	2.75 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90373	3.937 (100.0)	3.75 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF
EXTRA LONG PROJECTION						
0.750	90365	6.300 (160.0)	1.75 (44.45)	0.687 (17.45)	.312 X .312	3/8-24 UNF
1.000	90368	6.300 (160.0)	2.25 (57.20)	0.687 (17.45)	.375 X .375	1/2-20 UNF
1.250	90371	6.300 (160.0)	2.75 (69.85)	0.687 (17.45)	.500 X .500	5/8-18 UNF
1.500	90374	6.300 (160.0)	3.75 (95.25)	0.940 (23.88)	.625 X .625	3/4-16 UNF

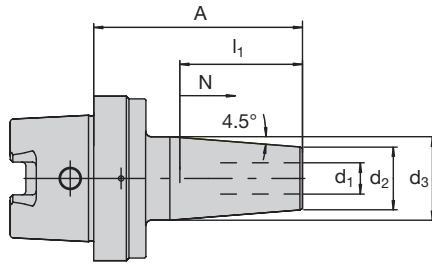
Please Order Coolant Tube Catalog No. 56166 separately

All holders can be run with internal coolant

Coolant Delivery Through Face of Pilot



HSK-C63 – Metric

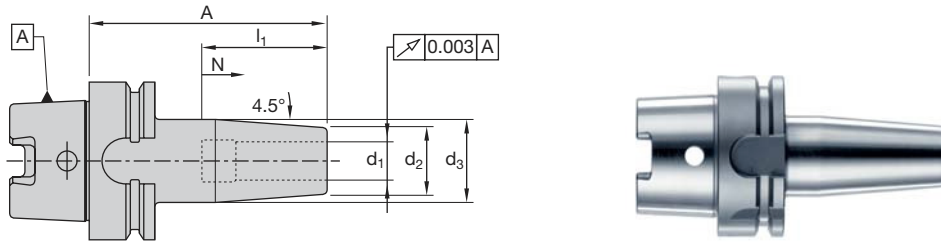


Balanced to G6.3 @ 18,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
6.0 (0.236)	T0600-70/HSK-C63	70.0 (2.760)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-70/HSK-C63	70.0 (2.760)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-75/HSK-C63	75.0 (2.950)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-80/HSK-C63	80.0 (3.150)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-80/HSK-C63	80.0 (3.150)	27.0 (1.063)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-85/HSK-C63	85.0 (3.340)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-85/HSK-C63	85.0 (3.340)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.788)	T2000-90/HSK-C63	90.0 (3.540)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-100/HSK-C63	100.0 (3.940)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)

All holders can be run with internal coolant

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-A100 - Inch*


Balanced to G6.3 @ 12,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
0.2500	T0635-85/HSK-A100	3.340 (85.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-90/HSK-A100	3.540 (90.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-95/HSK-A100	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-95/HSK-A100	3.740 (95.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-105/HSK-A100	4.130 (105.0)	1.299 (33.0)	1.653 (42.0)	2.047 (52.0)	0.394 (10.0)
LONG PROJECTION						
0.2500	T0635-120/HSK-A100	4.724 (120.0)	0.826 (21.0)	1.063 (27.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-120/HSK-A100	4.724 (120.0)	0.945 (24.0)	1.259 (32.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-120/HSK-A100	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-120/HSK-A100	4.724 (120.0)	1.063 (27.0)	1.338 (34.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-120/HSK-A100	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)
1.0000	T2540-120/HSK-A100	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)
1.2500	T3175-120/HSK-A100	4.724 (120.0)	1.732 (44.0)	2.086 (53.0)	2.441 (62.0)	0.394 (10.0)
EXTRA LONG PROJECTION						
0.2500	T0635-160/HSK-A100	6.30 (160.0)	0.826 (21.0)	1.259 (32.0)	1.417 (36.0)	0.394 (10.0)
0.3750	T0953-160/HSK-A100	6.30 (160.0)	0.945 (24.0)	1.338 (34.0)	1.653 (42.0)	0.394 (10.0)
0.5000	T1270-160/HSK-A100	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.850 (47.0)	0.394 (10.0)
0.6250	T1588-160/HSK-A100	6.30 (160.0)	1.063 (27.0)	1.653 (42.0)	1.968 (50.0)	0.394 (10.0)
0.7500	T1905-160/HSK-A100	6.30 (160.0)	1.299 (33.0)	2.007 (51.0)	2.047 (52.0)	0.394 (10.0)
1.0000	T2540-160/HSK-A100	6.30 (160.0)	1.732 (44.0)	2.086 (53.0)	2.283 (58.0)	0.394 (10.0)
1.2500	T3175-160/HSK-A100	6.30 (160.0)	1.732 (44.0)	2.086 (53.0)	2.441 (62.0)	0.394 (10.0)

All holders can be run with internal coolant

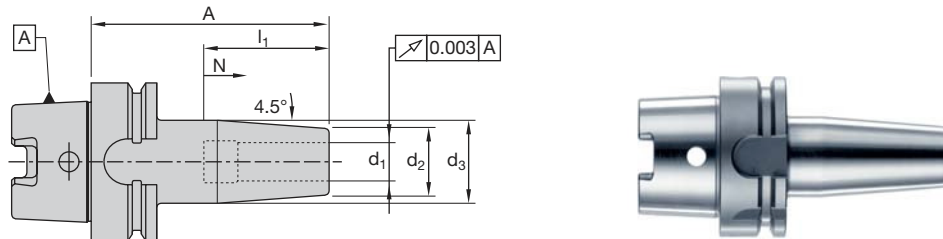
Please Order Coolant Tube Catalog No. HSK100-24 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

*Non-stocked items—Price on application



HSK-A100 – Metric



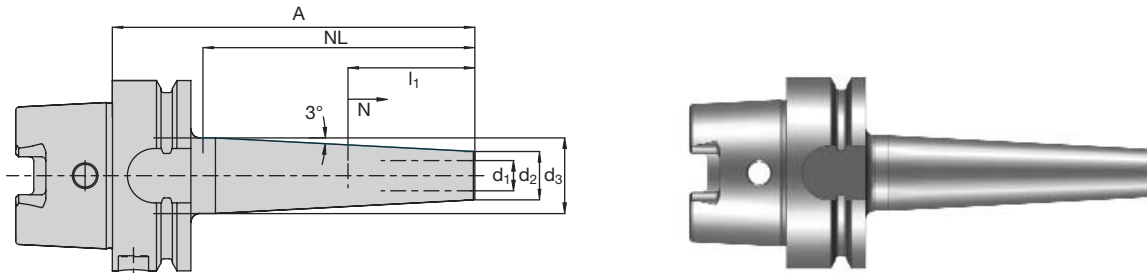
Balanced to G6.3 @ 12,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)				
		A	d ₂	d ₃	l ₁	N
STANDARD PROJECTION						
6.0 (0.236)	T0600-85/HSK-A100	85.0 (3.340)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-85/HSK-A100	85.0 (3.340)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-90/HSK-A100	90.0 (3.540)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-95/HSK-A100	95.0 (3.740)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-95/HSK-A100	95.0 (3.740)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-100/HSK-A100	100.0 (3.940)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-100/HSK-A100	100.0 (3.940)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-105/HSK-A100	105.0 (4.130)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-115/HSK-A100	115.0 (4.520)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
LONG PROJECTION						
6.0 (0.236)	T0600-120/HSK-A100	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-120/HSK-A100	120.0 (4.724)	21.0 (0.826)	27.0 (1.063)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-120/HSK-A100	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-120/HSK-A100	120.0 (4.724)	24.0 (0.945)	32.0 (1.259)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-120/HSK-A100	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
16.0 (0.630)	T1600-120/HSK-A100	120.0 (4.724)	27.0 (1.063)	34.0 (1.338)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-120/HSK-A100	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
20.0 (0.787)	T2000-120/HSK-A100	120.0 (4.724)	33.0 (1.299)	42.0 (1.653)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-120/HSK-A100	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-120/HSK-A100	120.0 (4.724)	44.0 (1.732)	53.0 (2.086)	62.0 (2.441)	10.0 (0.394)
EXTRA LONG PROJECTION						
6.0 (0.236)	T0600-160/HSK-A100	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
8.0 (0.315)	T0800-160/HSK-A100	160.0 (6.300)	21.0 (0.826)	32.0 (1.259)	36.0 (1.417)	10.0 (0.394)
10.0 (0.394)	T1000-160/HSK-A100	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	42.0 (1.653)	10.0 (0.394)
12.0 (0.472)	T1200-160/HSK-A100	160.0 (6.300)	24.0 (0.945)	34.0 (1.338)	47.0 (1.850)	10.0 (0.394)
14.0 (0.551)	T1400-160/HSK-A100	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	47.0 (1.850)	10.0 (0.394)
16.0 (0.630)	T1600-160/HSK-A100	160.0 (6.300)	27.0 (1.063)	42.0 (1.653)	50.0 (1.968)	10.0 (0.394)
18.0 (0.709)	T1800-160/HSK-A100	160.0 (6.300)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)
20.0 (0.787)	T2000-160/HSK-A100	160.0 (6.300)	33.0 (1.299)	51.0 (2.007)	52.0 (2.047)	10.0 (0.394)
25.0 (0.984)	T2500-160/HSK-A100	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	58.0 (2.283)	10.0 (0.394)
32.0 (1.260)	T3200-160/HSK-A100	160.0 (6.300)	44.0 (1.732)	53.0 (2.086)	62.0 (2.441)	10.0 (0.394)

All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK100-24 separately

NOTE: Tool Shank Tolerance must be h6 or better, h4 for holders with ID smaller than 5mm

HSK-A100 Slimline - Metric

Balanced for 15,000 RPM

d ₁	Catalog No.	Dimensions (mm/inches)					
		NL	A	d ₂	d ₃	I ₁	N
SHORT PROJECTION							
6.0 (0.236)	TSF0600-98/HSK-A100	60.0 (2.362)	98.0 (3.860)	12.0 (0.472)	18.0 (0.709)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-98/HSK-A100	60.0 (2.362)	98.0 (3.860)	14.0 (0.551)	20.0 (0.787)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-98/HSK-A100	60.0 (2.362)	98.0 (3.860)	16.0 (0.630)	22.0 (0.866)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-98/HSK-A100	60.0 (2.362)	98.0 (3.860)	18.0 (0.709)	24.0 (0.945)	47.0 (1.850)	5.0 (0.197)
16.0 (0.630)	TSF1600-98/HSK-A100	60.0 (2.362)	98.0 (3.860)	22.0 (0.866)	28.0 (1.102)	50.0 (1.967)	5.0 (0.197)
20.0 (0.787)	TSF2000-105/HSK-A100	70.0 (2.760)	105.0 (4.130)	27.0 (1.063)	34.0 (1.339)	52.0 (2.047)	5.0 (0.197)
25.0 (0.984)	TSF2500-108/HSK-A100	75.0 (2.950)	108.0 (4.250)	34.0 (1.339)	40.0 (1.575)	58.0 (2.283)	5.0 (0.197)
STANDARD PROJECTION							
6.0 (0.236)	TSF0600-138/HSK-A100	100.0 (3.940)	138.0 (5.430)	12.0 (0.472)	22.0 (0.866)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-138/HSK-A100	100.0 (3.940)	138.0 (5.430)	14.0 (0.551)	24.0 (0.945)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-138/HSK-A100	100.0 (3.940)	138.0 (5.430)	16.0 (0.630)	26.0 (1.024)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-138/HSK-A100	100.0 (3.940)	138.0 (5.430)	18.0 (0.709)	28.0 (1.102)	47.0 (1.850)	5.0 (0.197)
16.0 (0.630)	TSF1600-138/HSK-A100	100.0 (3.940)	138.0 (5.430)	22.0 (0.866)	32.0 (1.260)	50.0 (1.967)	5.0 (0.197)
20.0 (0.787)	TSF2000-135/HSK-A100	100.0 (3.940)	135.0 (5.310)	27.0 (1.063)	37.0 (1.457)	52.0 (2.047)	5.0 (0.197)
25.0 (0.984)	TSF2500-133/HSK-A100	100.0 (3.940)	133.0 (5.240)	34.0 (1.339)	44.0 (1.732)	58.0 (2.283)	5.0 (0.197)
LONG PROJECTION							
6.0 (0.236)	TSF0600-188/HSK-A100	150.0 (5.906)	188.0 (7.402)	12.0 (0.472)	27.0 (1.063)	36.0 (1.417)	5.0 (0.197)
8.0 (0.315)	TSF0800-188/HSK-A100	150.0 (5.906)	188.0 (7.402)	14.0 (0.551)	29.0 (1.142)	36.0 (1.417)	5.0 (0.197)
10.0 (0.394)	TSF1000-188/HSK-A100	150.0 (5.906)	188.0 (7.402)	16.0 (0.630)	31.0 (1.220)	42.0 (1.653)	5.0 (0.197)
12.0 (0.472)	TSF1200-188/HSK-A100	150.0 (5.906)	188.0 (7.402)	18.0 (0.709)	33.0 (1.299)	47.0 (1.850)	5.0 (0.197)
16.0 (0.630)	TSF1600-188/HSK-A100	150.0 (5.906)	188.0 (7.402)	22.0 (0.866)	37.0 (1.457)	50.0 (1.967)	5.0 (0.197)
20.0 (0.787)	TSF2000-185/HSK-A100	150.0 (5.906)	185.0 (7.283)	27.0 (1.063)	42.0 (1.653)	52.0 (2.047)	5.0 (0.197)
25.0 (0.984)	TSF2500-183/HSK-A100	150.0 (5.906)	183.0 (7.205)	34.0 (1.339)	49.0 (1.929)	58.0 (2.283)	5.0 (0.197)

Only for HM and solid carbide tools

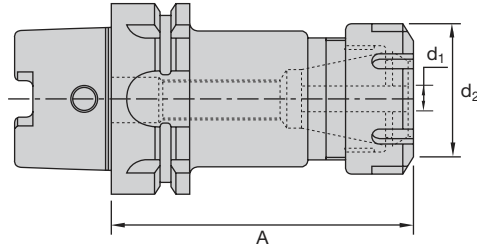
All clamping chucks are suitable for central coolant

Please Order Coolant Tube Catalog No. HSK100-24 separately

Delivery including backup screw

 Shank tolerance $\varnothing 3; 4 = h 4 / \varnothing 5 = h 5 / \varnothing 6 = h 6$

Including data carrier bore

HSK-A100

Balanced to G6.3 @ 15,000 RPM

Type	Catalog No.	Dimensions (inches/mm)				
		A	d ₁	d ₂	l ₁	g ₁
SHORT PROJECTION						
ER16	90462	3.937 (100.00)	.020-.393 (.50-10)	1.110 (28.00)	1.380 (35.00)	M10 X 1.5 RH
ER20	90464	3.937 (100.00)	.039-.511 (1.0-13)	1.259 (34.00)	0.984 (25.00)	M12 X 1.75 RH
ER32	90468	3.937 (100.00)	.078-.787 (2.0-20)	1.970 (50.00)	0.709 (18.00)	M22 X 1.5 RH
STANDARD PROJECTION						
ER16	32156	4.720 (120.00)	.020-.393 (.50-10)	1.110 (28.00)	2.000 (50.80)	M10 X 1.5 RH
ER20	32157	4.720 (120.00)	.039-.511 (1.0-13)	1.259 (34.00)	2.000 (50.80)	M12 X 1.75 RH
ER32	32158	4.720 (120.00)	.078-.787 (2.0-20)	1.970 (50.00)	1.180 (30.00)	M22 X 1.5 RH
LONG PROJECTION						
ER16	90463	6.300 (160.00)	.020-.393 (.50-10)	1.110 (28.00)	3.000 (76.20)	M10 X 1.5 RH
ER20	90465	6.300 (160.00)	.039-.511 (1.0-13)	1.259 (34.00)	3.000 (76.20)	M12 X 1.75 RH
ER32	90469	6.300 (160.00)	.078-.787 (2.0-20)	1.970 (50.00)	1.570 (40.00)	M22 X 1.5 RH
EXTRA LONG PROJECTION						
ER16	*32298	7.870 (200.00)	.020-.393 (.50-10)	1.110 (28.00)	4.000 (101.60)	M10 X 1.5 RH
ER20	*32299	7.870 (200.00)	.039-.511 (1.0-13)	1.259 (34.00)	4.000 (101.60)	M12 X 1.75 RH
ER32	*32300	7.870 (200.00)	.078-.787 (2.0-20)	1.970 (50.00)	3.000 (76.20)	M22 X 1.5 RH

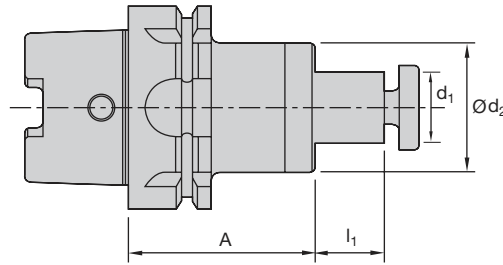
All holders can be run with internal coolant

Please Order Coolant Tube Catalog No. HSK100-24 separately

 l₁ = Maximum Socket Depth Behind Collet with Back Up Screw Installed

*Quoted Upon Request

For Collets, see pages 64 and 65.



HSK-A100 - Inch


Balanced to G6.3 @ 15,000 RPM

d ₁	Catalog No.	Dimensions (inches/mm)				
		A	d ₂	l ₁	Key	Thread
STANDARD PROJECTION						
0.750	90472	2.360 (60.0)	1.75 (44.45)	0.687 (17.45)	.312 × .312	3/8-24 UNF
1.000	90475	2.360 (60.0)	2.25 (57.20)	0.687 (17.45)	.375 × .375	1/2-20 UNF
1.250	90478	2.360 (60.0)	2.75 (69.85)	0.687 (17.45)	.500 × .500	5/8-18 UNF
1.500	90481	2.760 (70.0)	3.75 (95.25)	0.940 (23.88)	.625 × .625	3/4-16 UNF
2.500	90484	3.150 (80.0)	4.88 (123.95)	1.120 (28.45)	1.00 × 1.00	1.00-14 UNF
LONG PROJECTION						
0.750	90473	3.937 (100.0)	1.75 (44.45)	0.687 (17.45)	.312 × .312	3/8-24 UNF
1.000	90476	3.937 (100.0)	2.25 (57.20)	0.687 (17.45)	.375 × .375	1/2-20 UNF
1.250	90479	3.937 (100.0)	2.75 (69.85)	0.687 (17.45)	.500 × .500	5/8-18 UNF
1.500	90482	3.937 (100.0)	3.75 (95.25)	0.940 (23.88)	.625 × .625	3/4-16 UNF
2.500	90485	3.937 (100.0)	4.88 (123.95)	1.120 (28.45)	1.00 × 1.00	1.00-14 UNF
EXTRA LONG PROJECTION						
0.750	90474	6.300 (160.0)	1.75 (44.45)	0.687 (17.45)	.312 × .312	3/8-24 UNF
1.000	90477	6.300 (160.0)	2.25 (57.20)	0.687 (17.45)	.375 × .375	1/2-20 UNF
1.250	90480	6.300 (160.0)	2.75 (69.85)	0.687 (17.45)	.500 × .500	5/8-18 UNF
1.500	90483	6.300 (160.0)	3.75 (95.25)	0.940 (23.88)	.625 × .625	3/4-16 UNF
2.500	90486	6.300 (160.0)	4.88 (123.95)	1.120 (28.45)	1.00 × 1.00	1.00-14 UNF

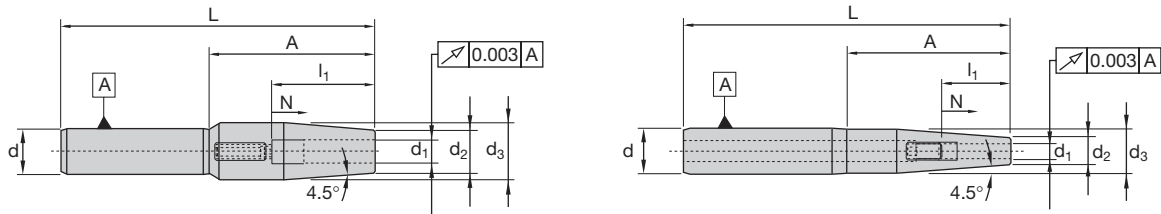
 Please Order Coolant Tube Catalog No. 56168 separately
 Coolant Delivery Through Face of Pilot

Coolant Tubes and Wrenches

Coolant Tube for HSK Chuck For optimizing the internal coolant supply for HSK tools incl. round gasket DIN 3770 and union nut.		HSK Sizes	Catalog No.
		HSK 32	HSK 32-10
		HSK 40	HSK 40-12
		HSK 50	HSK 50-16
		HSK 63	HSK 63-18
		HSK 80	HSK 80-20
		HSK 100	HSK 100-24
Installation Wrench for Coolant Tube		HSK Sizes	Catalog No.
		HSK 32	6934476
		HSK 40	6934477
		HSK 50	6934309
		HSK 63	6934094
		HSK 80	6943611
	HSK 100	6934224	



