



# LEADERS IN DESIGN TECHNOLOGY



**PRODUCT CATALOG**

**ATRA-FLEX<sup>®</sup>**  
*Flexible Couplings*



## KEEP YOUR OPERATIONS IN MOTION

ATRA-FLEX® couplings are engineered to significantly reduce downtime and maintenance costs, simplify installation, and provide an economical, long-lasting, and trouble-free service. ATRA-FLEX® couplings eliminate the need for lubrication, minimizing the hassle and cost of regular maintenance. In the event that a lockup occurs and an insert needs replacing, inserts can be replaced in minutes without moving any connected equipment or replacing any other components since there is no metal-to-metal contact. ATRA-FLEX® couplings provide damping, resistance to most common chemicals and can withstand temperatures up to 350F. Additionally, a nitrocarburized option is available as a cost effective alternative to stainless steel, providing corrosion resistance and wear resistance while extending the life of the insert and offering superior reliability.

ATRA-FLEX® couplings are found in a wide range of applications and industries. The ATRA-FLEX® MILLENIUM® (M-Series) features a unique twist-and-lock ring, requiring no special tools or fasteners, making installation and maintenance simpler than ever. The ATRA-FLEX® T-Flex® (T-Series) features a bolt on ring combining the stability of a compression style coupling with the safety of a shear coupling. HD inserts are available providing a 30% higher torque rating without changing any other coupling components. ATRA-FLEX® couplings offer unparalleled reliability, reduced maintenance, and a lower cost of ownership.



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T-FLEX®

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# T-SERIES T-FLEX®

**ATRA-FLEX®**  
Flexible Couplings

The T-Series uniquely transmits torque while accommodating misalignment without generating reactionary loads, increasing bearing life. Torque transmission capabilities up to 2,041,000 in.-lbs and shaft diameters to 20.00". Coupling types range from close coupled to long span floating shaft couplings. The bolt on ring makes the T-Series a great fit for bidirectional and reversing applications. The T-Series has no metal-to-metal contact and in the event of a lock up, the insert will shear without damaging the connected equipment. Lubrication free and access to the insert without moving the connected equipment means replacing inserts with ease in minutes vs hours compared to lubricated coupling maintenance.

Learn More at [www.ustsubaki.com/products/atra-flex/](http://www.ustsubaki.com/products/atra-flex/)

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## ADVANTAGES



- ▲ **T-Series absorbs extreme torsional shock and vibration while accommodating angular, parallel, and axial misalignment without generating reactionary loads, which significantly increases bearing life.**
- ▲ **No lubrication is required.**
- ▲ **Standard inserts have a temperature range from -60° to 250° Fahrenheit with high temperature inserts available up to 350°.**
- ▲ **The inserts are available in a range of hardness to meet most torsional stiffness and torque requirements, and offers very high resistance to chemicals.**
- ▲ **T-Series couplings are suitable for blind assembly, horizontal or vertical, reversing, and stop/start applications.**
- ▲ **The compact size to torque ratio with generous bore capacity allows proper sizing.**
- ▲ **Hubs are available for use with tapered bushings, lock assemblies, shrink discs, finished bored and keyed, taper bored, and spline bored.**
- ▲ **OnyxShield™ couplings are available for enhanced corrosion and wear resistance.**

## APPLICATION RANGE

Coupling sizes available to transmit torque loads from 60 in/lbs to over 2.04 million in/lbs with shaft capacities ranging from .375in to over 20.00in running from low rpm to over 18,000 rpm.

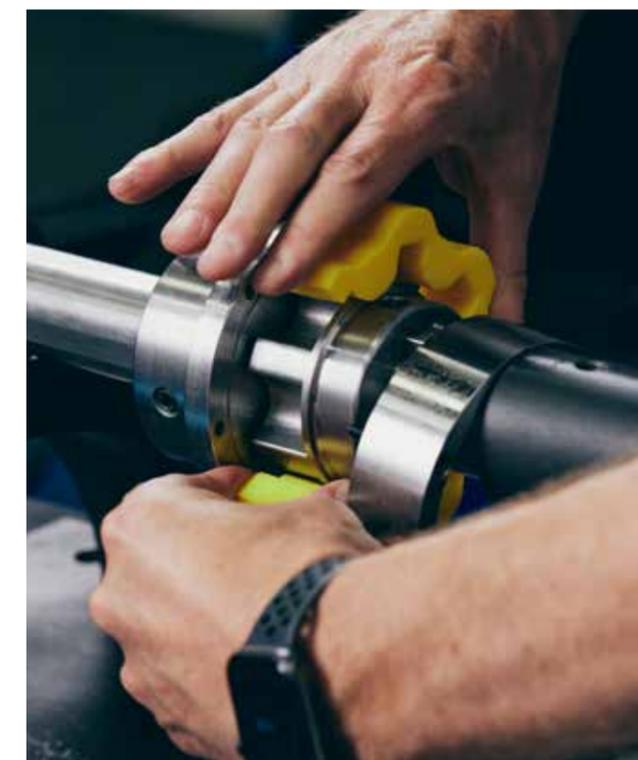
Coupling Types: close coupled, spacer types, limited end float, slide, floating shaft, flywheel, brake wheel, brake disc, and made to order engineered couplings.

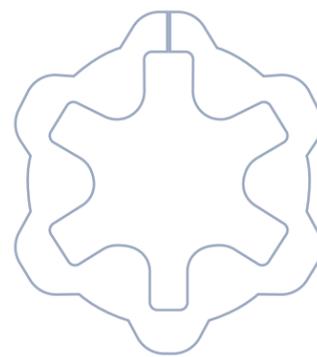
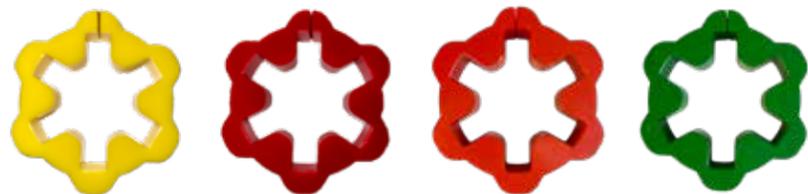
## HOW IT WORKS

T-Series close coupled couplings consist of five parts. The ring hub, flex hub, insert, drive ring, and bolt kit. The ring hub and flex hub are installed on the shafts with the drive ring fitting over the flex hub. After coupling alignment, the insert is placed around the flex hub engaging the bottom lobes of the insert. The drive ring is then fitted over the insert engaging the top lobes of the insert. The drive ring is then fastened to the ring hub using high strength alloy steel socket head cap screws with high collar lock washers. The coupling will now transmit torque with silent, smooth, reliable, and maintenance free operation.

## MANUFACTURING

T-Series is manufactured in the USA. Standard hubs and rings are machined from solid carbon steel rounds and tubing, maintaining tight tolerances which provides excellent coupling balance. Stainless steel is available for corrosive environments and food applications, or OnyxShield™ couplings for a low cost corrosion resistant alternative which turns carbon steel black and helps prevent wear and corrosion. T-Series inserts are made from durable custom compounded polyurethane that offer resistance to almost every fluid found in industry today. Using T-Series ensures dependable, lubrication free torque transmission for your rotational equipment and come with product/technical support from our experienced staff.





### STANDARD INSERT

TORQUE RATINGS (LB-IN)  
MAX RPM' S BASED ON INSERT TYPES

Orange insert is not recommended for high speed applications  
Refer to quick selection guide on page 38 in this catalog for the appropriate service factors

#### INSERT TYPE

YELLOW		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>General Use, High Dampening</b>	Continuous (LB-IN)	1,000	1,600	3,800	6,000	12,000	35,000	64,700	120,000	202,000	304,000	540,000	720,000	950,000
	Intermittent (LB-IN)	1,800	2,500	7,000	9,600	19,200	60,000	103,600	200,000	269,600	500,000	860,000	1,050,000	1,380,000
Use: General Applications (standard) Max Temp F: 250 Min Temp F: -60 Durometer: 60D	HP @ 100 RPM (SF1)	1.59 2.86	2.54 3.97	6.03 11.11	9.52 15.23	19.04 30.46	56 95	103 164	190 317	321 428	482 793	857 1,365	1,142 1,666	1,507 2,190
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400

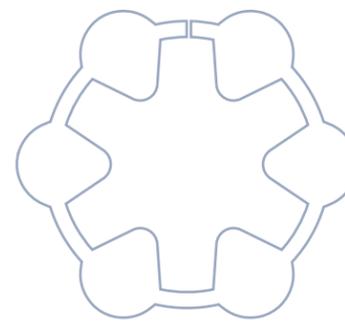
RED		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>High Temperature, High Dampening</b>	Continuous (LB-IN)	850	1,360	3,230	5,100	10,200	29,750	54,995	102,000	171,700	258,400	459,000	612,000	807,500
	Intermittent (LB-IN)	1,530	2,125	5,950	8,160	16,320	51,000	88,060	170,000	229,160	425,000	731,000	892,500	1,173,000
Use: High Temperature Running Applications Max Temp F: 350 Min Temp F: 20 Durometer: 90A	HP @ 100 RPM (SF1)	1.35 2.43	2.16 3.37	5.13 9.44	8.09 12.95	16.18 25.89	48 81	88 139	162 269	273 364	410 674	728 1,160	971 1,416	1,281 1,862
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400

ORANGE		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>High Torque, Medium Dampening</b>	Continuous (LB-IN)	1,130	3,000	6,000	9,000	18,600	60,000	106,800	200,000	333,600	452,000	890,000	1,100,000	1,570,000
	Intermittent (LB-IN)	2,260	4,000	9,000	12,600	24,000	80,000	170,900	300,000	444,900	603,000	1,400,000	1,650,000	2,280,000
Use: High Torque, Low Speed Applications Max Temp F: 250 Min Temp F: -20 Durometer: 70D	HP @ 100 RPM (SF1)	1.79 3.59	4.76 6.35	9.52 14.28	14.28 19.99	24.75 38.08	95 127	169 271	335 557	529 706	717 957	1,412 2,221	1,745 2,618	2,491 3,618
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400

GREEN		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>Extra High Dampening</b>	Continuous (LB-IN)	413	450	1,598	2,700	5,400	14,438	26,689	54,000	83,408	125,250	202,500	294,000	356,250
	Intermittent (LB-IN)	743	900	3,150	4,500	9,000	24,750	42,735	75,000	111,210	206,250	322,500	412,500	517,500
Use: Engine or Reciprocating with High Vibratory Torques Max Temp F: 250 Min Temp F: -60 Durometer: 90A	HP @ 100 RPM (SF1)	0.65 1.18	0.71 1.43	2.54 5.00	4.28 7.14	8.57 14.28	23 39	42 68	86 119	132 176	199 327	321 512	467 655	566 821
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400



### HD INSERT

30% HIGHER TORQUE THAN THE STANDARD RATING

Orange insert is not recommended for high speed applications  
Refer to quick selection guide on page 38 in this catalog for the appropriate service factors

#### INSERT TYPE

YELLOW		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>General Use, High Dampening</b>	Continuous (LB-IN)	1,300	2,080	4,940	7,800	15,600	45,500	84,110	156,000	262,600	395,200	702,000	936,000	1,235,000
	Intermittent (LB-IN)	2,340	3,250	9,100	12,480	24,960	78,000	134,680	260,000	350,480	650,000	1,118,000	1,365,000	1,794,000
Use: General Applications (standard) Max Temp F: 250 Min Temp F: -60 Durometer: 60D	HP @ 100 RPM (SF1)	2.06 3.71	3.30 5.16	7.84 14.44	12.38 19.80	24.75 39.60	72.19 124	133 214	248 413	417 556	627 1,031	1,114 1,774	1,485 2,166	1,960 2,846
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400

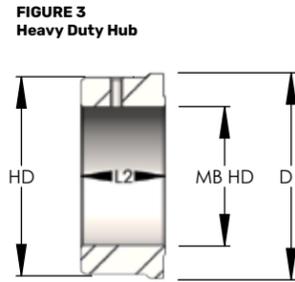
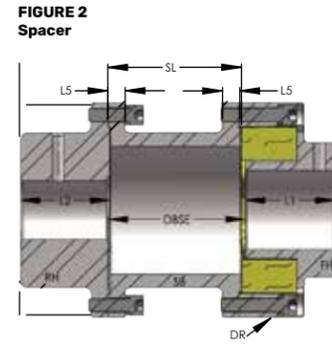
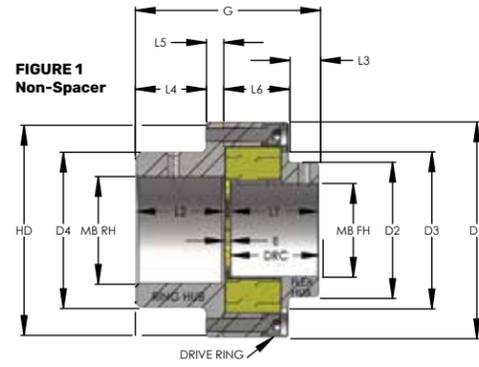
RED		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>High Temperature, High Dampening</b>	Continuous (LB-IN)	1,105	1,768	4,200	6,630	13,260	38,675	71,493	132,600	223,210	335,920	596,700	795,600	1,049,750
	Intermittent (LB-IN)	1,989	2,763	7,735	10,608	21,216	66,300	114,478	221,000	297,908	552,500	950,300	1,160,250	1,524,900
Use: High Temperature Running Applications Max Temp F: 350 Min Temp F: 20 Durometer: 90A	HP @ 100 RPM (SF1)	1.75 3.16	2.81 4.38	6.66 12.27	10.52 16.83	21.04 33.66	61.36 105	113 182	210 351	354 473	533 877	947 1,508	1,262 1,841	1,666 2,420
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400

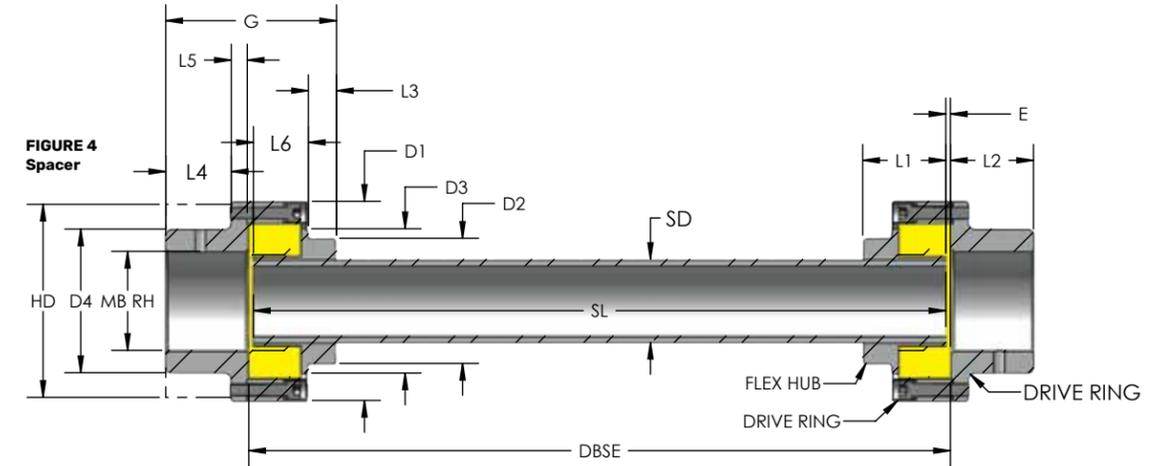
ORANGE		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>High Torque, Medium Dampening</b>	Continuous (LB-IN)	1,469	3,900	7,800	11,700	24,180	78,000	138,840	260,000	433,680	587,600	1,157,000	1,430,000	2,041,000
	Intermittent (LB-IN)	2,938	5,200	11,700	16,380	31,200	104,000	222,170	390,000	578,370	783,900	1,820,000	2,145,000	2,964,000
Use: High Torque, Low Speed Applications Max Temp F: 250 Min Temp F: -20 Durometer: 70D	HP @ 100 RPM (SF1)	2.33 4.66	6.19 8.25	12.38 18.56	18.56 25.99	38.37 49.50	124 165	220 353	413 619	688 918	932 1,244	1,836 2,888	2,269 3,403	3,238 4,703
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400

GREEN		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>Extra High Dampening</b>	Continuous (LB-IN)	537	585	2,077	3,510	7,020	18,769	34,695	70,200	108,423	162,825	263,250	382,200	463,125
	Intermittent (LB-IN)	966	1,170	4,095	5,850	11,700	32,175	55,555	97,500	144,573	268,125	419,250	536,250	672,750
Use: Engine or Reciprocating with High Vibratory Torques Max Temp F: 250 Min Temp F: -60 Durometer: 90A	HP @ 100 RPM (SF1)	0.85 1.53	0.93 1.86	3.30 6.50	5.57 9.28	11.14 18.56	29.78 51.10	55.10 88.10	111 155	172 229	258 425	418 665	606 851	735 1,067
	Max RPM Unbalanced	12,000	10,000	8,000	6,000	4,500	3,600	2,800	2,300	1,750	1,450	1,300	1,200	1,000
	Max RPM Balanced G2.5	18,000	16,000	14,000	12,000	10,500	8,500	5,500	3,600	2,400	2,100	1,750	1,750	1,400



**MBHD:** Use the Heavy Duty Ring Hub for shafts larger than MBRH. RHH must be specified when ordering RSB for the larger shafts. Available for use with spacer and non-spacer couplings.



SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>G</b>	2.850	3.600	4.600	5.100	6.680	8.180	10.180	12.200	14.200	16.200	18.200	20.250	22.275
<b>D1</b>	2.950	3.960	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020	19.950	23.250	28.500
<b>MBFH</b>	1.375	1.750	2.250	2.500	3.375	4.500	5.500	6.250	7.125	9.000	10.000	11.250	12.875
<b>MBRH</b>	1.625	2.250	2.500	3.375	3.875	5.250	6.250	7.250	7.625	10.375	12.000	12.500	15.000
<b>MBHD</b>	1.875	2.750	2.875	4.500	5.250	6.625	8.250	9.250	10.625	13.250	15.375	17.500	20.000
<b>RSB</b>	.300	.430	.500	.750	.950	1.000	1.500	1.750	2.400	2.900	3.700	3.900	3.900
<b>E</b>	.100	.100	.100	.100	.180	.180	.180	.200	.200	.200	.200	.250	.275
<b>D2</b>	1.995	2.585	3.200	4.000	4.900	6.500	7.875	9.250	10.167	12.775	14.625	16.000	18.500
<b>D3</b>	2.050	2.820	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780	15.710	17.875	20.988
<b>D4</b>	2.470	3.200	3.625	5.000	5.625	7.500	8.875	10.750	11.375	13.875	16.500	17.500	22.875
<b>HD</b>	2.850	3.840	4.650	6.125	7.500	9.500	11.375	13.250	14.375	17.670	19.700	23.000	27.000
<b>L1</b>	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
<b>L2</b>	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
<b>L3</b>	.650	.675	1.175	1.100	1.100	1.275	2.475	2.485	3.300	3.875	4.140	4.250	4.900
<b>L4</b>	.980	1.293	1.730	1.825	2.565	3.065	3.940	4.815	5.690	6.440	6.875	7.900	8.440
<b>L5</b>	.375	.4375	.500	.625	.625	.875	1.000	1.125	1.250	1.500	2.000	2.000	2.500
<b>L6</b>	.885	1.165	1.165	1.500	2.375	2.875	2.715	3.795	3.900	4.385	5.185	6.100	6.425
<b>DRC</b>	1.500	2.075	2.200	2.700	4.250	5.175	4.865	6.815	7.140	8.010	9.570	11.100	11.775
<b>SS</b>	5/16	5/16	3/8	3/8	1/2	5/8	3/4	1-8	1-8	1-8	1-8	1-8	1-8
<b>WEIGHT</b>	5	10	15	25	50	105	180	285	365	600	950	1250	1750

SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>G</b>	2.850	3.600	4.600	5.100	6.680	8.180	10.180	12.200	14.200	16.200	18.200	20.250	22.275
<b>D1</b>	2.950	3.960	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020	19.950	23.250	28.500
<b>MBFH</b>	1.375	1.750	2.250	2.500	3.375	4.500	5.500	6.250	7.125	9.000	10.000	11.250	12.875
<b>MBRH</b>	1.625	2.250	2.500	3.375	3.875	5.250	6.250	7.250	7.625	10.375	12.000	12.500	15.000
<b>MBHD</b>	1.875	2.750	2.875	4.500	5.250	6.625	8.250	9.250	10.625	13.250	15.375	17.500	20.000
<b>RSB</b>	.300	.430	.500	.750	.950	1.000	1.500	1.750	2.400	2.900	3.700	3.900	3.900
<b>E</b>	.100	.100	.100	.100	.180	.180	.180	.200	.200	.200	.200	.250	.275
<b>D2</b>	1.995	2.585	3.200	4.000	4.900	6.500	7.875	9.250	10.167	12.775	14.625	16.000	18.500
<b>D3</b>	2.050	2.820	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780	15.710	17.875	20.988
<b>D4</b>	2.470	3.200	3.625	5.000	5.625	7.500	8.875	10.750	11.375	13.875	16.500	17.500	22.875
<b>HD</b>	2.850	3.840	4.650	6.125	7.500	9.500	11.375	13.250	14.375	17.670	19.700	23.000	27.000
<b>L1</b>	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
<b>L2</b>	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
<b>L3</b>	.650	.675	1.175	1.100	1.100	1.275	2.475	2.485	3.300	3.875	4.140	4.250	4.900
<b>L4</b>	.980	1.293	1.730	1.825	2.565	3.065	3.940	4.815	5.690	6.440	6.875	7.900	8.440
<b>L5</b>	.375	.4375	.500	.625	.625	.875	1.000	1.125	1.250	1.500	2.000	2.000	2.500
<b>L6</b>	.885	1.165	1.165	1.500	2.375	2.875	2.715	3.795	3.900	4.385	5.185	6.100	6.425
<b>DRC</b>	1.500	2.075	2.200	2.700	4.250	5.175	4.865	6.815	7.140	8.010	9.570	11.100	11.775
<b>SD</b>	1.250	1.500	2.000	2.500	3.250	4.250	5.250	6.000	7.000	9.000	10.000	11.000	12.000

SIZE	3.0	3.5	3.75	4.0	5.0	5.5	6.0	7.0	7.5	9.0	9.5	9.75	10.0	12.0
------	-----	-----	------	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------

<b>T0</b>	X	X	X											
<b>T1</b>	X	X	X											
<b>T2</b>	X	X	X	X	X									
<b>T3</b>	X	X	X	X	X	X		X	X					
<b>T4</b>		X	X	X	X	X	X	X	X	X	X	X	X	
<b>T5</b>					X		X	X	X	X	X	X	X	X

**Note:** Size T6 thru T12 spacers are made to order. Special inventory arrangements can be made with the end user if needed. Consult Factory for min/max spacer lengths.

- ▲ **MBFH** - Max Bore Flex Hub
- ▲ **MBRH** - Max Bore Ring Hub
- ▲ **MBHD** - Max Bore Ring Hub HD
- ▲ **HD** - Ring Hub Small Diameter increased for larger bore capacity
- ▲ **SS** - Set screw size
- ▲ **RSB** - Rough Stock Bore (minimum re-bore)
- ▲ **DRC** - Drive Ring Clearance = Minimum shaft clearance required to facilitate insert install and removal without moving equipment or hubs
- ▲ **WEIGHT** - Coupling weight (lbs) is for non-spacer couplings with RSB hubs

- ▲ **MBFH** - Max Bore Flex Hub
- ▲ **MBRH** - Max Bore Ring Hub
- ▲ **MBHD** - Max Bore Ring Hub HD
- ▲ **HD** - Ring Hub Small Diameter increased for larger bore capacity
- ▲ **RSB** - Rough Stock Bore (minimum re-bore)
- ▲ **DRC** - Drive Ring Clearance = Minimum shaft clearance required to facilitate insert install and removal without moving equipment or hubs

FIGURE 5 Limited End Float

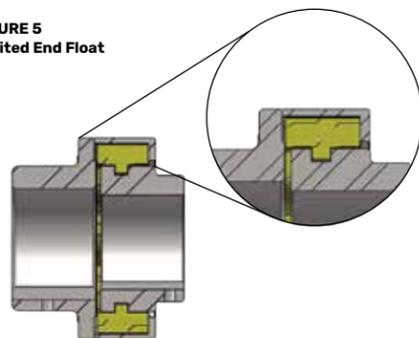
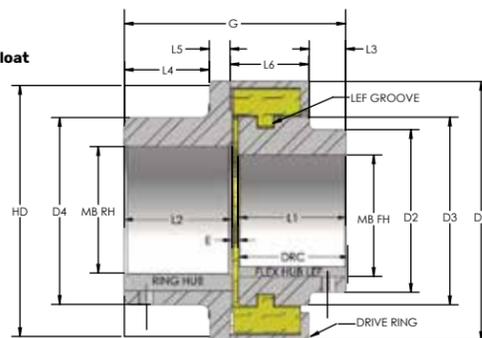


FIGURE 6 Limited End Float



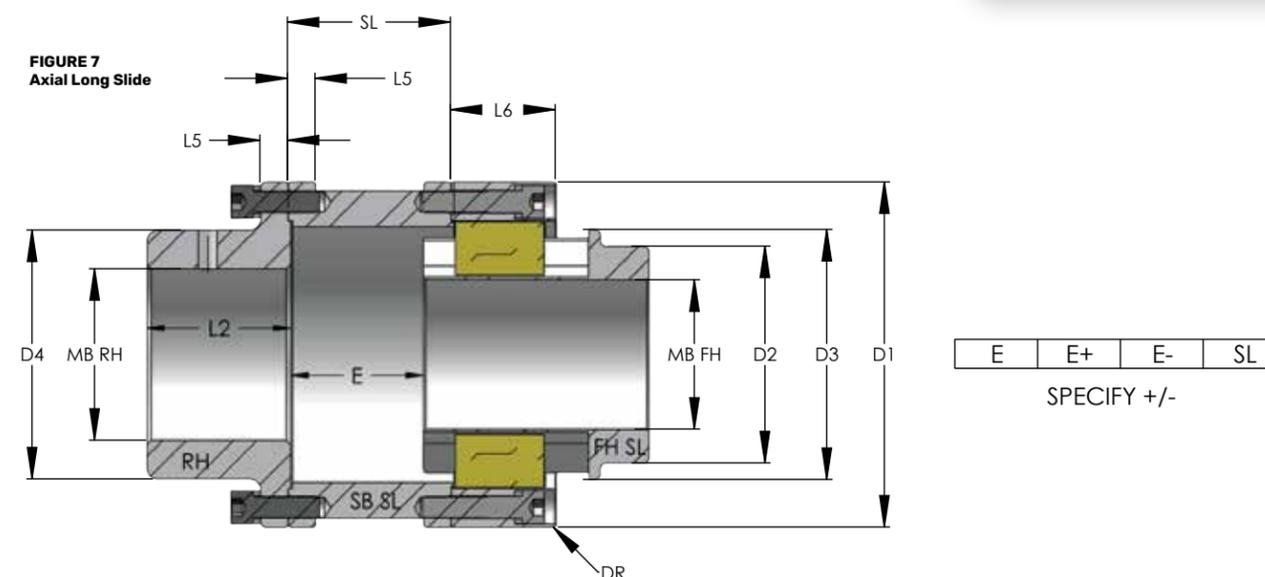
SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
G	2.850	3.600	4.600	5.100	6.680	8.180	10.180	12.200	14.200	16.200	18.200	20.250	22.275
D1	2.950	3.960	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020	19.950	23.250	28.500
MBFH	1.375	1.750	2.250	2.500	3.375	4.500	5.500	6.250	7.125	9.000	10.000	11.250	12.875
MBRH	1.625	2.250	2.500	3.375	3.875	5.250	6.250	7.250	7.625	10.375	12.000	12.500	15.000
MBHD	1.875	2.750	2.875	4.500	5.250	6.625	8.250	9.250	10.625	13.250	15.375	17.500	20.000
RSB	.300	.430	.500	.750	.950	1.000	1.500	1.750	2.400	2.900	3.700	3.900	3.900
E	.100	.100	.100	.100	.180	.180	.180	.200	.200	.200	.200	.250	.275
D2	1.995	2.585	3.200	4.000	4.900	6.500	7.875	9.250	10.167	12.775	14.625	16.000	18.500
D3	2.050	2.820	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780	15.710	17.875	20.988
D4	2.470	3.200	3.625	5.000	5.625	7.500	8.875	10.750	11.375	13.875	16.500	17.500	22.875
HD	2.850	3.840	4.650	6.125	7.500	9.500	11.375	13.250	14.375	17.670	19.700	23.000	27.000
L1	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
L2	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
L3	.650	.675	1.175	1.100	1.100	1.275	2.475	2.485	3.300	3.875	4.140	4.900	4.900
L4	.980	1.293	1.730	1.825	2.565	3.065	3.940	4.815	5.690	6.440	6.875	7.900	8.440
L5	.375	.4375	.500	.625	.625	.875	1.000	1.125	1.250	1.500	2.000	2.000	2.500
L6	.885	1.165	1.165	1.500	2.375	2.875	2.715	3.795	3.900	4.385	5.185	6.100	6.425
DRC	1.500	2.075	2.200	2.700	4.250	5.175	4.865	6.815	7.140	8.010	9.570	11.100	11.775
SD	5/16	5/16	3/8	3/8	1/2	5/8	3/4	1-8	1-8	1-8	1-8	1-8	1-8
LBS	5	10	15	25	50	105	180	285	365	600	950	1250	1750

SIZE T-FLEX <sup>®</sup> LEF	END FLOAT +/-	PARALLEL P (TIR)	ANGULAR A
T1	.050 / .035	.040	1°
T2	.050 / .035	.040	1°
T3	.050 / .035	.040	1°
T4	.050 / .035	.060	.5°
T5	.050 / .035	.060	.5°
T6	.050 / .035	.060	.5°
T7	.050 / .035	.060	.5°
T8	.050 / .035	.060	.5°
T9	.050 / .035	.080	.5°
T10	.050 / .035	.080	.5°
T11	.050 / .035	.100	.5°
T12	.050 / .035	.100	.5°

**Note:** Limited end float couplings can be special ordered for end float +/- increase or decrease and accommodate greater angular misalignment. They can be combined with axial slide couplings to be used as stops for +/- travel. Consult factory for special design needs.

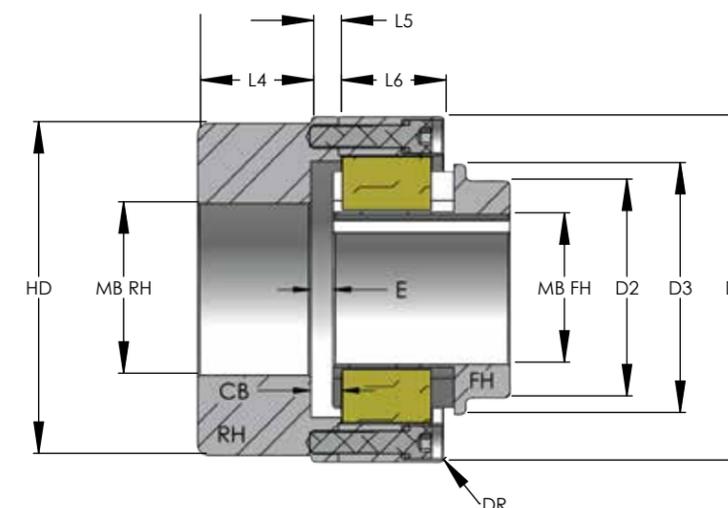
T-Series standard couplings are designed to allow free axial movement of driver and driven shafts. Limited end float couplings should be specified for all applications requiring limited or controlled axial end float such as sleeve/babbit bearing motors, fans, blowers, etc. Consult factory for questionable applications. Limited end float flex hub and inserts are used with standard ring hubs and drive rings. Available for use with spacer and non-spacer couplings.

