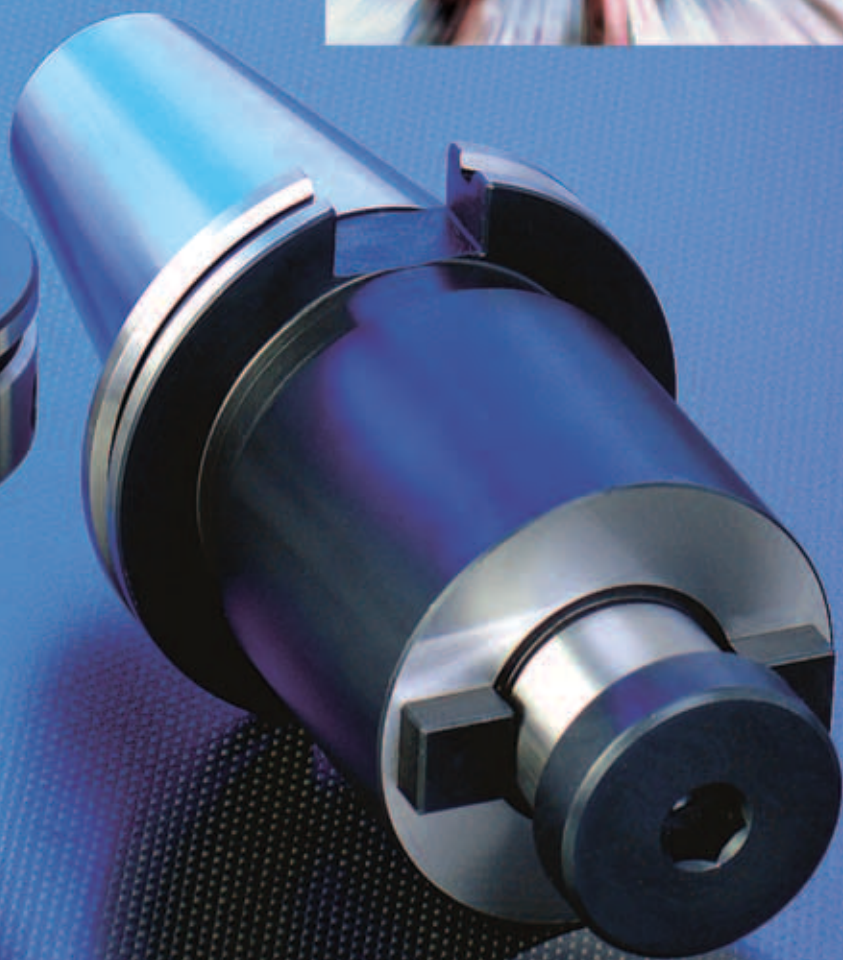


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TOOLHOLDERS



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TOOL HOLDERS

Cutting Tools



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TOOLHOLDER

TOOLHOLDERS

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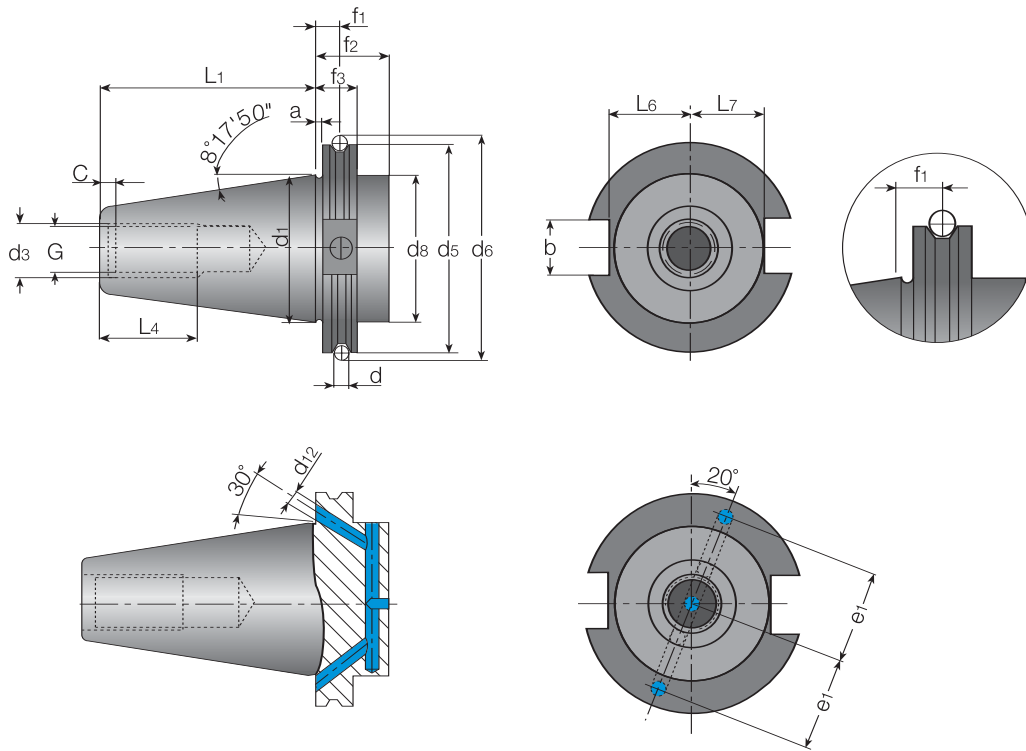
	Description	Detail	Page
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TOOLHOLDERS

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	Description	Detail	Page
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CAT - TOOLHOLDER STANDARD



"B" Type

CAT A.N.S.I. B5.50

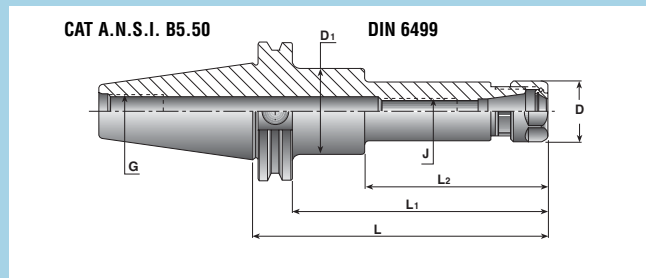
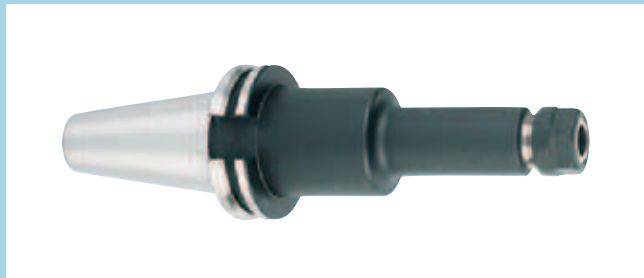
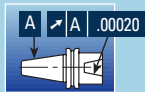
Shank	B ±.001	D	D ₁	G UNC-2B	D ₃ ±.01	C ±.01	D ₆ ±.002	D ₅ ±.002	D ₈ ±.005	F ₁ ±.005
CAT 30	.645	.2756	1.250	1/2-13	.590	.188	2.176	1.812	1.250	.4375
CAT 40	.645	.2756	1.750	5/8-11	.720	.188	2.863	2.500	1.750	.4375
CAT 50	1.02	.2756	2.750	1-8	1.125	.250	4.238	3.875	2.750	.4375

Shank	F ₂ MIN	F ₃ ±.002	L ₁ ±.005	L ₄ MIN	L ₆ .000-.015	L ₇ .000-.015	E ₁ ±.004	D ₁₂	A
CAT 30	1.38	.750	1.875	1.000	.735	.640	.826	.157	.125
CAT 40	1.38	.750	2.687	1.120	.985	.890	1.062	.157	.125
CAT 50	1.38	.750	4.000	1.750	1.485	1.390	1.653	.236	.125

CAT - ER COLLET CHUCK CAT-ER 16-20

Taper Size
CAT-30, 40 and 50

Collet Size
ER 16 and 20



Designation	Range	L	L ₁	L ₂	D	D ₁	J	G
CAT30 ER16 X2.750 *	.022-.396	2.750	2.000	1.370	1.102	1.248	M10	1/2-13
CAT40 ER16 X2.750	.022-.396	2.750	2.000	1.370	1.102	1.752	M12	5/8-11
CAT40 ER16 X3.937	.022-.396	3.937	3.187	2.560	1.102	1.752	M12	5/8-11
CAT40 ER16 X5.906	.022-.396	5.906	5.156	3.350	1.102	1.752	M12	5/8-11
CAT40 ER20 X3.937	.041-.514	3.937	3.187	2.560	1.339	1.752	M12	5/8-11
CAT40 ER20 X4.000	.041-.514	4.000	3.250	2.620	1.339	1.752	M12	5/8-11
CAT40 ER20 X5.906	.041-.514	5.906	5.156	3.780	1.339	1.752	M12	5/8-11
CAT50 ER16 X3.937 *	.022-.396	3.937	3.187	2.560	1.102	2.752	M12	1-8
CAT50 ER16 X5.906 *	.022-.396	5.906	5.156	3.490	1.102	2.752	M12	1-8
CAT50 ER16 X8.000 *	.022-.396	8.000	7.250	2.980	1.102	2.752	M12	1-8
CAT50 ER20 X3.937 *	.041-.514	3.937	3.187	2.560	1.349	2.752	M16	1-8
CAT50 ER20 X5.906 *	.041-.514	5.906	5.156	4.530	1.349	2.752	M16	1-8
CAT50 ER20 X8.000 *	.041-.514	8.000	7.250	4.620	1.339	2.752	M16	1-8

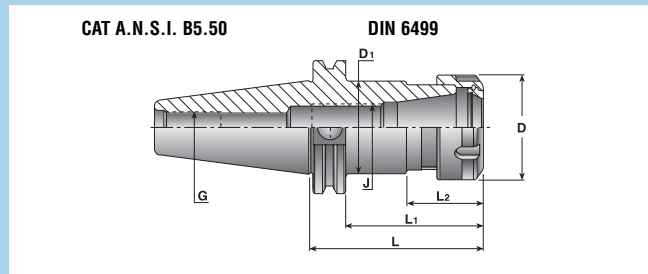
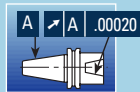
* Balanced to G6.3 12000 RPM.

CAT - ER COLLET CHUCK

CAT-ER 25-50

Taper Size
CAT-30, 40 and 50

Collet Size
ER 25, 32, 40 and 50



Designation	Range	L	L ₁	L ₂	D	D ₁	J	G
CAT30 ER32 X3.268*	.080-.789	3.268	2.518	1.890	1.968	1.248	M18X1.5	1/2-13
CAT40 ER25 X2.562	.041-.632	2.562	1.812	1.180	1.654	1.752	M16	5/8-11
CAT40 ER25 X4.000	.041-.632	4.000	3.250	2.620	1.654	1.752	M16	5/8-11
CAT40 ER25 X6.000	.041-.632	6.000	5.250	4.620	1.654	1.752	M16	5/8-11
CAT40 ER32 X2.562	.080-.789	2.562	1.812	-	1.968	1.752	M22X1.5	5/8-11
CAT40 ER32 X4.000	.080-.789	4.000	3.250	-	1.968	1.752	M22X1.5	5/8-11
CAT40 ER32 X6.000	.080-.789	6.000	5.250	-	1.968	1.752	M22X1.5	5/8-11
CAT40 ER40 X3.359	.120-1.025	3.359	2.609	-	2.480	1.752	M28X1.5	5/8-11
CAT40 ER40 X4.000	.120-1.025	4.000	3.250	-	2.480	1.752	M28X1.8	5/8-11
CAT50 ER25 X4.000*	.041-.632	4.000	3.250	2.580	1.654	2.752	M16	1-8
CAT50 ER25 X6.000*	.041-.632	6.000	5.250	4.620	1.654	2.752	M16	1-8
CAT50 ER25 X8.000*	.041-.632	8.000	7.250	6.580	1.654	2.752	M16	1-8
CAT50 ER32 X4.000*	.080-.789	4.000	3.250	2.540	1.968	2.752	M22X1.5	1-8
CAT50 ER32 X6.000*	.080-.789	6.000	5.250	4.580	1.968	2.752	M22X1.5	1-8
CAT50 ER32 X8.000*	.080-.789	8.000	7.250	6.580	1.968	2.752	M22X1.5	1-8
CAT50 ER40 X4.000*	.120-1.025	4.000	3.250	2.620	2.480	2.752	M28X1.5	1-8
CAT50 ER40 X6.000*	.120-1.025	6.000	5.250	4.620	2.480	2.752	M28X1.5	1-8
CAT50 ER40 X8.000*	.120-1.025	8.000	7.250	6.580	2.480	2.752	M28X1.5	1-8
CAT50 ER50 X4.000*	.396-1.338	4.000	3.250	-	3.070	2.752	M36X1.5	1-8
CAT50 ER50 X6.000*	.396-1.338	6.000	5.250	-	3.070	2.752	M36X1.5	1-8

Through-Flange coolant available.

