

Table 7. ETB24, Capacities & Dimensional Data

Metric Series	Inch Series		Mt cat. Torque (ft-lbs)	Metric and Inch Dimensional Data								Tightening Screws			Weight (lbs.)	
	Size	d1		D2	T	L1	L2	L3	Ps (psi)	Ph (psi)	Qty	Size	Ma (ft-lbs)			
20x47	.787	3/4"	.750	310	1.850	0.002	0.669	0.787	1.083	47607	20252	8	M6x18	12	M8	0.5
22x47	0.866			341	1.850	0.002	0.669	0.787	1.083	43264	20252	8	M6x18	12	M8	0.5
24x50	0.945			419	1.969	0.002	0.669	0.787	1.083	44603	21407	9	M6x18	12	M8	0.6
25x50	0.984	1	1.000	436	1.969	0.002	0.669	0.787	1.083	42835	21407	9	M6x18	12	M8	0.6
28x55	1.102	1-1/8"	1.125	542	2.165	0.003	0.669	0.787	1.083	42499	21632	10	M6x18	12	M8	0.7
30x55	1.181	1-3/16**	1.1875	581	2.159	0.003	0.669	0.787	1.083	39656	21632	10	M6x18	12	M8	0.6
32x60	1.260	1-1/4"	1.250	744	2.362	0.003	0.669	0.787	1.083	44603	23793	12	M6x18	12	M8	0.8
35x60	1.378	1-3/8**	1.375	814	2.365	0.003	0.669	0.787	1.083	40784	23793	12	M6x18	12	M8	0.8
38x65	1.496	1-7/16"	1.4375	1,031	2.559	0.003	0.669	0.787	1.083	43828	25622	14	M6x18	12	M8	0.8
40x65	1.575	1-1/2"	1.500	1,085	2.559	0.003	0.669	0.787	1.083	41630	25622	14	M6x18	12	M8	0.8
42x75	1.654	1-5/8"	1.625	1,709	2.953	0.003	0.787	0.945	1.319	50532	28303	12	M8x22	28	M10	1.2
		1-11/16"	1.6875	1,744	2.953	0.003	0.787	0.945	1.319	49528	28303	12	M8x22	28	M10	1.3
45x75	1.772	1-3/4"	1.750	1,831	2.953	0.003	0.787	0.945	1.319	47167	28303	12	M8x22	28	M10	1.4
48x80	1.890	1-7/8"	1.875	1,953	3.150	0.003	0.787	0.945	1.319	44222	26533	12	M8x22	28	M10	1.5
50x80	1.969	1-15/16"	1.9375	2,034	3.150	0.003	0.787	0.945	1.319	42448	26533	12	M8x22	28	M10	1.7
		2	2.000	2,411	3.346	0.003	0.787	0.945	1.319	48755	29142	14	M8x22	28	M10	1.5
55x85	2.165	2-1/8"	2.125	2,610	3.346	0.003	0.787	0.945	1.319	45039	29142	14	M8x22	28	M10	1.6
		2-3/16"	2.1875	2,637	3.543	0.003	0.787	0.945	1.319	44576	27522	14	M8x22	28	M10	1.7
		2-1/4"	2.250	2,712	3.543	0.003	0.787	0.945	1.319	43337	27522	14	M8x22	28	M10	1.8
60x90	2.362	2-3/8"	2.375	2,847	3.531	0.003	0.787	0.945	1.319	41282	27522	14	M8x22	28	M10	1.9
		2-7/16"	2.4375	3,358	3.740	0.003	0.787	0.945	1.319	45719	29797	16	M8x22	28	M10	2.0
		2-1/2"	2.500	3,444	3.740	0.003	0.787	0.945	1.319	44576	29797	16	M8x22	28	M10	2.1
65x95	2.559	2-9/16**	2.5625	3,525	3.737	0.003	0.787	0.945	1.319	43548	29797	16	M8x22	28	M10	2.3
		2-5/8"	2.625	4,973	4.331	0.003	0.945	1.102	1.555	48618	29467	14	M10x25	55	M12	2.5
		2-11/16"	2.6875	5,091	4.331	0.003	0.945	1.102	1.555	47488	29467	14	M10x25	55	M12	2.7
70x110	2.756	2-3/4**	2.750	5,221	4.337	0.003	0.945	1.102	1.555	46307	29467	14	M10x25	55	M12	2.8
		2-7/8"	2.875	5,447	4.528	0.003	0.945	1.102	1.555	44391	28185	14	M10x25	55	M12	3.0
75x115	2.953	2-15/16"	2.9375	5,594	4.528	0.003	0.945	1.102	1.555	43218	28185	14	M10x25	55	M12	3.1
		3	3.000	5,683	4.724	0.003	0.945	1.102	1.555	42541	27016	14	M10x25	55	M12	3.2
80x120	3.150	3-1/8"	3.125	5,967	4.724	0.003	0.945	1.102	1.555	40515	27016	14	M10x25	55	M12	3.3
		3-1/4"	3.250	7,036	4.921	0.004	0.945	1.102	1.555	44879	29639	16	M10x25	55	M12	3.4
85x125	3.346	3-3/8"	3.375	7,244	4.921	0.004	0.945	1.102	1.555	43591	29639	16	M10x25	55	M12	3.5