FIGURE 7 Axial Long Slide



E E+ E- SL  
SPECIFY +/-

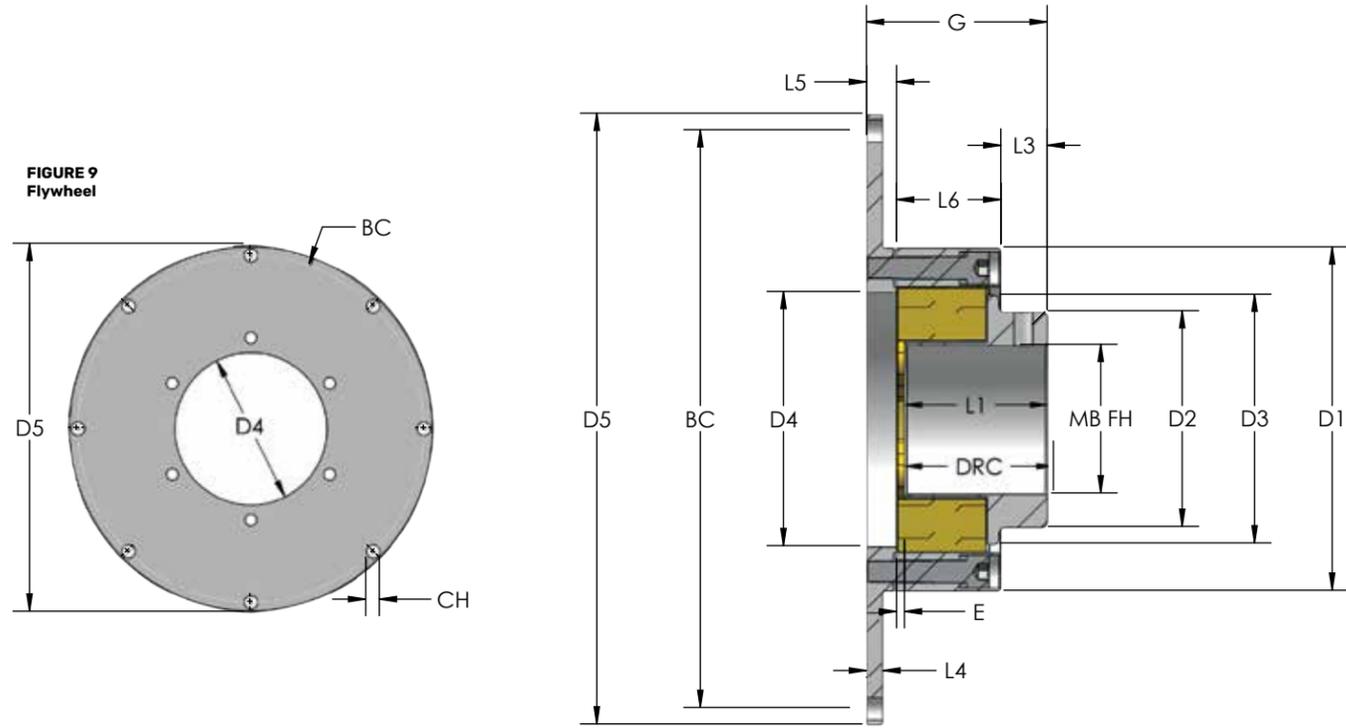
FIGURE 8 Axial Medium Slide



E E+ E-  
SPECIFY +/-

SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
G	2.850	3.600	4.600	5.100	6.680	8.180	10.180	12.200	14.200	16.200	18.200	20.250	22.275
D1	2.950	3.960	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020	19.950	23.250	28.500
MBFH	1.375	1.750	2.250	2.500	3.375	4.500	5.500	6.250	7.125	9.000	10.000	11.250	12.875
MBRH	1.625	2.250	2.500	3.375	3.875	5.250	6.250	7.250	7.625	10.375	12.000	12.500	15.000
MBHD	1.875	2.750	2.875	4.500	5.250	6.625	8.250	9.250	10.625	13.250	15.375	17.500	20.000
RSB	.300	.430	.500	.750	.950	1.000	1.500	1.750	2.400	2.900	3.700	3.900	3.900
E MIN	.100	.100	.100	.100	.180	.180	.180	.200	.200	.200	.200	.250	.275
D2	1.995	2.585	3.200	4.000	4.900	6.500	7.875	9.250	10.167	12.775	14.625	16.000	18.500
D3	2.050	2.820	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780	15.710	17.875	20.988
D4	2.470	3.200	3.625	5.000	5.625	7.500	8.875	10.750	11.375	13.875	15.800	17.500	22.875
HD	2.850	3.840	4.650	6.125	7.500	9.500	11.375	13.250	14.375	17.670	19.700	23.000	27.000
L2	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
L4	.980	1.293	1.730	1.825	2.565	3.065	3.940	4.815	5.690	6.440	6.875	7.900	8.440
L5	.375	.4375	.500	.625	.625	.875	1.000	1.125	1.250	1.500	2.000	2.000	2.500
L6	.885	1.165	1.165	1.500	2.375	2.875	2.715	3.795	3.900	4.385	5.185	6.100	6.425

FIGURE 9 Flywheel



SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
<b>G</b>	1.860	2.300	2.865	3.250	4.115	5.115	6.230	7.275	8.500	9.760	11.325	12.325	13.835
<b>D1</b>	2.950	3.960	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020	19.950	23.250	28.500
<b>MBFH</b>	1.375	1.750	2.250	2.500	3.375	4.500	5.500	6.250	7.125	9.000	10.000	11.250	12.000
<b>RSB</b>	.300	.430	.500	.750	.950	1.000	1.500	1.750	2.400	2.900	3.700	3.900	3.900
<b>E</b>	.100	.100	.100	.100	.180	.180	.180	.200	.200	.200	.200	.250	.275
<b>D2</b>	1.995	2.585	3.200	4.000	4.900	6.500	7.875	9.250	10.167	12.775	14.625	16.000	18.500
<b>D3</b>	2.050	2.820	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780	15.710	17.875	20.988
<b>D4</b>	2.470	2.920	3.600	4.625	5.775	7.475	8.640	10.190	10.435	13.905	15.710	17.875	21.115
<b>HD</b>	2.850	3.840	4.650	6.125	7.500	9.500	11.375	13.250	14.375	17.670	19.700	23.000	27.000
<b>L1</b>	1.375	1.750	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000
<b>L3</b>	.650	.675	1.175	1.100	1.100	1.275	2.475	2.485	3.300	3.875	4.140	4.250	4.900
<b>L4</b>	.980	1.293	1.730	1.825	2.565	3.065	3.940	4.815	5.690	6.440	6.875	7.900	8.440
<b>L5</b>	.375	.4375	.500	.625	.625	.875	1.000	1.125	1.250	1.500	2.000	2.000	2.500
<b>L6</b>	.885	1.165	1.165	1.500	2.375	2.875	2.715	3.795	3.900	4.385	5.185	6.100	6.425

SAE	6.5	7.5	8	10	11.5	14	16	18	21	24
<b>D5</b>	8.500	9.500	10.375	12.375	13.875	18.375	20.375	22.500	26.500	28.875
<b>BC</b>	7.875	8.750	9.625	11.625	13.125	17.250	19.250	21.375	25.250	27.250
<b>L4</b>	.3125	.3125	.375	.375	.375	.375	.625	.750	.750	.750
<b>CH</b>	.3281	.3281	.3906	.3906	.3906	.5156	.5156	.6406	.6406	.7656
<b>CHX</b>	6	8	6	8	8	8	8	6	12	12

Note: Custom flywheels available to fit most applications and standard spacer bodies can be added. Also available as limited end float end or sliding.

SIZE	WHEEL BXF	F1	F2	L7	T	DISC BXF	A
<b>T2</b>	6 x 3.125 6 x 3.75	1.625 2.25	1.5	.645 .645	.25 .25	8 x .25 10 x .25	.595
<b>T3</b>	8 x 2.5 8 x 3.25 8 x 3.5	1.0 1.75 2.0	1.5	.865 .865 .865	.375 .375 .375	8 x .25 10 x .25 12 x .25	.675
<b>T4</b>	10 x 3.75 10 x 4.25 10 x 5.5 11 x 5	1.0 1.0 3.25 2.75	2.25	.875 .875 .875 .875	.375 .375 .375	10 x .25 10 x .25 16 x .5 18 x .5	.685
<b>T5</b>	13 x 5.5 13 x 5.75 14 x 6.5 16 x 6.375 16 x 8.25 17 x 6.5	2.0 2.25 3.0 2.875 4.75 3.0	3.5	1.185 1.185 1.185 1.185 1.185 1.25	.5 .5 .5 .5 .5 .625	12 x .25 16 x .5 18 x .5 20 x .5 22 x .5	.935
<b>T6</b>	14 x 6.5 16 x 6.375 16 x 8.25 17 x 6.5 19 x 8.25	3.0 2.875 4.75 3.0 4.75	3.5	1.3 1.3 1.365 1.425	.5 .5 .625 .75	16 x .5 18 x .5 20 x .5 22 x .5 24 x .5	1.05
<b>T7</b>	17 x 6.5 19 x 8.25 19 x 8.75 20 x 8.25 23 x 8.25 23 x 9.25	2.5 4.25 4.75 4.25 4.25 5.25	4.0	1.495 1.56 1.56 1.56 1.56 1.56	.625 .750 .750 .750 .750 .750	18 x .5 20 x .5 22 x .5 24 x .5 30 x .5	1.185
<b>T8</b>	19 x 8.25 19 x 8.75 20 x 8.25 23 x 8.25 23 x 9.25 24 x 10 25 x 10.25	4.25 4.75 4.25 4.25 5.25 6.0 6.25	4.0	1.685 1.685 1.685 1.685 1.685 1.75 1.81	.750 .750 .750 .750 .750 .875 1.0	20 x .5 22 x .5 24 x .5 30 x .5 36 x .625	1.31
<b>T9</b>	23 x 8.25 23 x 9.25 24 x 10 25 x 10.25 26 x 10.25 28 x 11.25	3.25 4.25 5.0 5.25 5.25 6.25	5.0	1.935 1.935 2.0 2.06 2.06 2.185	.750 .750 .875 1.0 1.0 1.25	24 x .5 30 x .5 36 x .625 40 x .625	1.560

SIZE	T2	T3	T4	T5	T6	T7	T8	T9
<b>G</b>	4.600	5.100	6.680	8.180	10.180	12.200	14.200	16.200
<b>D1</b>	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020
<b>MBFH</b>	2.250	2.500	3.375	4.500	5.500	6.250	7.125	9.000
<b>MBRH</b>	2.500	3.375	3.875	5.250	6.250	7.250	7.625	10.375
<b>E</b>	.100	.100	.180	.180	.180	.200	.200	.200
<b>D2</b>	3.200	4.000	4.900	6.500	7.875	9.250	10.167	12.775
<b>D3</b>	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780
<b>D4</b>	3.625	5.000	5.625	7.500	8.875	10.750	11.375	13.875
<b>L1</b>	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000
<b>L2</b>	2.250	2.500	3.250	4.000	5.000	6.000	7.000	8.000
<b>L3</b>	1.200	1.125	1.115	1.325	2.475	2.485	3.250	3.875
<b>L4</b>	1.730	1.825	2.565	3.065	3.940	4.925	5.690	6.440
<b>L6</b>	1.165	1.500	2.375	2.875	2.715	3.795	3.900	4.385
<b>DRC</b>	2.500	2.700	4.250	5.175	4.865	6.815	7.140	8.010
<b>SS</b>	3/8	3/8	1/2	5/8	3/4	1-8	1-8	1-8

FIGURE 10 Brake Wheel

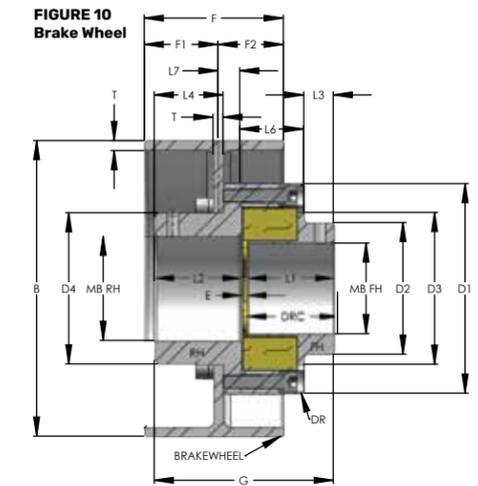
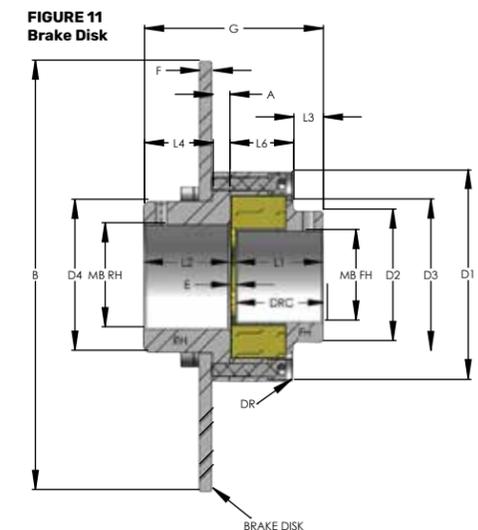


FIGURE 11 Brake Disk



### QD BUSHING

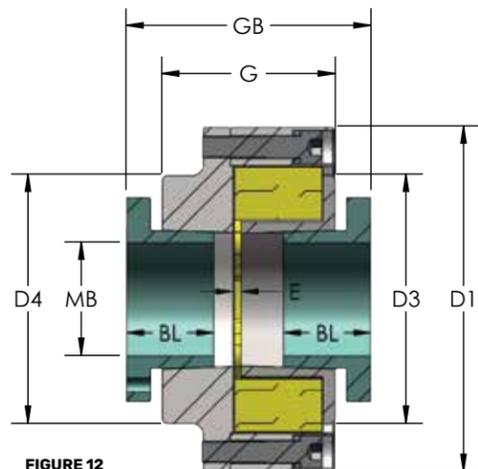


FIGURE 12  
QD BUSHING

SIZE	QD	MB	GB	G	D1	D3	D4	E	BL
T0	JA	1.250	2.410	1.550	2.950	2.050	2.470	.100	1.000
T1	SH	1.625	4.715	2.725	3.960	2.820	3.200	.100	1.312
T2	SD	2.000	3.950	2.725	4.800	3.500	3.625	.100	1.812
T3	SK	2.625	7.125	4.165	6.290	4.500	5.000	.100	1.937
T4	SF	2.9375	6.180	3.830	7.800	5.650	5.625	.180	2.062
T5	F	4.000	8.560	5.805	9.765	7.350	7.500	.180	3.750
T6	J	4.500	10.200	7.180	11.900	8.515	8.875	.180	4.625
T7	M	5.500	14.520	11.200	13.600	10.065	10.750	.200	6.750
T8	N	6.000	19.450	13.450	14.625	10.435	11.375	.200	8.125
T9	P	7.000	20.589	15.825	18.020	13.780	13.875	.200	9.375

Note: Ring hubs may accommodate +1 size larger bushing than flex hub

### TAPER LOCK BUSHING EXTERNAL

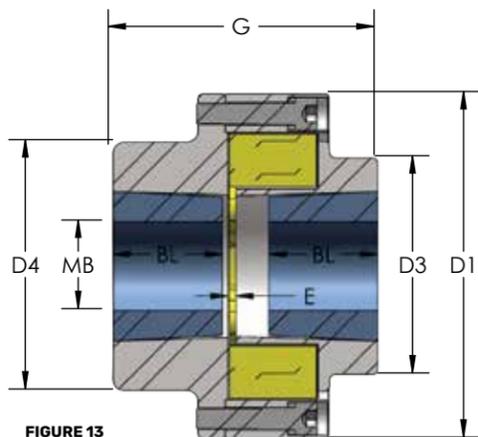


FIGURE 13  
TAPER LOCK  
EXTERNAL BUSHING

SIZE	TL-EXT	MB	G	D1	D3	D4	E	BL
T0	1008	1.000	2.350	2.950	2.050	2.470	.100	.875
T1	1108	1.125	2.260	3.960	2.820	3.200	.100	.875
T2	1615	1.625	3.350	4.800	3.500	3.625	.100	1.500
T3	2012	2.000	2.850	6.290	4.500	5.000	.100	1.250
T4	2525	2.500	5.180	7.800	5.650	5.625	.180	2.500
T5	3020	3.000	5.530	9.765	7.350	7.500	.180	2.000
T6	4040	4.000	8.430	11.900	8.515	8.875	.180	4.000
T7	5050	5.000	14.215	13.600	10.065	10.750	.200	5.000
T8	5050	5.000	10.700	14.625	10.435	11.375	.200	5.000
T9	7060	7.000	16.825	18.020	13.780	13.875	.200	6.000