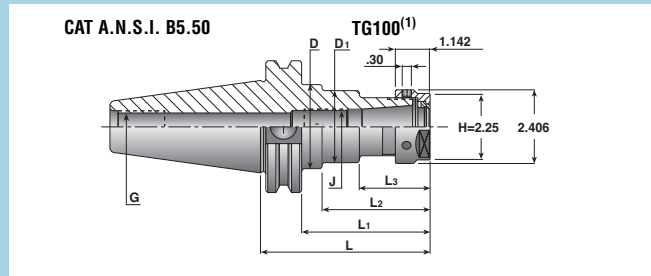
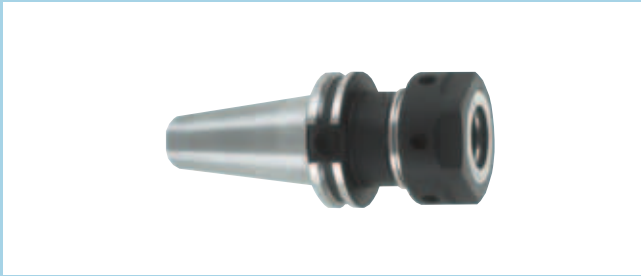
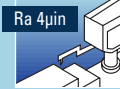
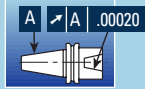
* Balance to G6.3 12000 RPM.

Add B suffix for coolant-through flange.

CAT - TG COLLET CHUCK CAT-TG100

Taper Size
CAT-40 and 50

Collet Size
TG100



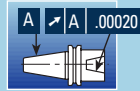
Designation	Range	L	L ₁	L ₂	L ₃	D	D ₁	J*	G
CAT40 TG100 X3.000	.094-1.000	3.000	2.250	1.612	-	1.752	-	1-1/8-16	5/8-11
CAT40 TG100 X4.000	.094-1.000	4.000	3.250	2.620	-	1.752	-	1-1/8-16	5/8-11
CAT40 TG100 X6.000	.094-1.000	6.000	5.250	4.620	-	1.752	-	1-1/8-16	5/8-11
CAT50 TG100 X3.000	.094-1.000	3.000	2.250	1.620	-	2.752	-	1-1/8-16	1-8
CAT50 TG100 X3.500	.094-1.000	3.500	2.750	2.120	-	2.752	-	1-1/8-16	1-8
CAT50 TG100 X5.500	.094-1.000	5.500	4.750	4.120	2.315	2.752	2.362	1-1/8-16	1-8
CAT50 TG100 X7.500	.094-1.000	7.500	6.750	4.118	2.307	2.752	2.500	1-1/8-16	1-8

Through-Flange coolant available.
 * Balance to G6.3 12000 RPM.
 Add B suffix for coolant-through flange.

CAT - ENDMILL HOLDER CAT-EM

Taper Size
CAT-40

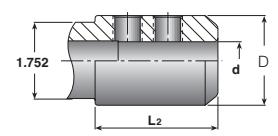
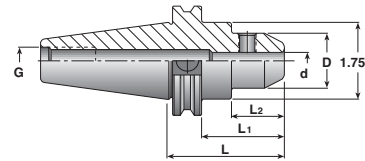
Throat Diameter
.187" to 1.500"



CAT A.N.S.I. B5.50

WELDON

SHANK DIA. 7/8+¹⁷



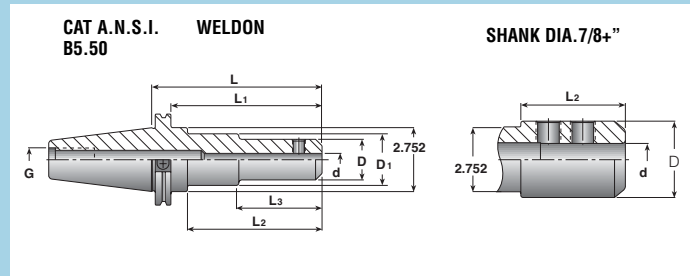
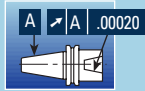
Designation	d	L	L ₁	L ₂	D	G
CAT40 EM 3/16X2.500	.187	2.500	1.750	1.121	.866	5/8-11
CAT40 EM 1/4X2.500	.250	2.500	1.750	1.121	1.000	5/8-11
CAT40 EM 3/8X2.500	.375	2.500	1.750	1.121	1.248	5/8-11
CAT40 EM 1/2X2.625	.500	2.625	1.875	-	-	5/8-11
CAT40 EM 5/8X3.750	.625	3.750	3.000	-	-	5/8-11
CAT40 EM 3/4X3.750	.750	3.750	3.000	-	-	5/8-11
CAT40 EM 7/8X4.000	.875	4.000	3.250	2.620	2.047	5/8-11
CAT40 EM 1X4.000	1.000	4.000	3.250	2.620	2.559	5/8-11
CAT40 EM 1-1/4X4.250	1.250	4.250	3.500	2.870	2.752	5/8-11
CAT40 EM 1-1/2X4.625	1.500	4.625	3.875	3.245	3.150	5/8-11

Through-Flange coolant available.
Add B suffix for coolant-through flange.

CAT - ENDMILL HOLDER CAT-EM

Taper Size
CAT-50

Throat Diameter
.250" to 2.000"



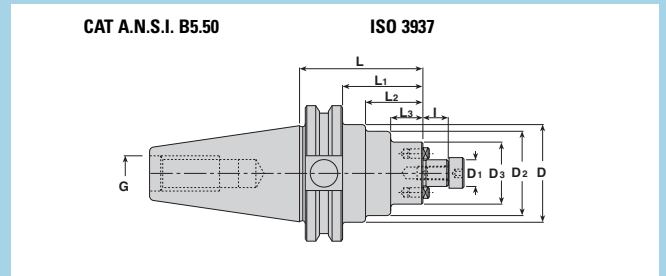
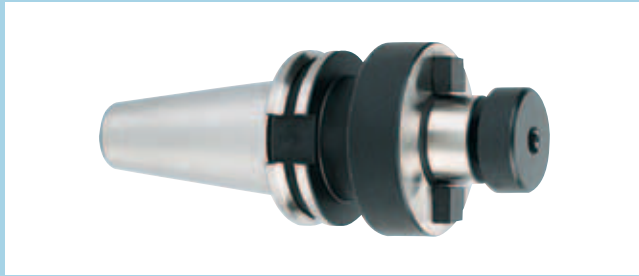
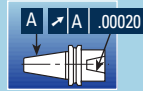
Designation	d	L	L ₁	L ₂	L ₃	D	D ₁	G
CAT50 EM 1/4 X2.500	.250	2.500	1.750	1.120	-	1.000	-	1-8
CAT50 EM 1/4 X4.500	.250	4.500	3.750	3.150	-	1.000	-	1-8
CAT50 EM 1/4 X6.250	.250	6.250	5.500	4.870	2.756	1.000	1.969	1-8
CAT50 EM 3/8 X2.500	.375	2.500	1.750	1.120	-	1.248	-	1-8
CAT50 EM 3/8 X4.500	.375	4.500	3.750	3.120	-	1.248	-	1-8
CAT50 EM 3/8X6.500	.375	6.500	5.500	5.120	3.130	1.248	1.969	1-8
CAT50 EM 1/2 X2.625	.500	2.625	1.875	1.245	-	1.752	-	1-8
CAT50 EM 1/2 X4.625	.500	4.625	3.875	3.245	-	1.752	-	1-8
CAT50 EM 1/2X6.625	.500	6.625	5.875	5.245	3.248	1.752	2.205	1-8
CAT50 EM 5/8 X3.750	.625	3.750	3.000	2.370	-	1.752	-	1-8
CAT50 EM 5/8X5.750	.625	5.750	5.000	4.370	-	1.752	-	1-8
CAT50 EM 5/8X7.750	.625	7.750	7.000	6.370	4.390	1.752	2.165	1-8
CAT50 EM 3/4 X3.750	.750	3.750	3.000	2.370	-	1.772	-	1-8
CAT50 EM 3/4 X5.750	.750	5.750	5.000	3.150	-	1.772	-	1-8
CAT50 EM 3/4X7.750	.750	7.750	7.000	6.370	3.150	1.772	2.264	1-8
CAT50 EM 7/8 X3.750	.875	3.750	3.000	2.370	-	2.047	-	1-8
CAT50 EM 7/8X5.750	.875	5.750	5.000	3.150	-	2.047	-	1-8
CAT50 EM 7/8X7.750	.875	7.750	7.000	3.150	-	2.047	-	1-8
CAT50 EM 1 X4.000	1.000	4.000	3.250	2.620	-	2.559	-	1-8
CAT50 EM 1 X6.000	1.000	6.000	5.250	4.620	-	2.559	-	1-8
CAT50 EM 1 X8.000	1.000	8.000	7.250	4.625	-	2.559	-	1-8
CAT50 EM 1-1/4X4.000	1.250	4.000	3.250	-	-	-	-	1-8
CAT50 EM 1-1/4X6.000	1.250	6.000	5.250	-	-	-	-	1-8
CAT50 EM 1-1/4X8.000	1.250	8.000	7.250	-	-	-	-	1-8
CAT50 EM 1-1/2X4.000	1.500	4.000	3.250	2.620	-	3.150	-	1-8
CAT50 EM 1-1/2X6.000	1.500	6.000	5.250	4.620	-	3.150	-	1-8
CAT50 EM 1-1/2X8.000	1.500	8.000	7.250	6.620	-	3.150	-	1-8
CAT50 EM 2 X5.625	2.000	5.625	4.875	4.245	-	3.740	-	1-8

Add B suffix for coolant-through flange.

SHELL MILL HOLDER

Taper Size
CAT-40 and 50

Pilot Diameter
.500" to 2.000"

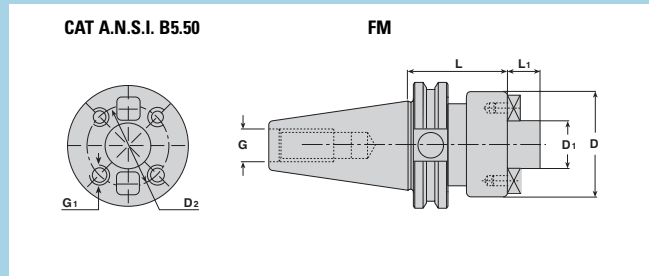
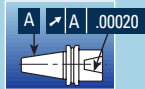


Designation	D ₁	D	D ₂	D ₃	L	L ₁	L ₂	L ₃	I	G
CAT40 SEM 1/2X1.500	.500	1.750	1.378	-	1.500	.750	.102	-	.570	5/8-11
CAT40 SEM 3/4X1.375	.750	1.752	-	-	1.375	.625	-	-	.669	5/8-11
CAT40 SEM 1X2.062	1.000	1.752	2.165	-	2.062	1.312	.682	-	.669	5/8-11
CAT40 SEM 1-1/4X2.125	1.250	1.752	2.752	-	2.125	1.375	.745	-	.669	5/8-11
CAT40 SEM 1-1/2X2.406	1.500	1.752	3.071	-	2.406	1.656	1.026	-	.938	5/8-11
CAT50 SEM 3/4X1.500	.750	2.752	1.772	-	1.500	.750	.120	-	.669	1-8
CAT50 SEM 3/4X3.500	.750	2.752	1.772	-	3.500	.750	2.102	-	.669	1-8
CAT50 SEM 3/4X5.500	.750	2.752	2.362	1.772	5.500	4.750	4.130	2.480	.669	1-8
CAT50 SEM 3/4X1.920X8.00	.750	2.752	1.920	-	8.000	7.250	6.583	-	.669	1-8
CAT50 SEM 1X2.000	1.000	2.752	2.165	-	2.000	1.250	.620	-	.669	1-8
CAT50 SEM 1X4.000	1.000	2.752	2.165	-	4.000	3.250	.728	-	.669	1-8
CAT50 SEM 1X6.000	1.000	2.752	2.165	-	6.000	5.250	2.657	-	.669	1-8
CAT50 SEM 1X2.42X12.00	1.000	2.752	2.420	-	12.000	11.250	10.583	-	.669	1-8
CAT50 SEM 1-1/4X1.500	1.250	2.752	-	-	1.500	.750	-	-	.669	1-8
CAT50 SEM 1-1/4X3.500	1.250	2.752	-	-	3.500	2.750	-	-	.669	1-8
CAT50 SEM 1-1/4X4.000	1.250	2.752	-	-	4.000	-	-	-	.669	1-8
CAT50 SEM 1-1/4X2.92X13.0	1.250	2.752	2.921	-	13.000	12.250	11.620	-	.669	1-8
CAT50 SEM 1-1/4X6.000	1.250	2.752	-	-	6.000	-	-	-	.669	1-8
CAT50 SEM 1-1/2X2.406	1.500	2.752	3.071	-	2.406	1.656	1.026	-	.938	1-8
CAT50 SEM 1-1/2X4.000	1.500	2.752	3.071	-	4.000	3.250	2.620	-	.938	1-8
CAT50 SEM 1-1/2X6.000	1.500	2.752	3.071	-	6.000	5.250	4.620	-	.938	1-8
CAT50 SEM 2X2.406	2.000	2.752	3.858	-	2.406	1.656	1.026	-	.938	1-8
CAT50 SEM 2X4.000	2.000	2.752	3.858	-	4.000	3.250	2.620	-	.938	1-8

FACE MILL HOLDER

Taper Size
CAT-50

Pilot Diameter
2.500"



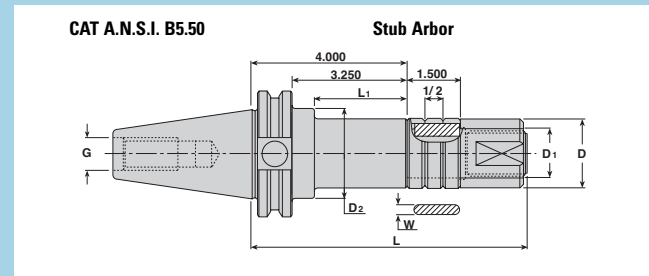
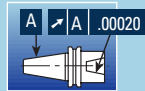
Designation	D ₁	L	L ₁	D	D ₂	G	G ₁
CAT50 FM2-1/2X2.875	2.500	2.875	1.125	4.881	4.00	1-8	5/8-11
766C495-01*	2.500	-	1.000	-	-	1-8	-

*CAT50 centering plug. Please call for price and delivery.