Straight Shank ThermoGrip™ Extensions for Clamping Chuck – Inch

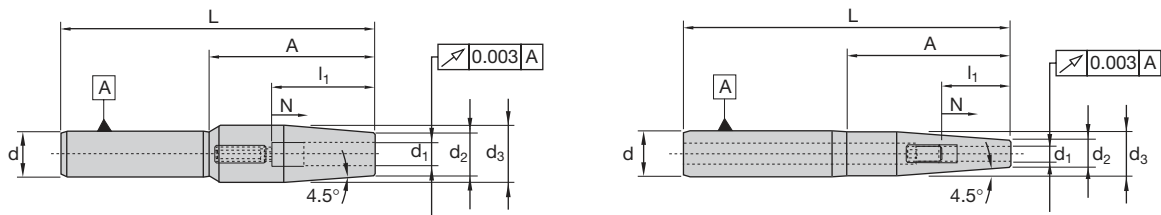


d ₁	Catalog No.	Dimensions (inches/mm)						
		d	d ₂	d ₃	N	A	L	l ₁
0.250	TVS0635-60/16	0.629 (16.0)	0.591 (15.0)	0.787 (20.0)	0.394 (10.0)	2.362 (60.0)	4.330 (110.0)	1.417 (36.0)
0.375	TVS0953-60/20	0.787 (20.0)	0.787 (20.0)	1.063 (27.0)	0.394 (10.0)	2.362 (60.0)	4.330 (110.0)	1.417 (36.0)
0.500	TVS1270-60/20	0.787 (20.0)	0.591 (15.0)	0.787 (20.0)	0.394 (10.0)	2.362 (60.0)	4.330 (110.0)	1.417 (36.0)
0.625	TVS1588-60/25	0.984 (25.0)	0.591 (15.0)	0.787 (20.0)	0.394 (10.0)	2.362 (60.0)	4.330 (110.0)	1.417 (36.0)

Length adjustment N for diameter 3, 4, 5: 5mm
 Length adjustment N for diameter 6-16: 10mm
 All extensions can be run with internal coolant

For diameter 3, 4 and 5 shank tolerance h4 or better
 For diameter 6–16 shank tolerance h6

Straight Shank ThermoGrip™ Extensions for Clamping Chuck – Metric



d ₁	Catalog No.	Dimensions (mm/inches)						
		d	d ₂	d ₃	N	A	L	l ₁
3.0	TVS0300-60/16	16.0 (0.630)	9.0 (0.354)	15.0 (0.591)	5.0 (0.197)	60.0 (2.362)	110.0 (4.330)	20.0 (0.787)
4.0	TVS0400-60/16	16.0 (0.630)	9.0 (0.354)	15.0 (0.591)	5.0 (0.197)	60.0 (2.362)	110.0 (4.330)	20.0 (0.787)
5.0	TVS0500-60/16	16.0 (0.630)	9.0 (0.354)	15.0 (0.591)	5.0 (0.197)	60.0 (2.362)	110.0 (4.330)	25.0 (0.984)
6.0	TVS0600-60/16	16.0 (0.630)	15.0 (0.591)	20.0 (0.787)	10.0 (0.394)	60.0 (2.362)	110.0 (4.330)	36.0 (1.417)
8.0	TVS0800-60/20	16.0 (0.630)	15.0 (0.591)	20.0 (0.787)	10.0 (0.394)	60.0 (2.362)	110.0 (4.330)	36.0 (1.417)
10.0	TVS1000-60/20	20.0 (0.787)	20.0 (0.787)	27.0 (1.063)	10.0 (0.394)	60.0 (2.362)	110.0 (4.330)	42.0 (1.653)
12.0	TVS1200-60/20	20.0 (0.787)	20.0 (0.787)	27.0 (1.063)	10.0 (0.394)	60.0 (2.362)	110.0 (4.330)	47.0 (1.850)
14.0	TVS1400-60/25	25.0 (0.787)	24.0 (0.945)	32.0 (1.259)	10.0 (0.394)	60.0 (2.362)	110.0 (4.330)	47.0 (1.850)
16.0	TVS1600-60/25	25.0 (0.787)	24.0 (0.945)	32.0 (1.259)	10.0 (0.394)	60.0 (2.362)	110.0 (4.330)	50.0 (1.968)

For diameter 3, 4 and 5 shank tolerance h4 or better
 For diameter 6–16 shank tolerance h6
 All extensions are suitable for central coolant

ISG 2200


Clamping range	6–20 mm (1/4"–3/4")
Suitable tool shanks	carbide tools
Operation	manual
Tool setting	measuring adaptor
Coil	integrated
Plate	–
Max. tool length (from gauge line)	290 mm (11.417")
Cooling stations	1
Air pressure	–
Electric current supply	3 x 208 V

Mobile Unit for use in the tool presetting area or locally at the machine.

The mobile unit type ISG 2200, represents an inexpensive initial move into inductive shrinking technology. The low weight means that it can be used flexibly wherever it is required. Despite the compact design, it allows tool changing for diameters 1/4"–3/4" within seconds. The clamping range can be reduced down to 3 mm with the optional available plate changing kit. The integrated fan cools down the clamping chucks quickly. The ISG 2200 offers all the features for easy and safe use of shrinking technology in your facility.

Suitable for carbide tools only.

The coil is moved manually to the required heating position. There it is fixed by pressing the button. After the heating operation the coil returns automatically. Overheating of the coil and clamping chuck is therefore avoided.


Technical Data: ISG 2200

Catalog No.	D	W	H	Clamping Range	Suitable Tool Materials	Electric Current Supply	Power kW	Weight lbs.
ISG 2200	15.35	12.20	25.19	6 – 20 mm 1/4" – 3/4"	Carbide	3 x 208 V/16 A	3	55



Setting Pot



For holding and correct positioning of the shrinking chuck on the shrink unit

Setting Pot	Catalog No.
For HSK Clamping Chuck	
HSK-32	T3-W/HSK32
HSK-40	T3-W/HSK40
HSK-50	T3-W/HSK50
HSK-63	T3-W/HSK63
HSK-80	T3-W/HSK80
HSK-100	T3-W/HSK100
For SK/BT/CAT Clamping chuck	
SK30/BT30/CAT30	T3-W/SK30
SK40/BT40/CAT40	T3-W/SK40
SK50/BT50/CAT50	T3-W/SK50
For ABS/Capto/Cylindrical Clamping Chuck	
ABS25	T3-W/25
ABS32/C3	T3-W/32
ABS40/C4	T3-W/40
ABS50/C5	T3-W/50
ABS63/C6	T3-W/63
For SCA Adaptors	
SCA 1	T3-W/SCA1
SCA 2	T3-W/SCA2
For Quick Change Tapping Adaptors	
WE 1	T3-W/WE1
WE 2	T3-W/WE2

Cooling Adaptor



For fast cooling of the heated shrinking chucks. Due to the precise design and the enclosure of the clamping area, the heat is rapidly diverted to the outside via the fins of the adaptor.

Clamping Ø	Catalog No.
Projection length up to 120 mm	
2-2.9	T3-K/2-2.9
3-5.9	T3-K/3-5.9
6-9	T3-K/6-9
9.1-12	T3-K/9.1-12
12.1-16	T3-K/12.1-16
16.1-22	T3-K/16.1-22
ISG 3200 Only	
22.1-32	T3-K/22.1-32
32.1-40	T3-K/32.1-40
40.1-50	T3-K/40.1-50
Projection length 120 – 200 mm	
3-5.9	T3-K/3-5.9 L 200
6-9	T3-K/6-9 L 200
9.1-12	T3-K/9.1-12 L 200
12.1-16	T3-K/12.1-16 L 200
16.1-22	T3-K/16.1-22 L 200
ISG 3200 Only	
22.1-32	T3-K/22.1-32 L 200
32.1-40	T3-K/32.1-40 L 200
Other projection lengths available on request	

Please order accessories separately

Changing Discs One-piece
(Included in delivery of unit)

For optimal shielding of the magnetic field between coil and tool shank



Designation	Catalog No.
3.0 – 5.9 mm	ISGS2202-1
6.0 – 12.0 mm	ISGS2202-2
12.1 – 20.0 mm	ISGS2202-3

Clamping Ring
(Included in delivery of unit)

For secure holding of the disc inside the coil



Catalog No.
ISGS309

Protective Gloves
(Included in delivery of unit)

For protection against possible burns and cutting injuries



Catalog No.
VA662-10

**ISG 3200**

Clamping range	3–6 mm (1/8"–1/4" carbide)
Clamping range	6–32 mm (1/4"–1-1/4" carbide+HSS)
Clamping range	32–50 mm (1-1/4"–2" - optional) carbide+HSS
Operation	automatic
Tool setting	measuring adaptor
Coil	exchangeable
Plate	–
Max. tool length (from gauge line)	450 mm (17.71")
Cooling stations	4
Air pressure	87 PSI

Universal Table Unit

On the fully automatically controlled ISG 3200 unit all that needs to be done is simply to select the tool diameter range. After the start button is pressed, the induction coil moves automatically to the toolholder, heats this sufficiently and moves back again automatically.

ISG 3200 is a universal shrinking unit for the professional use of shrinking technology. With its unique coil changing system, the power transfer adjusted to the different clamping chucks is guaranteed within a short period of time. Compared to other systems, this makes it possible to clamp the smallest diameters Ø 6-50 mm (1/4"–2") with high speed tools as well as down to Ø 3 mm (1/8") with carbide tools. With a range of special coils, the unit can be suited to other special tools. Four integrated fans make it possible to cool down the clamping chucks evenly in a short time. The fans are activated automatically by a light barrier as soon as the chuck is pushed into the cooling position. This means that constant preparation of a high number of tools can be guaranteed.

Because of the design of the working surface, the tools can be moved easily from the shrinking into the cooling position. Great importance was attached to the use of especially high-quality and resistant materials for continuous use in the workshop environment.

Operation of the ISG 3200 is completely menu assisted. The data is shown in the graphics display. All shrinking parameters are displayed simultaneously. Several languages can be preselected. The integrated processor controls not only the power and duration of heating automatically, it also enables the data for chucks with special geometry to be stored. Four LEDs indicate which fan is in operation.

The ISG 3200 shrinking unit has a coil system with fast changing mechanism in the standard version. This enables even tools in special dimensions to be shrunk in and out with correspondingly adapted coils. The area of application of the induction units can thus be extended permanently without having to invest constantly in new unit technology.

**Technical Data: ISG 3200**

Catalog No.	D	W	H	Clamping Range	Suitable Tool Materials	Electric Current Supply	Power kW	Weight lbs.
*ISG 3200-400V	22.99	23.31	40.55	3 – 50 mm 1/8" – 2"	Carbide+HSS	3 x 400 V/16 A	10	95
ISG 3200-480V	22.99	23.31	40.55	3 – 50 mm 1/8" – 2"	Carbide+HSS	3 x 480 V/16 A	10	95

*Requires Transformer 36100902, see page 50.

Setting Pot


For holding and correct positioning of the shrinking chuck on the shrink unit

Setting Pot	Catalog No.
For HSK Clamping Chuck	
HSK-32	T3-W/HSK32
HSK-40	T3-W/HSK40
HSK-50	T3-W/HSK50
HSK-63	T3-W/HSK63
HSK-80	T3-W/HSK80
HSK-100	T3-W/HSK100
For SK/BT/CAT Clamping chuck	
SK30/BT30/CAT30	T3-W/SK30
SK40/BT40/CAT40	T3-W/SK40
SK50/BT50/CAT50	T3-W/SK50
For ABS/Capto/Cylindrical Clamping Chuck	
ABS25	T3-W/25
ABS32/C3	T3-W/32
ABS40/C4	T3-W/40
ABS50/C5	T3-W/50
ABS63/C6	T3-W/63
For SCA Adaptors	
SCA 1	T3-W/SCA1
SCA 2	T3-W/SCA2
For Quick Change Tapping Adaptors	
WE 1	T3-W/WE1
WE 2	T3-W/WE2

Cooling Adaptor


For fast cooling of the heated shrinking chucks. Due to the precise design and the enclosure of the clamping area, the heat is rapidly diverted to the outside via the fins of the adaptor.

Clamping Ø	Catalog No.
Projection length up to 120 mm	
2-2.9	T3-K/2-2.9
3-5.9	T3-K/3-5.9
6-9	T3-K/6-9
9.1-12	T3-K/9.1-12
12.1-16	T3-K/12.1-16
16.1-22	T3-K/16.1-22
ISG 3200 Only	
22.1-32	T3-K/22.1-32
32.1-40	T3-K/32.1-40
40.1-50	T3-K/40.1-50
Projection length 120 – 200 mm	
3-5.9	T3-K/3-5.9 L 200
6-9	T3-K/6-9 L 200
9.1-12	T3-K/9.1-12 L 200
12.1-16	T3-K/12.1-16 L 200
16.1-22	T3-K/16.1-22 L 200
ISG 3200 Only	
22.1-32	T3-K/22.1-32 L 200
32.1-40	T3-K/32.1-40 L 200
Other projection lengths available on request	

Please order accessories separately

Changing Discs One-piece
 (Included in delivery of unit)

For optimal shielding of the magnetic field between coil and tool shank



Designation	Catalog No.
3.0 – 5.9 mm	ISGS3201-0
6.0 – 12.0 mm	ISGS3201-1
12.1 – 22.0 mm	ISGS3201-2
22.1 – 32.0 mm	ISGS3201-3

Clamping Ring
 (Included in delivery of unit)

For secure holding of the disc inside the coil



Catalog No.
ISGS309

Induction Coil
 (Included in delivery of unit)

Universal coil for a clamping range from Ø 3 – 32 mm which is supplied with 4 changing plates



Clamping Ø	Catalog No.
3–32 mm	ISGS3200-1

Protective Gloves
 (Included in delivery of unit)

For protection against possible burns and cutting injuries



Catalog No.
VA662-10

Cooling Adaptor Blanks
 for Special Sizes


Bore Ø	Catalog No.
0	T3-K/0-R
18	T3-K/18-R
35	T3-K/35-R

Changing Discs Two-piece

For use when the cutting diameter is bigger than the shrinking diameter



Clamping Ø	Catalog No.
3.0 – 5.9 mm	ISGS3201GT-0
6.0 – 12.0 mm	ISGS3201GT-1
12.1 – 22.0 mm	ISGS3201GT-2
22.1 – 32.0 mm	ISGS3201GT-3

Induction Coil


Clamping Ø	Catalog No.
32–50 mm	ISGS3200-2
More special coils for different special tools are available on request	
Induction coils for the previous models ISG 3000 and ISG 3100 are available on request	

Cooling Plate
 for cutting tools


Catalog No.
T3-Z/WZ

**ISG 2200WK**

- Processor controlled 8 KW high frequency generator
- Shrinking range Ø 3 – 20 mm solid carbide and Ø 6 – 20 mm HSS
- Maximum shrinking time of all Thermogrip chucks 5 seconds
- Cooling length for HSK-63 max. 239 mm
- Cooling of all shrinking chucks without separate cooling adaptors possible
- No danger of burning by touching the heated shrinking chucks
- No damage of the tool cutting edge by the cooling adaptors
- For all standard tool spindles by means of a simple change of the tool holder
- Optimal protection between coil and tool shank by means of 3 interchangeable discs with quick changing
- Fully automatic shrinking and cooling process, fast tool change times of 30 seconds
- Cooling time can be set between 1 and 99 seconds
- Adjustable delay time before cooling cycle
- Corrosion protection by use of emulsion
- 30 liter coolant tank in the housing

The **ISG 2200WK** combines shrinking technology with liquid cooling. With the new all-in one solution the shrinking and cooling cycle is done in one position. Despite the compact design, a new processor-controlled high-frequency generator and the optimized coil geometry allow tool change times of carbide tools from Ø 3 – 20 mm and HSS tools from Ø 6 – 20 mm in a few seconds.

Due to the use of predetermined parameters, the overheating of chucks is not possible when handled correctly. The auto-mated process means that the heated chuck is moved down into the cooling position with a pneumatic cylinder after the heating time.

In the cooling position the chuck is flooded directly with emulsion. After the adjusted liquid cooling time the chuck moves upwards. During this movement the air is blown onto the chuck for drying. This completely new kind of cooling achieves a record tool change time. The contact with the heated chucks is not possible and so there is no danger of burns.

**Technical Data: ISG2200WK**

Catalog No.	Dimensions			Clamping Range Ø	Suitable Tool Shanks	Air Pressure	Electric Current Supply	Power kW	Weight kg
	D	W	H						
ISG 2200WK-208V	550	700	1540	3 – 20 mm (HM) 6 – 20 mm (HSS)	Carbide only	6	3 x 208 V/16 A	3.2	100
*ISG 2200WK-400V	550	700	1540	3 – 20 mm (HM) 6 – 20 mm (HSS)	Carbide/HSS	6	3 x 400 V/16 A	8	100

Extent of delivery: shrink-fit unit ISG2200WK with coil and 3 interchangeable discs, protective gloves as well as the 1 litre coolant emulsion (corresponds at 1:30 to one complete filling of the coolant tank).

*Requires Transformer 36100902, see page 50.

Changing Discs One-piece
(Included in delivery of unit)

For optimal shielding of the magnetic field between coil and tool shank



Designation	400-V Catalog No.	208-V Catalog No.
3.0 – 5.9 mm	ISGS2201-1	ISGS2202-1
6.0 – 12.0 mm	ISGS2201-2	ISGS2202-2
12.1 – 20.0 mm	ISGS2201-3	ISGS2202-3

Clamping Ring
(Included in delivery of unit)

For secure holding of the disc inside the coil



Catalog No.
ISGS309

Protective Gloves
(Included in delivery of unit)

For protection against possible burns and cutting injuries



Catalog No.
VA662-10

Setting Pot

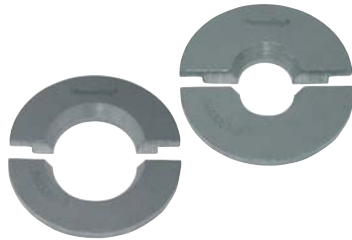
For holding and correct positioning of the clamping chuck on the shrink unit



Setting Pot	Catalog No.
For HSK Clamping chuck	
HSK-32	T2-WWK/HSK32
HSK-40	T2-WWK/HSK40
HSK-50	T2-WWK/HSK50
HSK-63	T2-WWK/HSK63
HSK-80	T2-WWK/HSK80
HSK-100	T2-WWK/HSK100
For SK/BT/CAT Clamping chuck	
SK30/BT30/CAT30	T2-WWK/SK30
SK40/BT40/CAT40	T2-WWK/SK40
SK50/BT50/CAT50	T2-WWK/SK50
More toolholders available on request	

Changing Discs Two-piece

For use when the cutting diameter is bigger than the shrinking diameter



Clamping-Ø	Catalog No.
3.0 – 5.9 mm	ISGS2201GT-1
6.0 – 12.0 mm	ISGS2201GT-2
12.1 – 20.0 mm	ISGS2201GT-3

Protective Cover

For protection of the unit against dirt



Catalog No.
ISG2200-SH

Cooling Plate
for cutting tools


Catalog No.
T3-Z/WZ

ISG 3200WK


- Processor controlled 10 KW high frequency generator
- Shrinking range Ø 3 – 32 mm solid carbide and Ø 6 – 32 mm HSS with only 1 coil
- Second coil for shrinking range till Ø 50 mm
- Max. shrinking length 450 mm (can be increased optionally by extending the guide unit)
- Max. cooling length 400 mm
- Cooling of all shrinking chucks without separate cooling adaptors possible
- No danger of burning by touching the heated shrinking chucks
- No damage of the tool blade by the cooling adaptors
- For all standard tool spindles by means of a simple change of the tool holder
- Fully automatic shrinking and cooling process, fast tool change times of less than 30 seconds
- No overheating of the shrinking chucks while using programmed parameters
- Manual shrinking cycle for free adjustment of generator power and heating time
- Easy control by graphic display with dialog function
- Adjustable delay time for every shrinking cycle
- Corrosion protection by use of emulsion
- 30 liter coolant tank in the housing

The **ISG 3200WK** combines shrinking technology with liquid cooling. With the new all-in one solution the shrinking and cooling cycle is done in one position. By the automated process the heated shrinking chuck is moved down in the cooling position with a pneumatic cylinder after the heating time. In the cooling position the chuck is flooded directly with emulsion. After the set liquid cooling time the chuck moves upwards. During the movement the air is blowing drying the chuck. This completely new kind of cooling achieves a record tool change time. Contact with the heated chucks is not possible and so there is no danger of burns.

The operation of the ISG 3200WK is completely menu assisted. Several languages can be preselected. The data is shown in the graphics display as dialog control. The actual action of the shrinking cycle is shown with symbols. All shrinking parameters are displayed simultaneously. Due to the use of predetermined parameters, overheating of the chuck is impossible when using correctly. These parameters include the shrinking time and generator power for all clamping diameters of the ThermoGrip® shrinking chucks, also the liquid cooling time according to the geometry and the clamping diameter. The liquid cooling time can be increased optionally by the user if necessary. For several special applications the shrinking time and generator power can be adjusted freely, when surrendering the automatic process safety.

The ISG 3200WK shrinking unit already has a coil system with fast change mechanism in the standard version. This enables even tools in special dimensions to be shrunk in and out with correspondingly adapted coils. The area of application of this induction unit can thus be extended permanently without having to invest constantly in new unit technology.