Note: Ring hubs may accommodate +1 size larger bushing than flex hub

### TAPER LOCK BUSHING INTERNAL

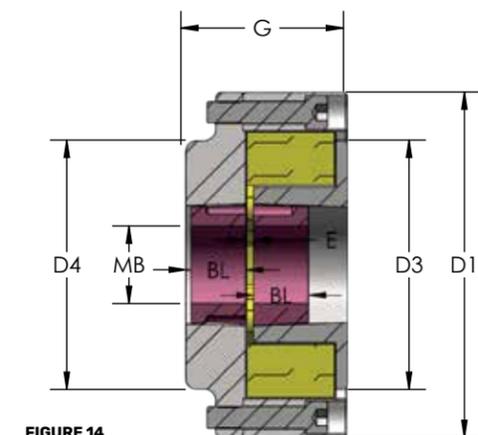


FIGURE 14  
TAPER LOCK  
INTERNAL BUSHING

SIZE	TL-INT	MB	G	D1	D3	D4	E	BL
T1	1108	1.125	2.180	3.960	2.820	3.200	.100	.875
T2	1310	1.437	2.300	4.800	3.500	3.625	.100	1.000
T3	1610	1.687	3.350	6.290	4.500	5.000	.100	1.000
T4	2012	2.125	3.705	7.800	5.650	5.625	.180	1.250
T5	2525	2.500	5.530	9.765	7.350	7.500	.180	2.500
T6	3535	3.937	7.430	11.900	8.515	8.875	.180	3.500
T7	4040	4.437	9.200	13.600	10.065	10.750	.200	4.000
T8	4545	4.937	9.450	14.625	10.435	11.375	.200	4.500
T9	5050	5.000	10.700	18.020	13.780	13.875	.200	5.000

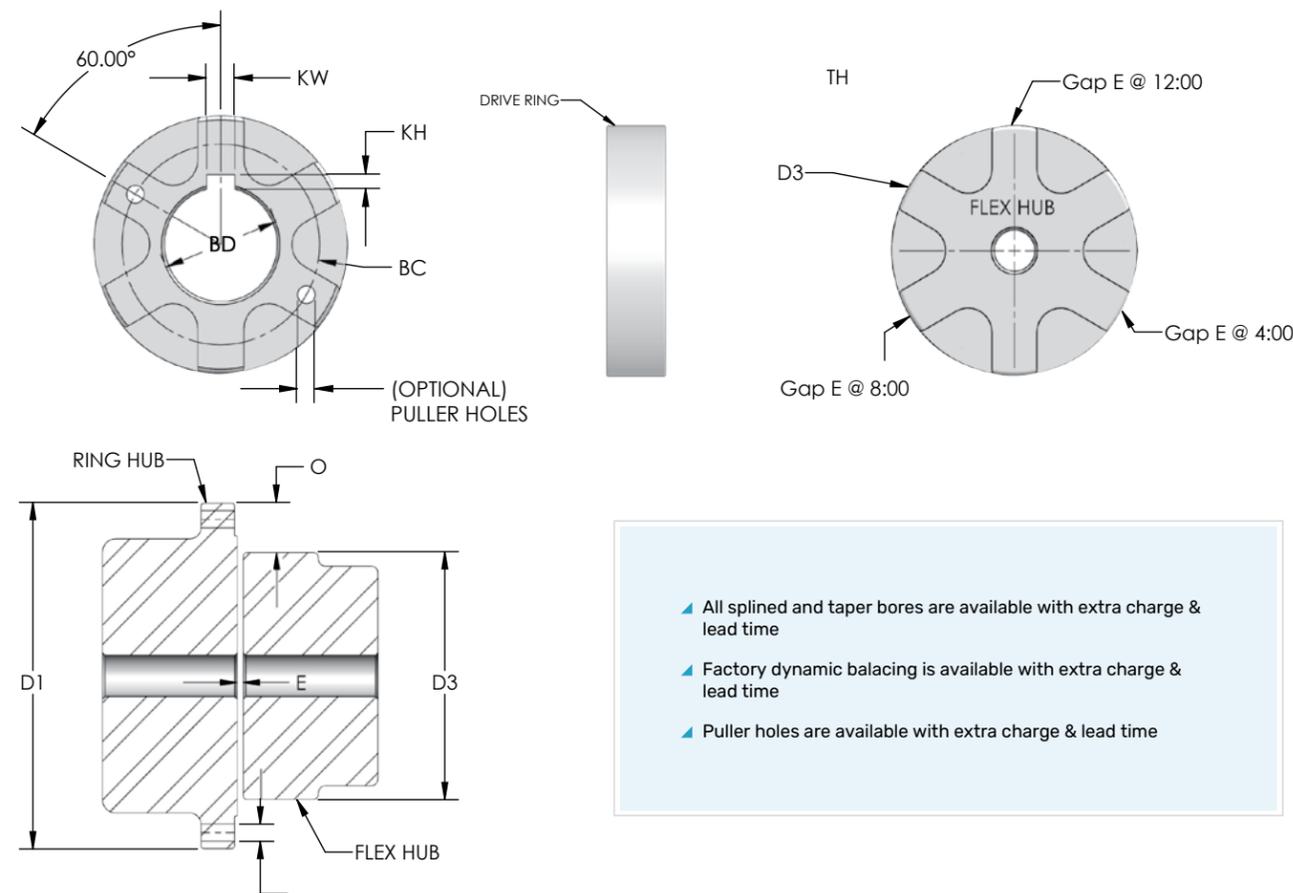
Note: Ring hubs may accommodate +1 size larger bushing than flex hub

Note: Coupling torque may be de-rated due to the bushing's maximum torque capacity. Consult the bushing manufacturer for specifications.

### ALIGNMENT TOLERANCES

SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
GAPE	.100	.100	.100	.100	.180	.180	.180	.200	.200	.200	.200	.250	.275
E+	.100	.125	.125	.175	.175	.225	.225	.250	.250	.250	.350	.350	.350
E-	.020	.030	.030	.040	.040	.050	.050	.070	.070	.070	.070	.070	.100
PARALLEL O	.450	.570	.650	.895	1.075	1.207	1.692	1.767	2.095	2.120	2.120	2.687	3.756
O +/-	.020	.030	.030	.030	.040	.040	.040	.040	.040	.045	.050	.075	.075
TIR	.040	.060	.060	.060	.080	.080	.080	.080	.080	.090	.100	.150	.150
ANGULAR (DEGREE)	2'	2'	2'	2'	1'	1'	1'	1'	1'	1'	1'	1'	1'
D1	2.950	3.960	4.800	6.290	7.800	9.765	11.900	13.600	14.625	18.020	19.950	23.250	28.500
D3	2.050	2.820	3.500	4.500	5.650	7.350	8.515	10.065	10.435	13.780	15.710	17.875	20.988
THREAD-UNF	6-32	10-32	1/4	5/16	1/2	1/2	5/8	5/8	3/4	7/8	1	1 1/8	1 1/2
TT* IN-LBS	31	85	210	415	1900	1900	3500	3500	6200	8500	12300	15500	46500

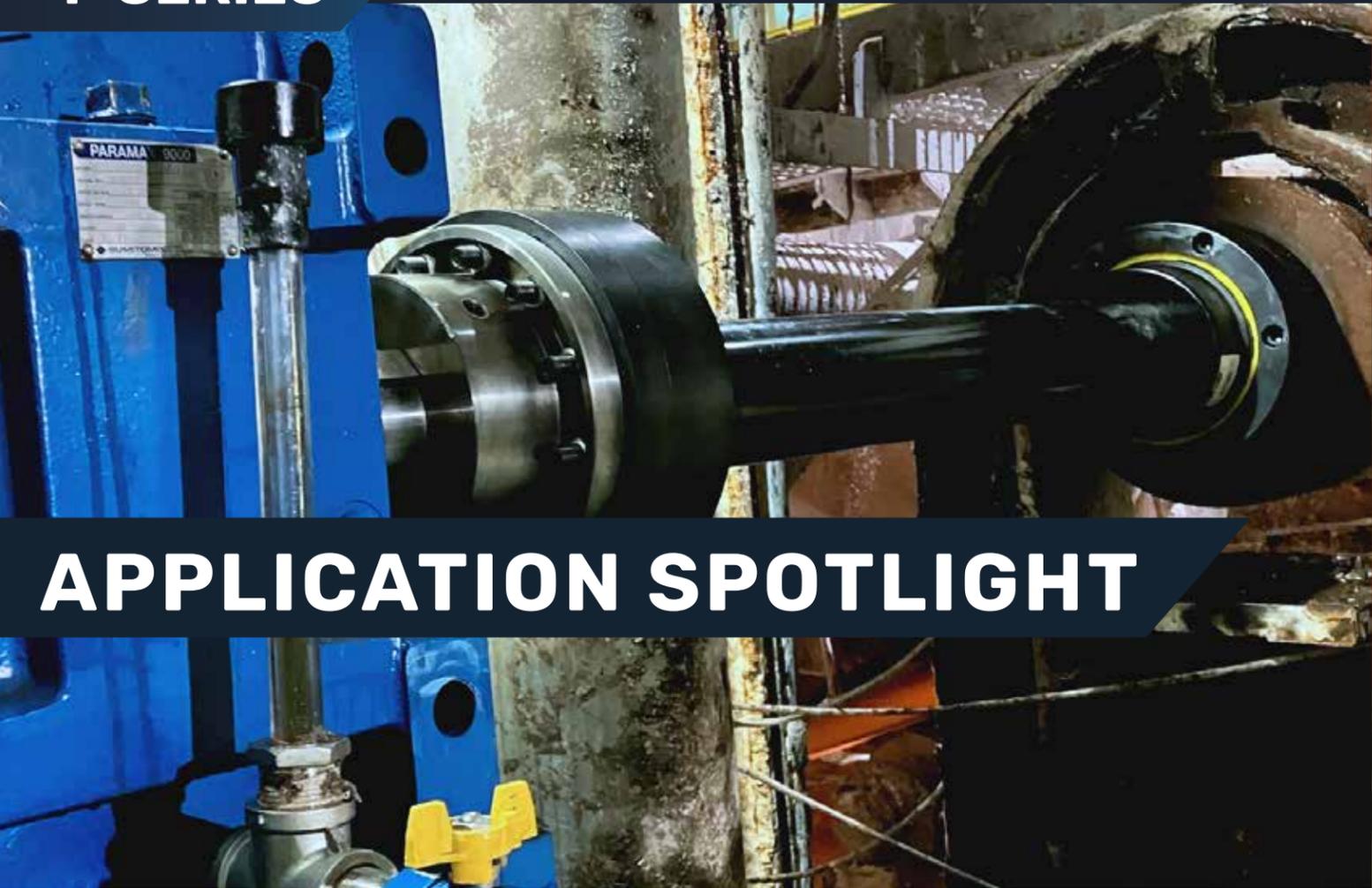
TT - Tightening Torque is for a dry fastener



### FLEX HUB PULLER HOLES (OPTIONAL)

SIZE	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
PH	1/4	1/4	5/16	1/2	1/2	5/8	5/8	3/4	7/8	1	1 - 1/8	1 - 1/2
BC	2.285	2.875	3.500	4.525	5.925	7.000	8.150	8.500	11.400	13.350	14.650	16.494

Note: The standard ring hub bolt pattern can be used as puller holes.



## APPLICATION SPOTLIGHT



Customers turn to ATRA-FLEX® to keep their operations in motion. The ATRA-FLEX® T-Series is used in a wide range of industries and applications. When customers need to connect equipment that spans a long distance, they rely on ATRA-FLEX® floating shaft couplings. Applications include fans, compressors, vertical pumps, cooling towers, paper machines, mine ventilation, dredging equipment, and others. Each floating shaft is designed specifically for the application increasing reliability and reducing downtime.

OnyxShield™ floating shaft couplings can provide customers with a corrosion resistant solution that will reduce wear and increase the insert life. T-Series floating shaft couplings are lubrication free and offer a reduced cost of ownership and minimal maintenance. With the T-Series, inserts can be inspected or replaced in minutes without having to move any equipment.

**Above:**  
T-11 composite floating shaft coupling with OnyxShield™ hubs in a dredging application.

**Right:**  
T-5 steel floating shaft coupling with OnyxShield™ hubs in a pulp and paper application.



# M-SERIES MILLENIUM

**ATRA-FLEX**  
Flexible Couplings

The ATRA-FLEX® M-Series flexible couplings are designed to accommodate a wide range of industrial applications, offering a torque capacity up to 3,610,000 in-lbs and can handle shaft diameters up to 16 inches. These couplings feature a unique twist-and-lock ring that eliminates the need for fasteners or special tools, facilitating easy installation and maintenance. The rugged polyurethane insert effectively absorbs torsional shock and vibration while accommodating angular, parallel, and axial misalignment, thereby enhancing equipment longevity. Additionally, the couplings operate lubrication free, have no metal-to-metal contact and can withstand temperatures ranging from -60°F to 350°F. For applications requiring corrosion resistance, options include stainless steel components or a cost-effective nitrocarburized process known as OnyxShield™, as an alternative.

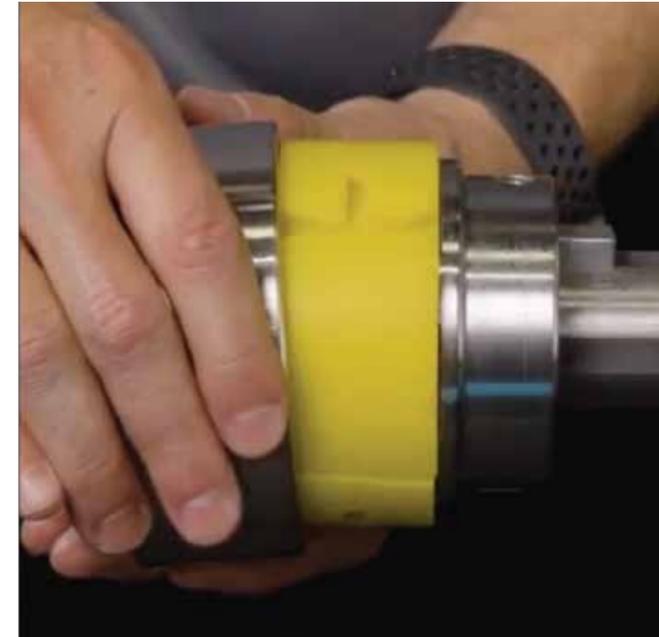
Learn More at [www.ustrubaki.com/products/atra-flex/m-series/](http://www.ustrubaki.com/products/atra-flex/m-series/)

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# M-SERIES

## ADVANTAGES



- ▲ Unique twist-and-lock ring eliminates special tools or fasteners.
- ▲ No lubrication is required.
- ▲ Quick insert replacement, reducing maintenance cost and downtime.
- ▲ Large torque capacity up to 3,610,000 in-lbs for a wide range of industrial applications.
- ▲ Insert is the only wearing component with no metal-to-metal contact.
- ▲ Polyurethane inserts are available in a range of hardness to meet most torsional stiffness and torque requirements.
- ▲ Dampens torsional vibrations and absorbs shock loads.
- ▲ Standard inserts have a temperature range from -60° to 250° Fahrenheit with high temperature inserts available up to 350°F.
- ▲ OnyxShield™ couplings are available for enhanced corrosion and wear resistance.



## HOW IT WORKS

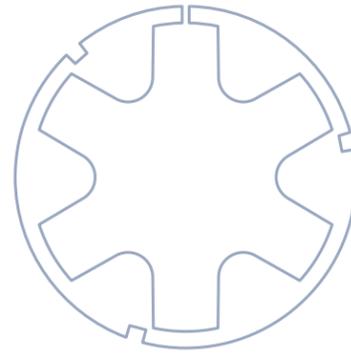
M-Series couplings are suited for a wide range of industrial applications. Torque capacity range up to 3,610,000 in-lbs and shaft capacities up to 16 inches.