STUB ARBOR HOLDER

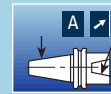
Taper Size
CAT-40 and 50

Arbor Diameter
1.000" to 2.000"

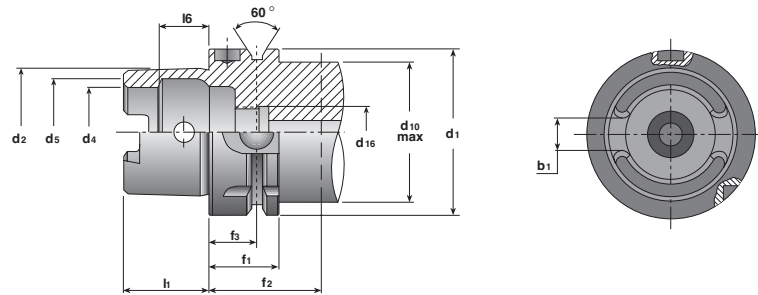


Designation	D ₁	D	D ₂	L	L ₁	W	G
CAT40 STUB 1X4.000	1.000	1.496	1.752	6.722	2.620	.250	5/8-11
CAT40 STUB 1-1/4X4.000	1.250	1.772	1.752	6.841	-	.312	5/8-11
CAT40 STUB 1-1/2X4.000	1.500	2.126	1.752	7.404	2.620	.375	5/8-11
CAT50 STUB 1 X4.000	1.000	1.496	2.752	6.717	2.620	.250	1-8
CAT50 STUB 1-1/4X4.000	1.250	1.772	2.752	6.835	2.620	.312	1-8
CAT50 STUB 1-1/2X4.000	1.500	2.126	2.752	7.404	2.620	.375	1-8
CAT50 STUB 2 X4.000	2.000	2.752	2.752	7.000	-	.500	1-8

■ HSK - STANDARD TOOL HOLDER DIN69893 FORM A STANDARD

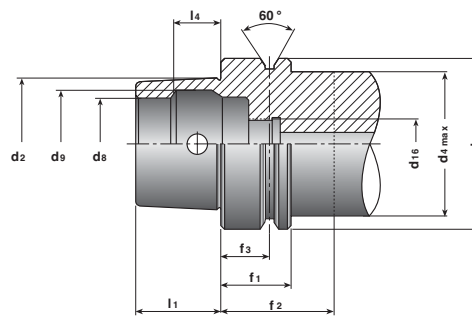


DIN 64893



HSK-A	d_1	d_2	d_4	d_5	d_{10}	d_{16}	l_1	l_6	b_1	f_1	f_2	f_3
40	40	30	21	25.5	34	M12x1	20	11.42	8.05	20	35	16
50	50	38	26	32.0	42	M16x1	25	14.13	10.54	26	42	18
63	63	48	34	40.0	53	M18x1	32	18.13	12.54	26	42	18
80	80	60	42	50.0	67	M20x1.5	40	22.85	16.04	26	42	18
100	100	75	53	63.0	85	M24x1.5	50	28.56	20.02	29	45	20

■ HSK - STANDARD TOOL HOLDER DIN69893 FORM E STANDARD

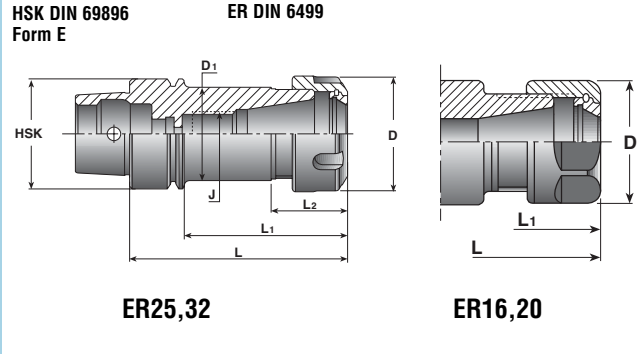


HSK-E	d_1	d_2	d_4	d_8	d_9	d_{16}	l_1	l_4	f_1	f_2	f_3
40	40	30	34	21	25.5	M12X1	20	11.42	20	35	16
50	50	38	42	26	32.0	M16X1	25	14.13	26	42	18
63	63	48	53	34	40.0	M18X1	32	18.13	26	42	18

HSK - ER COLLET CHUCK (METRIC) HSK E-ER16 / ER20 / ER25 / ER32

Taper Size
HSK-E 40, 50, 63, 80
and 100

Collet Size
ER-16, 20, 25 and 32



Designation	HSK-E	Range	D	D ₁	L	L ₁	L ₂	J
HSK E 40 ER16X60	40	0.5-10	28	-	60	40	-	-
HSK E 40 ER16X80	40	0.5-10	28	-	80	60	-	M10
HSK E 40 ER20X80	40	1.0-13	34	-	80	60	-	M12
HSK E 40 ER25X80	40	1.0-16	42	34.0	80	60	28	M18x1.5
HSK E 40 ER32X80	40	2.0-20	50	40.1	80	60	31	M22x1.5
HSK E 50 ER16X80 *	50	0.5-10	28	-	80	54	-	M10
HSK E 50 ER16X100 *	50	0.5-10	28	-	100	74	-	M10
HSK E 50 ER20X80 *	50	1.0-13	34	-	80	54	-	M10
HSK E 50 ER25X80 *	50	1.0-16	42	32.4	80	54	28	-
HSK E 50 ER32X80 *	50	2.0-20	50	40.4	80	54	31	-
HSK E 50 ER32X100 *	50	2.0-20	50	40.4	100	74	31	M22x1.5
HSK E 63 ER16X80 **	63	0.5-10	28	-	80	54	-	M10
HSK E 63 ER16X100 **	63	0.5-10	28	-	100	74	-	M10
HSK E 63 ER32X80 **	63	2.0-20	50	40.4	80	54	31	-
HSK E 63 ER32X100 **	63	2.0-20	50	-	100	75	-	M22x1.5

* Balance G2.5 35.000 RPM.

** Balance G2.5 30.000 RPM.

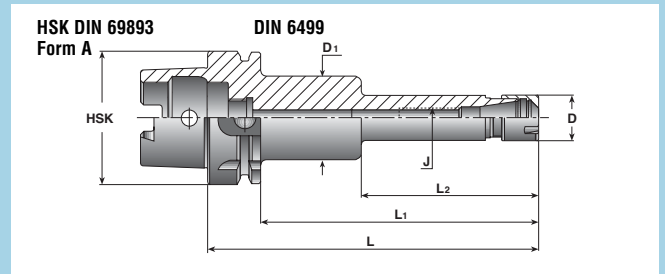
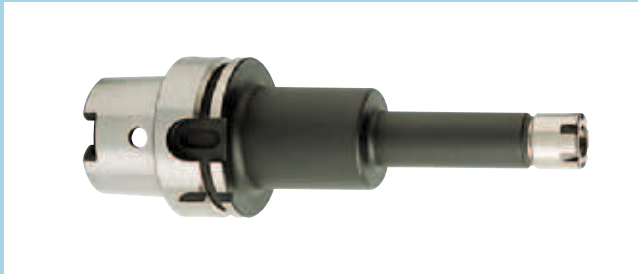
Coolant tube not included.

Add B suffix for coolant-through flange.

HSK - ER MINI COLLET CHUCK (METRIC) HSK A-ER-M

Taper Size
HSK-A 50, 63 and
100

Collet Size
ER 16 and 20



Designation	HSK-A	Range	D	D ₁	L	L ₁	L ₂	J
HSK A 50 ER16X100 M	50	0.5-10	22	-	100	74	-	M10
HSK A 50 ER16X120 M	50	0.5-10	22	-	120	94	-	M10
HSK A 50 ER20X100 M	50	1.0-13	28	-	100	74	-	M12
HSK A 50 ER20X120 M	50	1.0-13	28	-	120	94	-	M12
HSK A 63 ER16X100 M	63	0.5-10	22	-	100	74	-	M10
HSK A 63 ER16X120 M	63	0.5-10	22	40	120	94	78	M10
HSK A 63 ER16X160 M	63	0.5-10	22	40	160	134	85	M10
HSK A 63 ER20X100 M	63	1.0-13	28	-	100	74	-	M12
HSK A 63 ER20X120 M	63	1.0-13	28	-	120	94	-	M12
HSK A 63 ER20X160 M	63	1.0-13	28	45	160	134	85	M12
HSK A 100 ER16X100 M*	100	0.5-10	22	-	100	71	-	M10
HSK A 100 ER16X160 M*	100	0.5-10	22	40	160	131	85	M10
HSK A 100 ER20X100 M*	100	1.0-13	28	-	100	71	-	M12
HSK A 100 ER20X160 M*	100	1.0-13	28	45	160	131	85	M12

* Balance to G6.3 12,000 RPM.

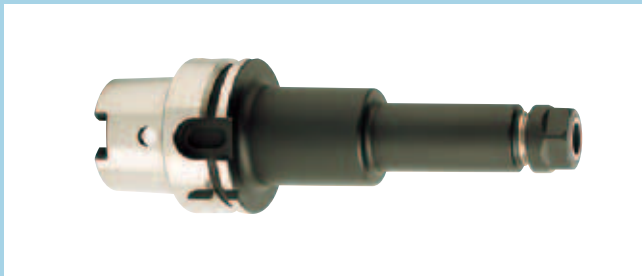
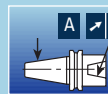
Coolant tube not included.

Add B suffix for coolant-through flange.

HSK - ER COLLET CHUCK (METRIC) HSK A-ER

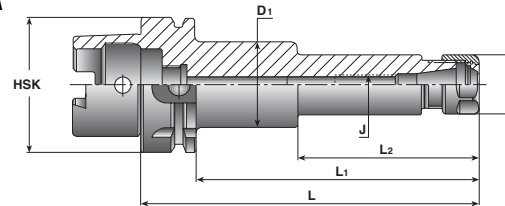
Taper Size
HSK-A 40, 50, 63
and 100

Collet Size
ER-16 and 20



HSK DIN 69893
Form A

DIN 6499



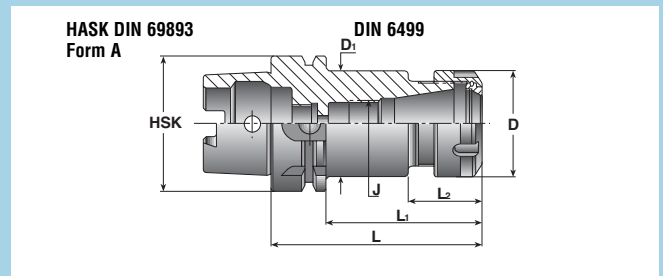
Designation	HSK-A	Range	D	D ₁	L	L ₁	L ₂	J
HSK A 40 ER16X80	40	0.5-10	28	-	80	60	-	M10
HSK A 40 ER16X100	40	0.5-10	28	-	100	80	-	M10
HSK A 50 ER16X100	50	0.5-10	28	-	100	74	-	M10
HSK A 50 ER16X120	50	0.5-10	28	-	120	94	-	M10
HSK A 50 ER20X100	50	1.0-13	34	-	100	74	-	M12
HSK A 50 ER20X120	50	1.0-13	34	-	120	94	-	M12
HSK A 63 ER16X100	63	0.5-10	28	-	100	74	-	M10
HSK A 63 ER16X120	63	0.5-10	28	-	120	94	-	M10
HSK A 63 ER16X160	63	0.5-10	28	40	160	134	85.6	M10
HSK A 63 ER20X100	63	1.0-13	34	-	100	74	-	M12
HSK A 63 ER20X120	63	1.0-13	34	-	120	94	-	M12
HSK A 63 ER20X160	63	1.0-13	34	45	160	134	85.0	M12
HSK A 100 ER16X100*	100	0.5-10	28	-	100	71	-	M10
HSK A 100 ER16X160*	100	0.5-10	28	40	160	131	85.0	M10
HSK A 100 ER20X100*	100	1.0-13	34	-	100	71	-	M12
HSK A 100 ER20X160*	100	1.0-13	34	45	160	131	85.0	M12

* Balance to G6.3 12,000 RPM.
Coolant tube not included.
Add B suffix for coolant-through flange.

