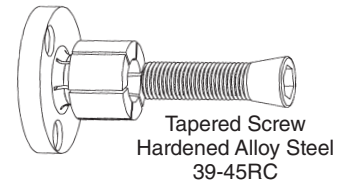


ID Xpansion™ Clamp Instructions

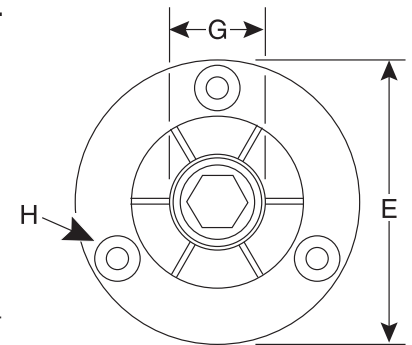
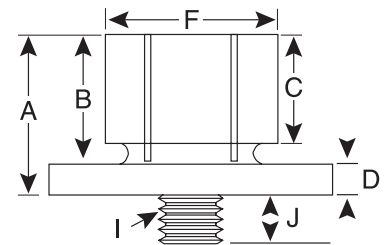
Model #00 - #6

- ▶ Expand ID Clamp approximately .002" to .003" (.075mm) above the relaxed diameter and machine to fit the workpiece bore on a lathe or milling machine.
- ▶ If machining the ID Clamp on a lathe, use the supplied hex nut against the back of the flange to tighten the tapered screw. This nut is only used for machining the ID Clamp.
- ▶ Machine a counterbore in the fixture for the "E" dimension flange. Drill and tap (D&T) the fixture for the mounting holes per column "H". D&T thread "I" in the center of the counterbore for the Tapered Screw.
- ▶ Maximum recommended expansion from fully relaxed for the #00 through #6 ID Clamps is as follows: #00 Ø.005" (Ø.13mm); #0 Ø.010" (Ø.25mm); #1 Ø.013" (Ø.33mm); #2 Ø.015" (Ø.38mm); #3 Ø.015" (Ø.38mm); #4 Ø.015" (Ø.38mm); #5 Ø.015" (Ø.38mm); #6 Ø.015" (Ø.38mm).



Model #7 - #10

- ▶ A Locking Ring (LR) is provided to ensure the clamping segments are rigid for machining the ID Clamp to the workpiece bore size. The #9 and #10 ID Clamp is supplied with 2 Locking Rings so it can be machined/reused at a smaller size than the large Locking Ring will allow it to be used. Do not attempt to use the two Locking Rings simultaneously with these ID Clamps.
- ▶ To machine ID Clamp, insert the LR and torque the Tapered Screw - **do not exceed 20 ft./lbs. (27 Nm)**. Machine down to within +Ø.003 to +Ø.005" (+Ø.08mm to +Ø.13mm) over the low limit bore size of the workpiece. Loosen the Tapered Screw to remove the Locking Ring and test fitment with workpiece. If workpiece fitment is too tight, repeat the machining process to achieve as close a fit to the low limit size of the workpiece bore as is required/desired for the particular application.
- ▶ Maximum recommended expansion from fully relaxed for the #7 through #10 ID Clamps is as follows: #7 Ø.015" (Ø.38mm); #8 Ø.015" (Ø.38mm); #9 Ø.020" (Ø.50mm); #10 Ø.080" (Ø2.0mm).



GENERAL NOTES -ID Clamps #00 through #9 are manufactured from 12L14 "Free Machining" low carbon steel. The #10 ID Clamp is manufactured from 7075-T6511 "High Strength" aluminum alloy. Aggressive material removal rates/practices are not recommended when machining ID Clamps "to size". For blind hole applications, please see our Manual Actuators, or contact us for the availability of custom screws and other mounting/use options.