## HOW IT WORKS

The M-Series operates using a twist-and-lock design that secures the polyurethane insert between two hubs. This insert serves as the flexible element that transmits torque while isolating vibration and accommodating misalignment—angular, parallel, and axial. The coupling's innovative construction allows for quick insert removal, streamlining maintenance and minimizing downtime. The insert's flexible resilient material ensures efficient energy transfer while protecting connected equipment from damaging loads and misalignment forces.

## MANUFACTURING

M-Series is manufactured in the USA. Each component is precision-machined to ensure superior fit, balance, and performance. Hubs and rings are available in a variety of materials, including carbon steel, 303 stainless steel, and cost-effective OnyxShield™ components for enhanced wear and corrosion resistance. The polyurethane inserts are molded and tested for durability and long service life that offer resistance to almost every fluid found in industry today. ATRA-FLEX® ensures strict quality control at every stage of production, delivering a coupling that performs reliably even in the most demanding applications.



### STANDARD INSERT

TORQUE RATINGS (LB-IN)  
MAX RPM'S BASED ON INSERT TYPES

Orange insert is not recommended for high speed applications  
Refer to quick selection guide on page 38 in this catalog for the appropriate service factors

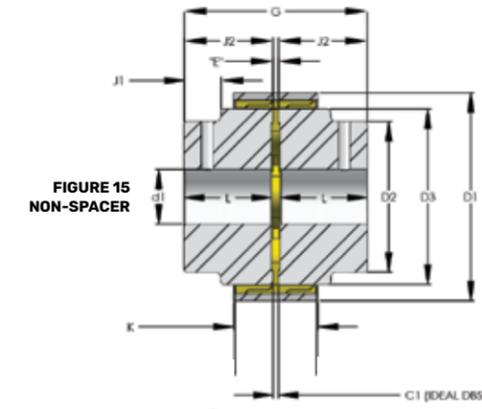
#### INSERT TYPE

YELLOW	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (LB-IN)	180	600	1,260	2,400	3,000	5,760	12,600	28,800	48,000	111,000	186,600	273,000	420,000	960,000	1,900,000
Intermittent (LB-IN)	300	1,000	2,100	4,000	5,000	9,600	21,000	48,000	80,000	185,000	311,000	455,000	700,000	1,600,000	3,200,000
HP @ 100 RPM (SF1)	0.29 0.48	0.95 1.59	2.00 3.33	3.81 6.35	4.76 7.93	9.14 15.23	20 33	46 76	76 127	176 294	296 493	433 722	666 1,111	1,523 2,539	3,015 5,077
Max RPM Balanced G2.5	20,200	12,200	11,000	9,000	8,800	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,900	1,400	1,100
Max RPM Unbalanced	13,480	8,100	7,280	6,500	5,800	4,700	3,600	2,800	2,300	2,000	1,700	1,450	1,300	960	700
High Temperature, High Dampening Use: General Applications (standard)			Max Temp F: 250 Min Temp F: -60			Durometer: 60D									

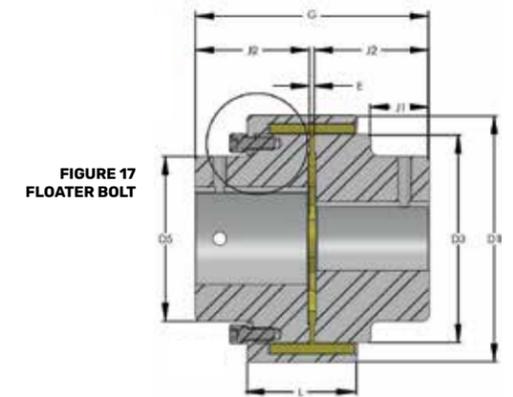
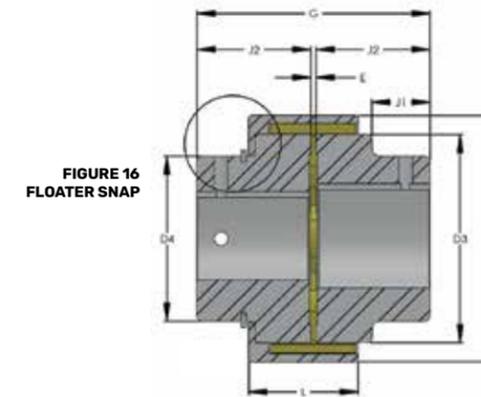
RED	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (LB-IN)	153	510	1,071	2,040	2,550	4,896	10,710	24,480	40,800	94,350	158,610	232,050	357,000	816,000	1,615,000
Intermittent (LB-IN)	255	850	1,785	3,400	4,250	8,160	17,850	40,800	68,000	157,250	264,350	386,750	595,000	1,360,000	2,720,000
HP @ 100 RPM (SF1)	0.25 0.41	0.81 1.35	1.70 2.83	3.24 5.40	4.05 6.74	7.77 12.95	17 28	39 65	65 108	150 250	252 419	368 614	566 944	1,295 2,158	2,563 4,315
Max RPM Balanced G2.5	20,200	12,200	11,000	9,000	8,800	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,900	1,400	1,100
Max RPM Unbalanced	13,480	8,100	7,280	6,500	5,800	4,700	3,600	2,800	2,300	2,000	1,700	1,450	1,300	960	700
High Temperature, High Dampening Use: High Temperature Running Applications			Max Temp F: 350 Min Temp F: 20			Durometer: 90A									

ORANGE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (LB-IN)	342	1,140	2,394	4,560	5,700	10,944	23,940	54,720	91,200	210,900	354,540	518,700	798,000	1,824,000	3,610,000
Intermittent (LB-IN)	570	1,900	3,990	7,600	9,500	18,240	39,900	91,200	152,000	351,500	590,900	864,500	1,330,000	3,040,000	6,080,000
HP @ 100 RPM (SF1)	0.54 0.90	1.81 3.01	3.80 6.33	7.24 12.06	9.04 15.07	17.36 28.94	38 63	87 145	145 241	335 558	563 938	823 1,372	1,266 2,110	2,894 4,823	5,728 9,647
Max RPM Balanced G2.5	20,200	12,200	11,000	9,000	8,800	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,900	1,400	1,100
Max RPM Unbalanced	13,480	8,100	7,280	6,500	5,800	4,700	3,600	2,800	2,300	2,000	1,700	1,450	1,300	960	700
High Torque, Medium Dampening Use: High Torque, Speed Applications			Max Temp F: 250 Min Temp F: -20			Durometer: 70D									

GREEN	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (LB-IN)	88	293	614	1,170	1,463	2,808	6,143	14,040	23,400	54,113	90,668	133,088	204,750	468,000	962,500
Intermittent (LB-IN)	146	488	1,024	1,950	2,438	4,680	10,238	23,400	39,000	90,188	151,613	221,813	341,250	780,000	1,560,000
HP @ 100 RPM (SF1)	0.14 0.23	0.47 0.77	0.98 1.63	1.86 3.10	2.32 3.87	4.46 7.43	10 17	23 38	38 62	86 143	144 241	212 352	325 542	743 1,238	1,470 2,475
Max RPM Balanced G2.5	20,200	12,200	11,000	9,000	8,800	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,900	1,400	1,100
Max RPM Unbalanced	13,480	8,100	7,280	6,500	5,800	4,700	3,600	2,800	2,300	2,000	1,700	1,450	1,300	960	700
Extra High Dampening Use: Engine or Reciprocating with High Vibratory Torques			Max Temp F: 250 Min Temp F: -60			Durometer: 90A									

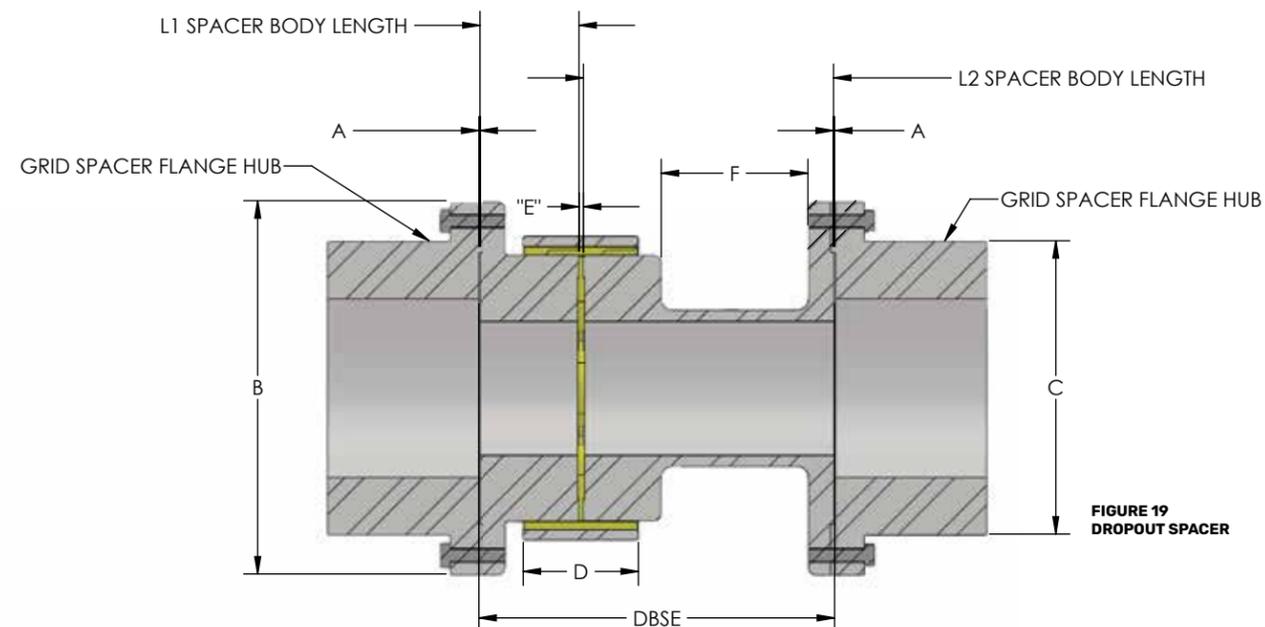
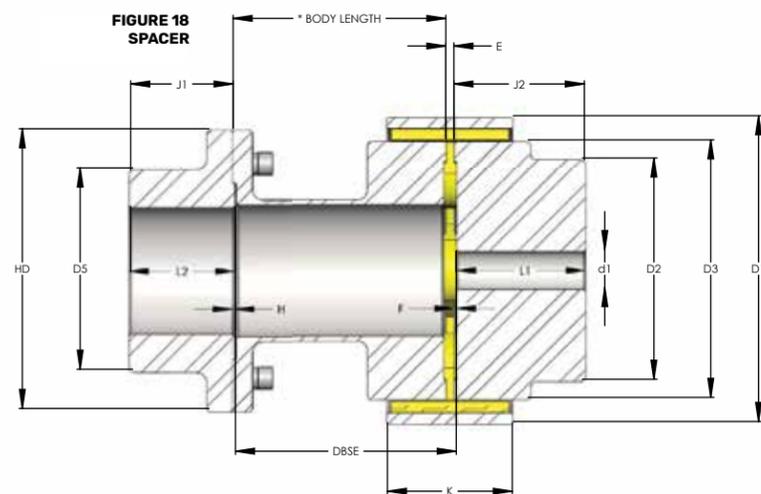
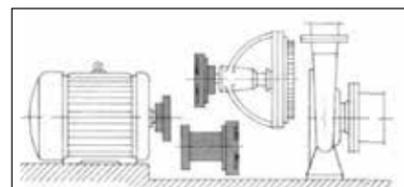
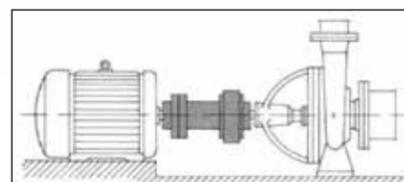


SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
D1	2.260	2.940	3.960	4.270	4.700	5.730	7.600	9.700	11.800	13.600	15.850	17.860	19.875	27.350	35.050
G	2.050	2.825	3.575	3.950	4.575	5.075	6.700	9.200	11.200	12.200	14.700	18.200	20.250	23.250	22.300
MAXIMUM BORE	1.000	1.375	1.750	1.9375	2.250	2.500	3.375	4.500	5.500	6.000	7.250	9.000	10.000	13.250	16.000
RSB	0.250	0.300	0.430	0.609	0.609	0.750	0.940	1.000	1.500	1.750	2.450	2.900	3.750	4.000	7.000
C1 (IDEAL DBSE)	0.120	0.175	0.175	0.175	0.175	0.175	0.300	0.320	0.320	0.320	0.320	0.320	0.320	0.370	0.500
L	.965	1.325	1.700	1.888	2.200	2.450	3.200	4.440	5.440	5.940	7.190	8.940	9.940	11.450	10.900
D2	1.600	2.200	2.875	3.100	3.500	4.000	5.500	6.500	8.000	9.000	10.500	12.000	14.000	18.500	24.000
D3	1.700	2.400	3.150	3.470	3.900	4.900	6.400	8.180	9.930	11.800	13.940	15.900	17.870	23.850	29.780
J1	0.600	0.775	0.850	1.038	1.250	1.125	1.350	2.300	3.000	2.500	2.750	4.375	5.500	5.500	3.250
J2	1.000	1.375	1.750	1.938	2.250	2.500	3.250	4.500	5.500	6.000	7.250	9.000	10.000	11.500	11.000
K	0.680	1.030	1.550	1.650	1.635	2.040	3.100	3.500	4.000	5.180	6.280	6.530	6.650	9.200	12.500
E (GAP)	0.062	0.075	0.075	0.075	0.075	0.075	0.200	0.200	0.200	0.200	.200	0.200	.250	0.250	0.300
APPROX. WT. (LBS.)	0.750	2	4	5	10	19	36	72	125	190	320	475	964	1200	1500



M-SERIES FLOATER Note: Floater style coupling dimensions differ from non-spacer as shown below.

SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
D1	2.125	2.840	3.875	4.250	4.700	5.930	7.600	9.700	11.800	13.680	15.850	18.185	19.875	27.600	34.620
D4 (FSS0)	1.562	2.156	2.875	2.875	3.500	4.000	5.500	6.500	9.950	12.000	14.000	*	*	*	*
D5 (FSB0)	1.568	1.900	2.650	2.750	3.050	3.750	5.125	6.500	7.400	9.000	10.500	12.000	14.700	18.500	*
L	0.900	1.355	1.875	1.928	2.048	2.635	3.780	4.310	5.060	6.625	8.250	8.500	8.470	11.850	*

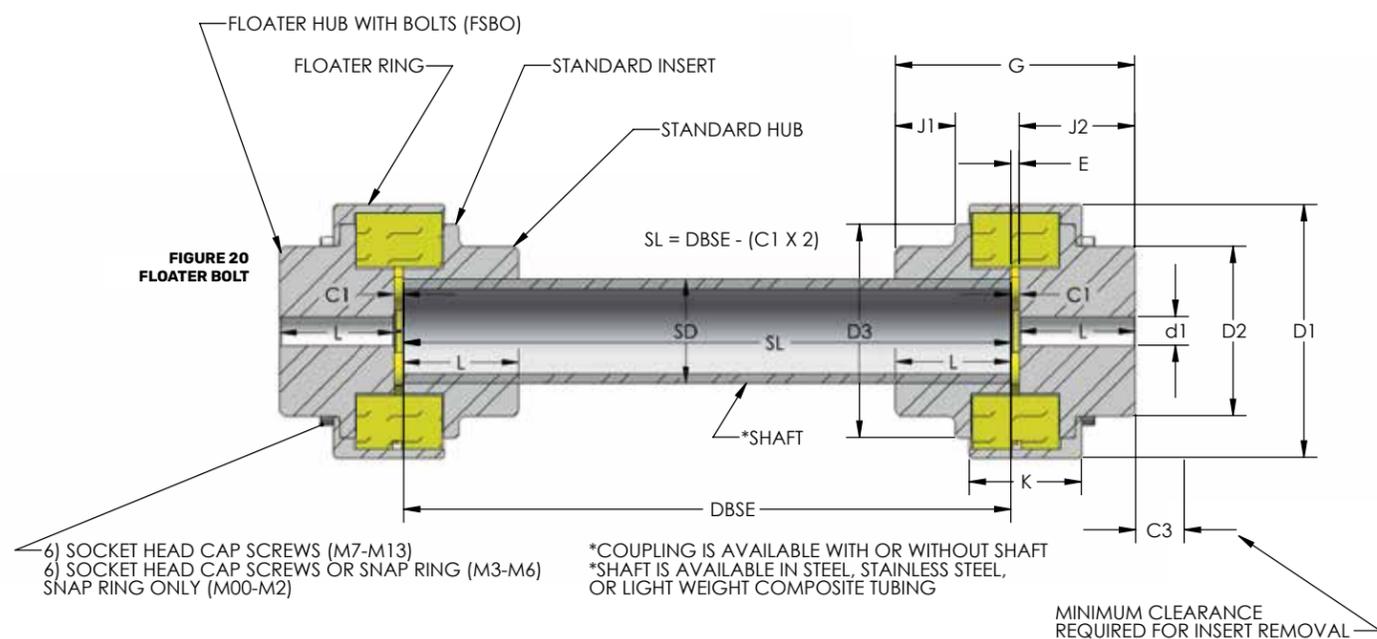


SIZE	M00	M0	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12
<b>D1</b>	2.260	2.940	3.960	4.700	5.730	7.600	9.700	11.800	13.600	15.850	17.860	19.875	27.600
<b>MAXIMUM BORE HUB</b>	1.000	1.375	1.750	2.250	2.500	3.375	4.500	5.500	6.000	7.250	9.000	10.000	13.250
<b>*MAXIMUM BORE FLANGE HUB</b>	1.375*	1.375*	1.875*	2.375*	2.875*	3.375*	4.000*	5.000*	5.750*	7.125*	8.250*	10.500*	14.250*
<b>*MAX BORE HEAVY DUTY FLANGE</b>	1.625*	1.625*	2.000*	2.500*	3.000*	3.875*	5.000*	6.875*	7.125*	8.875*	9.250*	11.875*	
<b>RSB</b>	0.250	0.300	0.430	0.609	0.750	0.940	1.000	1.500	1.750	2.450	2.900	3.750	4.000
<b>L1</b>	0.965	1.325	1.700	2.200	2.450	3.200	4.450	5.440	5.940	7.190	8.940	9.940	11.450
<b>L2</b>	1.450	1.450	1.620	2.125	2.410	2.610	3.410	4.312	4.625	7.000	9.100	11.100	11.625
<b>D2</b>	1.600	2.200	2.875	3.500	4.000	5.500	6.500	8.000	9.000	10.500	12.000	14.000	18.500
<b>D3</b>	1.700	2.400	3.150	3.900	4.900	6.400	8.180	9.930	11.800	13.940	15.900	17.870	23.850
<b>HD</b>	3.415	3.415	3.940	4.710	5.515	6.950	8.860	10.000	10.490	12.800	15.087	19.000	23.900
<b>D5 (HEAVY DUTY FLANGE USE HD)</b>	2.280	2.280	2.875	3.500	4.200	5.00	6.625	7.250	8.275	10.000	11.875	13.000	18.000
<b>J1</b>	1.390	1.390	1.560	2.065	2.350	2.550	3.350	4.252	4.565	6.900	9.000	11.000	11.500
<b>J2</b>	1.000	1.375	1.750	2.250	2.500	3.250	4.500	5.500	6.000	7.250	9.000	10.000	11.500
<b>F</b>	0.035	0.035	0.050	0.050	0.050	0.050	0.060	0.060	0.060	0.060	0.060	0.060	0.060
<b>H</b>	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.100	0.100	0.100	0.125
<b>K</b>	0.680	1.030	1.550	1.635	2.040	3.100	3.500	3.900	5.150	6.280	6.530	6.650	9.200
<b>E (GAP)</b>	0.620	0.075	0.075	0.075	0.075	0.200	0.200	0.200	0.200	0.200	0.200	0.250	0.250
<b>STANDARD BODY LENGTH</b>	3.5	3.0 3.5	3.0 3.5 3.75 4.0 4.5 5.0	3.0 3.5 3.75 4.0 5.0 5.5 7.0	3.5 5.0 5.25 6.0 7.0 7.25 9.5 10.0 12.0	4.0 5.0 6.0 7.0 7.25 9.5 10.0 12.0	5.0 6.0 7.0 7.25 9.5 10.0 12.0	7.0 TO 14.0	7.0 TO 18.0	7.5 TO 18.0	9.5 TO 18.0	9.5 TO 20.0	12.0 TO 24.0

Custom lengths available with extra charge  
\*A-Series flanges are the standard flange for M-Series spacer couplings

GRID SIZE	SIZE ATRA-FLEX®	ANSI STD DBSE	A	B	C	D (RING WIDTH)	F	"E"	L1	DBSE=L2
<b>1020 T31</b>	<b>20SB0MF</b>	3.500	0.050	3.313	2.060	1.145	1.700	0.075	0.900	3.500=2.600
		4.380					2.580			4.380=3.480
		5.000					3.200			5.000=4.100
<b>1030 T31</b>	<b>30SB1MF</b>	3.500	0.050	3.618	2.340	1.570	0.900	0.075	1.300	3.500=2.200
		4.380					1.780			4.380=3.080
		5.000					2.400			5.000=3.700
		7.250					4.650			7.250=5.950
<b>1040 T31</b>	<b>40SB2MF</b>	3.500	0.050	4.375	3.090	1.600	0.700	0.075	1.400	3.500=2.100
		4.380					1.580			4.380=2.980
		5.000					2.200			5.000=3.600
		7.250					4.450			7.250=5.850
<b>1050 T31</b>	<b>50SB2MF</b>	4.380	0.050	4.875	3.440	1.600	1.580	0.075	1.400	4.380=2.980
		5.000					2.200			5.000=3.600
		7.250					4.450			7.250=5.850
<b>1060 T31</b>	<b>60SB3MF</b>	5.000	0.050	5.625	4.060	2.050	1.050	0.075	1.975	5.000=3.025
		7.250					3.300			7.250=5.275
		9.750					5.800			9.750=7.775
		12.250					10.275			12.250=10.275
<b>1070 T31</b>	<b>70SB4MF</b>	5.000	0.050	5.940	4.310	3.100	0.900	0.200	2.100	5.000=2.800
		7.250					3.150			7.250=5.050
		9.750					5.050			9.750=7.550
		12.250					8.150			12.250=10.050
<b>1080 T31</b>	<b>80SB5MF</b>	7.250	0.050	7.000	4.800	3.500	1.350	0.200	3.075	7.250=4.175
		9.750					3.850			9.750=6.675
		12.250					6.350			12.250=9.175
<b>1090 T31</b>	<b>90SB5MF</b>	7.250	0.050	8.180	5.620	3.500	1.350	0.200	3.075	7.250=4.175
		9.750					3.850			9.750=6.675
		12.250					6.351			12.250=9.175

\*\* Consult factory for larger sizes



SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
<b>D1</b>	2.125	2.840	3.875	4.250	4.700	5.930	7.600	9.700	11.800	13.680	15.850	17.860	19.875	27.600	34.620
<b>G</b>	2.050	2.825	3.575	3.950	4.575	5.075	6.700	9.200	11.200	12.200	14.700	18.200	20.200	23.250	22.300
<b>MAXIMUM BORE</b>	1.000	1.375	1.750	1.9375	2.250	2.500	3.375	4.500	5.500	6.000	7.250	9.000	10.000	13.250	16.000
<b>RSB</b>	0.250	0.300	0.430	0.609	0.609	0.750	0.940	1.100	1.500	1.750	2.450	2.900	3.750	4.000	7.000
<b>C1</b>	0.132	0.145	0.195	0.195	0.195	0.195	0.320	0.320	0.320	0.320	0.320	0.320	0.370	0.370	0.420
<b>C3</b>	0.185	0.450	0.820	0.625	1.250	1.250	1.930	1.430	1.460	3.180	4.250	2.625	1.430	4.475	8.900
<b>L</b>	0.935	1.340	1.690	1.875	2.440	2.440	3.190	4.440	5.440	5.940	7.190	8.940	9.940	11.440	10.900
<b>D2</b>	1.600	2.200	2.875	3.100	3.500	4.000	5.500	6.500	8.000	9.000	10.500	12.000	14.000	18.500	24.000
<b>D3</b>	1.700	2.400	3.150	3.470	3.900	4.900	6.400	8.180	9.930	11.900	13.940	15.900	17.900	23.900	30.000
<b>J1</b>	0.600	0.775	0.850	1.038	1.125	1.125	1.350	2.300	3.000	2.500	2.750	4.375	5.500	5.500	3.000
<b>J2</b>	1.000	1.375	1.750	1.938	2.250	2.500	3.250	4.500	5.500	6.000	7.250	9.000	10.000	11.500	11.000
<b>K</b>	0.900	1.355	1.875	1.928	2.048	2.635	3.780	4.310	5.060	6.625	8.250	8.500	8.470	11.850	14.150
<b>*SD (SHAFT DIAMETER)</b>	1.000	1.250	1.500	1.500	2.000	2.000	3.000	4.000	5.000	5.500	7.000	8.500	9.500	13.000	15.500
<b>E (GAP)</b>	0.062	0.075	0.075	0.075	0.075	0.075	0.200	0.200	0.200	0.200	0.200	0.200	0.250	0.250	0.300

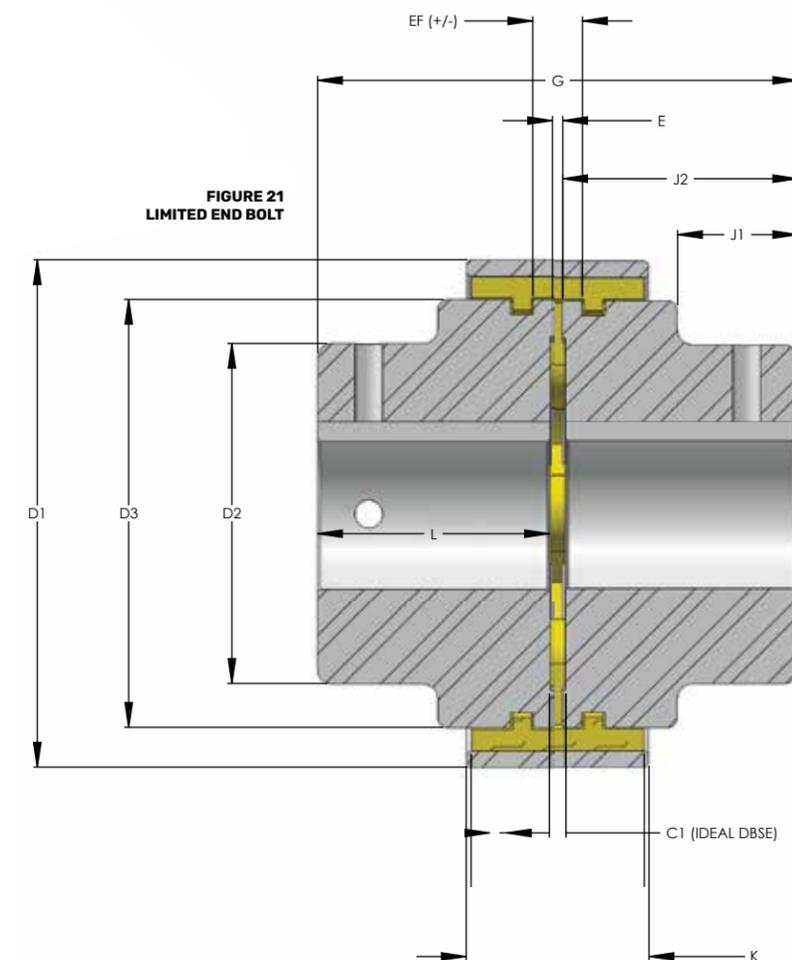
\* Dimensions subject to change without notice.

**For Sleeve Bearing Motors, And All Other Applications Requiring Axial End-Float Restrictions**

(Meets API 610 Standards Maximum Coupling End Float Requirements)

Use limited end float hubs and inserts for applications with sleeve bearing motors, ID & FD fans or any application requiring limited axial end float. All other components are standard, they can be used in non-spacer, flywheel, etc.

**Note:** Limited end float couplings can be special ordered for end float +/- increase or decrease and accommodate greater angular misalignment.



SIZE	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12
<b>D1</b>	3.960	4.700	5.730	7.600	9.700	11.800	13.600	15.850	17.860	19.875	27.600
<b>G</b>	3.575	4.575	5.075	6.700	9.200	11.200	12.200	14.700	18.200	20.250	23.250
<b>MAXIMUM BORE</b>	1.750	2.250	2.500	3.375	4.500	5.500	6.000	7.250	9.000	10.000	13.250
<b>RSB</b>	0.430	0.609	0.750	0.940	1.000	1.500	1.750	2.450	2.900	3.750	4.000
<b>L</b>	1.700	2.200	2.450	3.200	4.440	5.440	5.940	7.190	8.940	9.940	11.450
<b>D2</b>	2.875	3.500	4.000	5.500	6.500	8.000	9.000	10.500	12.000	14.000	18.500
<b>D3</b>	3.150	3.900	4.900	6.400	8.150	9.930	11.900	13.940	15.900	17.900	23.900
<b>J1</b>	0.850	1.250	1.125	1.350	2.300	3.000	2.500	2.750	4.375	5.500	5.500
<b>J2</b>	1.750	2.250	2.500	3.250	4.500	5.500	6.000	7.250	9.000	10.000	11.500
<b>K</b>	1.550	1.635	2.040	3.100	3.500	3.900	5.180	6.280	6.530	6.650	9.200
<b>E</b>	0.075	0.075	0.075	0.200	0.200	0.200	0.200	0.200	0.200	0.250	0.250
<b>AXIAL END FLOAT +/-</b>	0.025	0.015	0.015	0.050	0.080	0.100	0.100	0.100	0.100	0.100	0.100
<b>APPROX. WT. LBS.</b>	4	10	19	36	72	125	190	320	475	964	1200

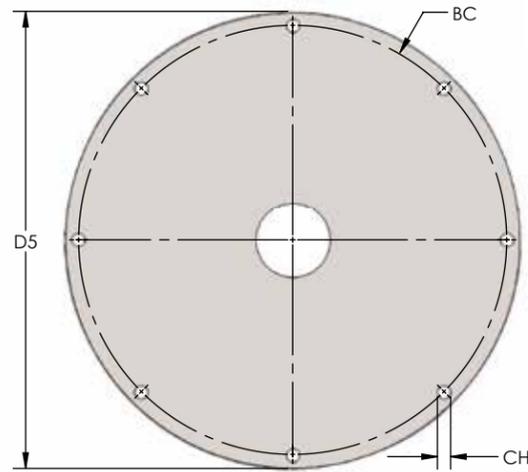
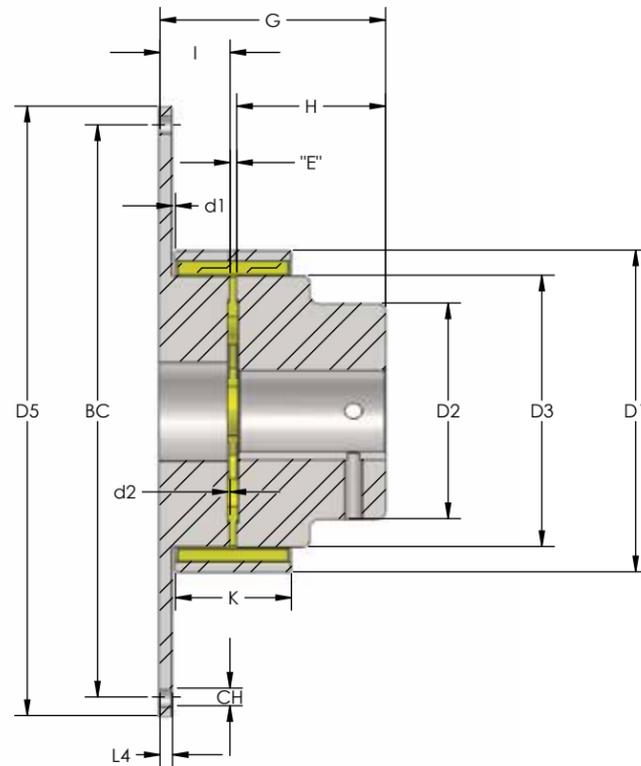