HSK - ER COLLET CHUCK (METRIC) HSK A-ER

Taper Size
HSK-A 40, 50 and 100

Collet Size
ER 25, 32, 40



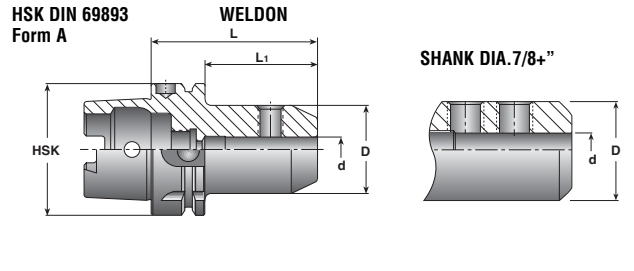
Designation	HSK-A	Range	D	D ₁	L	L ₁	L ₂	J
HSK A 40 ER25X80	40	1-16	42	32.4	80	60	28.0	M18x1.5
HSK A 40 ER25X100	40	1-16	42	32.4	100	80	28.0	M16
HSK A 40 ER32X100	40	2-20	50	40.4	100	80	31.0	M22x1.5
HSK A 50 ER25X80	50	1-16	42	32.4	80	54	28.0	M16
HSK A 50 ER25X100	50	1-16	42	41.8	100	74	28.5	M16
HSK A 50 ER32X100	50	2-20	50	40.4	100	74	31.0	M22x1.5
HSK A 50 ER32X120	50	2-20	50	41.8	120	94	35.0	M22x1.5
HSK A 63 ER25X80	63	1-16	42	-	80	54	-	M16
HSK A 63 ER25X100	63	1-16	42	-	100	74	-	M16
HSK A 63 ER25X120	63	1-16	42	-	120	94	-	M16
HSK A 63 ER25X160	63	1-16	42	-	160	134	-	M16
HSK A 63 ER32X80	63	2-20	50	40.4	80	54	31.0	M22x1.5
HSK A 63 ER32X100	63	2-20	50	-	100	74	-	M22x1.5
HSK A 63 ER32X120	63	2-20	50	-	120	94	-	M22x1.5
HSK A 63 ER32X140	63	2-20	50	-	140	114	-	M22x1.5
HSK A 63 ER32X160	63	2-20	50	-	160	134	-	M22x1.5
HSK A 63 ER40X80	63	3-26	63	50.4	80	54	34.0	M28x1.5
HSK A 63 ER40X100	63	3-26	63	50.4	100	74	34.0	M28x1.5
HSK A 63 ER40X120	63	3-26	63	50.4	120	94	34.0	M28x1.5

Coolant tube not included.
Add B suffix for coolant-through flange.

HSK - ENDMILL HOLDER HSK A-EM

Taper Size
HSK-A 50, 63 and 100

Throat Diameter
.188" to 1.500"



Designation	HSK-A	d	L	D	L ₁
HSK A 50 EM3/16 X2.562	50	.188	2.562	.866	1.538
HSK A 50 EM1/4 X2.562	50	.250	2.562	1.000	1.538
HSK A 50 EM3/8 X2.562	50	.375	2.562	1.378	1.538
HSK A 50 EM1/2 X3.125	50	.500	3.125	1.614	2.101
HSK A 50 EM5/8 X3.125	50	.625	3.125	1.752	2.101
HSK A 50 EM3/4 X3.125	50	.750	3.125	1.937	2.101
HSK A 50 EM7/8 X4.000	50	.875	4.000	2.205	2.976
HSK A 50 EM1 X4.250	50	1.000	4.250	2.563	3.226
HSK A 63 EM3/16 X2.562	63	.188	2.562	.866	1.538
HSK A 63 EM1/4 X2.562	63	.250	2.562	1.000	1.538
HSK A 63 EM3/8 X2.562	63	.375	2.562	1.378	1.538
HSK A 63 EM1/2 X3.125	63	.500	3.125	1.614	2.101
HSK A 63 EM5/8 X3.125	63	.625	3.125	1.752	2.101
HSK A 63 EM3/4 X3.150	63	.750	3.150	1.937	2.101
HSK A 63 EM7/8 X4.000	63	.875	4.000	2.047	2.976
HSK A 63 EM1 X4.250	63	1.000	4.250	2.563	3.226
HSK A 63 EM1-1/4 X4.250	63	1.250	4.250	2.813	3.226
HSK A 100 EM3/16 X3.125	100	.188	3.125	.866	1.983
HSK A 100 EM1/4 X3.125	100	.250	3.125	1.000	1.983
HSK A 100 EM3/8 X3.125	100	.375	3.125	1.378	1.983
HSK A 100 EM1/2 X3.125	100	.500	3.125	1.614	1.983
HSK A 100 EM5/8 X4.000	100	.625	4.000	1.752	2.858
HSK A 100 EM3/4 X4.000	100	.750	4.000	1.937	2.858
HSK A 100 EM7/8 X4.000	100	.875	4.000	2.047	2.858
HSK A 100 EM1 X4.000	100	1.000	4.000	2.563	2.858
HSK A 100 EM1-1/4X4.000	100	1.250	4.000	2.813	2.858
HSK A 100 EM1-1/2X4.000	100	1.500	4.000	3.000	2.858

Coolant tube not included.

* Metric styles available. Call for delivery information.

Add B suffix for coolant-through flange.

SHELL MILL HOLDER HSK A-SEM

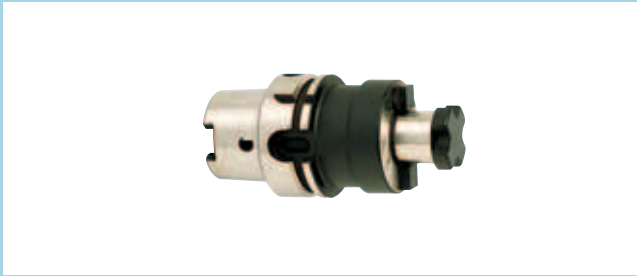
Taper Size
HSK-A 50, 63 and 100

Pilot Diameter
.750" to 2.000"

G2.5
15,000 RPM



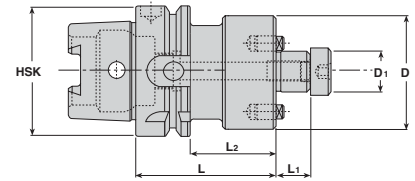
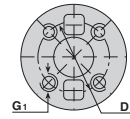
58-60 HRc



HSK DIN 69893 Form A

ISO 3937

Face Mill



Designation	HSK-A	D ₁	L	L ₁	L ₂	D
HSK A 50 SEM3/4X2.375	50	.750	2.375	.669	1.351	1.770
HSK A 50 SEM1X2.500	50	1.000	2.500	.669	1.476	2.172
HSK A 50 SEM1-1/4X3.000	50	1.250	3.000	.669	1.976	2.516
HSK A 63 SEM3/4X2.375	63	.750	2.375	.669	1.351	1.770
HSK A 63 SEM1X1.750	63	1.000	1.750	.669	.726	2.086
HSK A 63 SEM1-1/4X2.375	63	1.250	2.375	.669	1.351	2.510
HSK A 63 SEM1-1/2X2.375	63	1.500	2.375	.938	1.351	3.070
HSK A 63 SEM2X2.375	63	2.000	2.375	.938	1.351	3.850
HSK A 100 SEM3/4X3.000*	100	.750	3.000	.669	1.858	1.770
HSK A 100 SEM1X2.375*	100	1.000	2.375	.669	1.233	2.165
HSK A 100 SEM1-1/4X1.875*	100	1.250	1.875	.669	.733	2.500
HSK A 100 SEM1-1/2X1.875*	100	1.500	1.875	.938	.733	3.881
HSK A 100 SEM2X2.375*	100	2.000	2.375	.938	1.233	3.881

* Balance to G6.3 12,000 RPM.

FACE MILL HOLDER HSK A-FM

Taper Size
HSK-A 100

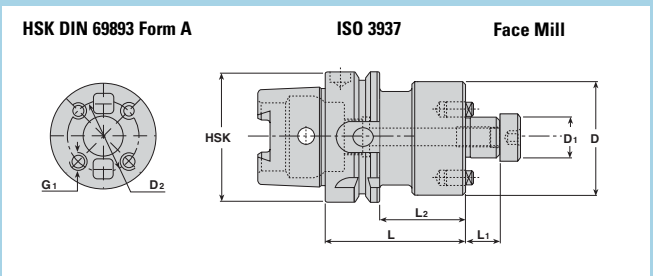
Pilot Diameter
2.500"

G2.5
15,000 RPM

A A .003mm

58-60 HRc

Ra 4µin



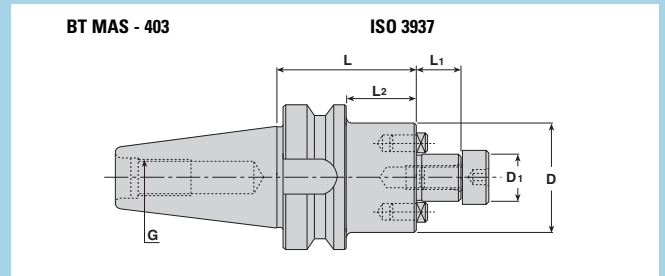
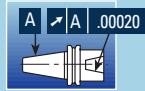
Designation	HSK-A	D ₁	L	L ₁	D	D ₂ *	G ₁ *
HSK A 100 FM2-1/2X2.875	100	2.500	2.875	1.122	4.881	4.000	5/8-11

* Exists only in "FM" holders.

SHELL MILL HOLDER

Taper Size
BT 40 and 50

Pilot Size
.500" to 2.000"

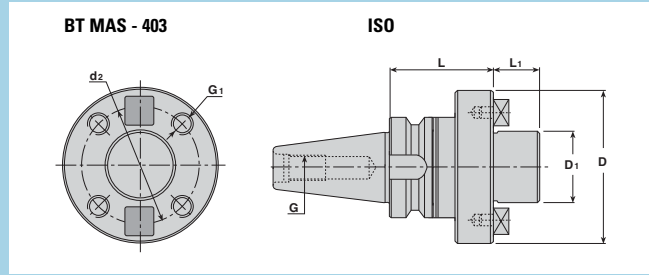
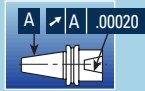


Designation	D ₁	D	L	L ₁	L ₂	G
BT40 SEM 1/2X2.375	.500	1.378	2.375	.571	.728	M16
BT40 SEM 3/4X2.375	.750	1.772	2.375	.669	1.299	M16
BT40 SEM 1X1.750	1.000	2.165	1.750	.669	.687	M16
BT40 SEM 1-1/4X2.375	1.250	2.520	2.375	.669	.906	M16
BT40 SEM 1-1/2X2.375	1.500	3.071	2.375	.937	.819	M16
BT50 SEM 3/4X2.937	.750	1.772	2.937	.669	1.441	M24
BT50 SEM 1X2.375	1.000	2.165	2.375	.669	.878	M24
BT50 SEM 1-1/4X1.875	1.250	2.520	1.875	.669	.394	M24
BT50 SEM 1-1/2X1.875	1.500	3.071	1.875	.937	.379	M24
BT50 SEM 2 X2.375	2.000	3.859	2.375	.937	.879	M24

FACE MILL HOLDER

Taper Size
BT-50

Pilot Diameter
2.500"

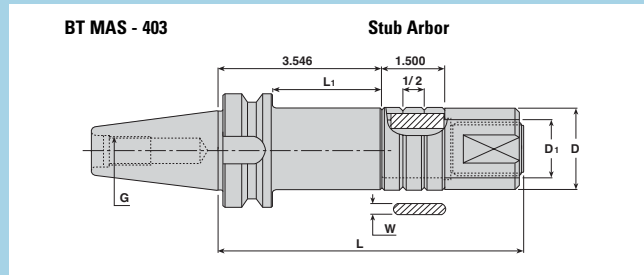
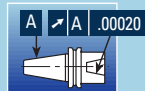


Designation	D ₁	L	L ₁	D	d ₂	G ₁	G
BT50 FM2-1/2X3.469	2.500	3.469	1.125	5.062	4.000	5/8-11	M24

STUB MILL HOLDER

Taper Size
BT-40 and 50

Arbor Diameter
1.000" to 1.250"

