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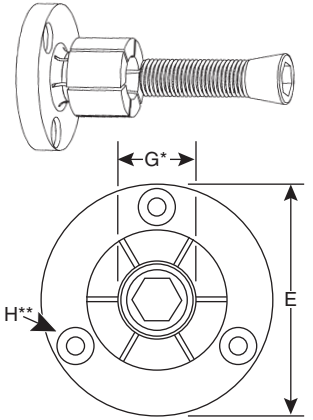
MADE IN THE USA

ID Xpansion™ Clamp Instructions



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.

Model #00 - #6

- Expand ID Clamp approximately .002" to .003" 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"; #0 Ø.010"; #1 Ø.013"; #2 Ø.015"; #3 Ø.015"; #4 Ø.015"; #5 Ø.015"; #6 Ø.015".

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 Clamps are 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 the #9/#10 ID Clamps.
- To machine ID Clamp, insert the LR and torque the Tapered Screw - **do not exceed 20 ft./lbs**. Machine down to within +Ø.003 to +Ø.005" 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"; #8 Ø.015"; #9 Ø.020"; #10 Ø.080".

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.

Broached Tapered Screws available for certain sizes - contact Mitee-Bite Products for more information.

Part No.	Model No.	A	B	C	D	E +.000 -.002	F	G*	H**	I	J	Torque not to Exceed (Ft/Lbs)	Holding Force (Lbs)	Replacement Tapered Screw
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

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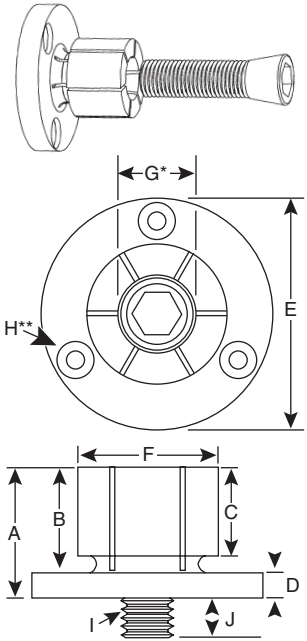
Metric ID Xpansion™ Clamp Instructions



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.

Model #00 - #6

- Expand ID Clamp approximately .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.13mm; #0 Ø.25mm; #1 Ø.33mm; #2 Ø.38mm; #3 Ø.38mm; #4 Ø.38mm; #5 Ø.38mm; #6 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 Clamps are 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 the #9/#10 ID Clamps.
- To machine ID Clamp, insert the LR and torque the Tapered Screw - **do not exceed 27 Nm**. Machine down to within +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.38mm; #8 Ø.38mm; #9 Ø.50mm; #10 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.

Broached Tapered Screws available for certain sizes - contact Mitee-Bite Products for more information.

Part No.	Model No.	A	B	C	D	E +.000 -.050	F	G*	H**	I	J	Torque not to Exceed (N.m.)	Holding Force (N)	Replacement Tapered Screw
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