FIGURE 22 FLYWHEEL



SIZE	M4	M5	M6	M7	M8	M9	M10	M12
D1	7.600	9.700	11.800	13.260	15.460	17.860	19.875	27.600
D2	5.500	6.500	8.000	9.000	10.500	12.000	14.000	18.500
D3	6.400	8.180	9.930	11.900	13.900	15.900	17.900	23.900
d1	0.500	0.090	0.600	1.000	1.500	1.500	1.250	1.500
d2	0.050	0.060	0.060	0.060	0.060	0.060	0.060	0.060
E	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.250
L4	0.375	0.375	0.625	0.750	0.750	1.000	1.250	1.250
G	5.725	6.815	8.875	10.450	12.700	14.825	16.000	20.750
H	3.250	4.500	5.550	6.000	7.250	9.000	10.000	13.250
I	2.275	2.115	3.125	4.250	5.250	5.625	5.750	7.250
MAX BORE	3.375	4.500	5.500	6.000	7.250	9.000	10.000	13.250
MAX RPM W/O BALANCING	3,000	2,500	2,100	1,800	1,500	1,300	1,000	900

SAE	6.5	7.5	8	10	11.5	14	16	18	21	24
D5	8.500	9.500	10.375	12.375	13.875	18.375	20.375	22.500	26.500	28.875
BC	7.875	8.750	9.625	11.625	13.125	17.250	19.250	21.375	25.250	27.250
L4	0.3125	0.3125	0.375	0.375	0.375	0.625	0.625	0.750	0.750	0.750
CH	0.3281	0.3281	0.3906	0.3906	0.3906	0.5156	0.5156	0.6406	0.6406	0.7656
CHX	6	8	6	8	8	8	8	6	12	12

\* Factory recommends a service factor of 3.0 to 4.0  
 \*\* Consult factory for custom sizes

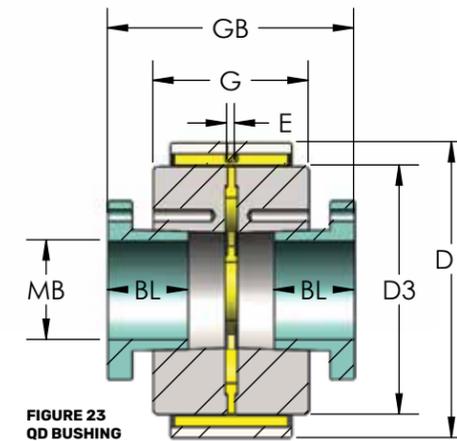


FIGURE 23 QD BUSHING

### QD BUSHING

SIZE	QD	MB	GB	G	D1	D3	E	BL
M0	JA	1.250	2.345	1.525	2.940	2.400	0.075	1.000
M1	SH	1.6875	3.440	2.325	3.960	3.150	0.075	1.315
M1H	SH	1.6875	3.440	2.325	4.270	3.470	0.075	1.315
M2	SDS	2.000	3.025	1.925	4.700	3.900	0.075	1.315
M3	SK	2.500	6.485	4.925	5.730	4.900	0.075	1.937
M4	SF	2.9875	5.700	4.000	7.600	6.400	0.200	2.062
M5	F	4.000	8.630	5.945	9.700	8.150	0.200	3.750
M6	J	4.500	10.340	7.320	11.800	9.930	0.200	4.630
M7	M	5.500	19.810	16.490	13.250	11.900	0.200	6.750
M8	N	6.000	23.770	19.950	15.460	13.940	0.200	8.125
M9	P	7.000	20.720	15.960	17.860	15.900	0.200	9.375

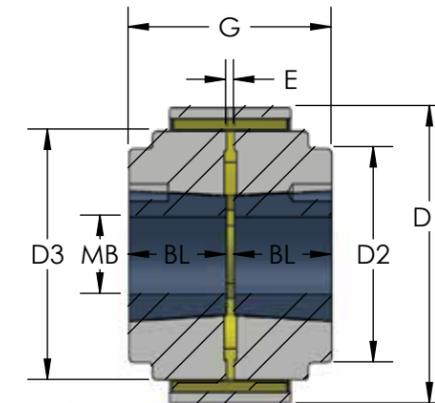


FIGURE 24 EXTERNAL TAPER-LOCK

### TAPER-LOCK BUSHING EXTERNAL

SIZE	TLEXT	MB	G	D1	D3	E	BL
M0	1008	0.5625	2.075	2.940	2.400	0.075	0.875
M1	1108	1.125	1.975	3.960	3.150	0.075	0.875
M1H	1215	1.250	3.195	4.270	3.470	0.075	1.500
M2	1615	1.6875	3.175	4.700	3.900	0.075	1.500
M3	2012	2.125	4.075	5.730	4.900	0.075	1.250
M4	2525	2.500	5.300	7.600	6.400	0.200	2.500
M5	3020	3.000	4.600	9.700	8.150	0.200	2.000
M6	4040	4.4375	8.320	11.800	9.930	0.200	4.000
M7	5050	5.000	15.700	13.250	11.900	0.200	5.000
M8	6050	6.000	17.450	15.460	13.940	0.200	5.000
M9	7060	7.000	19.350	17.860	15.900	0.200	6.000

### TAPER-LOCK BUSHING INTERNAL

SIZE	TLINT	MB	G	D1	D3	E	BL
M1	1108	1.125	1.975	3.960	3.150	0.075	0.875
M1H	1215	1.250	3.195	4.270	3.470	0.075	1.500
M2	1310	1.375	2.325	4.700	3.900	0.075	1.000
M3	1610	1.625	2.575	5.730	4.900	0.075	1.000
M4	2012	2.125	4.100	7.600	6.400	0.200	1.250
M5	3020	3.000	4.600	9.700	8.150	0.200	2.000
M6	3535	3.500	7.570	11.800	9.930	0.200	3.500
M7	4040	4.4375	8.320	13.250	11.900	0.200	4.000
M8	4545	4.9375	9.450	15.460	13.940	0.200	4.500
M9	5050	5.000	10.700	17.860	15.900	0.200	5.000

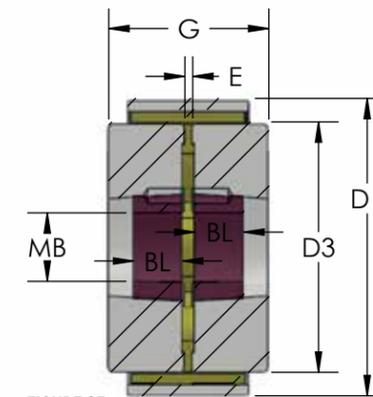
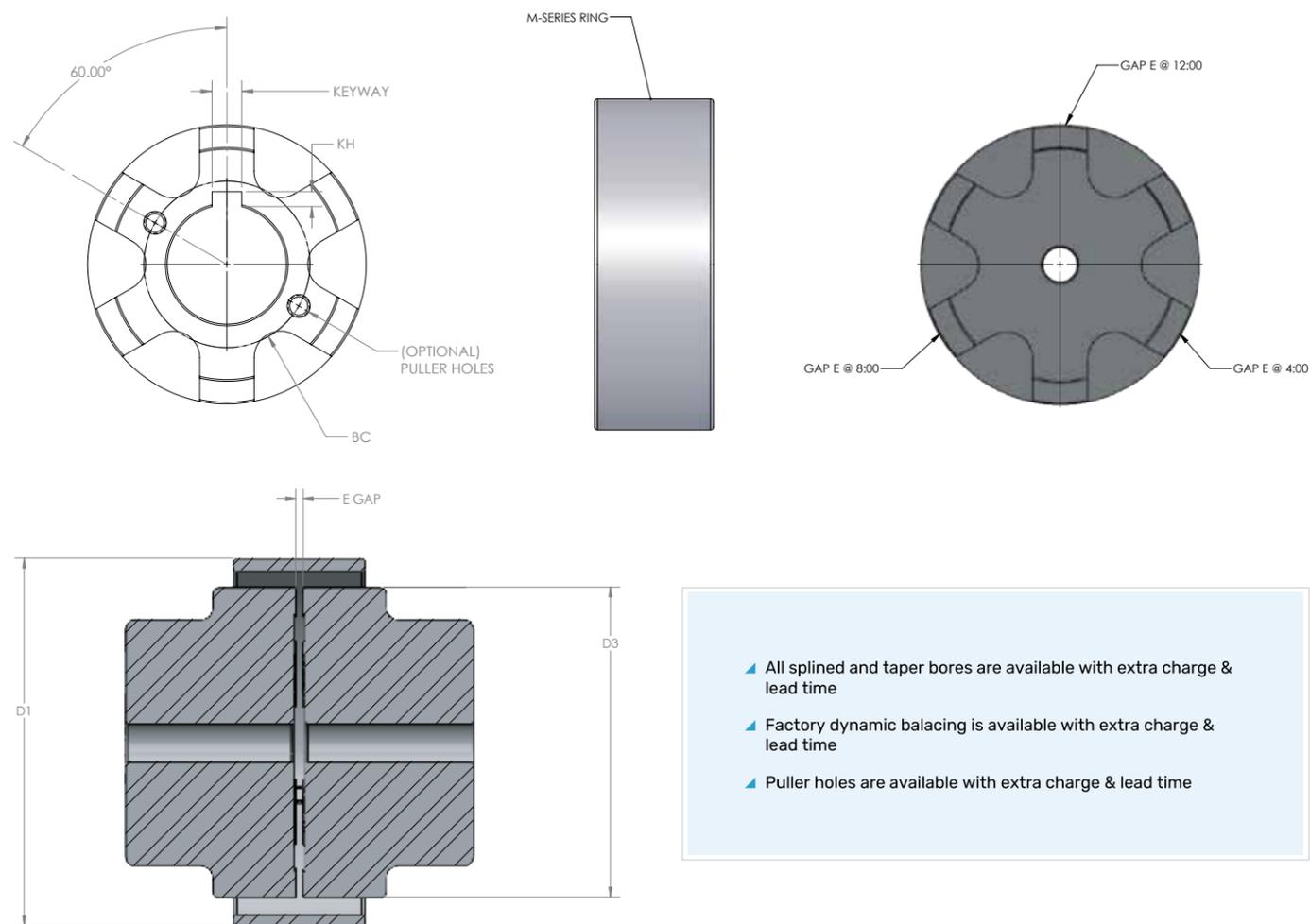


FIGURE 25 INTERNAL TAPER-LOCK

**Note:** Coupling torque may be de-rated due to the bushing's maximum torque capacity. Consult the bushing manufacturer for specifications.

### M-SERIES ALIGNMENT TOLERANCES

SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
<b>GAP E</b>	0.062	0.075	0.075	0.075	0.075	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.250	0.250	0.300
<b>E+</b>	0.030	0.040	0.040	0.040	0.040	0.040	0.075	0.100	0.100	0.100	0.100	0.100	0.150	0.200	0.200
<b>E-</b>	0.010	0.010	0.020	0.020	0.020	0.020	0.040	0.040	0.040	0.040	0.040	0.060	0.100	0.100	0.100
<b>TIR</b>	0.020	0.040	0.040	0.040	0.040	0.040	0.060	0.060	0.060	0.060	0.060	0.060	0.080	0.100	0.105
<b>ANGULAR (DEGREE)</b>	2'	2'	2'	2'	2'	2'	1'	1'	1'	1'	1'	1'	1'	1'	1'
<b>D1</b>	2.260	2.940	3.960	4.270	4.700	5.730	7.600	9.700	11.800	13.600	15.850	17.860	19.875	27.350	35.050
<b>D3</b>	1.700	2.400	3.150	3.470	3.900	4.900	6.400	8.180	9.930	11.800	13.940	15.900	17.870	23.850	29.780



### M-SERIES HUB

SIZE	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12
<b>PULLER HOLE</b>	1/4-20	1/4-20	1/4-20	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	5/8-11	3/4-10	3/4-10	1-8	1-8
<b>BC</b>	1.700	2.3125	2.650	2.875	3.500	4.750	6.000	7.000	8.250	9.500	11.250	12.250	16.500

### APPLICATION SPOTLIGHT



The ATRA-FLEX® M-Series series couplings are engineered to handle the most demanding applications while providing one of the quickest coupling installs, less downtime, and minimal maintenance. No metal-to-metal contact means the M-Series protects the driver and driven equipment in the event of a lockup or torque spike. This also means the insert is the only wearing component and due to the unique twist-and-lock ring, there are no special tools or fasteners required for insert replacement. The M-Series ability to compensate for misalignment and transmit torque without lubrication minimizes maintenance downtime, making it an ideal solution for demanding applications where reliability and efficiency are critical.

**(Top photo)** M13 coupling for a paper mill atmospheric diffusion washer

**(Middle photo)** M1H coupling for a vacuum turbine

**(Lower photo)** M2 drop out spacer coupling in a pump application

# A-SERIES

**ATRA-FLEX**  
Flexible Couplings

The A-Series Atra-Flex® coupling is the original and pioneering wrap style coupling design that set the benchmark in 1980 for minimal maintenance and non-lubricated couplings. Engineered for reliability and quick installation without any special tools or fasteners. Inserts can be replaced without moving hubs or connected equipment. No metal-to-metal contact reduces downtime and minimizes maintenance. While the A-Series continues to serve a wide range of applications, Atra-Flex® continues to innovate and expand its coupling offering. Users seeking enhanced features may refer to the M-Series catalog pages.