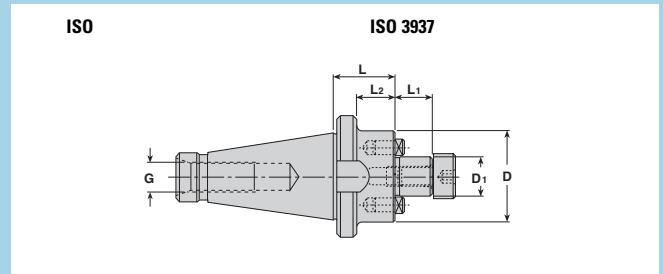
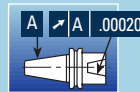


Designation	D ₁	L ₁	L	D	W	G
BT40 STUB 1X3.546	1.000	2.480	6.260	1.500	.250	M16
BT40 STUB 1-1/4X3.546	1.250	2.480	6.378	1.772	.312	M16
BT50 STUB 1X3.546	1.000	2.055	6.268	1.500	.250	M24
BT50 STUB 1-1/4X3.546	1.250	2.055	6.386	1.772	.312	M24

SHELL MILL HOLDER ISO SEM

Taper Size
ISO-30, 40 and 50

Pilot Diameter
.500" to 2.000"

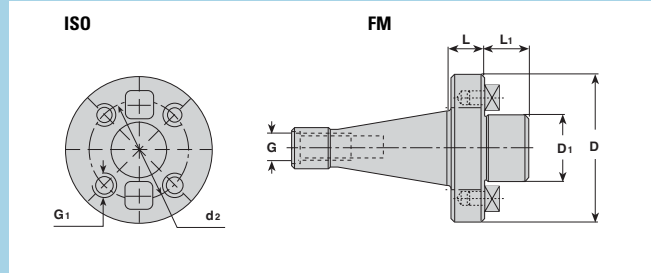
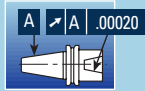


Designation	D ₁	L	L ₁	L ₂	D	G
ISO30 SEM 1/2X1.156	.500	1.156	.571	.768	1.280	1/2-13
ISO30 SEM 3/4X1.047	.750	1.047	.669	.669	1.564	1/2-13
ISO30 SEM 1X1.047	1.000	1.047	.669	-	-	1/2-13
ISO30 SEM 1-1/4 X1.187	1.250	1.187	.669	.807	2.520	1/2-13
ISO40 SEM 1/2X1.062	.500	1.062	.571	.610	1.378	5/8-11
ISO40 SEM 3/4X1.140	.750	1.140	.669	.709	1.732	5/8-11
ISO40 SEM 3/4X4.000	.750	4.000	.669	3.543	1.772	5/8-11
ISO40 SEM 1X1.140	1.000	1.140	.669	.701	2.156	5/8-11
ISO40 SEM 1X4.000	1.000	4.000	.669	3.543	1.969	5/8-11
ISO40 SEM 1-1/4X1.140	1.250	1.140	.669	.709	2.520	5/8-11
ISO40 SEM 1-1/4X4.000	1.250	4.000	.669	3.543	2.520	5/8-11
ISO40 SEM 1-1/2X1.250	1.500	1.250	.937	.771	3.016	5/8-11
ISO40 SEM 2x1.562	2.000	1.562	.937	1.110	3.858	5/8-11
ISO50 SEM 1/2X1.469	.500	1.469	.571	1.012	1.378	1-8
ISO50 SEM 3/4X1.500	.750	1.500	.669	.917	1.772	1-8
ISO50 SEM 1X1.625	1.000	1.625	.669	1.063	1.969	1-8
ISO50 SEM 1X4.000	1.000	4.000	.669	3.406	1.969	1-8
ISO50 SEM 1-1/4X1.719	1.250	1.719	.669	1.142	2.520	1-8
ISO50 SEM 1-1/4X4.000	1.250	4.000	.669	3.402	2.520	1-8
ISO50 SEM 1-1/2X1.687	1.500	1.687	.937	1.089	2.992	1-8
ISO50 SEM 1-1/2X4.000	1.500	4.000	.937	3.402	2.992	1-8
ISO50 SEM 2X1.812	2.000	1.812	.937	1.071	3.740	1-8

FACE MILL HOLDER ISO FM

Taper Size
ISO-50

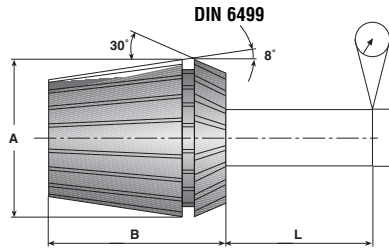
Pilot Diameter
2.500"



Designation	D	D ₁	D ₂	L	L ₁	G	G ₁
ISO50 FM 2-1/2X1.500	5.062	2.500	4.000	1.500	1.125	1-8	5/8-1

ER COLLET - STANDARD RUNOUT PRECISION

ER Collet Type



L inch	L mm	D inch	D mm	Ingersoll Precision Standard		Ingersoll "AA" Ultra Precision		DIN 6499 ⁽¹⁾	
				inch	mm	inch	mm	inch	mm
.24	6	.039-.063	1,0- 1,6	.0004	0,01	.0002	0,005		
.39	10	.063-.118	1,6- 3,0	.0004	0,01	.0002	0,005	.0006	0,015
.63	16	.118-.236	3,0- 6,0	.0004	0,01	.0002	0,005	.0006	0,015
.98	25	.236-.394	6,0-10,0	.0004	0,01	.0002	0,005	.0006	0,015
1.57	40	.394-.709	10,0-18,0	.0004	0,01	.0002	0,005	.0008	0,020
1.97	50	.709-1.024	18,0-26,0	.0004	0,01	.0002	0,005	.0008	0,020
2.36	60	1.024-1.339	26,0-34,0					.0010	0,025

⁽¹⁾ ER50 DIN6499

Add B suffix for coolant-through flange.

ER Sizes

Type	A inch	A mm	B inch	B mm
ER-11	.45	11,5	.71	18
ER-16	.67	17	1.06	27
ER-20	.83	21	1.22	31
ER-25	1.02	26	1.38	35
ER-32	1.30	33	1.57	40
ER-40	1.61	41	1.81	46
ER-50	2.05	52	2.36	60

ER COLLET - SEALED COLLET

Application:

For use with solid and coolant through tools. Ideal for high speed machining as well as conventional machining. Can be used on machining centers, lathes and other machine types.

Features:

- Front sealed design
- .040" (1mm) range
- Improved coolant delivery can increase tool life
- Two styles available: ER JET and JET2

Advantages:

- Can be used with high pressure coolant 1450 PSI max.
- Designed for use with Weldon shanks, cylindrical shanks and whistle notch styles.

Notes:

- Minimum clamping length: 2X shank diameter, to insure minimum run-out and maximum clamping.
- When using JET2 style collets, tool should be rotated to direct coolant flow to flutes for optimum chip evacuation.



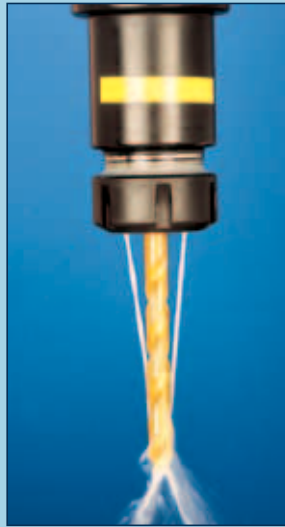
ER COLLET - ER COOLIT SEALED COLLET

Two types:



Sealed Collet jet

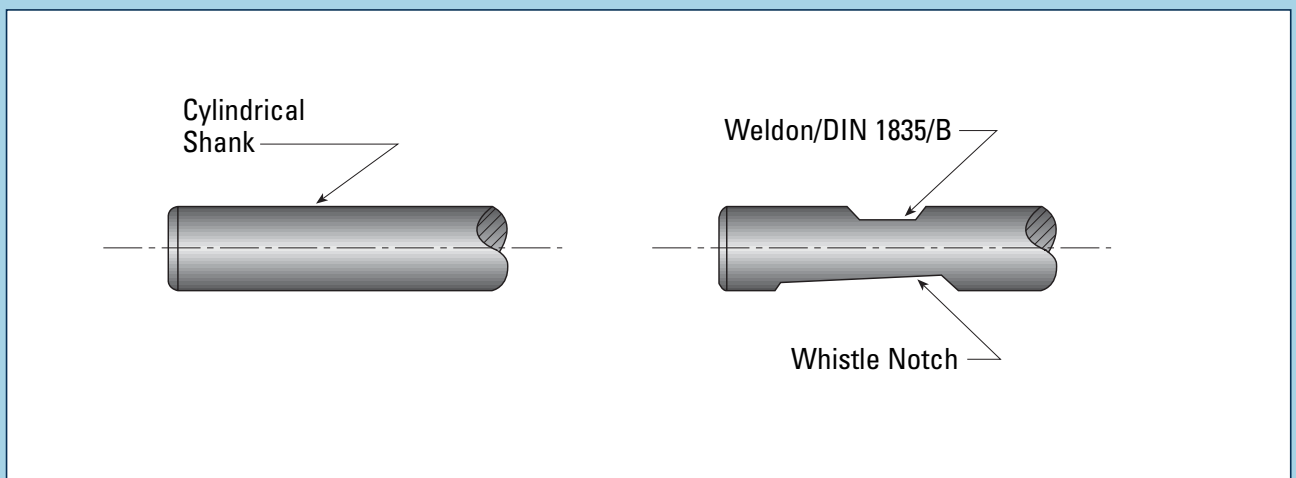
For straight shank cutting tools with coolant through.



Sealed Collet jet2

With angular double nozzle. Coolant flow should be directed to flutes of cutting tool.

Shank Standards



ER COLLET - ER TOP CLAMPING NUT DIN 6499

Description:

Precision ER retention nut. Two-piece design incorporating a specialized, two-piece friction mechanism which is self centering.

Features:

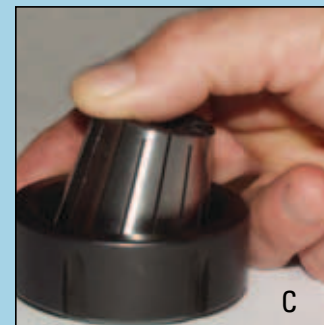
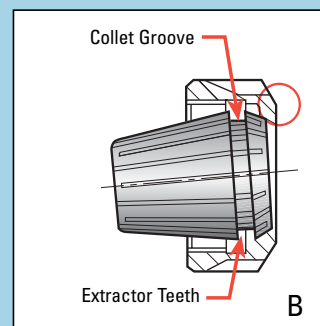
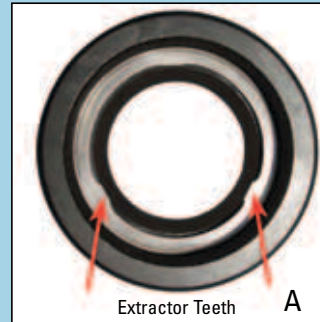
- Friction/bearing design offers 50%-100% greater torque transfer than conventional ER collet chucks.
- Balanced, allowing much higher RPM, due to unique extractor teeth.
- Compact style, no longer than standard ER retention nut.
- Designed for use with sealed collets.

Operation:

Always insert collet INTO nut BEFORE threading nut onto the collet chuck.

Assembly Procedure:

1. Angle collet into nut, inserting the extractor teeth into the groove on collet (A).
2. Place collet/nut onto a flat work surface (B).
3. Press collet into nut until it "snaps" into place (C); thread collet/nut onto collet chuck; insert tool shank and tighten to proper torque for that size collet.



ER COLLET - ER TOP CLAMPING NUT DIN 6499

Important: Do not insert any ER collet parallel to the extractor ring. Damage to the ring and teeth may occur. When removing the nut during disassembly, the collet will easily release from the ring.

To Disassemble

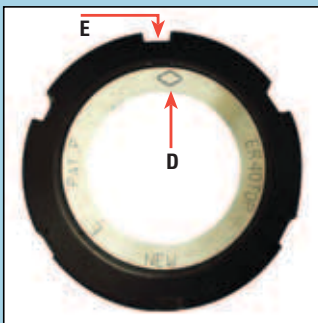
1. After removing the nut/collet assembly from the collet chuck, align the engraved "diamond" (**D**) with a key slot (**E**) on the nut.
2. Place the nut/collet on a flat surface as shown in figure **F**.
3. Insert a flat blade screwdriver between the nut and collet.
4. Using a minimum force, tilt the screwdriver outward, while applying opposite pressure by hand to remove the collet.

Recommended Clamping Torque for Standard ER & ER-Top Clamping Nut

Nut type	FT./LBS	Kg×M
E-11	36	5
ER-11M	21	3
ER-16	50	7
ER-16M	29	4
ER-20	86	12
ER-20M	58	8
ER-25	144	20
ER-32	160	22
ER-40	180	25
ER-50	252	35

Important:

Torque values have been calculated based on maximum diameter capacity. The torque spec may be reduced based on smaller diameter shank sizes.



F

Note:

For maximum performance, the clamping nut thread and collet taper must be cleaned and oiled before use.