		3-7/16"	3.4375	7,442	5.118	0.004	0.945	1.102	1.555	42431	28498	16	M10x25	55	M12	3.6
90x130	3.543	3-1/2"	3.500	7,671	5.118	0.004	0.945	1.102	1.555	41167	28498	16	M10x25	55	M12	3.8
95x135	3.740	3-3/4**	3.750	9,110	5.305	0.004	0.945	1.102	1.555	43874	30872	18	M10x25	55	M12	4.2
100x145	3.937	3-15/16**	3.9375	10,737	5.709	0.004	1.024	1.299	1.850	43064	29698	14	M12x30	95	M14	4.5
		4	4.000	10,908	5.843	0.004	1.024	1.299	1.850	42386	29017	14	M12x30	95	M14	4.7
110x155	4.331	4-1/8"	4.375	11,811	6.102	0.004	1.024	1.299	1.850	39147	27785	14	M12x30	95	M14	5.0
		4-7/16"	4.4375	13,830	6.496	0.004	1.024	1.299	1.850	43665	29828	16	M12x30	95	M14	5.5
120x165	4.724	4-1/2"	4.500	14,723	6.496	0.004	1.024	1.299	1.850	41017	29828	16	M12x30	95	M14	5.7
		4-15/16"	4.9375	19,236	7.087	0.004	1.339	1.436	2.047	37514	26136	20	M12x35	95	M14	7.0
130x180	5.118	5	5.000	19,939	7.087	0.004	1.339	1.436	2.047	36191	26136	20	M12x35	95	M14	7.5
		5-7/16"	5.4375	23,302	7.480	0.004	1.339	1.436	2.047	37471	27239	22	M12x35	95	M14	8.0
140x190	5.512	5-1/2**	5.500	23,621	7.492	0.004	1.339	1.436	2.047	36965	27239	22	M12x35	95	M14	8.5
150x200	5.906			27,611	7.874	0.004	1.339	1.436	2.047	37635	28229	24	M12x35	95	M14	9.0
160x210	6.229	6	6.000	31,902	8.268	0.004	1.339	1.436	2.047	38228	29124	26	M12x35	95	M14	10.6
		6-7/16"	6.4375	34,844	8.858	0.004	1.496	1.732	2.362	35781	26003	22	M14x40	140	M16	11.5
170x225	6.693	6-1/2"	6.500	36,227	8.858	0.004	1.496	1.732	2.362	34415	26003	22	M14x40	140	M16	13.6
		6-15/16"	6.9375	40,964	9.252	0.004	1.496	1.732	2.362	36220	27159	24	M14x40	140	M16	13.0
180x235	7.087	7	7.000	41,847	9.252	0.004	1.496	1.732	2.362	35456	27159	24	M14x40	140	M16	13.5
190x250	7.480	7-1/2**	7.500	51,529	9.823	0.005	1.811	2.047	2.677	32375	24603	28	M14x45	140	M16	18.2
200x260	7.874	7-7/8**	7.875	58,118	10.236	0.005	1.811	2.047	2.677	32952	25348	30	M14x45	140	M16	19.1
220x285	8.661			77,914	11.220	0.005	1.969	2.205	2.913	33583	25923	26	M16x50	225	M20	24.7
240x305	9.449			98,081	12.008	0.005	1.969	2.205	2.913	35518	27949	30	M16x50	225	M20	26.9
260x325	10.236			120,416	12.795	0.005	1.969	2.205	2.913	37159	29727	34	M16x50	225	M20	29.1
280x355	11.024			142,238	13.976	0.005	2.362	2.598	3.406	31546	24883	32	M18x60	295	M22	42.3
300x375	11.811			171,441	14.764	0.005	2.362	2.598	3.406	33124	26499	36	M18x60	295	M22	45.2
320x405	12.958			234,328	15.945	0.006	2.835	3.071	3.957	33155	26195	36	M20x70	420	M24	65.2
340x425	13.386			248,985	16.732	0.006	2.835	3.071	3.957	31203	24963	36	M20x70	420	M24	68.5
360x455	14.173			322,414	17.913	0.006	3.307	3.543	4.567	30898	24447	36	M22x80	565	M27	93.0
380x475	14.961			340,340	18.701	0.006	3.307	3.543	4.567	29271	23417	36	M22x80	565	M27	97.0
400x495	15.748			358,243	19.488	0.006	3.307	3.543	4.567	27808	22471	36	M22x80	565	M27	101.0
420x515	16.535			417,940	20.276	0.006	3.307	3.543	4.567	29427	23998	40	M22x80	565	M27	110.0
440x545	17.323			514,997	21.457	0.006	3.780	4.016	5.118	28903	23335	40	M24x90	725	M30	142.0
460x565	18.110			538,394	22.244	0.006	3.780	4.016	5.118	27647	22509	40	M24x90	725	M30	148.0
480x585	18.898			589,912	23.031	0.006	3.780									