Technical Data: ISG 3200WK

Catalog No.	Dimensions			Clamping Range Ø	Suitable Tool Shanks	Air Pressure	Electric Current Supply	Power kW	Weight kg
	D	W	H						
*ISG3200WK-400V	620	700	1700	3 – 50 mm (HM) 6 – 50 mm (HSS)	Carbide/HSS	6 bar	3 x 400 V/16 A	10	120
ISG3200WK-480V	620	700	1700	3 – 50 mm (HM) 6 – 50 mm (HSS)	Carbide/HSS	6 bar	3 x 480 V/16 A	10	120

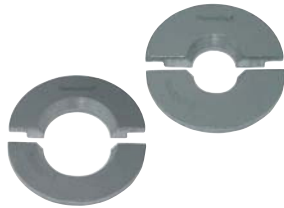
Extent of delivery: shrink-fit unit ISG3200WK with coil and 4 interchangeable discs, protective gloves as well as the 1 litre coolant emulsion (corresponds to one complete filling of the coolant tank).

*Requires 400V Transformer 36100902, see page 50.

Setting Pots


For holding and correct positioning of the clamping chuck on the shrink unit

Setting Pot	Catalog No.
For HSK Clamping Chuck	
HSK-32	T3-WWK/HSK32
HSK-40	T3-WWK/HSK40
HSK-50	T3-WWK/HSK50
HSK-63	T3-WWK/HSK63
HSK-80	T3-WWK/HSK80
HSK-100	T3-WWK/HSK100
For SK/BT/CAT Clamping chuck	
SK30/BT30/CAT30	T3-WWK/SK30
SK40/BT40/CAT40	T3-WWK/SK40
SK50/BT50/CAT50	T3-WWK/SK50
More toolholders available on request	

Changing Discs Two-piece


For use when the cutting diameter is bigger than the shrinking diameter

Clamping Ø	Catalog No.
3.0 – 5.9 mm	ISGS3201GT-0
6.0 – 12.0 mm	ISGS3201GT-1
12.1 – 22.0 mm	ISGS3201GT-2
20.1 – 32.0 mm	ISGS3201GT-3

Accessory Stand


For safe depositing of changing discs, tool holders and shrunk out tools

Catalog No.
ISG338-BG

Fixture for ISG 3200
 (with laser pointer)


When using special coils or slim version adaptors, the ISGF3200 is mounted as an axial fixture for the coil. The laser pointer is used to find the edge at the front of the chuck.

Catalog No.
ISGF 3200

Changing Discs One-piece

(Included in delivery of unit)

For optimal shielding of the magnetic field between coil and tool shank



Designation	Catalog No.
3.0 – 5.9 mm	ISGS3201-0
6.0 – 12.0 mm	ISGS3201-1
12.1 – 22.0 mm	ISGS3201-2
22.1 – 32.0 mm	ISGS3201-3

Clamping Ring

(Included in delivery of unit)

For secure holding of the disc inside the coil



Catalog No.
ISGS309

Induction Coil

(Included in delivery of unit)

Universal coil for a clamping range from Ø 3 – 32 mm which is supplied with 4 changing plates

32–50 mm has non-removable disc



Clamping Ø	Catalog No.
3–32 mm	ISGS3200-1
32–50 mm	ISGS3200-2

Protective Gloves

(Included in delivery of unit)

For protection against possible burns and cutting injuries



Catalog No.
VA662-10

Ejection Device for Broken Tools


The newly developed ejection unit enables broken tools to be removed simply from chucks. Even tools where the point of breakage is within the toolholder can be removed without difficulty. The basic toolholder can be adapted to all customary machine interfaces (HSK, CAT) by means of different adapters.* Even with a tight fit (bore diameter/tool shank) the shrunk-in shanks can be removed without difficulty. Further interfaces on request.

*Available upon request.

Basic Toolholder	
Catalog No.	
T3-WSG	

Compressed Air Unit

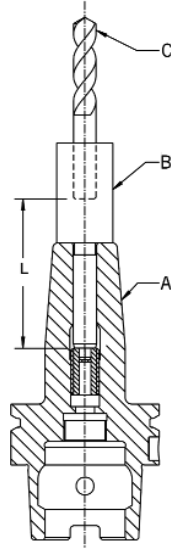

Catalog No.	
T3-WSD	

Adapter


Interface	Catalog No.
CAT/SK40	T3-WSA/SK40
CAT/SK50	T3-WSA/SK50
HSK63	T3-WSA/HSK63
HSK100	T3-WSA/HSK100
ABS32	T3-WSA/ABS32
ABS40	T3-WSA/ABS40
ABS50	T3-WSA/ABS50
ABS63	T3-WSA/ABS63

Measuring Adaptor for length adjustment when cold

The length is preset prior to the shrinking process by means of a measuring adaptor (B). This is inserted together with the tool (C) in the chuck (A) and the tool length is determined using the adjusting screw in the chuck by turning the measuring adaptor. The measuring adaptor is then removed and the tool is shrunk in. The difference (L) must be taken into account when setting. L = 80 mm



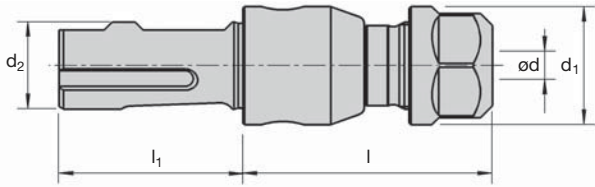
Tool Shank Dia.	Catalog No.
Adapters for Inch Bores	
0.250	T3-M0635
0.313	T3-M0794
0.375	T3-M0953
0.500	T3-M1270
0.625	T3-M1588
0.750	T3-M1905
0.875	T3-M2223
1.000	T3-M2540
1.250	T3-M3175
Adapters for Metric Bores	
5.0 (0.197)	T3-M0500
6.0 (0.236)	T3-M0600
8.0 (0.315)	T3-M0600
9.0 (0.354)	T3-M0900
10.0 (0.394)	T3-M1000
12.0 (0.472)	T3-M1200
14.0 (0.551)	T3-M1400
16.0 (0.630)	T3-M1600
18.0 (0.709)	T3-M1800
20.0 (0.787)	T3-M2000
24.0 (0.945)	T3-M2400
25.0 (0.984)	T3-M2500
26.0 (1.624)	T3-M2600
28.0 (1.102)	T3-M2800
30.0 (1.181)	T3-M3000
32.0 (1.260)	T3-M3200

ThermoGrip™ Transformer
208-600V Multi-Tap Transformer


Catalog No.
36100902



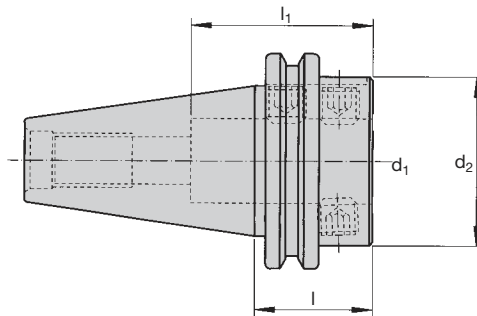
**Synchro Chucks
SC/MS**



Catalog No.	Dimensions (mm)									
	Tap Size	Comp	od	d ₁	d ₂	l	l ₁	Collet	Seal	
Metric Shank										
SC1/MS 25-ESX 20IC	M3.5-M14	±0.08"	4-11.2	34.0	25.0	68.5	53.0	ESX20-GB	DS/ER20	
SC2/MS 25-ESX 32IC	M3.5-M30	±0.08"	4-20.0	50.0	25.0	84.5	53.0	ESX32-GB	DS/ER32	
Inch Shank										
SC1/MS 25.4-ESX 20IC	M3.5-M14	±0.08"	4-11.2	34.0	1.00"	68.5	53.0	ESX20-GB	DS/ER20	
SC2/MS 25.4-ESX 32IC	M3.5-M30	±0.08"	4-20.0	50.0	1.00"	84.5	53.0	ESX32-GB	DS/ER32	

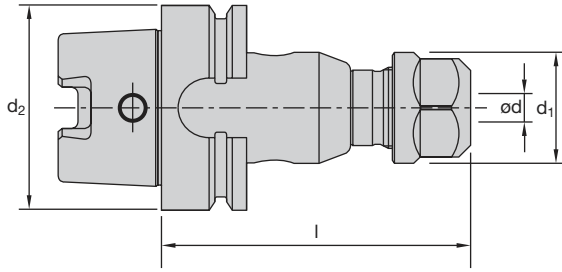
See page 66 and 67 for GB Tap Collets
See page 68 for Seal Disc.

Holders for Straight Shank Synchro Chucks



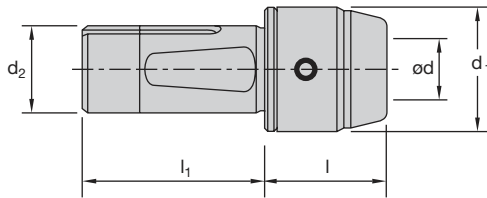
Catalog No.	Description	Dimensions (mm)			
		d ₁	d ₂	l ₁	l
12 934 216	CAT 40 w/1" Bore	25.4	45.0	68.5	34.9
12 934 218	CAT 50 w/1" Bore	25.4	70.0	84.5	34.9
12 934 219	CAT 50 w/1.5" Bore	38.1	70.0	84.5	34.9
12 934 221	BT 40 w/1" Bore	25.4	45.0	68.5	26.9
12 934 223	BT 50 w/1" Bore	25.4	70.0	84.5	47.6
12 934 880	BT 50 w/1.5" Bore	38.1	70.0	84.5	47.6
*WA25/A126/B40	40 Taper 25mm Bore	25.0	50.0	54.0	35.0
*WA25/A126/B50	50 Taper 25mm Bore	25.0	70.0	54.0	35.0

*For coolant thru the flange, use with MS25 shank tools.

**Synchro Chucks
SC/HSK**


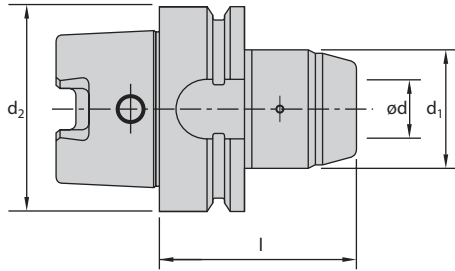
Catalog No.	Dimensions (mm)								
	Tap Size	Comp	ø d	d ₁	d ₂	l	l ₁	Collet	Seal
SC1/HSK-A63-ESX 20IC	M3.5-M14	±0.08"	4-11.2	34.0	63.0	91.5	-	ESX20-GB	DS/ER20
SC2/HSK-A63-ESX 32IC	M3.5-M30	±0.08"	4-20.0	50.0	63.0	104.5	-	ESX32-GB	DS/ER32
SC1/HSK-A100-ESX 20IC	M3.5-M14	±0.08"	4-11.2	34.0	100.0	101.0	-	ESX20-GB	DS/ER20
SC2/HSK-A100-ESX 32IC	M3.5-M30	±0.08"	4-20.0	50.0	100.0	114.5	-	ESX32-GB	DS/ER32

See page 66 and 67 for GB Tap Collets
See page 68 for Seal Disc.

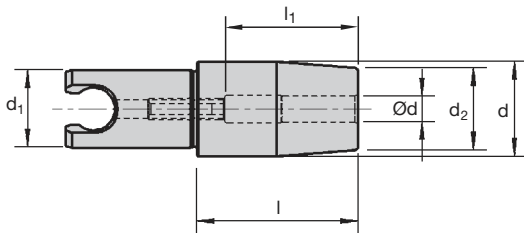
**Synchro Chucks
SCC/MS**


Catalog No.	Dimensions (mm)							
	Tap Size	Comp	ø d	d ₁	d ₂	l	l ₁	Front Piece
Metric Shank								
SCC1/MS25	M5-M12	±0.08"	18.0	36.0	25.0	36.0	53.0	SCA 1-T
SCC2/MS25	M5-M20	±0.08"	27.0	50.0	25.0	50.0	53.0	SCA 2-T

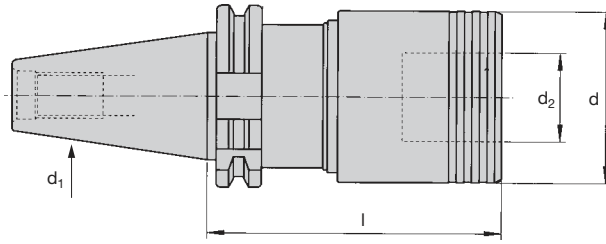
NOTE: Use with SCA Thermo-Grip Synchro Adapter on page 53

**Synchro Chucks
SCC/HSK**


Catalog No.	Dimensions (mm)							Front Piece
	Tap Size	Comp	ød	d ₁	d ₂	l	l ₁	
SCC1/HSK63	M5-M12	±0.08"	18.0	36.0	63.0	60.0	-	SCA 1-T
SCC2/HSK63	M5-M20	±0.08"	27.0	50.0	63.0	76.0	-	SCA 2-T
SCC1/HSK100	M5-M12	±0.08"	18.0	36.0	100.0	64.0	-	SCA 1-T
SCC2/HSK100	M5-M20	±0.08"	27.0	50.0	100.0	79.0	-	SCA 2-T

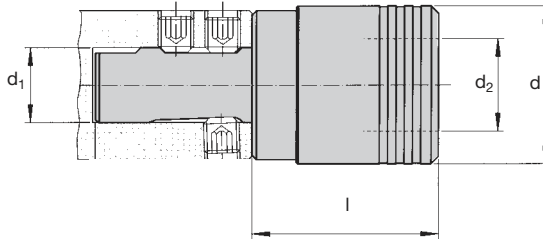
**ThermoGrip™ Synchro Adapter
SCA**


Catalog No.	Dimensions (mm)							
	Tap Size	N	ød	d	d ₁	d ₂	l	l ₁
SCA 1-T060	M5-M6	5.0	6.0	22.0	18.0	19.0	38.0	31.0
SCA 1-T070	M7	5.0	7.0	22.0	18.0	19.0	38.0	31.0
SCA 1-T080	M8	5.0	8.0	22.0	18.0	19.0	38.0	32.0
SCA 1-T090	M9	5.0	9.0	22.0	18.0	19.0	38.0	33.0
SCA 1-T100	M10	5.0	10.0	22.0	18.0	19.0	38.0	34.0
SCA 1-T120	M12	5.0	12.0	22.0	18.0	19.0	38.0	46.0
SCA 2-T060	M5-M6	5.0	6.0	22.0	27.0	19.0	55.0	31.0
SCA 2-T070	M7	5.0	7.0	22.0	27.0	19.0	55.0	31.0
SCA 2-T080	M8	5.0	8.0	22.0	27.0	19.0	55.0	32.0
SCA 2-T090	M9	5.0	9.0	22.0	27.0	19.0	55.0	33.0
SCA 2-T100	M10	5.0	10.0	22.0	27.0	19.0	55.0	34.0
SCA 2-T120	M12	5.0	12.0	22.0	27.0	19.0	55.0	46.0
SCA 2-T140	M14	5.0	14.0	34.0	27.0	27.0	55.0	48.0
SCA 2-T160	M16	5.0	16.0	34.0	27.0	27.0	55.0	49.0

**Bilz Quick Change-Rigid Tap Chucks
WF Series Cat V-Flange**


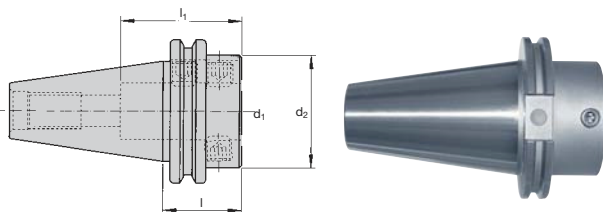
Catalog No.	Description	Shank (d ₁)	Coolant Fed	Adapter Size (d ₂)	Inch Tap Range	Metric Tap Range	Pipe Tap Range	D	l
117011	WF 1 IKP M/CAT40	CAT40	YES	1	#0-9/16	M3-M12	1/8	1.260	2.90
117012	WF 1 IKP M/CAT50	CAT50	YES	1	#0-9/16	M3-M12	1/8	1.260	2.90
117021	WF 2 IKP M/CAT40	CAT40	YES	2	1/4-7/8	M8-M20	1/8-1/2	1.968	3.50
117022	WF 2 IKP M/CAT50	CAT50	YES	2	1/4-7/8	M8-M20	1/8-1/2	1.968	3.50
117032	WF 3 IKP M/CAT50	CAT50	YES	3	13/16-1-3/8	M14-M33	1/2-1.00	2.812	4.81

NOTE: Coolant Thru @ 50 BAR/725 PSI

**Bilz Quick Change-Rigid Tap Chucks
WF Series Straight Shank**


Catalog No.	Description	Shank (d ₁)	Coolant Fed	Adapter Size (d ₂)	Inch Tap Range	Metric Tap Range	Pipe Tap Range	D	l
INCH SHANK									
11 700 624	WF 1 IKP M/1	1.00	YES	1	#0-9/16	M3-M12	1/8	1.260	1.457
11 700 625	WF 2 IKP M/1	1.00	YES	2	1/4-7/8	M8-M20	1/8-1/2	1.968	2.126
11 700 626	WF 3 IKP M/1.5	1.50	YES	3	13/16-1-3/8	M14-M33	1/2-1.00	2.812	3.437
METRIC SHANK									
11 700 702	WF 1 IKP MS/25	25MM	YES	1	#0-9/16	M3-M12	1/8	1.260	1.457
11 700 703	WF 2 IKP MS/25	25MM	YES	2	1/4-7/8	M8-M20	1/8-1/2	1.968	2.126
11 700 704	WF 3 IKP MS/32	32MM	YES	3	13/16-1-3/8	M14-M33	1/2-1.00	2.812	3.437

NOTE: Coolant Thru @ 50 BAR/725 PSI

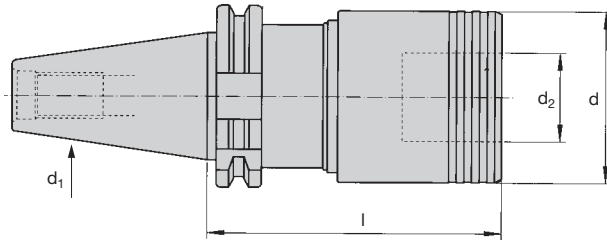
Bilz V-Flange Toolholder-Modular


Catalog No.	Complete Description	d ₁	d ₂	l ₁	l
12 934 216	CAT 40 w/1" Bore	25.4	45.0	68.5	34.9
12 934 218	CAT 50 w/1" Bore	25.4	70.0	84.5	34.9
12 934 219	CAT 50 w/1.5" Bore	38.1	70.0	84.5	34.9
12 934 221	BT 40 w/1" Bore	25.4	45.0	68.5	26.9
12 934 223	BT 50 w/1" Bore	25.4	70.0	84.5	47.6
12 934 880	BT 50 w/1.5" Bore	38.1	70.0	84.5	47.6
*WA25/A126/B40	40 Taper 25mm Bore	25.0	50.0	54.0	35.0
*WA25/A126/B50	50 Taper 25mm Bore	25.0	70.0	54.0	35.0

*For coolant thru the flange, use with MS25 shank tools.