ER COLLET - ER SPRING COLLETS DIN 6499

ER-11,16,20,25-SPR

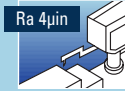
Designation	Diameter Range	Diameter Range (mm)
ER11 SPR .022-.041	1/32 (.022-.041)	0.5-1
ER11 SPR .041-.080	1/16 (.041-.080)	1-2
ER11 SPR .080-.120	3/32 (.080-.120)	2-3
ER11 SPR .120-.159	1/8 (.120-.159)	3-4
ER11 SPR .159-.199	3/16 (.159-.199)	4-5
ER11 SPR .199-.238	7/32 (.199-.238)	5-6
ER11 SPR .238-.278	1/4 (.238-.278)	6-7
ER16 SPR .022-.041	1/32 (.022-.041)	0.5-1
ER16 SPR .041-.080	1/16 (.041-.080)	1-2
ER16 SPR .080-.120	3/32 (.080-.120)	2-3
ER16 SPR .120-.159	1/8 (.120-.159)	3-4
ER16 SPR .159-.199	3/16 (.159-.199)	4-5
ER16 SPR .199-.238	7/32 (.199-.238)	5-6
ER16 SPR .238-.278	1/4 (.238-.278)	6-7
ER16 SPR .278-.317	5/16 (.278-.317)	7-8
ER16 SPR .317-.356	11/32 (.317-.356)	8-9
ER16 SPR .356-.396	3/8 (.356-.396)	9-10
ER20 SPR .041-.080	1/16 (.041-.080)	1-2
ER20 SPR .080-.120	3/32 (.080-.120)	2-3
ER20 SPR .120-.159	1/8 (.120-.159)	3-4
ER20 SPR .159-.199	3/16 (.159-.199)	4-5
ER20 SPR .199-.238	7/32 (.199-.238)	5-6
ER20 SPR .238-.278	1/4 (.238-.278)	6-7
ER20 SPR .278-.317	5/16 (.278-.317)	7-8
ER20 SPR .317-.356	11/32 (.317-.356)	8-9
ER20 SPR .356-.396	3/8 (.356-.396)	9-10
ER20 SPR .396-.435	13/32 (.396-.435)	10-11
ER20 SPR .435-.474	7/16 (.435-.474)	11-12
ER20 SPR .474-.514	1/2 (.474-.514)	12-13
ER25 SPR .041-.080	1/16 (.041-.080)	1-2
ER25 SPR .080-.120	3/32 (.080-.120)	2-3
ER25 SPR .120-.159	1/8 (.120-.159)	3-4
ER25 SPR .159-.199	3/16 (.159-.199)	4-5
ER25 SPR .199-.238	7/32 (.199-.238)	5-6
ER25 SPR .238-.278	1/4 (.238-.278)	6-7
ER25 SPR .278-.317	5/16 (.278-.317)	7-8
ER25 SPR .317-.356	11/32 (.317-.356)	8-9
ER25 SPR .356-.396	3/8 (.356-.396)	9-10
ER25 SPR .396-.435	13/32 (.396-.435)	10-11
ER25 SPR .435-.474	7/16 (.435-.474)	11-12
ER25 SPR .474-.514	1/2 (.474-.514)	12-13
ER25 SPR .514-.553	17/32 (.514-.553)	13-14
ER25 SPR .553-.593	9/16 (.553-.593)	14-15
ER25 SPR .593-.632	5/8 (.593-.632)	15-16



ER32,40-SPR

Designation	Diameter Range	Diameter Range (mm)
ER32 SPR .080-.120	3/32 (.080-.120)	2-3
ER32 SPR .120-.159	1/8 (.120-.159)	3-4
ER32 SPR .159-.199	3/16 (.159-.199)	4-5
ER32 SPR .199-.238	7/32 (.199-.238)	5-6
ER32 SPR .238-.278	1/4 (.238-.278)	6-7
ER32 SPR .278-.317	5/16 (.278-.317)	7-8
ER32 SPR .317-.356	11/32 (.317-.356)	8-9
ER32 SPR .356-.396	3/8 (.356-.396)	9-10
ER32 SPR .396-.435	13/32 (.396-.435)	10-11
ER32 SPR .435-.474	7/16 (.435-.474)	11-12
ER32 SPR .474-.514	1/2 (.474-.514)	12-13
ER32 SPR .514-.553	17/32 (.514-.553)	13-14
ER32 SPR .553-.593	9/16 (.553-.593)	14-15
ER32 SPR .593-.632	5/8 (.593-.632)	15-16
ER32 SPR .632-.671	21/32 (.632-.671)	16-17
ER32 SPR .671-.711	11/16 (.671-.711)	17-18
ER32 SPR .711-.750	3/4 (.711-.750)	18-19
ER32 SPR .750-.789	25/32 (.750-.789)	19-20
ER40 SPR .120-.159	1/8 (.120-.159)	3-4
ER40 SPR .159-.199	3/16 (.159-.199)	4-5
ER40 SPR .199-.238	7/32 (.199-.238)	5-6
ER40 SPR .238-.278	1/4 (.238-.278)	6-7
ER40 SPR .278-.317	5/16 (.278-.317)	7-8
ER40 SPR .317-.356	11/32 (.317-.356)	8-9
ER40 SPR .356-.396	3/8 (.356-.396)	9-10
ER40 SPR .396-.435	13/32 (.396-.435)	10-11
ER40 SPR .435-.474	7/16 (.435-.474)	11-12
ER40 SPR .474-.514	1/2 (.474-.514)	12-13
ER40 SPR .514-.553	17/32 (.514-.553)	13-14
ER40 SPR .553-.593	9/16 (.553-.593)	14-15
ER40 SPR .593-.632	5/8 (.593-.632)	15-16
ER40 SPR .632-.671	21/32 (.632-.671)	16-17
ER40 SPR .671-.711	11/16 (.671-.711)	17-18
ER40 SPR .711-.750	3/4 (.711-.750)	18-19
ER40 SPR .750-.789	25/32 (.750-.789)	19-20
ER40 SPR .789-.829	13/16 (.789-.829)	20-21
ER40 SPR .829-.868	27/32 (.829-.868)	21-22
ER40 SPR .868-.907	7/8 (.868-.907)	22-23
ER40 SPR .907-.947	15/16 (.907-.947)	23-24
ER40 SPR .947-.986	31/32 (.947-.986)	24-25
ER40 SPR .986-1.025	1 (.986-1.025)	25-26

ER COLLET - ER SPRING COLLETS DIN 6499



ER50-SPR

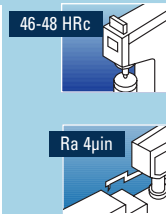
Designation	Diameter Range	Diameter Range (mm)
ER50 SPR .396-.474	13/32, 7/16 (.396-.474)	10-12
ER50 SPR .474-.553	1/2, 17/32 (.474-.553)	12-14
ER50 SPR .553-.632	9/16, 5/8 (.553-.632)	14-16
ER50 SPR .632-.711	21/32, 11/16 (.632-.711)	16-18
ER50 SPR .711-.789	3/4, 25/32 (.711-.789)	18-20
ER50 SPR .789-.868	13/16, 27/32 (.789-.868)	20-22
ER50 SPR .868-.947	7/8, 15/16 (.868-.947)	22-24
ER50 SPR .947-1.025	31/32, 1 (.947-1.025)	24-26
ER50 SPR 1.025-1.102	1-1/16 (1.025-1.102)	26-28
ER50 SPR 1.102-1.181	1-1/8 (1.102-1.181)	28-30
ER50 SPR 1.181-1.260	1-1/4 (1.181-1.260)	30-32
ER50 SPR 1.260-1.338	1-5/16 (1.260-1.338)	32-34

ER-EX* (Single-diameter spring collets)

Designation	Diameter	Diameter (mm)
ER32 EX .125	.125 (1/8)	3.175
ER32 EX .250	.250 (1/4)	6.350
ER32 EX .312	.312 (5/16)	7.924
ER32 EX .375	.375 (3/8)	9.525
ER32 EX .500	.500 (1/2)	12.700
ER32 EX .625	.625 (5/8)	15.875
ER32 EX .750	.750 (3/4)	19.050
ER40 EX .250	.250 (1/4)	6.350
ER40 EX .312	.312 (5/16)	7.924
ER40 EX .375	.375 (3/8)	9.525
ER40 EX .500	.500 (1/2)	12.700
ER40 EX .625	.625 (5/8)	15.875
ER40 EX .750	.750 (3/4)	19.050
ER40 EX .875	.875 (7/8)	22.225
ER40 EX 1.000	1.000	25.400

* Recommended for improved runout and clamping torque.

ER COLLET - ER SPRING COLLETS DIN 6499 "AA"



ER11,16,20-SPR-AA


Designation	Diameter Range	Diameter Range (mm)
ER11 SPR .022-.041 AA	1/32 (.022-.041)	0.5-1
ER11 SPR .041-.080 AA	1/16 (.041-.080)	1-2
ER11 SPR .080-.120 AA	3/32 (.080-.120)	2-3
ER11 SPR .120-.159 AA	1/8 (.120-.159)	3-4
ER11 SPR .159-.199 AA	3/16 (.159-.199)	4-5
ER11 SPR .199-.238 AA	7/32 (.199-.238)	5-6
ER11 SPR .238-.278 AA	1/4 (.238-.278)	6-7
ER16 SPR .022-.041 AA	1/32 (.022-.041)	0.5-1
ER16 SPR .041-.080 AA	1/16 (.041-.080)	1-2
ER16 SPR .080-.120 AA	3/32 (.080-.120)	2-3
ER16 SPR .120-.159 AA	1/8 (.120-.159)	3-4
ER16 SPR .159-.199 AA	3/16 (.159-.199)	4-5
ER16 SPR .199-.238 AA	7/32 (.199-.238)	5-6
ER16 SPR .238-.278 AA	1/4 (.238-.278)	6-7
ER16 SPR .278-.317 AA	5/16 (.278-.317)	7-8
ER16 SPR .317-.356 AA	11/32 (.317-.356)	8-9
ER16 SPR .356-.396 AA	3/8 (.356-.396)	9-10
ER20 SPR .041-.080 AA	1/16 (.041-.080)	1-2
ER20 SPR .080-.120 AA	3/32 (.080-.120)	2-3
ER20 SPR .120-.159 AA	1/8 (.120-.159)	3-4
ER20 SPR .159-.199 AA	3/16 (.159-.199)	4-5
ER20 SPR .199-.238 AA	7/32 (.199-.238)	5-6
ER20 SPR .238-.278 AA	1/4 (.238-.278)	6-7
ER20 SPR .278-.317 AA	5/16 (.278-.317)	7-8
ER20 SPR .317-.356 AA	11/32 (.317-.356)	8-9
ER20 SPR .356-.396 AA	3/8 (.356-.396)	9-10
ER20 SPR .396-.435 AA	13/32 (.396-.435)	10-11
ER20 SPR .435-.474 AA	7/16 (.435-.474)	11-12
ER20 SPR .474-.514 AA	1/2 (.474-.514)	12-13

ER25,32-SPR-AA

Designation	Diameter Range	Diameter Range (mm)
ER25 SPR .041-.080 AA	1/16 (.041-.080)	1-2
ER25 SPR .080-.120 AA	3/32 (.080-.120)	2-3
ER25 SPR .120-.159 AA	1/8 (.120-.159)	3-4
ER25 SPR .159-.199 AA	3/16 (.159-.199)	4-5
ER25 SPR .199-.238 AA	7/32 (.199-.238)	5-6
ER25 SPR .238-.278 AA	1/4 (.238-.278)	6-7
ER25 SPR .278-.317 AA	5/16 (.278-.317)	7-8
ER25 SPR .317-.356 AA	11/32 (.317-.356)	8-9
ER25 SPR .356-.396 AA	3/8 (.356-.396)	9-10
ER25 SPR .396-.435 AA	13/32 (.396-.435)	10-11
ER25 SPR .435-.474 AA	7/16 (.435-.474)	11-12
ER25 SPR .474-.514 AA	1/2 (.474-.514)	12-13
ER25 SPR .514-.553 AA	17/32 (.514-.553)	13-14
ER25 SPR .553-.593 AA	9/16 (.553-.593)	14-15
ER25 SPR .593-.632 AA	5/8 (.593-.632)	15-16
ER32 SPR .080-.120 AA	3/32 (.080-.120)	2-3
ER32 SPR .120-.159 AA	1/8 (.120-.159)	3-4
ER32 SPR .159-.199 AA	3/16 (.159-.199)	4-5
ER32 SPR .199-.238 AA	7/32 (.199-.238)	5-6
ER32 SPR .238-.278 AA	1/4 (.238-.278)	6-7
ER32 SPR .278-.317 AA	5/16 (.278-.317)	7-8
ER32 SPR .317-.356 AA	11/32 (.317-.356)	8-9
ER32 SPR .356-.396 AA	3/8 (.356-.396)	9-10
ER32 SPR .396-.435 AA	13/32 (.396-.435)	10-11
ER32 SPR .435-.474 AA	7/16 (.435-.474)	11-12
ER32 SPR .474-.514 AA	1/2 (.474-.514)	12-13
ER32 SPR .514-.553 AA	17/32 (.514-.553)	13-14
ER32 SPR .553-.593 AA	9/16 (.553-.593)	14-15
ER32 SPR .593-.632 AA	5/8 (.593-.632)	15-16
ER32 SPR .632-.671 AA	21/32 (.632-.671)	16-17
ER32 SPR .671-.711 AA	11/16 (.671-.711)	17-18
ER32 SPR .711-.750 AA	3/4 (.711-.750)	18-19
ER32 SPR .750-.789 AA	25/32 (.750-.789)	19-20