English / Metric Conversions

- Inches (in)..... x 25.4001 = Millimeter (mm)
- Millimeters (mm) x 0.03937 = Inch (in)
- Pound-Foot (lb-ft)... x 1.356..... = Newton meter (Nm)
- Newton Meter (Nm) x 0.7376... = Pound Foot
- Horsepower (HP)..... x 0.7453... = Kilowatt (KW)
- Kilowatt (KW)..... x 1.341 = Horsepower (HP)
- Kilogram (kg)..... x 2.205..... = Pound (lb)
- Newton (N)..... x 0.225..... = Pound (lb)
- Foot pound² (ft-lb²) . x 0.042..... = Kilograms Meter² (kgm²)

Torque (Pound-Inch) = (63,025 x HP)/ RPM
 Torque (Pound-Feet) = (5,252 x HP)/RPM
 Feet Per Minute (FPM) =

$$FPM = \left[\frac{2 \times (\text{Radius in inch}) \times (\pi = 3.1416)}{12} \right] \times (RPM)$$

Calculate Shaft Stress:

S.S. = $T / (1.57 \times [D/2]^3)$
 S = Stress (psi)
 T = Torque (lb-in)
 D = Shaft Diameter

Required Shaft Diameter:

R.S.D. = $2 \times [T / (1.57 \times S)]^{1/3}$
 D = Shaft Diameter (inches)
 T = Required Torque (lb-in)
 S = Allowable Stress (psi)

Table 6, Surface Finish, Din/ISO 1302

Roughness F_M	0.2	0.4	0.8	1.6	3.2	6.3
Values R_a Fin	8	16	32	63	125	250
Grade Number	N4	N5	N6	N7	N8	N9

- **Easy Positioning**...complete 360 degree adjustment for ease of timing gears, cams, sprockets etc.
- **Fast Disassembly**...jack screw feature allows for fast separating of rings and release of interference fit.
- **Increased Shaft Strength**...no keyway notch factor.
- **Durable Connection**...zero backlash connection that is not damaged by impact or torsional loads.

ETB24 Double taper design provides High Torque and Thrust capacity ideal for mounting gears, pulleys or sprockets that are subject to shock or bending moments.

Mt cat = Torque capacity. Note ETB24 screw tightening torque can be reduced up to 20% with a corresponding derating of torque capacity. Screws should never be reused. Note: if torque capacity exceeds any of the ETB design's catalog ratings, the friction connection created could act as a fuse and rotate.

T= Machining Tolerance. Ma = Screw Torque
 P1= Hub Pilot Length = 25% of shaft diameters
 Shaft Diameter = $d1 + 0/-T$. Hub Bore = $D2 + T/-0$
 Ps= Shaft Contact Pressure, Ph = Hub Bore C.P.
 See pages 24 and 25, for selection and sizing guide.

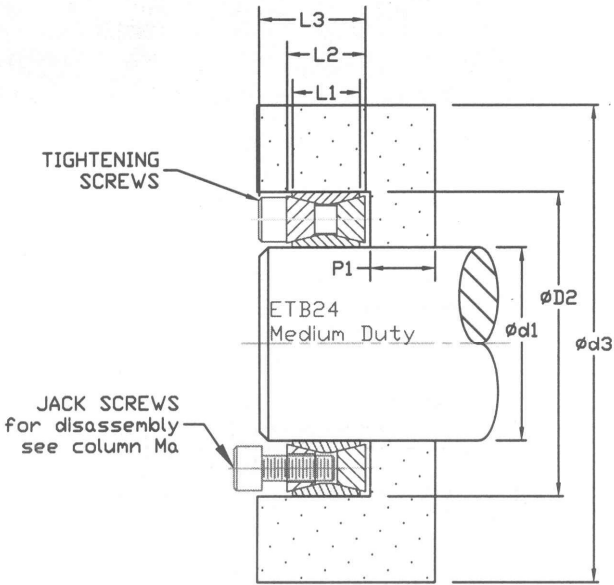


Fig. 17