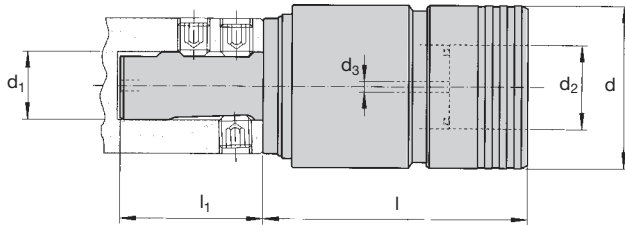
**Bilz Quick Change Tension & Compression Chucks
WFLK Taper Shank**



Catalog No.	Description	Shank (d ₁)	Coolant Fed	Adapter Size (d ₂)	Inch Tap Range	Metric Tap Range	Pipe Tap Range	Comp. (Inch)	Tension (Inch)	D	I
100 001	WFLK 013 BM/CAT40	CAT40	NO	0	#0-5/16	M3-M10	NA	0.260	0.260	1.024	2.755
100 003	WFLK 013 BM/CAT50	CAT50	NO	0	#0-5/16	M3-M10	NA	0.300	0.300	1.024	2.955
100 011	WFLK 115 BM/CAT40	CAT40	NO	1	#0-9/16	M3-M12	1/8	0.300	0.300	1.417	2.955
100 013	WFLK 115 BM/CAT50	CAT50	NO	1	#0-9/16	M3-M12	1/8	0.490	0.490	1.417	3.855
100 021	WFLK 225 BM/CAT40	CAT40	NO	2	1/4-7/8	M8-M20	1/8-1/2	0.490	0.490	2.087	3.855
100 023	WFLK 225 BM/CAT50	CAT50	NO	2	1/4-7/8	M8-M20	1/8-1/2	0.790	0.790	2.087	3.855
100 030	WFLK 340 BM/CAT50	CAT50	NO	3	13/16-1-3/8	M14-M33	1/2-1.00	0.790	0.790	3.071	5.780
100 040	WFLK 445 BM/CAT50	CAT50	NO	4	1-1-7/8	M22-M45	3/4-1-7/8	0.890	0.890	6.410	5.780

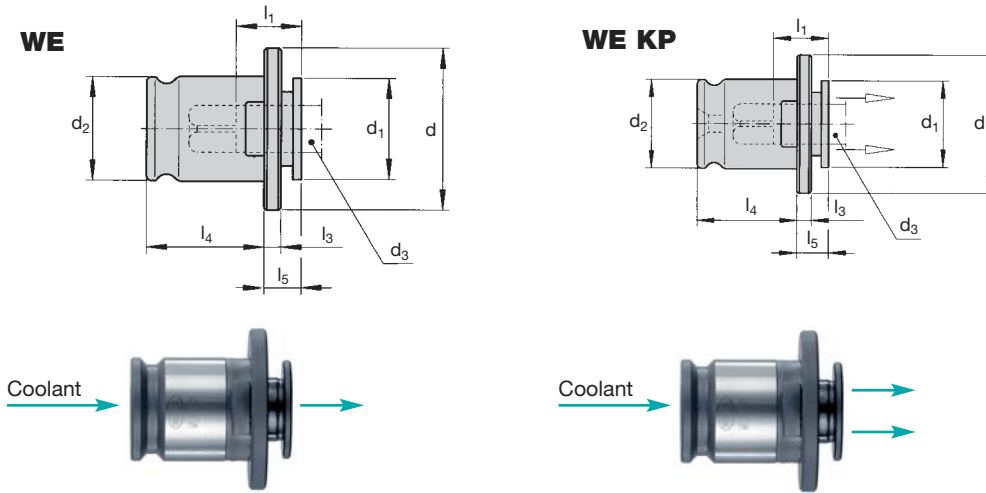
NOTE: Also available in tension only

**Bilz Quick Change Tension & Compression Chucks
WFLK/WFLC Straight Shank**



Catalog No.	Description	Shank (d ₁)	Coolant Fed	Adapter Size (d ₂)	Inch Tap Range	Metric Tap Range	Pipe Tap Range	Comp. (Inch)	Tension (Inch)	D	I
INCH											
12 008 082	WFLK 013 BM/1	1.00	NO	0	#0-5/16	M3-M10	NA	0.260	0.260	1.024	1.580
12 018 298	WFLK 115 BM/1	1.00	NO	1	#0-9/16	M3-M12	1/8	0.300	0.300	1.417	1.580
12 018 486	WFLK 115-0 BM/1	1.00	NO	1	#0-9/16	M3-M12	1/8	0.000	0.600	1.417	1.580
38 218 003	WFLC 115 IKP 1 SS	1.00	YES	1	#0-9/16	M3-M12	1/8	0.300	0.300	1.417	2.441
12 028 377	WFLK 225 BM/1	1.00	NO	2	1/4-7/8	M8-M20	1/8-1/2	0.490	0.490	2.087	2.480
12 028 429	WFLK 225-0 BM/1	1.00	NO	2	1/4-7/8	M8-M20	1/8-1/2	0.000	0.980	2.087	2.480
38 228 002	WFLC 220 IKP M/1	1.00	YES	2	1/4-7/8	M8-M20	1/8-1/2	0.490	0.490	2.087	3.858
12 038 247	WFLK 340 BM/1.5	1.50	NO	3	13/16-1-3/8	M14-M33	1/2-1.00	0.790	0.790	3.071	3.780
38 038 027	WFLC 335 IKP M/1.5	1.50	YES	3	13/16-1-3/8	M14-M33	1/2-1.00	0.790	0.790	3.071	5.787
12 048 164	WFLK 445 BM/1.5	1.50	NO	4	1-1-7/8	M22-M45	3/4-1-7/8	0.890	0.890	3.780	4.410
38 248 002	WFLC 440 IKP M/1.5	1.50	YES	4	1-1-7/8	M22-M45	3/4-1-7/8	0.890	0.890	3.780	4.410
METRIC											
38 118 002	WFLC 115 / MS25	25	NO	1	#0-9/16	M3-M12	1/8	7.5	7.5	39	45
38 118 003	WFLC 115-0 / MS25	25	NO	1	#0-9/16	M3-M12	1/8	0	15.0	39	37.5
38 218 002	WFLC 115-K / MS25	25	YES	1	#0-9/16	M3-M12	1/8	7.5	7.5	39	62
38 218 005	WFLC 115-0K / MS25	25	YES	1	#0-9/16	M3-M12	1/8	0	15.0	39	54.5
38 128 001	WFLC 220 / MS25	25	NO	2	1/4-7/8	M8-M20	1/8-1/2	10.0	10.0	60	68
38 128 003	WFLC 220-0 / MS25	25	NO	2	1/4-7/8	M8-M20	1/8-1/2	0	20.0	60	58
38 228 001	WFLC 220-K / MS25	25	YES	2	1/4-7/8	M8-M20	1/8-1/2	10.0	10.0	60	98
38 228 004	WFLC 220-0K / MS25	25	YES	2	1/4-7/8	M8-M20	1/8-1/2	0	20.0	60	88
38 138 001	WFLC 335 / MS32	32	NO	3	13/16-1-3/8	M14-M33	1/2-1.00	17.5	17.5	86	99
38 138 002	WFLC 335-0 / MS32	32	NO	3	13/16-1-3/8	M14-M33	1/2-1.00	0	35.0	86	81.5
38 238 001	WFLC 335-K / MS32	32	YES	3	13/16-1-3/8	M14-M33	1/2-1.00	17.5	17.5	86	147

NOTE: All holders with -0 in descriptor are tension only

Bilz WE / WE KP Style ANSI Quick Change Tap Adapters


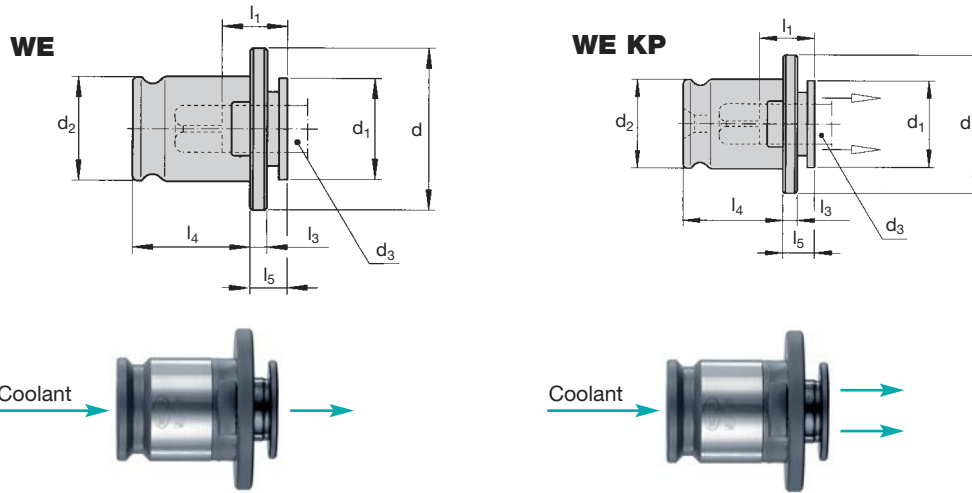
Designation	Tap Size		d	d ₁	d ₂	l ₁	l ₃	l ₄	l ₅
	Inch	Metric							
WE 0	#0-5/16	M1-M10	22.0 (0.787)	13.0 (.5118)	13.0 (.5118)	15.0 (0.591)	4.0 (.1575)	19.5 (.7677)	7.0 (.2756)
WE 1 / WE 1 KP	#0-9/16	M3-M12	30.0 (1.181)	19.0 (0.748)	19.0 (0.748)	17.0 (0.669)	4.0 (.1575)	21.5 (.8465)	7.0 (.2756)
WE 2 / WE 2 KP	1/4-7/8	M8-M20	48.0 (1.890)	30.0 (1.181)	31.0 (1.220)	30.0 (1.181)	5.0 (.1969)	35.0 (1.378)	11.0 (.4331)
WE 3 / WE 3 KP	13/16-1 3/8	M14-M33	70.0 (2.756)	48.0 (1.890)	48.0 (1.890)	44.0 (1.732)	6.0 (.2362)	55.5 (2.185)	14.0 (.5512)

Inch Size	Metric Size	Shank Dia.	Square	WE 0 Catalog No.	WE 1 Catalog No.	WE 1 KP Catalog No.	WE 2 Catalog No.	WE 2 KP Catalog No.	WE 3 Catalog No.	WE 3 KP Catalog No.
#0-6	M3	0.141	0.110	29 100 028	21 100 019	21 184 032				
#8, 5/32	M4	0.168	0.131	29 100 041	21 100 027	21 184 031				
#10, 3/16	M4.5, M5	0.194	0.152	29 100 052	21 100 038	21 184 029				
#12, 7/32	#12	0.220	0.165	29 100 062	21 100 046	21 184 036				
#14, 1/4	M6, M6.5	0.255	0.191	29 100 077	21 100 063	21 184 019	22 100 010			
5/16	M7, M8	0.318	0.238	29 100 101	21 100 089	21 184 020	22 100 022	22 167 430		
3/8	M10	0.381	0.286		21 100 112	21 184 021	22 100 040	22 167 424		
7/16	7/16	0.323	0.242		21 100 091	21 184 022	22 100 023	22 167 433		
1/2	M12, M12.5	0.367	0.275		21 100 105	21 184 023	22 100 033	22 167 418		
9/16	M14	0.429	0.322		21 100 119		22 100 043	22 167 428		
5/8	M16	0.480	0.360				22 100 058	22 167 419		
11/16	M18	0.542	0.406				22 100 067	22 167 438		
3/4	3/4	0.590	0.442				22 100 147	22 167 420	23 100 013	
13/16	M20	0.652	0.489				22 100 089	22 167 436	23 100 018	23 156 430
7/8	M22	0.697	0.523				22 100 093	22 167 434	23 100 021	23 156 419
15/16	M24	0.760	0.570						23 100 028	23 156 429
1.00	M25	0.800	0.600						23 100 031	23 156 420
1-1/8		0.896	0.672						23 100 038	23 156 436
1-1/4		1.021	0.766						23 100 045	23 156 434
1-3/8		1.108	0.831						23 100 053	23 156 430
Pipe Taps										
1/8 NPT	SMALL SHANK	0.3125	0.234		21 100 081					
1/8 NPT	LARGE SHANK	0.4370	0.328		21 100 124		22 102 016			
1/4 NPT	1/4 NPT	0.5620	0.421				22 102 002	22 185 402		
3/8 NPT	3/8 NPT	0.7000	0.531				22 102 005	22 185 405	23 102 035	23 157 435
1/2 NPT	1/2 NPT	0.6875	0.515				22 102 004	22 185 404	23 102 049	23 157 436
3/4 NPT	3/4 NPT	0.9060	0.679						23 102 004	23 157 404
1.00 NPT	1.00 NPT	1.1250	0.843						23 102 007	23 157 407

NOTE: WE style also suitable for taps with axial coolant hole
 WE KP style delivers coolant around tap shank for noncoolant taps



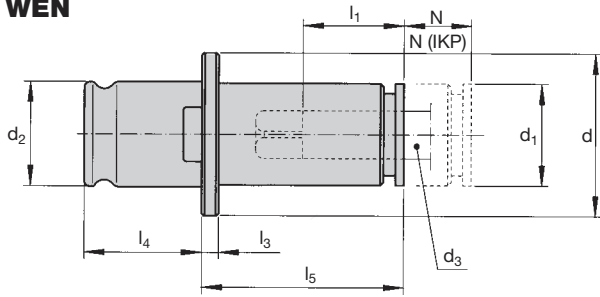
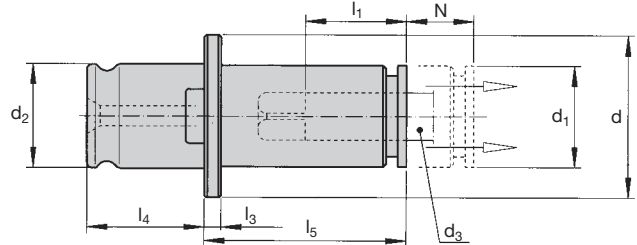
Bilz WE / WE KP Style DIN 371/376 Quick Change Tap Adapters



Designation	Tap Size		d	d ₁	d ₂	l ₁	l ₃	l ₄	l ₅
	Inch	Metric							
WE 0	#0-5/16	M1-M10	22.0 (0.787)	13.0 (.5118)	13.0 (.5118)	15.0 (0.591)	4.0 (.1575)	19.5 (.7677)	7.0 (.2756)
WE 1 / WE 1 KP	#0-9/16	M3-M12	30.0 (1.181)	19.0 (0.748)	19.0 (0.748)	17.0 (0.669)	4.0 (.1575)	21.5 (.8465)	7.0 (.2756)
WE 2 / WE 2 KP	1/4-7/8	M8-M20	48.0 (1.890)	30.0 (1.181)	31.0 (1.220)	30.0 (1.181)	5.0 (.1969)	35.0 (1.378)	11.0 (.4331)
WE 3 / WE 3 KP	13/16-1-3/8	M14-M33	70.0 (2.756)	48.0 (1.890)	48.0 (1.890)	44.0 (1.732)	6.0 (.2362)	55.5 (2.185)	14.0 (.5512)

Metric Size	Shank		DIN Spec	WE 0		WE 1		WE 1 KP		WE 2		WE 2 KP		WE 3		WE 3 KP	
	Dia.	Square		Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.		
M3	3.5 (0.138)	2.7 (0.106)	DIN 371	29 100 025	21 100 017	21 184 013											
M4	4.5 (0.177)	3.4 (0.134)	DIN 371	29 100 044	21 100 030	21 184 010											
M5	6.0 (0.236)	4.9 (0.193)	DIN 371	29 100 0671	21 100 0541	21 184 0111											
M6	6.0 (0.236)	4.9 (0.193)	DIN 371	29 100 0672	21 100 0542	21 184 0112	22 100 0041	22 167 4211									
M7	7.0 (0.276)	5.5 (0.217)	DIN 371	29 100 082	21 100 068	21 184 009	22 100 011	22 167 423									
M8	8.0 (0.315)	6.2 (0.244)	DIN 371	29 100 087	21 100 086	21 184 001	22 100 020	22 167 402									
M9	9.0 (0.354)	7.0 (0.276)	DIN 371		21 100 099	21 184 003	22 100 031	22 167 404									
M10 X 1.5	10.0 (0.394)	8.0 (0.315)	DIN 371		21 100 115	21 184 005	22 100 041	22 167 406									
M8 X 1.25	6.0 (0.236)	4.9 (0.193)	DIN 376	29 100 0673	21 100 0543	21 184 0113	22 100 0042	22 167 4212									
M10	7.0 (0.276)	5.5 (0.217)	DIN 376	29 100 082	21 100 068	21 184 009	22 100 011	22 167 423									
M12	9.0 (0.354)	7.0 (0.276)	DIN 376		21 100 099	21 184 003	22 100 031	22 167 404									
M14	11.0 (0.433)	9.0 (0.354)	DIN 376		21 100 123	21 184 006	22 100 046	22 167 407	23 100 004	23 156 402							
M16	12.0 (0.472)	9.0 (0.354)	DIN 376				22 100 056	22 167 409	23 100 006	23 156 410							
M18	14.0 (0.551)	11.0 (0.433)	DIN 376				22 100 069	22 167 411	23 100 011	23 156 403							
M20	16.0 (0.630)	12.0 (0.472)	DIN 376				22 100 084	22 167 413	23 100 016	23 156 413							
M22	18.0 (0.709)	14.5 (0.571)	DIN 376						23 100 0241	23 156 4011							
M24	18.0 (0.709)	14.5 (0.571)	DIN 376						23 100 0242	23 156 4012							
M27	20.0 (0.787)	16.0 (0.630)	DIN 376						23 100 030	23 156 406							
M30	22.0 (0.866)	18.0 (0.709)	DIN 376						23 100 035	23 156 404							
M33	25.0 (0.984)	20.0 (0.787)	DIN 376						23 100 044	23 156 407							

NOTE: WE style also suitable for taps with axial coolant hole
 WE KP style delivers coolant around tap shank for noncoolant taps
 NOTE: JIS, ISO and Reduced Shank Adapters available

**Bilz WEN / WEN KP Style ANSI
Quick Change Adjustable Length Tap Adapters**
WEN

WEN KP (available upon request)


Designation	Tap Size (Inch)	d	d ₁	d ₂	l ₁	l ₃	l ₄	l ₅	N	N (KP)
WEN 0	#0-5/16	22.0 (0.787)	13.0 (.5118)	13.0 (.5118)	15.0 (0.591)	4.0 (.1575)	19.5 (.7677)	29.0 (1.142)	8.0 (.3150)	NA
WEN 1 / WEN 1 KP	#0-9/16	30.0 (1.181)	19.0 (0.748)	19.0 (0.748)	17.0 (0.669)	4.0 (.1575)	21.5 (.8465)	34.0 (1.339)	10.0 (.3937)	6.5 (0.256)
WEN 2 / WEN 2 KP	1/4-7/8	48.0 (1.890)	30.0 (1.181)	31.0 (1.220)	30.0 (1.181)	5.0 (.1969)	35.0 (1.378)	60.0 (2.362)	15.0 (.5906)	10.0 (0.551)
WEN 3 / WEN 3 KP	13/16-1-3/8	70.0 (2.756)	48.0 (1.890)	48.0 (1.890)	44.0 (1.732)	6.0 (.2362)	55.5 (2.185)	83.0 (3.267)	25.0 (.9843)	25.0 (.9843)

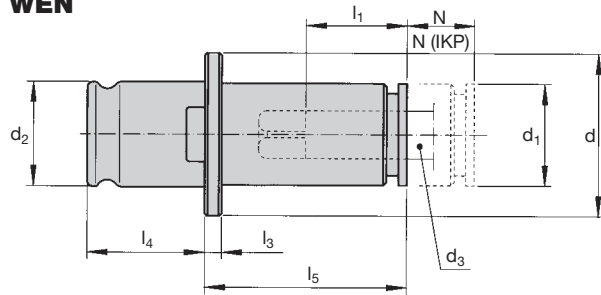
Inch Size	Metric Size	Shank Dia.	Square	WEN 0 Catalog No.	WEN 1 Catalog No.	WEN 2 Catalog No.	WEN 3 Catalog No.
#0-6	M3	0.141	0.110	29 300 028	21 300 019		
#8, 5/32	M4	0.168	0.131	29 300 041	21 300 027		
#10, 3/16	M4.5, M5	0.194	0.152	29 300 052	21 300 038		
#12, 7/32	#12	0.220	0.165	29 300 062	21 300 046		
#14, 1/4	M6, M6.5	0.255	0.191	29 300 077	21 300 063	22 300 010	
5/16	M7, M8	0.318	0.238	29 300 101	21 300 089	22 300 022	
3/8	M10	0.381	0.286		21 300 112	22 300 040	
7/16	7/16	0.323	0.242		21 300 091	22 300 023	
1/2	M12, M12.5	0.367	0.275		21 300 105	22 300 033	
9/16	M14	0.429	0.322		21 300 119	22 300 043	
5/8	M16	0.480	0.360			22 300 058	
11/16	M18	0.542	0.406			22 300 067	
3/4	3/4	0.590	0.442			22 300 147	
13/16	M20	0.652	0.489			22 300 089	23 300 018
7/8	M22	0.697	0.523			22 300 093	23 300 021
15/16	M24	0.760	0.570				23 300 028
1.00	M25	0.800	0.600				23 300 031
1-1/8		0.896	0.672				23 300 038
1-1/4		1.021	0.766				23 300 045
1-3/8		1.108	0.831				23 300 053
Pipe Taps							
1/8 NPT	SMALL SHANK	0.3125	0.234		21 300 081		
1/8 NPT	LARGE SHANK	0.437	0.328		21 300 124	22 302 016	
1/4 NPT	1/4 NPT	0.562	0.421			22 302 002	
3/8 NPT	3/8 NPT	0.700	0.531			22 302 005	23 302 035
1/2 NPT	1/2 NPT	0.6875	0.515			22 302 004	23 302 049
3/4 NPT	3/4 NPT	0.906	0.679				23 302 004
1.00 NPT	1.00 NPT	1.125	0.843				23 302 007

NOTE: WEN style offer adjustable length for taps with axial coolant hole
WEN KP style delivers coolant around tap shank for noncoolant taps

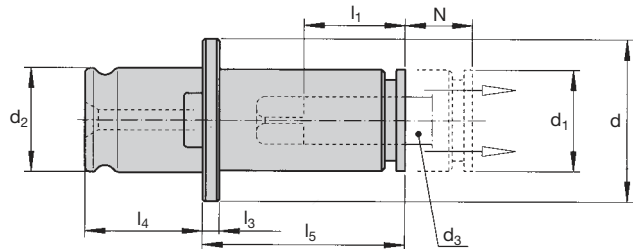


**Bilz WEN / WEN KP Style DIN 371/376
Quick Change Adjustable Length Tap Adapters**

WEN



WEN KP (available upon request)