ER COLLET - ER SPRING COLLETS DIN 6499 "AA"



 .0002

ULTRA PRECISION 'AA'



Designation	Diameter Range	Diameter Range (mm)
ER40 SPR .120-.159 AA	1/8 (.120-.159)	3-4
ER40 SPR .159-.199 AA	3/16 (.159-.199)	4-5
ER40 SPR .199-.238 AA	7/32 (.199-.238)	5-6
ER40 SPR .238-.278 AA	1/4 (.238-.278)	6-7
ER40 SPR .278-.317 AA	5/16 (.278-.317)	7-8
ER40 SPR .317-.356 AA	11/32 (.317-.356)	8-9
ER40 SPR .356-.396 AA	3/8 (.356-.396)	9-10
ER40 SPR .396-.435 AA	13/32 (.396-.435)	10-11
ER40 SPR .435-.474 AA	7/16 (.435-.474)	11-12
ER40 SPR .474-.514 AA	1/2 (.474-.514)	12-13
ER40 SPR .514-.553 AA	17/32 (.514-.553)	13-14
ER40 SPR .553-.593 AA	9/16 (.553-.593)	14-15
ER40 SPR .593-.632 AA	5/8 (.593-.632)	15-16
ER40 SPR .632-.671 AA	21/32 (.632-.671)	16-17
ER40 SPR .671-.711 AA	11/16 (.671-.711)	17-18
ER40 SPR .711-.750 AA	3/4 (.711-.750)	18-19
ER40 SPR .750-.789 AA	25/32 (.750-.789)	19-20
ER40 SPR .789-.829 AA	13/16 (.789-.829)	20-21
ER40 SPR .829-.868 AA	27/32 (.829-.868)	21-22
ER40 SPR .868-.907 AA	7/8 (.868-.907)	22-23
ER40 SPR .907-.947 AA	15/16 (.907-.947)	23-24
ER40 SPR .947-.986 AA	31/32 (.947-.986)	24-25
ER40 SPR .986-1.025 AA	1 (.986-1.025)	25-26

TG100 COLLET - TG100 + SPRING COLLET



\nearrow .0004

ULTRA PRECISION 'AA'

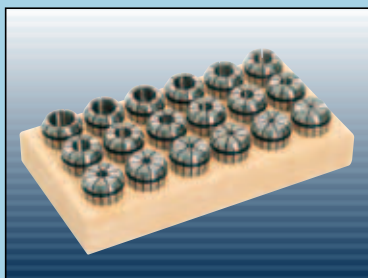


TG100+-SPR

Designation	Diameter Range	Diameter Range (mm)
TG100+ SPR .093-.150	1/8, 9/64 (.093-.150)	2.5-3.5
TG100+ SPR .150-.199	5/32, 11/64, 3/16 (.150-.199)	4-5
TG100+ SPR .199-.238	13/64, 7/32, 15/64 (.199-.238)	5-6
TG100+ SPR .238-.278	1/4, 17/64 (.238-.278)	6-7
TG100+ SPR .278-.317	9/32, 19/64, 5/16 (.278-.317)	7-8
TG100+ SPR .317-.356	21/64, 11/32 (.317-.356)	8-9
TG100+ SPR .356-.396	23/64, 3/8, 25/64 (.356-.396)	9-10
TG100+ SPR .396-.435	13/32, 27/64 (.396-.435)	10-11
TG100+ SPR .435-.474	7/16, 29/64, 15/32 (.435-.474)	11-12
TG100+ SPR .474-.514	31/64, 1/2 (.474-.514)	12-13
TG100+ SPR .514-.553	33/64, 17/32, 35/64 (.514-.553)	13-14
TG100+ SPR .553-.593	9/16, 37/64, 19/32 (.553-.593)	14-15
TG100+ SPR .593-.632	39/64, 5/8 (.593-.632)	15-16
TG100+ SPR .632-.671	41/64, 21/32, 43/64 (.632-.671)	16-17
TG100+ SPR .671-.711	11/16, 45/64 (.671-.711)	17-18
TG100+ SPR .711-.750	23/32, 47/32, 3/4 (.711-.750)	18-19
TG100+ SPR .750-.789	49/64, 25/32 (.750-.789)	19-20
TG100+ SPR .789-.829	51/64, 13/16, 53/64 (.789-.829)	20-21
TG100+ SPR .829-.868	27/32, 55/64 (.829-.868)	21-22
TG100+ SPR .868-.907	7/8, 57/64, 29/32 (.868-.907)	22-23
TG100+ SPR .907-.947	59/64, 15/16 (.907-.947)	23-24
TG100+ SPR .947-.986	61/64, 31/32, 63/64 (.947-.986)	24-25
TG100+ SPR .986-1.025	1 (.986-1.025)	25-26

⁰Expanded collapsability range (.04")

SET-TG100+-SPR Spring Collets



Designation	Diameter Range	Diameter Range (mm)	Pcs.
SET TG100+ SPR .093-1.025 23	1/8-1 (.093-1.025)	2.5-26	23
SET TG100+ SPR .093-.514 10	1/8-1/2 (.093-.514)	2.5-13	10
SET TG100+ SPR .511-1.025 13	33/64-1 (.511-1.025)	13-26	13

ER COOLIT - SEALED JET COLLET 1450 PSI



ER16, 20, 25-SEAL

Designation	Diameter Range	Diameter Range (mm)
ER16 SEAL .120-.159	1/8 (.120-.159)	3-4
ER16 SEAL .159-.199	3/16 (.159-.199)	4-5
ER16 SEAL .199-.238	7/32 (.199-.238)	5-6
ER16 SEAL .238-.278	1/4 (.238-.278)	6-7
ER16 SEAL .278-.317	5/16 (.278-.317)	7-8
ER16 SEAL .317-.356	11/32 (.317-.356)	8-9
ER16 SEAL .356-.396	3/8 (.356-.396)	9-10
ER20 SEAL .120-.159	1/8 (.120-.159)	3-4
ER20 SEAL .159-.199	3/16 (.159-.199)	4-5
ER20 SEAL .199-.238	7/32 (.199-.238)	5-6
ER20 SEAL .238-.278	1/4 (.238-.278)	6-7
ER20 SEAL .278-.317	5/16 (.278-.317)	7-8
ER20 SEAL .317-.356	11/32 (.317-.356)	8-9
ER20 SEAL .356-.396	3/8 (.356-.396)	9-10
ER20 SEAL .396-.435	13/32 (.396-.435)	10-11
ER20 SEAL .435-.474	7/16 (.435-.474)	11-12
ER20 SEAL .474-.514	1/2 (.474-.514)	12-13
ER25 SEAL .120-.159	1/8 (.120-.159)	3-4
ER25 SEAL .159-.199	3/16 (.159-.199)	4-5
ER25 SEAL .199-.238	7/32 (.199-.238)	5-6
ER25 SEAL .238-.278	1/4 (.238-.278)	6-7
ER25 SEAL .278-.317	5/16 (.278-.317)	7-8
ER25 SEAL .317-.356	11/32 (.317-.356)	8-9
ER25 SEAL .356-.396	3/8 (.356-.396)	9-10
ER25 SEAL .396-.435	13/32 (.396-.435)	10-11
ER25 SEAL .435-.474	7/16 (.435-.474)	11-12
ER25 SEAL .474-.514	1/2 (.474-.514)	12-13
ER25 SEAL .514-.553	17/32 (.514-.553)	13-14
ER25 SEAL .553-.593	9/16 (.553-.593)	14-15
ER25 SEAL .593-.632	5/8 (.593-.632)	15-16

ER32, 40-SEAL

Designation	Diameter Range	Diameter Range (mm)
ER32 SEAL .120-.159	1/8 (.120-.159)	3-4
ER32 SEAL .159-.199	3/16 (.159-.199)	4-5
ER32 SEAL .199-.238	7/32 (.199-.238)	5-6
ER32 SEAL .238-.278	1/4 (.238-.278)	6-7
ER32 SEAL .278-.317	5/16 (.278-.317)	7-8
ER32 SEAL .317-.356	11/32 (.317-.356)	8-9
ER32 SEAL .356-.396	3/8 (.356-.396)	9-10
ER32 SEAL .396-.435	13/32 (.396-.435)	10-11
ER32 SEAL .435-.474	7/16 (.435-.474)	11-12
ER32 SEAL .474-.514	1/2 (.474-.514)	12-13
ER32 SEAL .514-.553	17/32 (.514-.553)	13-14
ER32 SEAL .553-.593	9/16 (.553-.593)	14-15
ER32 SEAL .593-.632	5/8 (.593-.632)	15-16
ER32 SEAL .632-.671	21/32 (.632-.671)	16-17
ER32 SEAL .671-.711	11/16 (.671-.711)	17-18
ER32 SEAL .711-.750	3/4 (.711-.750)	18-19
ER32 SEAL .750-.789	25/32 (.750-.789)	19-20
ER40 SEAL .120-.159	1/8 (.120-.159)	3-4
ER40 SEAL .159-.199	3/16 (.159-.199)	4-5
ER40 SEAL .199-.238	7/32 (.199-.238)	5-6
ER40 SEAL .238-.278	1/4 (.238-.278)	6-7
ER40 SEAL .278-.317	5/16 (.278-.317)	7-8
ER40 SEAL .317-.356	11/32 (.317-.356)	8-9
ER40 SEAL .356-.396	3/8 (.356-.396)	9-10
ER40 SEAL .396-.435	13/32 (.396-.435)	10-11
ER40 SEAL .435-.474	7/16 (.435-.474)	11-12
ER40 SEAL .474-.514	1/2 (.474-.514)	12-13
ER40 SEAL .514-.553	17/32 (.514-.553)	13-14
ER40 SEAL .553-.593	9/16 (.553-.593)	14-15
ER40 SEAL .593-.632	5/8 (.593-.632)	15-16
ER40 SEAL .632-.671	21/32 (.632-.671)	16-17
ER40 SEAL .671-.711	11/16 (.671-.711)	17-18
ER40 SEAL .711-.750	3/4 (.711-.750)	18-19
ER40 SEAL .750-.789	25/32 (.750-.789)	19-20
ER40 SEAL .789-.829	13/16 (.789-.829)	20-21
ER40 SEAL .829-.868	27/32 (.829-.868)	21-22
ER40 SEAL .868-.907	7/8 (.868-.907)	22-23
ER40 SEAL .907-.947	15/16 (.907-.947)	23-24
ER40 SEAL .947-.986	31/32 (.947-.986)	24-25
ER40 SEAL .986-1.025	1 (.986-1.025)	25-26

ER COOLIT - SEALED JET2 SPRING COLLETS 1450 PSI



46-48 HRc

Ra 4µm

ER16, 20, 25-SEAL-JET2

Designation	Diameter Range	Diameter Range (mm)
ER16 SEAL .120-.159 JET2	1/8 (.120-.159)	3-4
ER16 SEAL .159-.199 JET2	3/16 (.159-.199)	4-5
ER16 SEAL .199-.238 JET2	7/32 (.199-.238)	5-6
ER16 SEAL .238-.278 JET2	1/4 (.238-.278)	6-7
ER16 SEAL .278-.317 JET2	5/16 (.278-.317)	7-8
ER16 SEAL .317-.356 JET2	11/32 (.317-.356)	8-9
ER16 SEAL .356-.396 JET2	3/8 (.356-.396)	9-10
ER20 SEAL .120-.159 JET2	1/8 (.120-.159)	3-4
ER20 SEAL .159-.199 JET2	3/16 (.159-.199)	4-5
ER20 SEAL .199-.238 JET2	7/32 (.199-.238)	5-6
ER20 SEAL .238-.278 JET2	1/4 (.238-.278)	6-7
ER20 SEAL .278-.317 JET2	5/16 (.278-.317)	7-8
ER20 SEAL .317-.356 JET2	11/32 (.317-.356)	8-9
ER20 SEAL .356-.396 JET2	3/8 (.356-.396)	9-10
ER20 SEAL .396-.435 JET2	13/32 (.396-.435)	10-11
ER20 SEAL .435-.474 JET2	7/16 (.435-.474)	11-12
ER20 SEAL .474-.514 JET2	1/2 (.474-.514)	12-13
ER25 SEAL .120-.159 JET2	1/8 (.120-.159)	3-4
ER25 SEAL .159-.199 JET2	3/16 (.159-.199)	4-5
ER25 SEAL .199-.238 JET2	7/32 (.199-.238)	5-6
ER25 SEAL .238-.278 JET2	1/4 (.238-.278)	6-7
ER25 SEAL .278-.317 JET2	5/16 (.278-.317)	7-8
ER25 SEAL .317-.356 JET2	11/32 (.317-.356)	8-9
ER25 SEAL .356-.396 JET2	3/8 (.356-.396)	9-10
ER25 SEAL .396-.435 JET2	13/32 (.396-.435)	10-11
ER25 SEAL .435-.474 JET2	7/16 (.435-.474)	11-12
ER25 SEAL .474-.514 JET2	1/2 (.474-.514)	12-13
ER25 SEAL .514-.553 JET2	17/32 (.514-.553)	13-14
ER25 SEAL .553-.593 JET2	9/16 (.553-.593)	14-15
ER25 SEAL .593-.632 JET2	5/8 (.593-.632)	15-16