	Part No.	Model No.	A	B	C	D	+0.000 E - .002	F	G*	H**	I	J	Torque not to Exceed (Ft/Lbs)	Holding Force (Lbs)	Replacement Tapered Screw
INCH	31000	#00	.42	.30	.24	.12	.787	.29	.16	2-56 on .540 BHC	2-56 x 1/4	.16	0.5	250	31001
	31050	#0	.86	.63	.59	.23	1.170	.49	.28	6-32 on .825 BHC	8-32 x 1	.30	3.6	950	31002
	31100	#1	.98	.75	.59	.23	1.240	.56	.48	6-32 on .910 BHC	1/4-20 x 1 1/4	.50	13.3	1,900	31010
	31150	#2	.98	.75	.59	.23	1.476	.79	.53	6-32 on 1.140 BHC	5/16-18 x 1 1/4	.56	27.6	2,500	31020
	31200	#3	1.13	.88	.69	.25	1.968	1.06	.71	8-32 on 1.550 BHC	3/8-16 x 1 1/2	.71	49.3	4,500	31032
	31250	#4	1.25	1.00	.81	.25	2.205	1.39	.90	8-32 on 1.790 BHC	1/2-13 x 1 1/2	.71	120.0	5,900	31042
	31300	#5	1.56	1.25	1.06	.31	2.736	1.65	1.15	10-32 on 2.200 BHC	5/8-11 x 1 3/4	.79	224.0	10,000	31052
	31350	#6	1.56	1.25	1.06	.31	2.972	2.03	1.15	10-32 on 2.515 BHC	5/8-11 x 1 3/4	.79	224.0	10,000	31052
	31400	#7	1.79	1.48	1.27	.31	4.232	3.06	1.15	1/4-20 on 3.646 BHC	5/8-11 x 2	.79	224.0	10,000	31072
	31450	#8	1.79	1.48	1.27	.31	5.232	4.06	1.15	1/4-20 on 4.648 BHC	5/8-11 x 2	.79	224.0	10,000	31072
	31500	#9	1.79	1.48	1.27	.31	5.232	6.89	1.15	1/4-20 on 4.648 BHC	5/8-11 x 2	.79	224.0	10,000	31072
	31550	#10**	1.79	1.48	1.27	.31	6.000	9.85	1.15	1/4-20 on 5.250 BHC	5/8-11 x 2	.79	125.0	6,000	31072
							+0.000 E - .050						(N.m.)	(N)	
METRIC	38000	#00	10.7	7.6	6.1	3.0	20.00	7.4	4.1	M2 on 13.7 BHC	M2x12	4.1	.70	1113	38001
	38050	#0	21.8	16.0	15.0	5.9	29.72	12.4	7.1	M3 on 20.95 BHC	M4x25	7.2	5.00	4228	38002
	38100	#1	24.9	19.0	15.0	5.9	31.50	14.2	12.2	M3 on 23.1 BHC	M6x30	11.2	17.00	8455	38010
	38150	#2	24.9	19.0	15.0	5.9	37.50	20.0	13.5	M3 on 29.0 BHC	M8x30	13.2	34.00	11125	38020
	38200	#3	28.6	22.2	17.5	6.4	50.00	27.0	18.0	M4 on 39.4 BHC	M10x35	16.3	60.00	20025	38032
	38250	#4	31.8	25.4	20.6	6.4	56.00	35.3	23.0	M4 on 45.5 BHC	M12x40	20.3	150.00	26255	38042
	38300	#5	39.6	31.8	27.0	7.9	69.50	42.0	29.3	M5 on 55.9 BHC	M16x45	21.4	280.00	44500	38052
	38350	#6	39.6	31.8	27.0	7.9	75.50	51.5	29.3	M5 on 63.9 BHC	M16x45	21.4	280.00	44500	38052
	38400	#7	45.5	37.6	32.3	7.9	107.50	77.7	29.3	M6 on 92.6 BHC	M16x50	19.3	280.00	44500	38072
	38450	#8	45.5	37.6	32.3	7.9	132.90	103.0	29.3	M6 on 118.06 BHC	M16x50	19.3	280.00	44500	38072
	38500	#9	45.5	37.6	32.3	7.9	132.90	175.0	29.3	M6 on 118.06 BHC	M16x50	19.3	280.00	44500	38072
	38550	#10†	45.5	37.6	32.3	7.9	152.40	250.2	29.3	M6 on 133.35 BHC	M16x50	19.3	170.00	26000	38072

G* - Minimum diameter the "F" dimension can be machined or turned down to. H** - (3) Mounting Screws included - (4) for model numbers #9 and #10.

†Model #10 Made from 7075-T6 aluminum.