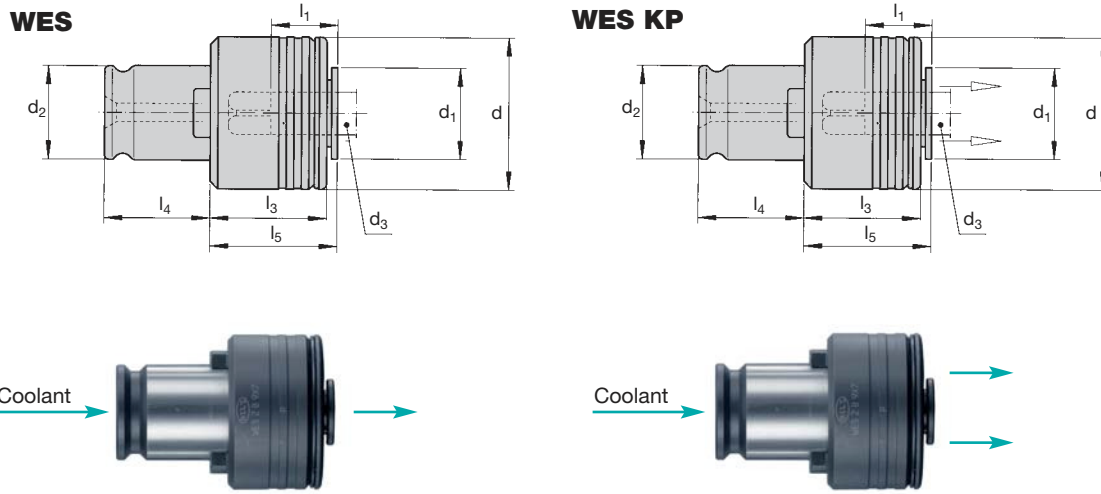
Designation	Tap Size (Metric)	d	d ₁	d ₂	l ₁	l ₃	l ₄	l ₅	N	N (KP)
WEN 0	M1-M10	22.0 (.787)	13.0 (.5118)	13.0 (.5118)	15.0 (0.591)	4.0 (.1575)	19.5 (.7677)	7.0 (.2756)	8.0 (.3150)	NA
WEN 1 / WEN 1 KP	M3-M12	30.0 (1.181)	19.0 (0.748)	19.0 (0.748)	17.0 (0.669)	4.0 (.1575)	21.5 (.8465)	7.0 (.2756)	10.0 (.3937)	6.5 (0.256)
WEN 2 / WEN 2 KP	M8-M20	48.0 (1.890)	30.0 (1.181)	31.0 (1.220)	30.0 (1.181)	5.0 (.1969)	35.0 (1.378)	11.0 (.4331)	15.0 (.5906)	10.0 (0.551)
WEN 3 / WEN 3 KP	M14-M33	70.0 (2.756)	48.0 (1.890)	48.0 (1.890)	44.0 (1.732)	6.0 (.2362)	55.5 (2.185)	14.0 (.5512)	25.0 (.9843)	25.0 (.9843)

Metric Size	Shank Dia.	Square	DIN Spec	WEN 0 Catalog No.	WEN 1 Catalog No.	WEN 2 Catalog No.	WEN 3 Catalog No.
M3	3.5 (0.138)	2.7 (0.106)	DIN 371	29 300 025	21 300 017		
M4	4.5 (0.177)	3.4 (0.134)	DIN 371	29 300 044	21 300 030		
M5	6.0 (0.236)	4.9 (0.193)	DIN 371	29 300 0671	21 300 0541		
M6	6.0 (0.236)	4.9 (0.193)	DIN 371	29 300 0672	21 300 0542	22 300 0041	
M7	7.0 (0.276)	5.5 (0.217)	DIN 371	29 300 082	21 300 068	22 300 011	
M8	8.0 (0.315)	6.2 (0.244)	DIN 371	29 300 087	21 300 086	22 300 020	
M9	9.0 (0.354)	7.0 (0.276)	DIN 371		21 300 099	22 300 031	
M10 X 1.5	10.0 (0.394)	8.0 (0.315)	DIN 371		21 300 115	22 300 041	
M8 X 1.25	6.0 (0.236)	4.9 (0.193)	DIN 376	29 300 0673	21 300 0543	22 300 0042	
M10	7.0 (0.276)	5.5 (0.217)	DIN 376	29 300 082	21 300 068	22 300 011	
M12	9.0 (0.354)	7.0 (0.276)	DIN 376		21 300 099	22 300 031	
M14	11.0 (0.433)	9.0 (0.354)	DIN 376		21 300 123	22 300 046	23 300 004
M16	12.0 (0.472)	9.0 (0.354)	DIN 376			22 300 056	23 300 006
M18	14.0 (0.551)	11.0 (0.433)	DIN 376			22 300 069	23 300 011
M20	16.0 (0.630)	12.0 (0.472)	DIN 376			22 300 084	23 300 016
M22	18.0 (0.709)	14.5 (0.571)	DIN 376				23 300 0241
M24	18.0 (0.709)	14.5 (0.571)	DIN 376				23 300 0242
M27	20.0 (0.787)	16.0 (0.630)	DIN 376				23 300 030
M30	22.0 (0.866)	18.0 (0.709)	DIN 376				23 300 035
M33	25.0 (0.984)	20.0 (0.787)	DIN 376				23 300 044

NOTE: WEN style offer adjustable length for taps with axial coolant hole
WEN KP style delivers coolant around tap shank for noncoolant taps



Bilz WES / WES KP Style ANSI Torque Control Quick Change Tap Adapters



Designation	Tap Size		d	d ₁	d ₂	l ₁	l ₃	l ₄	l ₅
	Inch	Metric							
WES 0B	#0-5/16	M1-M10	23.0 (0.906)	13.0 (.5118)	13.0 (.5118)	15.0 (0.591)	20.0 (.7874)	19.5 (.7677)	7.0 (.2756)
WES 1B / WES 1B KP	#0-9/16	M3-M12	32.0 (1.259)	19.0 (0.748)	19.0 (0.748)	17.0 (0.669)	25.0 (.9843)	21.5 (.8465)	7.0 (.2756)
WES 2B / WES 2B KP	1/4-7/8	M8-M20	50.0 (1.969)	30.0 (1.181)	31.0 (1.220)	30.0 (1.181)	31.0 (1.220)	35.0 (1.378)	11.0 (.4331)
WES 3B / WES 3B KP	13/16-1-3/8	M14-M33	72.0 (2.835)	48.0 (1.890)	48.0 (1.890)	44.0 (1.732)	41.0 (1.614)	55.5 (2.185)	14.0 (.5512)

Inch Size	Metric Size	Shank Dia.	Square	WES 0 Catalog No.	WES 1 Catalog No.	WES 1 KP Catalog No.	WES 2 Catalog No.	WES 2 KP Catalog No.	WES 3 Catalog No.	WES 3 KP Catalog No.
#0-6	M3	0.141	0.110	29 200 028	21 200 019	21 658 432				
#8, 5/32	M4	0.168	0.131	29 200 041	21 200 027	21 658 431				
#10, 3/16	M4.5, M5	0.194	0.152	29 200 052	21 200 038	21 658 449				
#12, 7/32	#12	0.220	0.165	29 200 062	21 200 046	21 658 436				
#14, 1/4	M6, M6.5	0.255	0.191	29 200 077	21 200 063	21 658 419	22 200 010			
5/16	M7, M8	0.318	0.238	29 200 101	21 200 089	21 658 420	22 200 022	22 651 430		
3/8	M10	0.381	0.286		21 200 112	21 658 421	22 200 040	22 651 424		
7/16	7/16	0.323	0.242		21 200 091	21 658 422	22 200 023	22 651 433		
1/2	M12, M12.5	0.367	0.275		21 200 105	21 658 423	22 200 033	22 651 418		
9/16	M14	0.429	0.322		21 200 119		22 200 043	22 651 428		
5/8	M16	0.480	0.360				22 200 058	22 651 419		
11/16	M18	0.542	0.406				22 200 067	22 651 438		
3/4	3/4	0.590	0.442				22 200 147	22 651 420	23 200 040	
13/16	M20	0.652	0.489				22 200 089		23 200 018	23 651 430
7/8	M22	0.697	0.523				22 200 093	22 651 434	23 200 021	23 651 419
15/16	M24	0.760	0.570						23 200 028	23 651 429
1.00	M25	0.800	0.600						23 200 031	23 651 420
1-1/8		0.896	0.672						23 200 038	23 651 436
1-1/4		1.021	0.766						23 200 045	23 651 434
1-3/8		1.108	0.831						23 200 053	23 651 430
Pipe Taps										
1/8 NPT	SMALL SHANK	0.3125	0.234		21 200 081					
1/8 NPT	LARGE SHANK	0.437	0.328		21 200 124		22 200 048			
1/4 NPT	1/4 NPT	0.562	0.421				22 602 002	22 653 402		
3/8 NPT	3/8 NPT	0.700	0.531				22 602 005	22 653 405		
1/2 NPT	1/2 NPT	0.6875	0.515				22 602 004	22 653 404	23 602 036	23 655 436
3/4 NPT	3/4 NPT	0.906	0.679						23 602 004	23 655 404
1.00 NPT	1.00 NPT	1.125	0.843						23 602 007	23 655 407

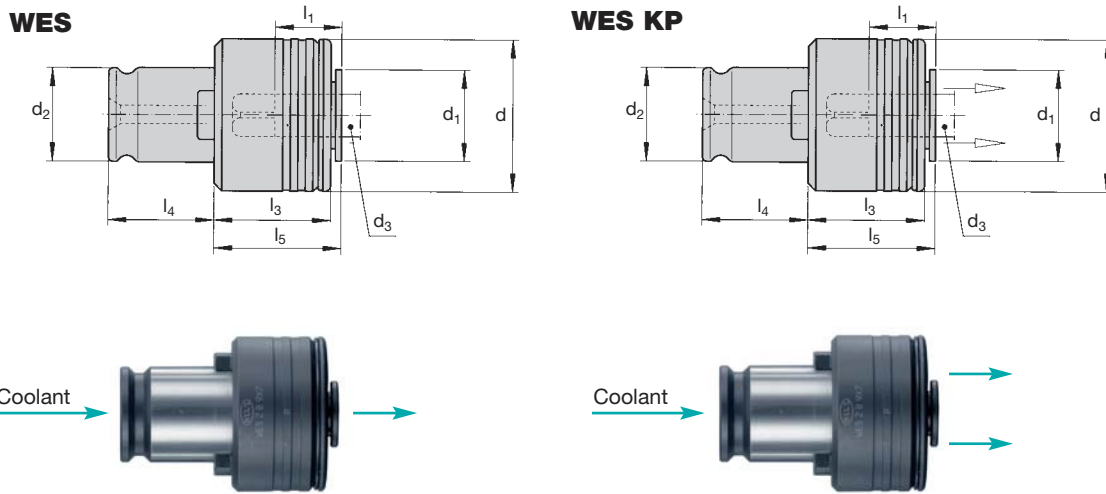
NOTE: WES style offers torque control

WES style also suitable for taps with axial coolant hole. WES KP style delivers coolant around tap shank for noncoolant taps





**Bilz WES / WES KP Style DIN 371/376
Torque Control Quick Change Tap Adapters**



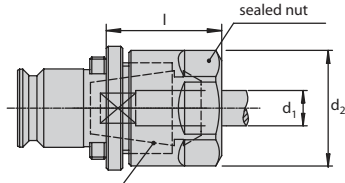
Designation	Tap Size		d	d ₁	d ₂	l ₁	l ₃	l ₄	l ₅
	Inch	Metric							
WES 0B	#0-5/16	M1-M10	23.0 (.906)	13.0 (.5118)	13.0 (.5118)	15.0 (.591)	20.0 (.7874)	19.5 (.7677)	7.0 (.2756)
WES 1B / WES 1B KP	#0-9/16	M3-M12	32.0 (1.259)	19.0 (.748)	19.0 (.748)	17.0 (.669)	25.0 (.9843)	21.5 (.8465)	7.0 (.2756)
WES 2B / WES 2B KP	1/4-7/8	M8-M20	50.0 (1.969)	30.0 (1.181)	31.0 (1.220)	30.0 (1.181)	31.0 (1.220)	35.0 (1.378)	11.0 (.4331)
WES 3B / WES 3B KP	13/16-1 3/8	M14-M33	72.0 (2.835)	48.0 (1.890)	48.0 (1.890)	44.0 (1.732)	41.0 (1.614)	55.5 (2.185)	14.0 (.5512)

Metric Size	Shank		DIN Spec	WES 0 Catalog No.	WES 1 Catalog No.	WES 1 KP Catalog No.	WES 2 Catalog No.	WES 2 KP Catalog No.	WES 3 Catalog No.	WES 3 KP Catalog No.
	Dia.	Square								
M3	3.5 (0.138)	2.7 (0.106)	DIN 371	29 201 025	21 200 017					
M4	4.5 (0.177)	3.4 (0.134)	DIN 371	29 201 044	21 200 030	21 658 428				
M5	6.0 (0.236)	4.9 (0.193)	DIN 371	29 201 067	21 200 054	21 658 413				
M6	6.0 (0.236)	4.9 (0.193)	DIN 371	29 202 067	21 202 054	21 658 410	22 201 004			
M7	7.0 (0.276)	5.5 (0.217)	DIN 371	29 201 082	21 201 068	21 658 409	22 201 011			
M8	8.0 (0.315)	6.2 (0.244)	DIN 371	29 201 087	21 201 086	21 658 401	22 201 020	22 651 402		
M9	9.0 (0.354)	7.0 (0.276)	DIN 371		21 201 099	21 658 403	22 201 031	22 651 404		
M10 X 1.5	10.0 (0.394)	8.0 (0.315)	DIN 371		21 201 115	21 658 405	22 201 041	22 651 406		
M8 X 1.25	6.0 (0.236)	4.9 (0.193)	DIN 376	29 201 067	21 203 054	21 658 411	22 202 004	22 651 421		
M10	7.0 (0.276)	5.5 (0.217)	DIN 376	29 201 082	21 201 068	21 658 409	22 201 011	22 651 423		
M12	9.0 (0.354)	7.0 (0.276)	DIN 376		21 201 099	21 658 403	22 201 031	22 651 404		
M14	11.0 (0.433)	9.0 (0.354)	DIN 376		21 201 123		22 201 046	22 651 407	23 201 004	23 657 402
M16	12.0 (0.472)	9.0 (0.354)	DIN 376				22 201 056	22 651 409	23 201 006	23 657 410
M18	14.0 (0.551)	11.0 (0.433)	DIN 376				22 201 069	22 651 411	23 201 011	23 657 403
M20	16.0 (0.630)	12.0 (0.472)	DIN 376				22 201 084	22 651 413	23 201 016	23 657 413
M22	18.0 (0.7087)	14.5 (0.5709)	DIN 376						23 201 024	23 657 4011
M24	18.0 (0.7087)	14.5 (0.5709)	DIN 376						23 202 024	23 657 4012
M27	20.0 (.7874)	16.0 (.6299)	DIN 376						23 201 030	23 657 406
M30	22.0 (.8661)	18.0 (0.7087)	DIN 376						23 201 035	23 657 404
M33	25.0 (.9843)	20.0 (.7874)	DIN 376						23 201 044	23 657 407

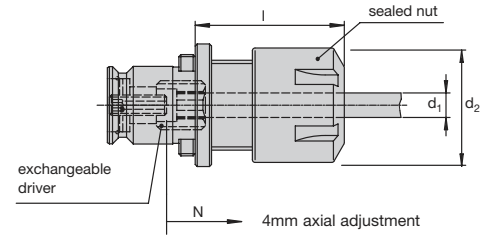
NOTE: WES style offers torque control
WES style also suitable for taps with axial coolant hole.
WES KP style delivers coolant around tap shank for noncoolant taps
WESN with length adjustment available



ESX (ER Type) ANSI Quick Change Tap Collet Adapters



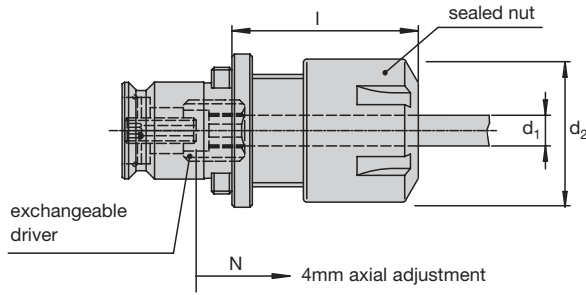
Use Type GB (ER) Style Square Drive Collet – No Axial Adjustment



Series	Catalog No.	Inch Range	Metric Range	Seal Disc	d ₂	l (mm)	Collet Nut
ADAPTER BODY FOR SQUARE DRIVE ER TAP COLLETS (TYPE GB)							
ER16	WE1-IKP/ESX16GB	#8-5/16	M4-M10	DS/ER16	28.0	28.0	ER16*
ER20	WE1-IKP/ESX20GB	#8-1/2	M4-M12	DS/ER20	34.0	38.0	ER20*
ER25	WE2-IKP/ESX25GB	#8-3/4	M4-M20	DS/ER25	42.0	37.0	ER25*
ER32	WE2-IKP/ESX32GB	#8-3/4	M4-M20	DS/ER32	50.0	40.0	ER32*
COMPLETE ASSEMBLIES		Inch Size Tap	Shank Dia. (d₁)	Square	d₂	l (mm)	Driver
ER16	WE1-IKP/ESX16-0.168 X 0.131	#8, 5/32	0.168	0.131	28.0	36.5	BN1716-4
ER16	WE1-IKP/ESX16-0.194 X 0.152	#10, 3/16	0.194	0.152	28.0	36.5	BN1716-4
ER16	WE1-IKP/ESX16-0.220 X 0.165	#12, 7/32	0.220	0.165	28.0	36.5	BN1716-4.5
ER16	WE1-IKP/ESX16-0.255 X 0.191	#14, 1/4	0.255	0.191	28.0	36.5	BN1716-5
ER16	WE1-IKP/ESX16-0.318 X 0.238	5/16	0.318	0.238	28.0	36.5	BN1716-6.5
ER20	WE1-IKP/ESX20-0.168 X 0.131	#8, 5/32	0.168	0.131	34.0	40.0	BN1720-4
ER20	WE1-IKP/ESX20-0.194 X 0.152	#10, 3/16	0.194	0.152	34.0	40.0	BN1720-4
ER20	WE1-IKP/ESX20-0.220 X 0.165	#12, 7/32	0.220	0.165	34.0	40.0	BN1720-4.5
ER20	WE1-IKP/ESX20-0.255 X 0.191	#14, 1/4	0.255	0.191	34.0	40.0	BN1720-5
ER20	WE1-IKP/ESX20-0.318 X 0.238	5/16	0.318	0.238	34.0	40.0	BN1720-6.5
ER20	WE1-IKP/ESX20-0.323 X 0.242	7/16	0.323	0.242	34.0	40.0	BN1720-6.5
ER20	WE1-IKP/ESX20-0.381 X 0.286	3/8	0.381	0.286	34.0	40.0	BN1720-7.5
ER20	WE1-IKP/ESX20-0.367 X 0.275	1/2	0.367	0.275	34.0	40.0	BN1720-7
ER25	WE2-IKP/ESX25-0.168 X 0.131	#8, 5/32	0.168	0.131	42.0	48.0	BN1725-4
ER25	WE2-IKP/ESX25-0.194 X 0.152	#10, 3/16	0.194	0.152	42.0	48.0	BN1725-4
ER25	WE2-IKP/ESX25-0.220 X 0.165	#12, 7/32	0.220	0.165	42.0	48.0	BN1725-4.5
ER25	WE2-IKP/ESX25-0.255 X 0.191	#14, 1/4	0.255	0.191	42.0	48.0	BN1725-5
ER25	WE2-IKP/ESX25-0.318 X 0.238	5/16	0.318	0.238	42.0	48.0	BN1725-6.5
ER25	WE2-IKP/ESX25-0.323 X 0.242	7/16	0.323	0.242	42.0	48.0	BN1725-6.5
ER25	WE2-IKP/ESX25-0.381 X 0.286	3/8	0.381	0.286	42.0	48.0	BN1725-7.5
ER25	WE2-IKP/ESX25-0.367 X 0.275	1/2	0.367	0.275	42.0	48.0	BN1725-7
ER25	WE2-IKP/ESX25-0.429 X 0.322	9/16	0.429	0.322	42.0	48.0	BN1725-8.5
ER25	WE2-IKP/ESX25-0.437 X 0.328	1/8 NPT	0.437	0.328	42.0	48.0	BN1725-8.5
ER25	WE2-IKP/ESX25-0.480 X 0.360	5/8	0.480	0.360	42.0	48.0	BN1725-9.5
ER25	WE2-IKP/ESX25-0.542 X 0.406	11/16	0.542	0.406	42.0	48.0	BN1725-10.5
ER25	WE2-IKP/ESX25-0.562 X 0.421	1/4 NPT	0.562	0.421	42.0	48.0	BN1725-11
ER25	WE2-IKP/ESX25-0.590 X 0.442	3/4	0.590	0.442	42.0	48.0	BN1725-11.5
ER32	WE2-IKP/ESX32-0.168 X 0.131	#8, 5/32	0.168	0.131	50.0	60.0	BN1732-4
ER32	WE2-IKP/ESX32-0.194 X 0.152	#10, 3/16	0.194	0.152	50.0	60.0	BN1732-4
ER32	WE2-IKP/ESX32-0.220 X 0.165	#12, 7/32	0.220	0.165	50.0	60.0	BN1732-4.5
ER32	WE2-IKP/ESX32-0.255 X 0.191	#14, 1/4	0.255	0.191	50.0	60.0	BN1732-5
ER32	WE2-IKP/ESX32-0.318 X 0.238	5/16	0.318	0.238	50.0	60.0	BN1732-6.5
ER32	WE2-IKP/ESX32-0.323 X 0.242	7/16	0.323	0.242	50.0	60.0	BN1732-6.5
ER32	WE2-IKP/ESX32-0.381 X 0.286	3/8	0.381	0.286	50.0	60.0	BN1732-7.5
ER32	WE2-IKP/ESX32-0.367 X 0.275	1/2	0.367	0.275	50.0	60.0	BN1732-7
ER32	WE2-IKP/ESX32-0.429 X 0.322	9/16	0.429	0.322	50.0	60.0	BN1732-8.5
ER32	WE2-IKP/ESX32-0.437 X 0.328	1/8 NPT	0.437	0.328	50.0	60.0	BN1732-8.5
ER32	WE2-IKP/ESX32-0.480 X 0.360	5/8	0.480	0.360	50.0	60.0	BN1732-9.5
ER32	WE2-IKP/ESX32-0.542 X 0.406	11/16	0.542	0.406	50.0	60.0	BN1732-10.5
ER32	WE2-IKP/ESX32-0.562 X 0.421	1/4 NPT	0.562	0.421	50.0	60.0	BN1732-11
ER32	WE2-IKP/ESX32-0.590 X 0.442	3/4	0.590	0.442	50.0	60.0	BN1732-11.5