ER COOLIT - SEALED JET2 SPRING COLLETS 1450 PSI



ER32, 40-SEAL-JET2

Designation	Diameter Range	Diameter Range (mm)
ER32 SEAL .120-.159 JET2	1/8 (.120-.159)	3-4
ER32 SEAL .159-.199 JET2	3/16 (.159-.199)	4-5
ER32 SEAL .199-.238 JET2	7/32 (.199-.238)	5-6
ER32 SEAL .238-.278 JET2	1/4 (.238-.278)	6-7
ER32 SEAL .278-.317 JET2	5/16 (.278-.317)	7-8
ER32 SEAL .317-.356 JET2	11/32 (.317-.356)	8-9
ER32 SEAL .356-.396 JET2	3/8 (.356-.396)	9-10
ER32 SEAL .396-.435 JET2	13/32 (.396-.435)	10-11
ER32 SEAL .435-.474 JET2	7/16 (.435-.474)	11-12
ER32 SEAL .474-.514 JET2	1/2 (.474-.514)	12-13
ER32 SEAL .514-.553 JET2	17/32 (.514-.553)	13-14
ER32 SEAL .553-.593 JET2	9/16 (.553-.593)	14-15
ER32 SEAL .593-.632 JET2	5/8 (.593-.632)	15-16
ER32 SEAL .632-.671 JET2	21/32 (.632-.671)	16-17
ER32 SEAL .671-.711 JET2	11/16 (.671-.711)	17-18
ER32 SEAL .711-.750 JET2	3/4 (.711-.750)	18-19
ER32 SEAL .750-.789 JET2	25/32 (.750-.789)	19-20
ER40 SEAL .120-.159 JET2	1/8 (.120-.159)	3-4
ER40 SEAL .159-.199 JET2	3/16 (.159-.199)	4-5
ER40 SEAL .199-.238 JET2	7/32 (.199-.238)	5-6
ER40 SEAL .238-.278 JET2	1/4 (.238-.278)	6-7
ER40 SEAL .278-.317 JET2	5/16 (.278-.317)	7-8
ER40 SEAL .317-.356 JET2	11/32 (.317-.356)	8-9
ER40 SEAL .356-.396 JET2	3/8 (.356-.396)	9-10
ER40 SEAL .396-.435 JET2	13/32 (.396-.435)	10-11
ER40 SEAL .435-.474 JET2	7/16 (.435-.474)	11-12
ER40 SEAL .474-.514 JET2	1/2 (.474-.514)	12-13
ER40 SEAL .514-.553 JET2	17/32 (.514-.553)	13-14
ER40 SEAL .553-.593 JET2	9/16 (.553-.593)	14-15
ER40 SEAL .593-.632 JET2	5/8 (.593-.632)	15-16
ER40 SEAL .632-.671 JET2	21/32 (.632-.671)	16-17
ER40 SEAL .671-.711 JET2	11/16 (.671-.711)	17-18
ER40 SEAL .711-.750 JET2	3/4 (.711-.750)	18-19
ER40 SEAL .750-.789 JET2	25/32 (.750-.789)	19-20
ER40 SEAL .789-.829 JET2	13/16 (.789-.829)	20-21
ER40 SEAL .829-.868 JET2	27/32 (.829-.868)	21-22
ER40 SEAL .868-.907 JET2	7/8 (.868-.907)	22-23
ER40 SEAL .907-.947 JET2	15/16 (.907-.947)	23-24
ER40 SEAL .947-.986 JET2	31/32 (.947-.986)	24-25
ER40 SEAL .986-1.025 JET2	1 (.986-1.025)	25-26

TG100 COOLIT - SEALED SPRING COLLETS 500 PSI



TG100-SEAL

Designation	Diameter Range
TG100 SEAL .172-.187	3/16 (.172-.187)
TG100 SEAL .188-.203	13/64 (.188-.203)
TG100 SEAL .204-.219	7/32 (.204-.219)
TG100 SEAL .219-.234	15/64 (.219-.234)
TG100 SEAL .235-.250	1/4 (.235-.250)
TG100 SEAL .251-.266	17/64 (.251-.266)
TG100 SEAL .266-.281	9/32 (.266-.281)
TG100 SEAL .282-.297	19/64 (.282-.297)
TG100 SEAL .297-.313	5/16 (.297-.313)
TG100 SEAL .313-.328	21/64 (.313-.328)
TG100 SEAL .329-.344	11/32 (.329-.344)
TG100 SEAL .344-.359	23/64 (.344-.359)
TG100 SEAL .360-.375	3/8 (.360-.375)
TG100 SEAL .376-.391	25/64 (.376-.391)
TG100 SEAL .391-.406	13/32 (.391-.406)
TG100 SEAL .407-.422	27/64 (.407-.422)
TG100 SEAL .422-.437	7/16 (.422-.437)
TG100 SEAL .438-.453	29/64 (.438-.453)
TG100 SEAL .454-.469	15/32 (.454-.469)
TG100 SEAL .469-.484	31/64 (.469-.484)
TG100 SEAL .485-.500	1/2 (.485-.500)
TG100 SEAL .501-.516	33/64 (.501-.516)
TG100 SEAL .516-.531	17/32 (.516-.531)
TG100 SEAL .532-.547	35/64 (.532-.547)
TG100 SEAL .547-.562	9/16 (.547-.562)
TG100 SEAL .563-.578	37/64 (.563-.578)
TG100 SEAL .579-.594	19/32 (.579-.594)

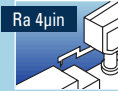
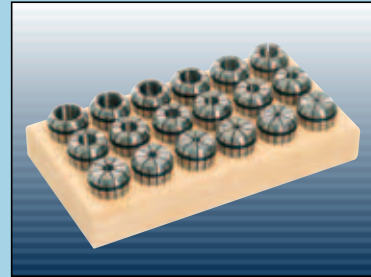
TG100-SEAL

Designation	Diameter Range
TG100 SEAL .594-.609	39/64 (.594-.609)
TG100 SEAL .610-.625	5/8 (.610-.625)
TG100 SEAL .626-.641	41/64 (.626-.641)
TG100 SEAL .641-.656	21/32 (.641-.656)
TG100 SEAL .657-.672	43/64 (.657-.672)
TG100 SEAL .673-.688	11/16 (.673-.688)
TG100 SEAL .688-.703	45/64 (.688-.703)
TG100 SEAL .704-.719	23/32 (.704-.719)
TG100 SEAL .719-.734	47/64 (.719-.734)
TG100 SEAL .735-.750	3/4 (.735-.750)
TG100 SEAL .751-.766	49/64 (.751-.766)
TG100 SEAL .766-.781	25/32 (.766-.781)
TG100 SEAL .782-.797	51/64 (.782-.797)
TG100 SEAL .798-.813	13/16 (.798-.813)
TG100 SEAL .813-.828	53/64 (.813-.828)
TG100 SEAL .829-.844	27/32 (.829-.844)
TG100 SEAL .844-.859	55/64 (.844-.859)
TG100 SEAL .860-.875	7/8 (.860-.875)
TG100 SEAL .876-.891	57/64 (.876-.891)
TG100 SEAL .891-.906	29/32 (.891-.906)
TG100 SEAL .907-.922	59/64 (.907-.922)
TG100 SEAL .923-.938	15/16 (.923-.938)
TG100 SEAL .938-.953	61/64 (.938-.953)
TG100 SEAL .954-.968	31/32 (.954-.968)
TG100 SEAL .968-.984	63/64 (.969-.984)
TG100 SEAL .985-1.00	1 (.985-1.00)

ER SPRING COLLET SETS

SET-ER SPR SPRING COLLETS DIN 6499

Designation	Pcs.	Diameter Range	Diameter Range (mm)
SET ER11 SPR 7	7	.022-.278	0.5-7
SET ER16 SPR 10	10	.022-.396	0.5-10
SET ER20 SPR 12	12	.041-.514	1-13
SET ER25 SPR 15	15	.041-.632	1-16
SET ER32 SPR 18	18	.080-.789	2-20
SET ER40 SPR 23	23	.120-1.025	3-26
SET ER50 SPR 12	12	.396-1.338	10-34



SET-ER-SPR-AA SPRING COLLETS DIN 6499 "AA"

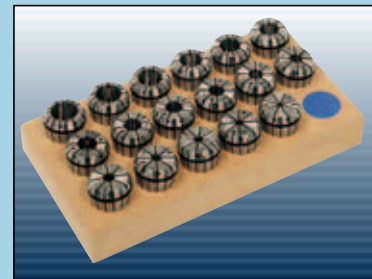
Designation	Pcs.	Diameter Range	Diameter Range (mm)
SET ER11 SPR 7 AA	7	.022-.278	0.5-7
SET ER16 SPR 10 AA	10	.022-.396	0.5-10
SET ER20 SPR 12 AA	12	.041-.514	1-13
SET ER25 SPR 15 AA	15	.041-.632	1-16
SET ER32 SPR 18 AA	18	.080-.789	2-20
SET ER40 SPR 23 AA	23	.120-1.025	3-26



ER COOLIT - SEALED JETS COLLET SETS 1450- PSI

SET ER-SEAL COLLETS 6499

Designation	Pcs.	Diameter Range	Diameter Range (mm)
SET ER16 SEAL 7	7	.120-.396	3-10
SET ER20 SEAL 10	10	.120-.514	3-13
SET ER25 SEAL 13	13	.120-.632	3-16
SET ER32 SEAL 17	17	.120-.789	3-20
SET ER40 SEAL 23	23	.120-1.025	3-26



SET ER-SEAL-JET2 COLLETS DIN 6499

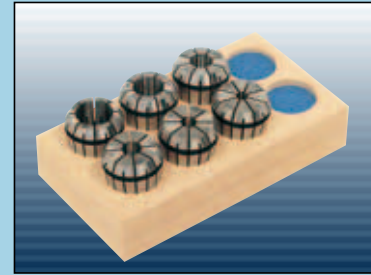
Designation	Pcs.	Diameter Range	Diameter Range (mm)
SET ER16 SEAL 7 JET2	7	.120-.396	3-10
SET ER20 SEAL 10 JET2	10	.120-.514	3-13
SET ER25 SEAL 13 JET2	13	.120-.632	3-16
SET ER32 SEAL 17 JET2	17	.120-.789	3-20
SET ER40 SEAL 23 JET2	23	.120-1.025	3-26



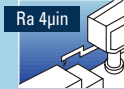
ER SPRING EMI COLLET SETS DIN 6490

SET ER SPR-EMI (1)

Designation	Pcs.	Collet Sizes
SET ER16 SPR 5 EM	5	1/8, 3/16, 1/4, 5/16, 3/8
SET ER20 SPR 5 EM	5	3/16, 1/4, 5/16, 3/8, 1/2
SET ER25 SPR 6 EM	6	3/16, 1/4, 5/16, 3/8, 1/2, 5/8
SET ER32 SPR 6 EM	6	1/4, 3/16, 5/16, 3/8, 1/2, 5/8, 3/4
SET ER40 SPR 7 EM	7	1/4, 3/16, 5/16, 3/8, 1/2, 5/8, 3/4, 1



(1) EMI-Endmill cutter inch sizes



ER COOLIT - SEALED JET EMI COLLET SETS

SET-ER SEAL-EMI(1)

Designation	Pcs.	Collet Sizes
SET ER 16 SEAL 5 EM	5	1/8, 3/16, 1/4, 5/16, 3/8
SET ER 20 SEAL 5 EM	5	1/8, 3/16, 1/4, 5/16, 3/8, 1/2
SET ER 25 SEAL 6 EM	6	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8
SET ER 32 SEAL 6 EM	6	3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4
SET ER 40 SEAL 7 EM	7	3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1



(1) EMI-Endmill cutter inch sizes

SET-ER SEAL-EMI JET2

Designation	Set Pcs.	Collet Sizes
SET ER 16 SEAL 5 EM JET2	5	1/8, 3/16, 1/4, 5/16, 3/8
SET ER 20 SEAL 5 EM JET2	5	1/8, 3/16, 1/4, 5/16, 3/8, 1/2
SET ER 25 SEAL 6 EM JET2	6	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8
SET ER 32 SEAL 6 EM JET2	6	3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4
SET ER 40 SEAL 7 EM JET2	7	3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1





NOTES:

A large rectangular area with horizontal blue lines on a white background, intended for taking notes.



A42