*See pages 66–68 for Collets, Nuts and Discs

NOTE: All are designed for thru coolant

ESX (ER Type) DIN Quick Change Tap Collet Adapters


Series	Catalog No.	Tap	MM Size Dia. (d ₁)	Shank Square	d ₂	l (mm)	Driver
ER16	WE1-IKP/ESX16-4.5X3.4	M4	4.5 (0.177)	3.4 (0.134)	28.0	36.5	BN1716-4
ER16	WE1-IKP/ESX16-5.0X4.0		5.0 (0.197)	4.0 (0.158)	28.0	36.5	BN1716-4
ER16	WE1-IKP/ESX16-6.0X4.9	M5, M6, M8	6.0 (0.236)	4.9 (0.193)	28.0	36.5	BN1716-5
ER16	WE1-IKP/ESX16-7.0X5.5	M9, M10	7.0 (0.276)	5.5 (0.217)	28.0	36.5	BN1716-5.6
ER16	WE1-IKP/ESX16-8.0X6.2	M8 X 1.25	8.0 (0.315)	6.2 (0.244)	28.0	36.5	BN1716-6.3
ER16	WE1-IKP/ESX16-8.0X6.3		8.0 (0.315)	6.3 (0.248)	28.0	36.5	BN1716-6.3
ER16	WE1-IKP/ESX16-9.0X7.0	M12	9.0 (0.354)	7.0 (0.276)	28.0	36.5	BN1716-7.1
ER20	WE1-IKP/ESX20-4.5X3.4	M4	4.5 (0.177)	3.4 (0.134)	34.0	40.0	BN1720-4
ER20	WE1-IKP/ESX20-5.0X4.0		5.0 (0.197)	4.0 (0.158)	34.0	40.0	BN1720-4
ER20	WE1-IKP/ESX20-6.0X4.9	M5, M6, M8	6.0 (0.236)	4.9 (0.193)	34.0	40.0	BN1720-5
ER20	WE1-IKP/ESX20-7.0X5.5	M9, M10	7.0 (0.276)	5.5 (0.217)	34.0	40.0	BN1720-5.6
ER20	WE1-IKP/ESX20-8.0X6.2	M8 X 1.25	8.0 (0.315)	6.2 (0.244)	34.0	40.0	BN1720-6.3
ER20	WE1-IKP/ESX20-8.0X6.3		8.0 (0.315)	6.3 (0.248)	34.0	40.0	BN1720-6.3
ER20	WE1-IKP/ESX20-9.0X7.0	M12	9.0 (0.354)	7.0 (0.276)	34.0	40.0	BN1720-7.1
ER20	WE1-IKP/ESX20-10.0X8.0	M10	10.0 (0.394)	8.0 (0.315)	34.0	40.0	BN1720-8
ER25	WE1-IKP/ESX25-4.5X3.4	M4	4.5 (0.177)	3.4 (0.134)	42.0	48.0	BN1725-4
ER25	WE2-IKP/ESX25-5.0X4.0		5.0 (0.197)	4.0 (0.158)	42.0	48.0	BN1725-4
ER25	WE2-IKP/ESX25-6.0X4.9	M5, M6, M8	6.0 (0.236)	4.9 (0.193)	42.0	48.0	BN1725-5
ER25	WE2-IKP/ESX25-7.0X5.5	M9, M10	7.0 (0.276)	5.5 (0.217)	42.0	48.0	BN1725-5.6
ER25	WE2-IKP/ESX25-8.0X6.2	M8 X 1.25	8.0 (0.315)	6.2 (0.244)	42.0	48.0	BN1725-6.3
ER25	WE2-IKP/ESX25-8.0X6.3		8.0 (0.315)	6.3 (0.248)	42.0	48.0	BN1725-6.3
ER25	WE2-IKP/ESX25-9.0X7.0	M12	9.0 (0.354)	7.0 (0.276)	42.0	48.0	BN1725-7.1
ER25	WE2-IKP/ESX25-10.0X8.0	M10	10.0 (0.394)	8.0 (0.315)	42.0	48.0	BN1725-8
ER25	WE2-IKP/ESX25-11.0X9.0	M14	11.0 (0.433)	9.0 (0.354)	42.0	48.0	BN1725-9
ER25	WE2-IKP/ESX25-11.2X9.0		11.2 (0.441)	9.0 (0.354)	42.0	48.0	BN1725-9
ER25	WE2-IKP/ESX25-12.0X9.0	M16	12.0 (0.472)	9.0 (0.354)	42.0	48.0	BN1725-9
ER25	WE2-IKP/ESX25-12.5X10.0		12.5 (0.492)	10.0 (0.394)	42.0	48.0	BN1725-10
ER25	WE2-IKP/ESX25-14.0X11.0	M18	14.0 (0.551)	11.0 (0.433)	42.0	48.0	BN1725-11.2
ER25	WE2-IKP/ESX25-16.0X12.0	M20	16.0 (0.630)	12.0 (0.472)	42.0	48.0	BN1725-12
ER32	WE2-IKP/ESX32-4.5X3.4	M4	4.5 (0.177)	3.4 (0.134)	50.0	60.0	BN1732-4
ER32	WE2-IKP/ESX32-5.0X4.0		5.0 (0.197)	4.0 (0.158)	50.0	60.0	BN1732-4
ER32	WE2-IKP/ESX32-6.0X4.9	M5, M6, M8	6.0 (0.236)	4.9 (0.193)	50.0	60.0	BN1732-5
ER32	WE2-IKP/ESX32-7.0X5.5	M9, M10	7.0 (0.276)	5.5 (0.217)	50.0	60.0	BN1732-5.6
ER32	WE2-IKP/ESX32-8.0X6.2	M8 X 1.25	8.0 (0.315)	6.2 (0.244)	50.0	60.0	BN1732-6.5
ER32	WE2-IKP/ESX32-8.0X6.3		8.0 (0.315)	6.3 (0.248)	50.0	60.0	BN1732-6.5
ER32	WE2-IKP/ESX32-9.0X7.0	M12	9.0 (0.354)	7.0 (0.276)	50.0	60.0	BN1732-7.1
ER32	WE2-IKP/ESX32-10.0X8.0	M10	10.0 (0.394)	8.0 (0.315)	50.0	60.0	BN1732-8
ER32	WE2-IKP/ESX32-11.0X9.0	M14	11.0 (0.433)	9.0 (0.354)	50.0	60.0	BN1732-9
ER32	WE2-IKP/ESX32-11.2X9.0		11.2 (0.441)	9.0 (0.354)	50.0	60.0	BN1732-9
ER32	WE2-IKP/ESX32-12.0X9.0	M16	12.0 (0.472)	9.0 (0.354)	50.0	60.0	BN1732-9
ER32	WE2-IKP/ESX32-12.5X10.0		12.5 (0.492)	10.0 (0.394)	50.0	60.0	BN1732-10
ER32	WE2-IKP/ESX32-14.0X11.0	M18	14.0 (0.551)	11.0 (0.433)	50.0	60.0	BN1732-11.2
ER32	WE2-IKP/ESX32-16.0X12.0	M20	16.0 (0.630)	12.0 (0.472)	50.0	60.0	BN1732-12



BILZ

ER Single Angle Collets



Catalog No.	Description
1111.01000	ER 11 1.0mm
1111.01001	ER 11-UP 1.0mm
1111.01500	ER 11 1.5mm
1111.01501	ER 11-UP 1.5mm
1111.01592	ER 11 1/16"
1111.02000	ER 11 2.0mm
1111.02001	ER 11-UP 2.0mm
1111.02382	ER 11 3/32"
1111.02500	ER 11 2.5mm
1111.02501	ER 11-UP 2.5mm
1111.03000	ER 11 3.0mm
1111.03001	ER 11-UP 3.0mm
1111.03182	ER 11 1/8"
1111.03183	ER 11-UP 1/8"
1111.03500	ER 11 3.5mm
1111.03501	ER 11-UP 3.5mm
1111.03972	ER 11 5/32"
1111.04000	ER 11 4.0mm
1111.04001	ER 11-UP 4.0mm
1111.04500	ER 11 4.5mm
1111.04501	ER 11-UP 4.5mm
1111.04762	ER 11 3/16"
1111.04763	ER 11-UP 3/16"
1111.05000	ER 11 5.0mm
1111.05001	ER 11-UP 5.0mm
1111.05500	ER 11 5.5mm
1111.05501	ER 11-UP 5.5mm
1111.05562	ER 11 7/32"
1111.06000	ER 11 6.0mm
1111.06001	ER 11-UP 6.0mm
1111.06352	ER 11 1/4"
1111.06353	ER 11-UP 1/4"
1111.06500	ER 11 6.5mm
1111.06501	ER 11-UP 6.5mm
1111.07000	ER 11 7.0mm
1111.07001	ER 11-UP 7.0mm
1116.01000	ER 16 1.0mm
1116.01001	ER 16-UP 1.0mm
1116.01500	ER 16 1.5mm
1116.01501	ER 16-UP 1.5mm
1116.01592	ER 16 1/16"
1116.01593	ER 16-UP 1/16"
1116.02000	ER 16 2.0mm
1116.02001	ER 16-UP 2.0mm
1116.02382	ER 16 3/32"
1116.02383	ER 16-UP 3/32"
1116.02500	ER 16 2.5mm
1116.02501	ER 16-UP 2.5mm
1116.03000	ER 16 3.0mm
1116.03001	ER 16-UP 3.0mm
1116.03182	ER 16 1/8"
1116.03183	ER 16-UP 1/8"
1116.03500	ER 16 3.5mm
1116.03501	ER 16-UP 3.5mm
1116.03972	ER 16 5/32"
1116.03973	ER 16-UP 5/32"
1116.04000	ER 16 4.0mm

Catalog No.	Description
1116.04001	ER 16-UP 4.0mm
1116.04500	ER 16 4.5mm
1116.04501	ER 16-UP 4.5mm
1116.04762	ER 16 3/16"
1116.04763	ER 16-UP 3/16"
1116.05000	ER 16 5.0mm
1116.05001	ER 16-UP 5.0mm
1116.05500	ER 16 5.5mm
1116.05501	ER 16-UP 5.5mm
1116.05562	ER 16 7/32"
1116.05563	ER 16-UP 7/32"
1116.06000	ER 16 6.0mm
1116.06001	ER 16-UP 6.0mm
1116.06352	ER 16 1/4"
1116.06353	ER 16-UP 1/4"
1116.06500	ER 16 6.5mm
1116.06501	ER 16-UP 6.5mm
1116.07000	ER 16 7.0mm
1116.07001	ER 16-UP 7.0mm
1116.07142	ER 16 9/32"
1116.07143	ER 16-UP 9/32"
1116.07500	ER 16 7.5mm
1116.07501	ER 16-UP 7.5mm
1116.07942	ER 16 5/16"
1116.07943	ER 16-UP 5/16"
1116.08000	ER 16 8.0mm
1116.08001	ER 16-UP 8.0mm
1116.08500	ER 16 8.5mm
1116.08501	ER 16-UP 8.5mm
1116.08732	ER 16 11/32"
1116.08733	ER 16-UP 11/32"
1116.09000	ER 16 9.0mm
1116.09001	ER 16-UP 9.0mm
1116.09500	ER 16 9.5mm
1116.09501	ER 16-UP 9.5mm
1116.09532	ER 16 3/8"
1116.09533	ER 16-UP 3/8"
1116.10000	ER 16 10.0mm
1116.10001	ER 16-UP 10.0mm
1116.10322	ER 16 13/32"
1116.10323	ER 16-UP 13/32"
1120.01000	ER 20 1.0mm
1120.01001	ER 20-UP 1.0mm
1120.01500	ER 20 1.5mm
1120.01501	ER 20-UP 1.5mm
1120.02000	ER 20 2.0mm
1120.02001	ER 20-UP 2.0mm
1120.02500	ER 20 2.5mm
1120.02501	ER 20-UP 2.5mm
1120.03000	ER 20 3.0mm
1120.03001	ER 20-UP 3.0mm
1120.03182	ER 20 1/8"
1120.03183	ER 20-UP 1/8"
1120.03500	ER 20 3.5mm
1120.03501	ER 20-UP 3.5mm
1120.04000	ER 20 4.0mm
1120.04001	ER 20-UP 4.0mm

Catalog No.	Description
1120.04500	ER 20 4.5mm
1120.04501	ER 20-UP 4.5mm
1120.04762	ER 20 3/16"
1120.04763	ER 20-UP 3/16"
1120.05000	ER 20 5.0mm
1120.05001	ER 20-UP 5.0mm
1120.05500	ER 20 5.5mm
1120.05501	ER 20-UP 5.5mm
1120.06000	ER 20 6.0mm
1120.06001	ER 20-UP 6.0mm
1120.06352	ER 20 1/4"
1120.06353	ER 20-UP 1/4"
1120.06500	ER 20 6.5mm
1120.06501	ER 20-UP 6.5mm
1120.07000	ER 20 7.0mm
1120.07001	ER 20-UP 7.0mm
1120.07500	ER 20 7.5mm
1120.07501	ER 20-UP 7.5mm
1120.07942	ER 20 5/16"
1120.07943	ER 20-UP 5/16"
1120.08000	ER 20 8.0mm
1120.08001	ER 20-UP 8.0mm
1120.08500	ER 20 8.5mm
1120.08501	ER 20-UP 8.5mm
1120.09000	ER 20 9.0mm
1120.09001	ER 20-UP 9.0mm
1120.09500	ER 20 9.5mm
1120.09501	ER 20-UP 9.5mm
1120.09532	ER 20 3/8"
1120.09533	ER 20-UP 3/8"
1120.10000	ER 20 10.0mm
1120.10001	ER 20-UP 10.0mm
1120.10500	ER 20 10.5mm
1120.10501	ER 20-UP 10.5mm
1120.11000	ER 20 11.0mm
1120.11001	ER 20-UP 11.0mm
1120.11112	ER 20 7/16"
1120.11113	ER 20-UP 7/16"
1120.11500	ER 20 11.5mm
1120.11501	ER 20-UP 11.5mm
1120.12000	ER 20 12.0mm
1120.12001	ER 20-UP 12.0mm
1120.12500	ER 20 12.5mm
1120.12501	ER 20-UP 12.5mm
1120.12702	ER 20 1/2"
1120.12703	ER 20-UP 1/2"
1120.13000	ER 20 13.0mm
1120.13001	ER 20-UP 13.0mm
1125.01000	ER 25 1.0mm
1125.01001	ER 25-UP 1.0mm
1125.01500	ER 25 1.5mm
1125.01501	ER 25-UP 1.5mm
1125.02000	ER 25 2.0mm
1125.02001	ER 25-UP 2.0mm
1125.02500	ER 25 2.5mm
1125.02501	ER 25-UP 2.5mm
1125.03000	ER 25 3.0mm

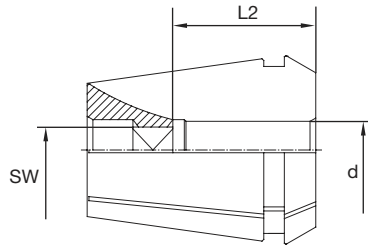
ER COLLETS

**BILZ****ER Single Angle Collets**

Catalog No.	Description
1125.03001	ER 25-UP 3.0mm
1125.03182	ER 25 1/8"
1125.03183	ER 25-UP 1/8"
1125.03500	ER 25 3.5mm
1125.03501	ER 25-UP 3.5mm
1125.04000	ER 25 4.0mm
1125.04001	ER 25-UP 4.0mm
1125.04500	ER 25 4.5mm
1125.04501	ER 25-UP 4.5mm
1125.04762	ER 25 3/16"
1125.04763	ER 25-UP 3/16"
1125.05000	ER 25 5.0mm
1125.05001	ER 25-UP 5.0mm
1125.05500	ER 25 5.5mm
1125.05501	ER 25-UP 5.5mm
1125.06000	ER 25 6.0mm
1125.06001	ER 25-UP 6mm
1125.06352	ER 25 1/4"
1125.06353	ER 25-UP 1/4"
1125.06500	ER 25 6.5mm
1125.06501	ER 25-UP 6.5mm
1125.07000	ER 25 7.0mm
1125.07001	ER 25-UP 7.0mm
1125.07500	ER 25 7.5mm
1125.07501	ER 25-UP 7.5mm
1125.07942	ER 25 5/16"
1125.07943	ER 25-UP 5/16"
1125.08000	ER 25 8.0mm
1125.08001	ER 25-UP 8mm
1125.08500	ER 25 8.5mm
1125.08501	ER 25-UP 8.5mm
1125.09000	ER 25 9.0mm
1125.09001	ER 25-UP 9mm
1125.09500	ER 25 9.5mm
1125.09501	ER 25-UP 9.5mm
1125.09532	ER 25 3/8"
1125.09533	ER 25-UP 3/8"
1125.10000	ER 25 10.0mm
1125.10001	ER 25-UP 10.0mm
1125.10500	ER 25 10.5mm
1125.10501	ER 25-UP 10.5mm
1125.11000	ER 25 11.0mm
1125.11001	ER 25-UP 11.0mm
1125.11112	ER 25 7/16"
1125.11113	ER 25-UP 7/16"
1125.11500	ER 25 11.5mm
1125.11501	ER 25-UP 11.5mm
1125.12000	ER 25 12.0mm
1125.12001	ER 25-UP 12.0mm
1125.12500	ER 25 12.5mm
1125.12501	ER 25-UP 12.5mm
1125.12702	ER 25 1/2"
1125.12703	ER 25-UP 1/2"
1125.13000	ER 25 13.0mm
1125.13001	ER 25-UP 13.0mm
1125.13500	ER 25 13.5mm

Catalog No.	Description
1125.13501	ER 25-UP 13.5mm
1125.14000	ER 25 14.0mm
1125.14001	ER 25-UP 14.0mm
1125.14292	ER 25 9/16"
1125.14293	ER 25-UP 9/16"
1125.14500	ER 25 14.5mm
1125.14501	ER 25-UP 14.5mm
1125.15000	ER 25 15.0mm
1125.15001	ER 25-UP 15.0mm
1125.15500	ER 25 15.5mm
1125.15501	ER 25-UP 15.5mm
1125.15882	ER 25 5/8"
1125.15883	ER 25-UP 5/8"
1125.16000	ER 25 16.0mm
1125.16001	ER 25-UP 16.0mm
1132.02000	ER 32 2.0mm
1132.02001	ER 32-UP 2.0mm
1132.02500	ER 32 2.5mm
1132.02501	ER 32-UP 2.5mm
1132.03000	ER 32 3.0mm
1132.03001	ER 32-UP 3.0mm
1132.03182	ER 32 1/8"
1132.03183	ER 32-UP 1/8"
1132.03500	ER 32 3.5mm
1132.03501	ER 32-UP 3.5mm
1132.04000	ER 32 4.0mm
1132.04001	ER 32-UP 4.0mm
1132.04500	ER 32 4.5mm
1132.04501	ER 32-UP 4.5mm
1132.04762	ER 32 3/16"
1132.04763	ER 32-UP 3/16"
1132.05000	ER 32 5.0mm
1132.05001	ER 32-UP 5.0mm
1132.05500	ER 32 5.5mm
1132.05501	ER 32-UP 5.5mm
1132.06000	ER 32 6.0mm
1132.06001	ER 32-UP 6.0mm
1132.06352	ER 32 1/4"
1132.06353	ER 32-UP 1/4"
1132.06500	ER 32 6.5mm
1132.06501	ER 32-UP 6.5mm
1132.07000	ER 32 7.0mm
1132.07001	ER 32-UP 7.0mm
1132.07500	ER 32 7.5mm
1132.07501	ER 32-UP 7.5mm
1132.07942	ER 32 5/16"
1132.07943	ER 32-UP 5/16"
1132.08000	ER 32 8.0mm
1132.08001	ER 32-UP 8.0mm
1132.08500	ER 32 8.5mm
1132.08501	ER 32-UP 8.5mm
1132.09000	ER 32 9.0mm
1132.09001	ER 32-UP 9.0mm
1132.09500	ER 32 9.5mm
1132.09501	ER 32-UP 9.5mm
1132.09532	ER 32 3/8"
1132.09533	ER 32-UP 3/8"

Catalog No.	Description
1132.10000	ER 32 10.0mm
1132.10001	ER 32-UP 10.0mm
1132.10500	ER 32 10.5mm
1132.10501	ER 32-UP 10.5mm
1132.11000	ER 32 11.0mm
1132.11001	ER 32-UP 11.0mm
1132.11112	ER 32 7/16"
1132.11113	ER 32-UP 7/16"
1132.11500	ER 32 11.5mm
1132.11501	ER 32-UP 11.5mm
1132.12000	ER 32 12.0mm
1132.12001	ER 32-UP 12.0mm
1132.12500	ER 32 12.5mm
1132.12501	ER 32-UP 12.5mm
1132.12702	ER 32 1/2"
1132.12703	ER 32-UP 1/2"
1132.13000	ER 32 13.0mm
1132.13001	ER 32-UP 13.0mm
1132.13500	ER 32 13.5mm
1132.13501	ER 32-UP 13.5mm
1132.14000	ER 32 14.0mm
1132.14001	ER 32-UP 14.0mm
1132.14292	ER 32 9/16"
1132.14293	ER 32-UP 9/16"
1132.14500	ER 32 14.5mm
1132.14501	ER 32-UP 14.5mm
1132.15000	ER 32 15.0mm
1132.15001	ER 32-UP 15.0mm
1132.15500	ER 32 15.5mm
1132.15501	ER 32-UP 15.5mm
1132.15882	ER 32 5/8"
1132.15883	ER 32-UP 5/8"
1132.16000	ER 32 16.0mm
1132.16001	ER 32-UP 16.0mm
1132.16500	ER 32 16.5mm
1132.16501	ER 32-UP 16.5mm
1132.17000	ER 32 17.0mm
1132.17001	ER 32-UP 17.0mm
1132.17462	ER 32 11/16"
1132.17463	ER 32-UP 11/16"
1132.17500	ER 32 17.5mm
1132.17501	ER 32-UP 17.5mm
1132.18000	ER 32 18.0mm
1132.18001	ER 32-UP 18.0mm
1132.18500	ER 32 18.5mm
1132.18501	ER 32-UP 18.5mm
1132.19000	ER 32 19.0mm
1132.19001	ER 32-UP 19.0mm
1132.19052	ER 32 3/4"
1132.19053	ER 32-UP 3/4"
1132.19500	ER 32 19.5mm
1132.19501	ER 32-UP 19.5mm
1132.20000	ER 32 20.0mm
1132.20001	ER 32-UP 20.0mm
1132.20642	ER 32 13/16"
1132.20643	ER 32-UP 13/16"

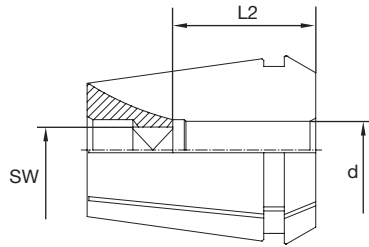
ER-GB - Inch


Shank d (inch)	Square SW (inch)	L2 (mm)	Pipe Tap	ER 11-GB Part No.	ER 16-GB Part No.	ER 20-GB Part No.	ER 25-GB Part No.	ER 32-GB Part No.	ER 40-GB Part No.
0.141	0.110	18	—	1411.03585	1416.03585	—	—	—	—
0.168	0.131	18	—	—	1416.04275	1420.04275	1425.04275	1432.04275	—
0.194	0.152	18	—	—	1416.04935	1420.04935	1425.04935	1432.04935	—
0.220	0.165	18	—	—	1416.05595	1420.05595	1425.05595	1432.05595	—
0.255	0.191	18	—	—	1416.06485	1420.06485	1425.06485	1432.06485	1440.06485
0.318	0.238	22	—	—	1416.08085	1420.08085	1425.08085	1432.08085	1440.08085
0.323	0.242	22	—	—	—	1420.08215	1425.08215	1432.08215	1440.08215
0.367	0.275	22	—	—	—	1420.09325	1425.09325	1432.09325	1440.09325
0.381	0.286	22	—	—	—	1420.09685	1425.09685	1432.09685	1440.09685
0.429	0.322	25	—	—	—	—	1425.10905	1432.10905	1440.10905
0.437	0.328	25	✓	—	—	—	1425.11104	1432.11104	1440.11104
0.480	0.360	25	—	—	—	—	1425.12195	1432.12195	1440.12195
0.542	0.406	25	—	—	—	—	—	1432.13775	1440.13775
0.562	0.421	25	✓	—	—	—	—	1432.14274	1440.14274
0.590	0.442	25	—	—	—	—	—	1432.14995	1440.14995
0.652	0.489	25	—	—	—	—	—	1432.16565	1440.16565
0.687	0.515	25	✓	—	—	—	—	—	1440.17454
0.697	0.523	25	—	—	—	—	—	—	1440.17705
0.700	0.531	25	✓	—	—	—	—	—	1440.17784
0.760	0.570	25	—	—	—	—	—	—	1440.19305
0.800	0.600	28	—	—	—	—	—	—	1440.20325

Shank Dia.	Square Drive	Tap Size
0.141	0.110	#0-6
0.168	0.131	#8
0.194	0.152	#10
0.220	0.165	#12
0.255	0.191	1/4
0.318	0.238	5/16
0.381	0.286	3/8
0.323	0.242	7/16
0.367	0.275	1/2
0.429	0.322	9/16

Shank Dia.	Square Drive	Tap Size
—	—	—
0.437	0.328	1/8 NPT
0.480	0.360	5/8
0.562	0.421	1/4 NPT
0.590	0.442	3/4
0.687	0.515	1/2 NPT
0.697	0.523	7/8
0.700	0.531	3/8 NPT
0.800	0.600	1
—	—	—

NOTE: For ER (ESX) Type Tapping Collets see pages 62 and 63. For Synchro Chucks see pages 51 and 52.

ER-GB - Metric


Shank d (inch)	Square SW (inch)	L2 (mm)	STD	ER 11-GB Part No.	ER 16-GB Part No.	ER 20-GB Part No.	ER 25-GB Part No.	ER 32-GB Part No.	ER 40-GB Part No.
2.8	2.1	12	DIN	1411.02800	—	—	—	—	—
3.5	2.7	14	DIN	1411.03500	—	—	—	—	—
4.0	3.0	14	DIN	1411.04000	—	—	—	—	—
4.0	3.15/3.2	18	ISO, JIS	—	1416.04002	1420.04002	1425.04002	1432.04002	—
4.5	3.4	18	DIN	1411.04500	1416.04500	1420.04500	1425.04500	1432.04500	—
5.0	4.0	18	ISO, JIS	—	1416.05002	1420.05002	1425.05002	1432.05002	—
5.5	4.3	18	DIN	—	1416.05500	1420.05500	1425.05500	1432.05500	—
5.5	4.5	18	JIS	—	1416.05501	1420.05501	1425.05501	1432.05501	—
6.0	4.5	18	JIS	—	1416.06001	1420.06001	1425.06001	1432.06001	1440.06001
6.0	4.9	18	DIN	1411.06000	1416.06000	1420.06000	1425.06000	1432.06000	1440.06000
6.2	5.0	18	JIS	—	1416.06201	1420.06201	1425.06201	1432.06201	1440.06201
6.3	5.0	18	ISO	—	1416.06302	1420.06302	1425.06302	1432.06302	1440.06302
7.0	5.5	18	DIN, JIS	—	1416.07000	1420.07000	1425.07000	1432.07000	1440.07000
7.1	5.6	18	ISO	—	1416.07102	1420.07102	1425.07102	1432.07102	1440.07102
8.0	6.2/6.3	22	DIN, ISO	—	1416.08000	1420.08000	1425.08000	1432.08000	1440.08000
8.5	6.5	22	JIS	—	1416.08501	1420.08501	1425.08501	1432.08501	1440.08501
9.0	7.0/7.1	22	DIN, ISO	—	1416.09000	1420.09000	1425.09000	1432.09000	1440.09000
10.0	8.0	25	DIN, ISO	—	—	1420.10000	1425.10000	1432.10000	1440.10000
10.5	8.0	25	JIS	—	—	1420.10501	1425.10501	1432.10501	1440.10501
11.0	9.0	25	DIN	—	—	1420.11000	1425.11000	1432.11000	1440.11000
11.2	9.0	25	ISO	—	—	1420.11202	1425.11202	1432.11202	1440.11202
12.0	9.0	25	DIN	—	—	—	1425.12000	1432.12000	1440.12000
12.5	10.0	25	ISO, JIS	—	—	—	1425.12502	1432.12502	1440.12502
14.0	11.0/11.2	25	DIN, ISO, JIS	—	—	—	1425.14000	1432.14000	1440.14000
15.0	12.0	25	JIS	—	—	—	1425.15001	1432.15001	1440.15001
16.0	12.0	25	DIN	—	—	—	1425.16000	1432.16000	1440.16000
17.0	13.0	25	JIS	—	—	—	—	1432.17001	1440.17001
18.0	14.0/14.5	25	DIN, ISO	—	—	—	—	1432.18000	1440.18000
20.0	16.0	28	DIN, ISO	—	—	—	—	1432.20000	1440.20000
22.0	18.0	28	DIN	—	—	—	—	—	1440.22000



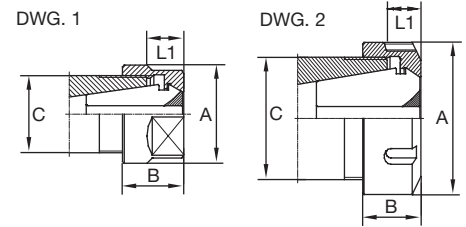
Sealing Capacity		ø (inch)	DS/ER 16 Part No.	DS/ER 20 Part No.
(mm)	(inch)			
3.00...2.50	0.1181...0.0984	—	3916.00300	3920.00300
3.50...3.00	0.1378...0.1181	1/8"	3916.00350	3920.00350
4.00...3.50	0.1575...0.1378	5/32"	3916.00400	3920.00400
4.50...4.00	0.1772...0.1575	—	3916.00450	3920.00450
5.00...4.50	0.1969...0.1772	3/16"	3916.00500	3920.00500
5.50...5.00	0.2165...0.1969	—	3916.00550	3920.00550
6.00...5.50	0.2362...0.216	57/32"	3916.00600	3920.00600
6.50...6.00	0.2559...0.2362	1/4"	3916.00650	3920.00650
7.00...6.50	0.2756...0.2559	—	3916.00700	3920.00700
7.50...7.00	0.2953...0.2756	9/32"	3916.00750	3920.00750
8.00...7.50	0.3150...0.2953	5/16"	3916.00800	3920.00800
8.50...8.00	0.3347...0.3150	—	3916.00850	3920.00850
9.00...8.50	0.3543...0.3347	11/32"	3916.00900	3920.00900
9.50...9.00	0.3740...0.3543	3/8"	3916.00950	3920.00950
10.00...9.50	0.3937...0.3740	—	3916.01000	3920.01000
10.50...10.00	0.4134...0.3937	13/32"	—	3920.01050
11.00...10.50	0.4330...0.4134	—	—	3920.01100
11.50...11.00	0.4528...0.4330	7/16"	—	3920.01150
12.00...11.50	0.4724...0.4528	15/32"	—	3920.01200
12.50...12.00	0.4921...0.4724	—	—	3920.01250
13.00...12.50	0.5118...0.4921	1/2"	—	3920.01300
Wooden Tray DSR (disks not included)			7122.16000	7122.20000

Sealing Capacity		ø (inch)	DS/ER 25 Part No.	DS/ER 32 Part No.
(mm)	(inch)			
3.00...2.50	0.1181...0.0984	—	3925.00300	3932.00300
3.50...3.00	0.1378...0.1181	1/8"	3925.00350	3932.00350
4.00...3.50	0.1575...0.1378	5/32"	3925.00400	3932.00400
4.50...4.00	0.1772...0.1575	—	3925.00450	3932.00450
5.00...4.50	0.1969...0.1772	3/16"	3925.00500	3932.00500
5.50...5.00	0.2165...0.1969	—	3925.00550	3932.00550
6.00...5.50	0.2362...0.216	57/32"	3925.00600	3932.00600
6.50...6.00	0.2559...0.236	21/4"	3925.00650	3932.00650
7.00...6.50	0.2756...0.2559	—	3925.00700	3932.00700
7.50...7.00	0.2953...0.2756	9/32"	3925.00750	3932.00750
8.00...7.50	0.3150...0.2953	5/16"	3925.00800	3932.00800
8.50...8.00	0.3347...0.3150	—	3925.00850	3932.00850
9.00...8.50	0.3543...0.3347	11/32"	3925.00900	3932.00900
9.50...9.00	0.3740...0.3543	3/8"	3925.00950	3932.00950
10.00...9.50	0.3937...0.3740	—	3925.01000	3932.01000
10.50...10.00	0.4134...0.3937	3/32"	3925.01050	3932.01050
11.00...10.50	0.4330...0.4134	—	3925.01100	3932.01100
11.50...11.00	0.4528...0.4330	7/16"	3925.01150	3932.01150
12.00...11.50	0.4724...0.4528	15/32"	3925.01200	3932.01200
12.50...12.00	0.4921...0.4724	—	3925.01250	3932.01250
13.00...12.50	0.5118...0.4921	1/2"	3925.01300	3932.01300
13.50...13.00	0.5315...0.5118	17/32"	3925.01350	3932.01350
14.00...13.50	0.5512...0.5315	—	3925.01400	3932.01400
14.50...14.00	0.5709...0.5512	9/16"	3925.01450	3932.01450
15.00...14.50	0.5905...0.5709	—	3925.01500	3932.01500
15.50...15.00	0.6102...0.5905	19/32"	3925.01550	3932.01550
16.00...15.50	0.6300...0.6102	5/8"	3925.01600	3932.01600
16.50...16.00	0.6496...0.6300	—	—	3932.01650
17.00...16.50	0.6693...0.6496	21/32"	—	3932.01700
17.50...17.00	0.6890...0.6693	11/16"	—	3932.01750
18.00...17.50	0.7087...0.6890	—	—	3932.01800
18.50...18.00	0.7284...0.7087	23/32"	—	3932.01850
19.00...18.50	0.7480...0.7284	—	—	3932.01900
19.50...19.00	0.7677...0.7480	3/4"	—	3932.01950
20.00...19.50	0.7874...0.7677	25/32"	—	3932.02000
Wooden Tray DSR (disks not included)			7122.25000	7122.32000



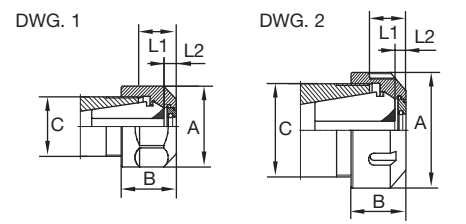
Collet Nuts - Non-Coolant Style

Type	Part No.	A (mm)	B (mm)	C	L1 (mm)	Max Torque (page)	Dwg.
Hi-Q/ER 11	3411.00000	19	11.3	M 14 x .75	4.9 ... 6.6	13-10	1
Hi-Q/ER 16	3416.00000	28	17.5	M 22 x 1.5	7.0 ... 10.5	13-10	1
Hi-Q/ER 20	3420.00000	34	19.0	M25 x 1.5	8.0 ... 11.5	13-10	1
Hi-Q/ER 25	3425.00000	42	20.0	M 32 x 1.5	8.5 ... 12.0	13-10	2
Hi-Q/ER 32	3432.00000	50	22.5	M 40 x 1.5	9.5 ... 13.0	13-10	2



Collet Nuts - Coolant Style

Type	Part No.	A (mm)	B (mm)	C	L1 (mm)	L2 (mm)	Max Torque (page)	Dwg.
Hi-Q/ERC 16	3416.20000	28	22.5	M 22 x 1.5	12.0 ... 15.5	5.0	13-10	1
Hi-Q/ERC 20	3420.20000	34	24.0	M 25 x 1.5	13.0 ... 16.5	5.0	13-10	1
Hi-Q/ERC 25	3425.20000	42	25.0	M 32 x 1.5	13.5 ... 17.0	5.0	13-10	2
Hi-Q/ERC 32	3432.20000	50	27.5	M 40 x 1.5	14.5 ... 18.0	5.0	13-10	2



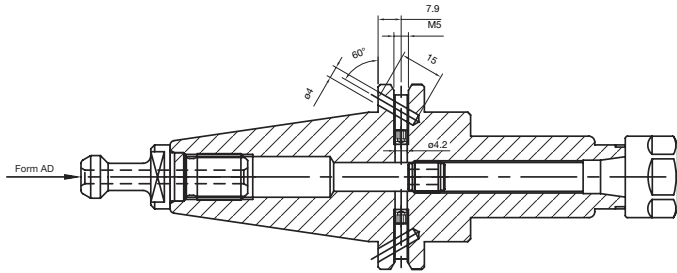
ER COLLETS

Spanners		Spanners	Part No.	Size	A (mm)	B (mm)	Hi-Q/ER	Hi-Q/ERC	Hi-Q/ERB	Hi-Q/ERBC	CM/ER	
		TYPE E										
		E 16	7111.16000	ER 16	50.0	160						✓
		E 20	7111.20000	ER 20	55.0	180						✓
		E 25	7111.25000	ER 25	65.0	210	✓	✓	✓	✓		
		E 32	7111.32000	ER 32	75.0	250	✓	✓	✓	✓		
		E 40	7111.40000	ER 40	90.0	290	✓	✓	✓	✓		
E 50	7111.50000	ER 50	110.0	350	✓			✓				
		TYPE GS										
		GS 17	7112.11000	ER 11	17.0	95	✓	✓				
		GS 25	7112.16000	ER 16	25.0	144	✓	✓	✓	✓		
		GS 30	7112.20000	ER 20	30.0	172	✓	✓	✓	✓		

Torque Wrenches		Range		L1 (mm)	L1 (inch)
Type	Part No.	(Nm)	(ft-lbs)		
Micro	7150.05050	5...50	3.7...37	335	13.2
Small	8020.08060	8...60	5.9...44	300	11.8
Medium	8020.20100	20...100	14.8...73.8	340	13.4
Large	8020.60300	60...300	44.3...221	545	21.5

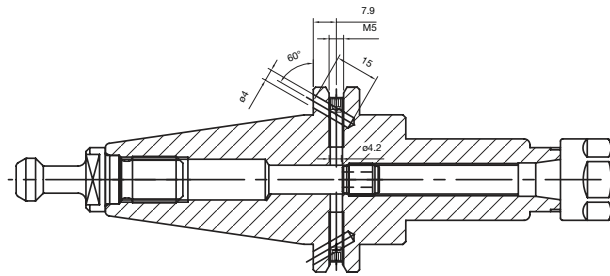
Matching Wrench Heads		Wrench Heads	Part No.	Size	A (mm)	B (mm)	Hi-Q/ER	Hi-Q/ERC	CM/ER	
		TYPE A-E								
		A-E 16	7151.16000	ER 16	50.0	62.0				✓
		A-E 20	7151-20000	ER 20	55.0	62.0				✓
		A-E 25	7151.25000	ER 25	65.0	72.0	✓	✓		
		A-E 32	7151.32000	ER 32	75.0	72.0	✓	✓		
		A-E 40	7151-40000	ER 40	90.0	82.0	✓	✓		
A-E 50	7151-50000	ER 50	110.0	93.0	✓					
		TYPE A-GS								
		A-GS 17	7151.11000	ER 11	17.0	60.0	✓	✓		
		A-GS 25	7152.16250	ER 16	25.0	63.5	✓	✓		
		A-GS 30	7152.20000	ER 20	30.0	65.5	✓	✓		

AD Axial Coolant & DIN Form B Flange Coolant Delivery Set Up



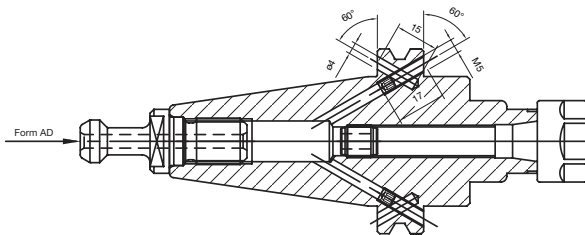
Drawing shows the Screw position when the Form AD type coolant is in use.

Figure 1 Set Screws in AD Axial Coolant Position



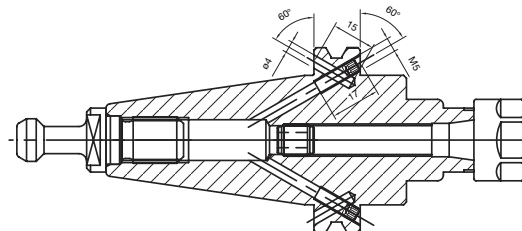
Drawing shows the Screw position when the Form B type coolant is in use.

Figure 2 Set Screws in DIN B Flange Coolant Position



Drawing shows the Screw position when the Form AD type coolant is in use.

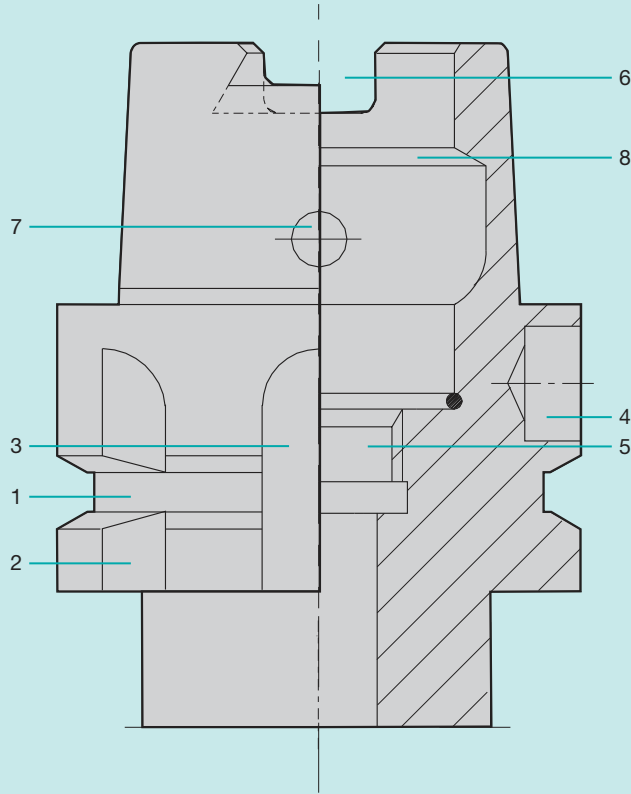
Figure 3 Set Screws in AD Axial Coolant Position



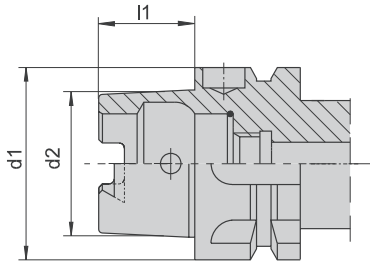
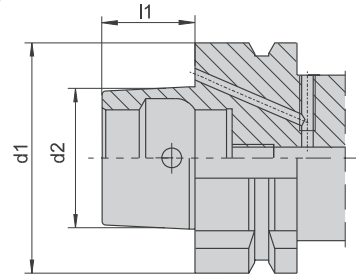
Drawing shows the Screw position when the Form B type coolant is in use.

Figure 4 Set Screws in DIN B Flange Coolant Position

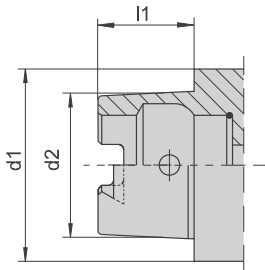
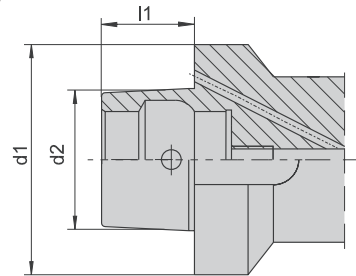
NOTE: Set Screws are M5 x 5 DIN 913, Figure 3 & 4 is designed for 3.00" and 4.00" Projection ER Collet Chucks



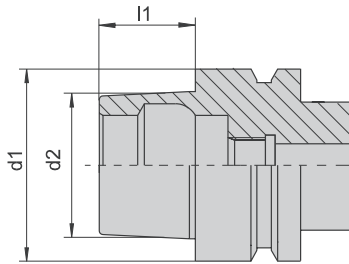
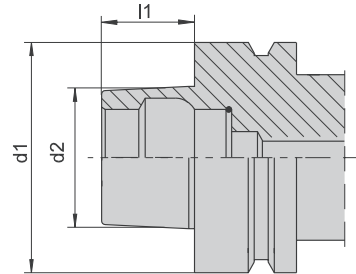
- 1 Gripper groove – circular groove
- 2 Index notch – sickle-shaped notch across gripper groove
- 3 Keyway on collar – index notch e.g. for tool magazines. Form closed torque transmission to spindle for HSK-B/D
- 4 Coding/identification – hole in collar for attachment of identification system (code chip)
- 5 Thread for coolant tube – for attachment of coolant tube
- 6 Keyway on taper shank – form closed torque transmission to spindle
- 7 Radial bore in taper shank – necessary for manual clamping systems
- 8 Clamping shoulder – circular chamfer for clamping

Shape A

Shape B


Hollow-shank taper for automatic tool changing with gripping and locating groove. Manual operation is possible through the access hole in the taper. Torque is transmitted both positively and non-positively.

Shape C

Shape D


Hollow-shank taper for manual tool changing. Operation is possible through the access hole in the taper. Torque is transmitted both positively and non-positively.

Shape E

Shape F


Hollow-shank taper for automatic tool changing (manual operation through access hole in taper not possible). Torque is transmitted both positively and non-positively.

HSK Shape A, C, E			HSK Shape B, D, F		
Nominal size d_1 mm	Taper-Ø d_2	Shank length l_1	Nominal size d_1 mm	Taper-Ø d_2	Shank length l_1
25	19	13	-	-	-
32	24	16	-	-	-
40	30	20	40	24	16
50	38	25	50	30	20
63	48	32	63	38	25
80	60	40	80	48	32
100	75	50	100	60	40

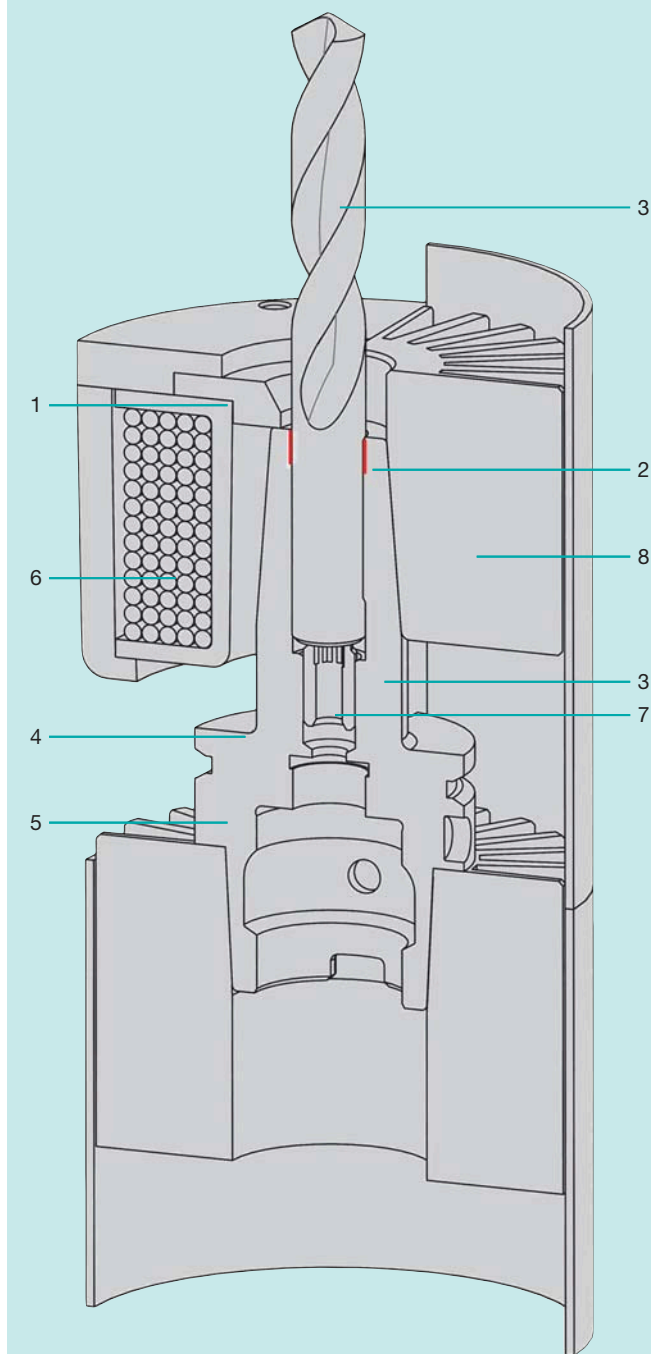


Tool changing in seconds through inductive heating
Long tool life through carefully chosen procedures and materials
Highest clamping force
Easy and secure handling
Clamping of high speed and solid carbide tools
Operator independent safe function
Clamping chucks with high flexural strength
Extensive programme of units and accessories
Concentricity < 0.003 mm
Group of strong partners

ThermoGrip® Clamping Chucks – The Advantages

- Optimum taper angle of the chuck nose for contacting cooling systems
- Excellent ratio of flexural strength to dimension
- Cylindrical counterbore to enable the insertion of the tool in cold condition
- Manufactured out of high alloy hot working steel for highest temperature stability and tool life
- Almost unlimited tool life through special heat treatment with ensuing freezing process
- Manufactured in air conditioned areas under the highest quality standards for best tolerances and a guaranteed concentricity < 0.003 mm
- Less vibrations due to “Balanced by Design” and fine balancing
- Suitable for highest speeds

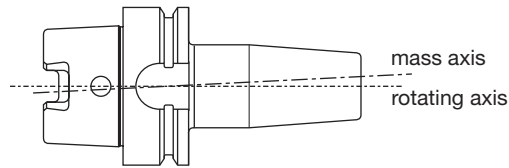
ThermoGrip® – the key to your success!



- 1 The patented ferrite plate system avoids the heating-up of the tool. This makes it possible to clamp solid carbide tools from \varnothing 3–50 mm as well as high speed tools easily
- 2 Easy insertion of tools by means of the patented counterbore
- 3 Concentricity of the clamping chucks $< 3 \mu\text{m}$
- 4 All clamping chucks are balanced
- 5 High tool life and stability of the clamping chuck due to the use of a special hot work steel
- 6 Transferring the energy locally protects the tool and the clamping chuck and reduces the cooling time
- 7 Tool presetting by measuring adaptor
- 8 Short cooling time for tool and clamping chuck with cooling adaptors or direct watercoolant. High working safety by shielding of the heated clamping chucks

What is unbalance?

Unbalance is the condition of a rotating part where the mass axis is not equal to the rotating axis.



rotating axis \neq mass axis : this automatically creates a centrifugal force.

- What causes unbalance:**
- center misalignment (production tolerances)
 - design (e.g. driving grooves)
 - fitting tolerances (e.g. collets, nuts)
 - additional components (e.g. cutting tools)

This always results in vibrations which are caused by the centrifugal force. To calculate the centrifugal force, the rpms must be exponentiated. The centrifugal force is multiplied proportionally to the increasing rpm.

- The consequences of the vibrations caused by the centrifugal force are:**
- inferior surface quality
 - unreliable tolerances
 - damage to spindle bearings
 - reduced tool life
 - increased noise
 - reduced cutting speed

$$F = \frac{\text{mass of unbalance} \times \text{radius} (2 \times \pi \times \text{rpm})^2}{60^2}$$

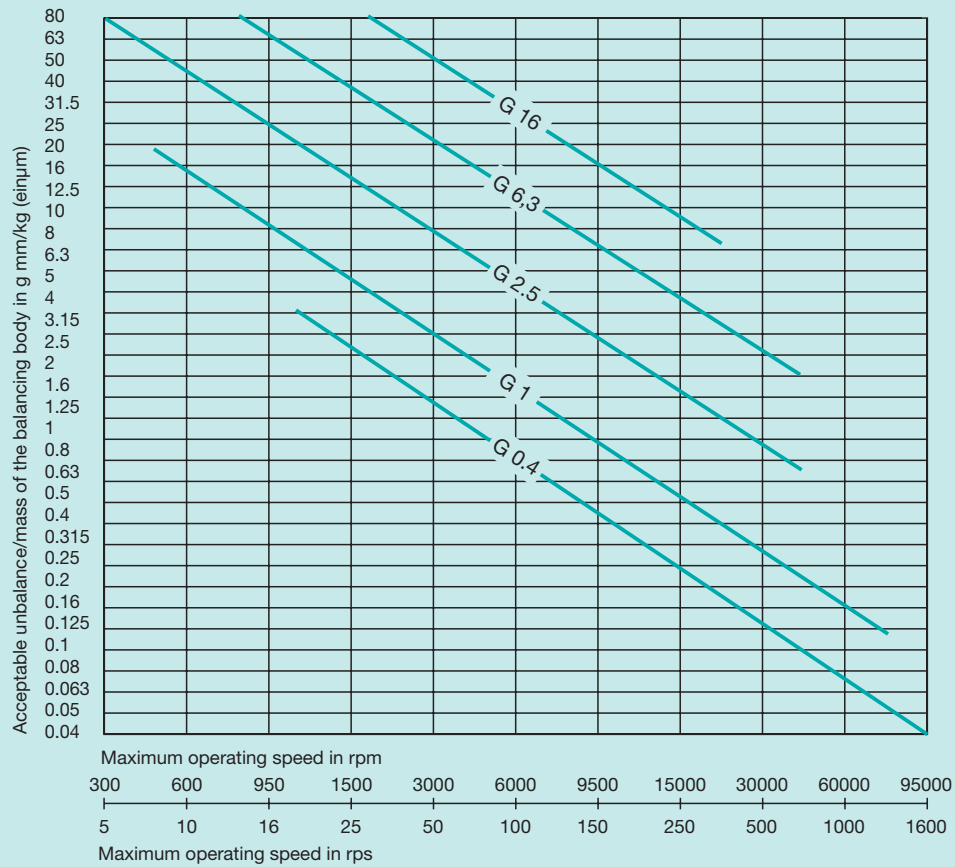
What are the dimensions of unbalance?

For example, for a tool adapter with a weight of 1kg and a diameter of 50mm with 1g unbalance on the outside diameter there is a calculated difference between the axis of 0.025mm. (Difference between mass and rotating axis.) This corresponds to an unbalance of 1000 g x 0.025 mm = 25 gmm.

Types of unbalance

- static unbalance (parallel difference between mass and rotating axis)
- moment unbalance (misalignment of axis at an angle, axis crossing in the middle)
- dynamic unbalance (combination of static and moment unbalance)

When measuring during rotation, static unbalance and moment unbalance are measured together. This means a dynamic balance is only possible when measuring during rotation.



- U_{acc} = acceptable rest unbalance of the rotor in g mm
- G = balance quality (former: Q)
- M = mass of the rotor in kg (~2.2lbs/kg)
- n = operating speed in 1/min (rpm)
- 9549 = constant value, a result from the conversion of units
- e_{acc} = acceptable measure of eccentricity in μm
- r = compensation radius in mm (the compensation is the radius of drilling when balancing).
- m_r = rest mass in g

Example of calculation:

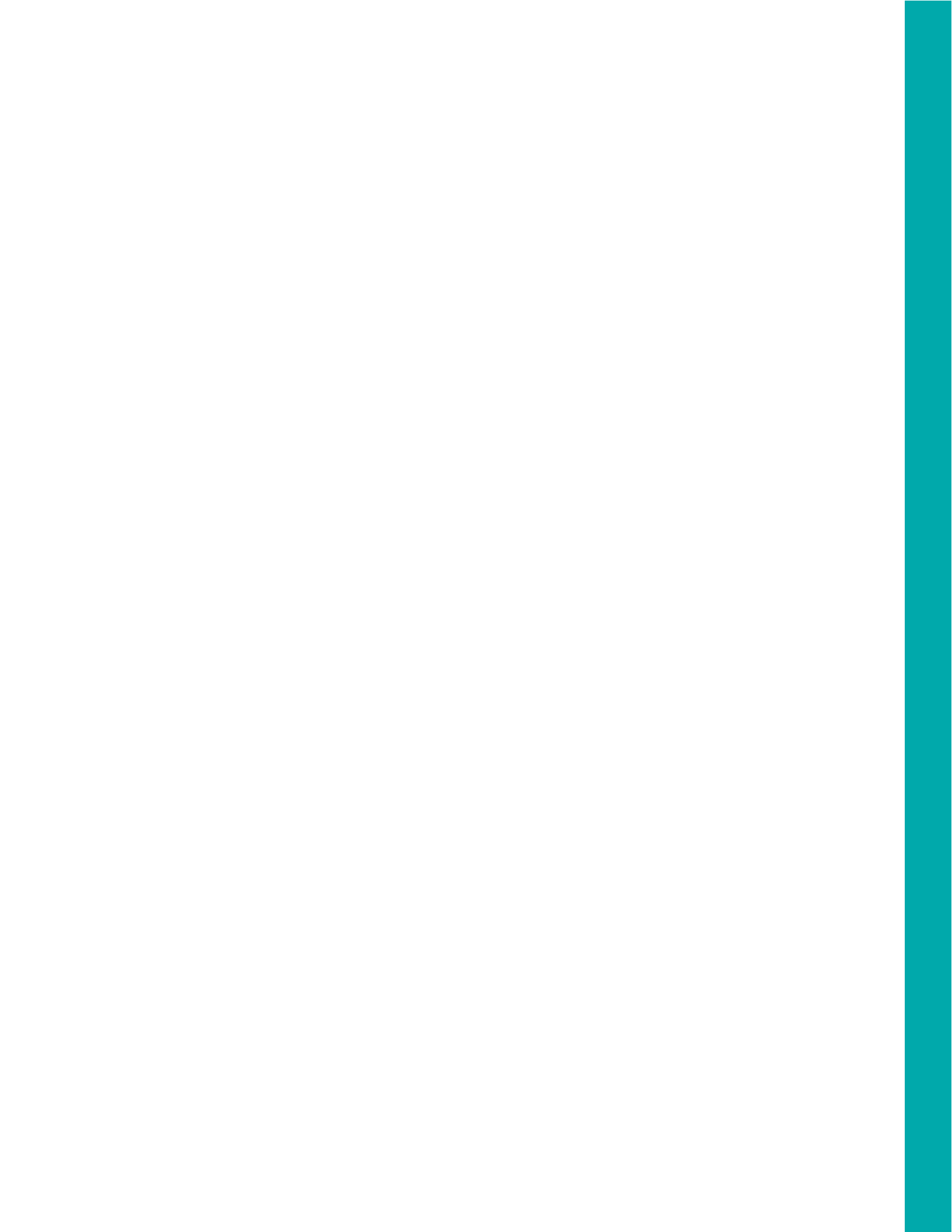
- Weight of toolholder M = 0.9 kg
- Operating speed n = 18.000 1/min
- Balance quality G = 6.3
- Compensation radius r = 16 mm

$$U_{acc} = \frac{(G \times M) \times 9549}{n} = \mathbf{3.005 \text{ g mm}}$$

(you can also obtain the value from the balance nomogram)

$$e_{acc} = \frac{U_{acc}}{M} = \mathbf{3.34 \mu\text{m}}$$

The centre of gravity may have a max. offset to the rotating axis of 3.34 μm



BOEHLERIT

FETTE
FETTE

BELIN



BILZ

ONSRUD
Onsrud
Cutter

KIENINGER



6 Companies and What They Can Offer

Within LMT, the six companies operate autonomously. They owe their recognized competence as service providers with their own manufacturing facilities and as partners of high-tech manufacturers all over the world to the innovative methods with which they satisfy the very highest precision and quality demands. They can call upon an internally unique depth of practically-oriented experience. With precision tooling solutions, for instance, LMT companies have contributed to technical progress ever since industrial-scale automobile and aircraft production commenced. Thanks to the flexibility of the LMT companies, it is possible to provide your tailor-made answers to processing problems with no delay—and therefore maximize your economic advantage.

Each company remains fully autonomous—this is part of LMT success story. Tasks can be tackled individually in the engineering area or in the project management, research and development or reconditioning of specific tools. In every case there is direct access to the unrivaled skills of the relevant LMT company. There is an obvious benefit from combining the know-how of these six specialist sources, for instance in the complex processing of complete work pieces or for all kind of tool management tasks.

This approach, combined with the ability to adapt globally to all differences in market conditions and clients' wishes, is helping to set LMT apart from other tool suppliers—and to assure to you a maximum benefit.

6 Specialists and Their Strengths

BELIN

Belin (France) is a technological leader for high-performance carbide reamers, PCD and CBN and high-precision grooving mills and all-carbide end milling cutters for plastics and aluminum alloys.

BILZ

Bilz (Germany) operates in the field of tool clamping and is now the leading manufacturer of thread-tapping chucks and also of the ThermoGrip™ system for the thermal clamping of rotating tools.

BOEHLERIT

Boehlerit (Austria), a manufacturer of cutting materials for metal, composites, plastics and wood and of carbide metals for non-cutting applications, has a high worldwide reputation for ultimate precision in the processing of carbide metals and tools for lathe turning, milling, drilling and rotary peeling, and also for chipless forming.

FETTE

Fette (Germany) has earned an outstanding position as a manufacturer of precision milling and hobbing tools and supplies an extensive program of carbide-metal and high-speed steel tools for metal and plastics processing and for thread rolling systems and thread tapping.

KIENINGER

Kieninger (Germany) occupies a leading position on the market for special cutting systems used for more complex bore machining and precision machining work within the dies and moulds industries and for the machining of engine components for the automotive industry.

ONSRUD

Onsrud (USA) specializes in the production of end-milling cutters for high-speed machining of aluminum, plastics and composite materials in the aerospace industries.



BILZ

BILZ TOOL CO., INC.

1997 Ohio Street
Lisle, Illinois 60532
Toll-Free 800-227-5460 or
Direct 847-734-9390
Fax 847-734-9391 or
Fax Toll-Free 800-937-7752
E-mail: info@bilzusa.com
Internet: www.bilzusa.com

BILZ Automotive Support Center

1377 Atlantic Boulevard
Auburn Hills, Michigan 48236
Phone 248-636-1076
Fax 248-393-4389