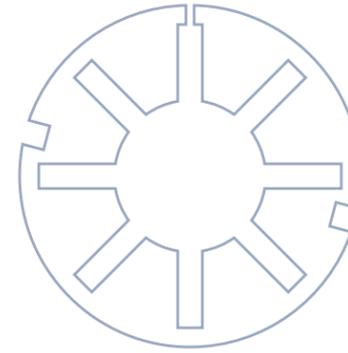
Learn More at [www.ustsubaki.com/products/atra-flex/a-series/](http://www.ustsubaki.com/products/atra-flex/a-series/)

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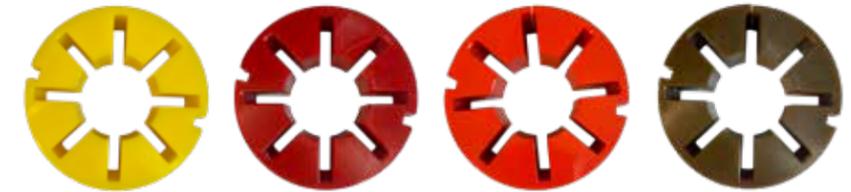
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- 31** Insert Ratings
- 32** Non-Spacer Couplings
- 33** Spacer Couplings
- 34** Technical Information/Alignment Tolerances

# A-SERIES

## INSERT RATINGS



**STANDARD INSERT**



Orange insert is not recommended for high speed applications  
Refer to quick selection guide on page 38 in this catalog for the appropriate service factors

### INSERT TYPE

YELLOW		A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>General Use, High Dampening</b>	<b>Continuous (LB-IN)</b>	105	265	340	1,325	2,650	5,300	13,230	21,200	42,350	79,400	120,300	300,000
	<b>Intermittent (LB-IN)</b>	176	411	819	2,205	4,410	8,820	22,050	35,280	70,560	132,300	200,500	500,000
<b>Use: General Applications (standard)</b> <b>Max Temp F: 250</b> <b>Min Temp F: -60</b> <b>Durometer: 60D</b>	<b>HP @ 100 RPM (SF1)</b>	0.17 0.28	0.42 0.70	0.54 1.30	2.10 3.50	4 7	8 14	21 35	34 56	67 112	126 210	191 318	476 793
	<b>Max RPM Unbalanced</b>	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	<b>Max RPM Balanced G2.5</b>	20,200	12,200	11,000	9,000	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,700

RED		A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>High Temperature, High Dampening</b>	<b>Continuous (LB-IN)</b>	89	225	289	1,126	2,253	4,505	11,246	18,020	35,998	67,490	102,255	255,000
	<b>Intermittent (LB-IN)</b>	150	349	696	1,874	3,749	7,497	18,743	29,988	59,976	112,455	170,425	425,000
<b>Use: High Temperature Running Applications</b> <b>Max Temp F: 350</b> <b>Min Temp F: 20</b> <b>Durometer: 90A</b>	<b>HP @ 100 RPM (SF1)</b>	0.14 0.24	0.36 0.60	0.46 1.11	1.79 2.98	3 6	7 12	18 30	29 48	57 95	107 179	162 270	405 674
	<b>Max RPM Unbalanced</b>	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	<b>Max RPM Balanced G2.5</b>	20,200	12,200	11,000	9,000	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,700

ORANGE		A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>High Torque, Medium Dampening</b>	<b>Continuous (LB-IN)</b>	200	503	646	2,518	5,035	10,070	25,137	40,280	80,465	150,860	228,570	570,000
	<b>Intermittent (LB-IN)</b>	334	838	1,556	4,190	8,379	16,758	41,895	67,032	134,064	251,370	380,950	950,000
<b>Use: High Torque, Low Speed Applications</b> <b>Max Temp F: 250</b> <b>Min Temp F: -20</b> <b>Durometer: 70D</b>	<b>HP @ 100 RPM (SF1)</b>	0.32 0.53	0.80 1.33	1.02 2.47	4.00 6.65	8 13	16 27	40 66	64 106	128 213	239 399	363 604	904 1,507
	<b>Max RPM Unbalanced</b>	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	<b>Max RPM Balanced G2.5</b>	20,200	12,200	11,000	9,000	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,700

BROWN		A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>High Dampening</b>	<b>Continuous (LB-IN)</b>	85	214	275	1,070	2,140	4,280	10,683	17,119	34,198	64,116	97,142	242,250
	<b>Intermittent (LB-IN)</b>	142	356	661	1,781	3,561	7,122	17,805	28,489	56,977	106,832	161,904	403,750
<b>Use: Heavy Vibration, Shock Loads</b> <b>Max Temp F: 250</b> <b>Min Temp F: -60</b> <b>Durometer: 95A</b>	<b>HP @ 100 RPM (SF1)</b>	0.13 0.23	0.34 0.57	0.44 1.05	1.70 2.83	3 6	7 11	17 28	27 45	54 90	102 170	154 257	384 641
	<b>Max RPM Unbalanced</b>	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	<b>Max RPM Balanced G2.5</b>	20,200	12,200	11,000	9,000	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,700

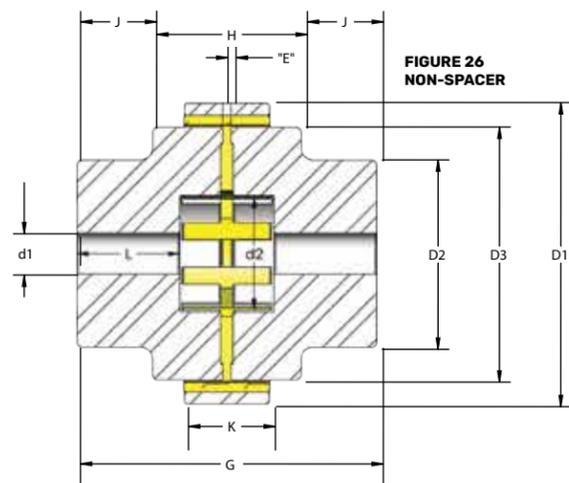


FIGURE 26  
NON-SPACER

SIZE	A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>D1</b>	1.895	2.500	3.150	4.255	5.550	7.000	8.900	10.625	12.400	14.650	16.925	20.000
<b>G</b>	2.100	2.790	3.560	4.830	5.980	6.990	8.610	10.190	12.190	14.190	16.220	20.100
<b>MAXIMUM BORE</b>	0.875	1.250	1.630	1.940	2.375	2.940	4.000	5.000	6.000	7.130	9.250	10.500
<b>RSB</b>	0.250	0.300	0.430	0.500	0.625	0.950	1.000	1.500	1.750	2.450	2.900	3.740
<b>L</b>	0.765	1.060	1.340	1.775	2.130	2.400	3.070	3.700	4.570	5.360	6.170	7.450
<b>d2</b>	0.880	1.230	1.400	1.650	2.000	2.700	3.350	4.450	5.250	5.930	7.350	7.750
<b>D2</b>	1.350	1.995	2.370	3.070	3.520	4.360	5.790	7.250	8.000	9.500	11.000	13.000
<b>D3</b>	1.385	2.065	2.505	3.360	4.505	5.872	7.450	9.225	10.490	12.800	15.087	17.900
<b>H</b>	0.900	1.060	1.390	2.030	2.420	3.480	3.930	4.690	4.990	5.990	6.410	9.100
<b>J</b>	0.600	0.870	1.100	1.400	1.780	1.755	2.340	2.750	3.600	4.100	4.905	5.500
<b>K</b>	0.515	0.640	0.825	1.235	1.600	2.000	2.310	2.750	3.000	3.320	3.750	5.000
<b>E (GAP)</b>	0.047	0.062	0.062	0.062	0.062	0.188	0.188	0.188	0.188	0.188	0.219	0.100
<b>APPROX. WT. (LBS.)</b>	1	2	4	9	17	33	68	115	175	308	456	770

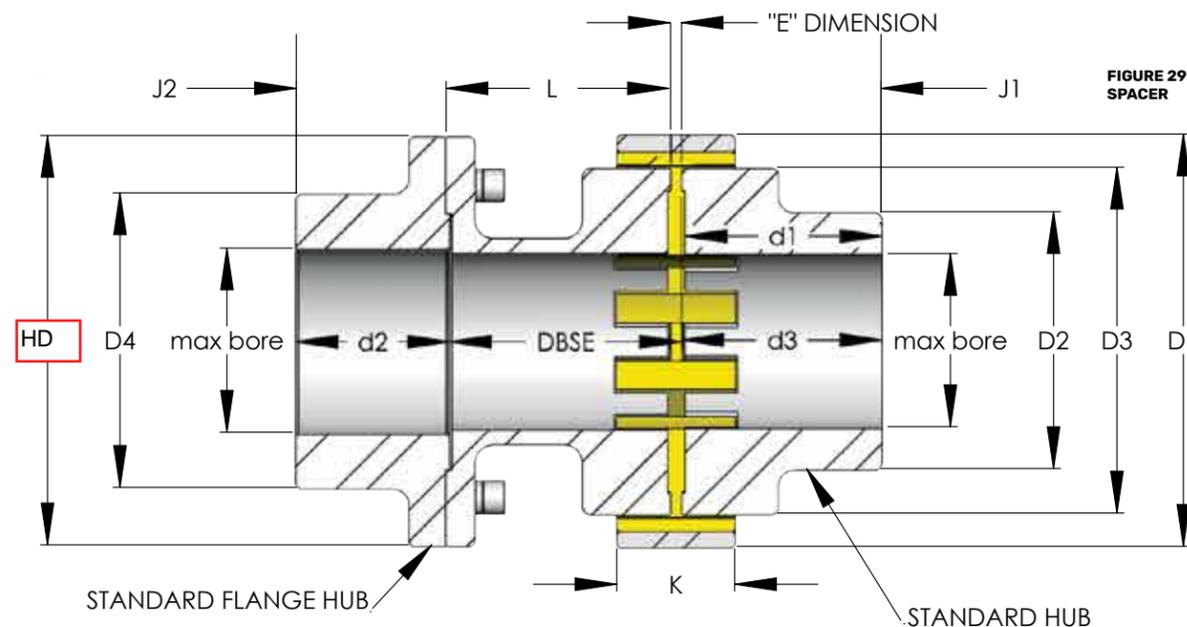


FIGURE 29  
SPACER

SIZE	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>D1</b>	2.500	3.150	4.255	5.550	7.000	8.900	10.625	12.400	14.650	16.925	20.000
<b>MAXIMUM BORE HUB</b>	1.250	1.625	1.9375	2.375	2.9375	4.000	5.000	6.000	7.125	9.250	10.500
<b>MAXIMUM BORE FLANGE HUB</b>	1.375	1.875	2.375	2.875	3.375	4.000	5.000	5.750	7.125	8.250	10.500
<b>*MAX BORE HEAVY DUTY FLANGE</b>	1.625*	2.000*	2.500*	3.000*	3.875*	5.000*	6.875*	7.125*	8.875*	9.250*	11.875*
<b>RSB</b>	0.300	0.430	0.500	0.625	0.950	1.000	1.500	1.750	2.450	2.900	3.740
<b>d1</b>	1.055	1.340	1.775	2.130	2.400	3.070	3.700	4.570	5.360	6.615	7.750
<b>d2</b>	1.450	1.620	2.125	2.410	2.610	3.410	4.312	4.625	7.000	9.100	9.850
<b>d3</b>	1.365	1.750	2.325	2.900	3.340	4.150	4.940	5.940	6.940	7.940	9.940
<b>D2</b>	1.995	2.370	3.070	3.520	4.360	5.790	7.250	7.800	9.500	11.000	13.000
<b>D3</b>	2.065	2.505	3.360	4.505	5.872	7.450	9.250	10.490	12.800	15.087	17.900
<b>D4 (HEAVY DUTY FLANGE USE HD)</b>	2.280	2.875	3.500	4.200	5.000	6.625	7.250	8.275	10.000	11.875	14.000
<b>HD</b>	3.415	3.940	4.710	5.515	6.950	8.860	10.000	10.490	12.800	15.087	17.900
<b>J1</b>	1.365	1.750	2.385	2.960	3.400	4.210	5.000	6.000	7.000	8.000	10.000
<b>J2</b>	1.390	1.560	2.065	2.350	2.550	3.350	4.252	4.565	6.900	9.000	9.750
<b>K</b>	0.640	0.825	1.235	1.625	2.000	2.310	2.750	3.000	3.320	3.750	5.000
<b>E (GAP)</b>	0.062	0.062	0.062	0.062	0.188	0.188	0.188	0.188	0.188	0.219	0.100
<b>STANDARD BODY LENGTH</b>	3.0 3.5	3.0 3.5 3.75 4.0 4.5 5.0	3.0 3.5 3.75 4.0 5.0 5.5 7.5	3.5 3.75 5.0 5.25 5.5 7.0 7.25 7.5	4.0 5.0 6.0 7.0 9.5 9.75	5.0 6.0 7.0 7.25 10.0 12.0	7.0 TO 14.0	7.0 TO 18.0	7.5 TO 18.0	9.5 TO 18.0	9.5 TO 20.0

### A-SERIES FLOATER

SIZE	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>D5</b>	3.150	4.250	5.600	6.950	8.750	10.750	12.250	14.375	16.835	20.000
<b>G</b>	3.560	4.830	5.980	6.990	8.610	10.190	12.190	14.190	16.220	20.100
<b>MAXIMUM BORE</b>	1.630	1.940	2.375	2.940	4.000	5.000	6.000	7.130	9.250	10.500
<b>RSB</b>	0.430	0.500	0.625	0.950	1.000	1.500	1.750	2.450	2.900	3.740
<b>L</b>	1.340	1.775	2.130	2.400	3.070	3.700	4.570	5.360	6.170	7.750
<b>d2</b>	1.400	1.650	2.000	2.700	3.350	4.450	5.250	5.930	7.350	7.750
<b>D2</b>	2.370	3.070	3.520	4.360	5.790	7.250	7.800	9.500	11.000	13.000
<b>D3</b>	2.510	3.360	4.510	5.870	7.450	9.250	10.490	12.800	15.090	17.900
<b>H</b>	1.390	2.030	2.420	3.480	3.930	4.690	4.990	5.990	6.410	9.100
<b>J</b>	1.090	1.400	1.780	1.760	2.340	2.750	3.600	4.100	4.910	5.500
<b>M</b>	1.340	1.925	2.400	2.900	3.300	4.000	4.570	5.100	5.600	7.500
<b>E (GAP)</b>	0.062	0.062	0.062	0.188	0.188	0.188	0.188	0.188	0.219	0.100
<b>APPROX. WT. (LBS.)</b>	4	9	17	33	68	115	175	308	456	770

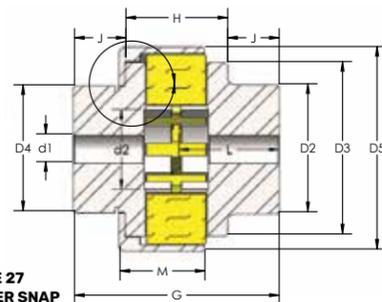


FIGURE 27  
FLOATER SNAP

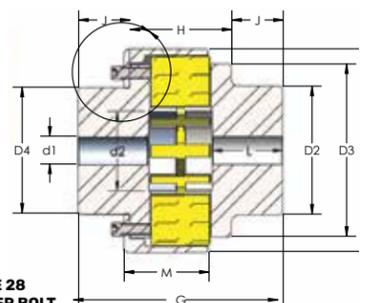
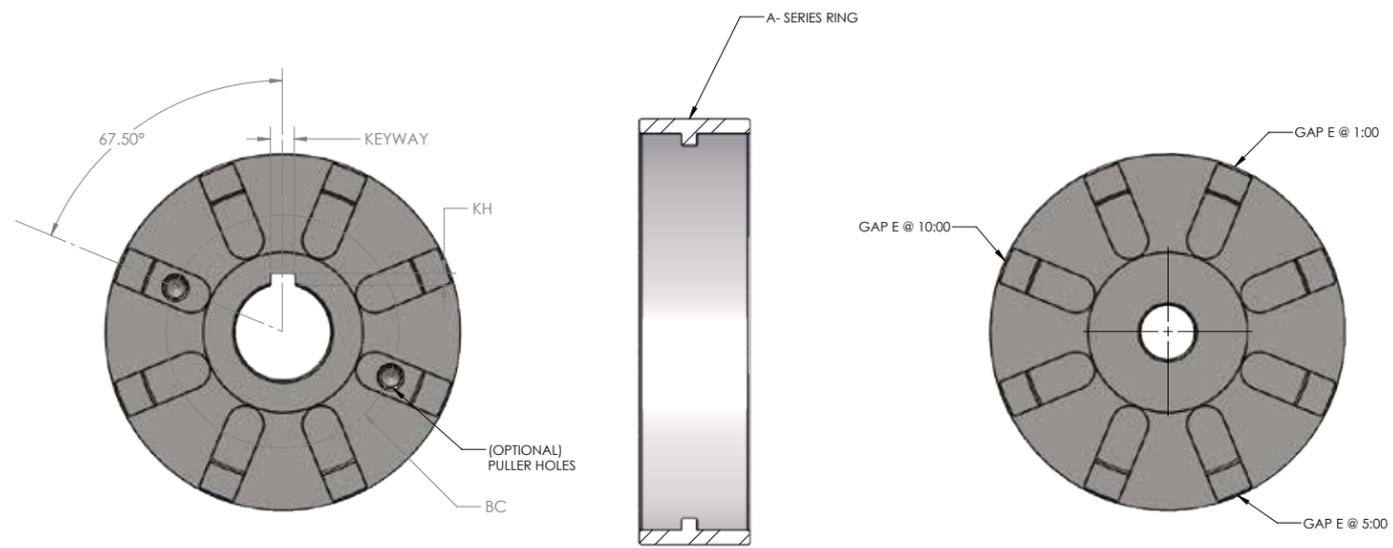


FIGURE 28  
FLOATER BOLT

### A-SERIES ALIGNMENT TOLERANCES

SIZE	A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
<b>GAP E</b>	0.047	0.062	0.062	0.062	0.062	0.188	0.188	0.188	0.188	0.188	0.219	0.100
<b>E+</b>	0.039	0.039	0.058	0.058	0.078	0.078	0.117	0.117	0.117	0.156	0.156	0.156
<b>E-</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>TIR</b>	0.020	0.020	0.039	0.039	0.058	0.058	0.058	0.058	0.058	0.058	0.078	0.078
<b>ANGULAR (DEGREE)</b>	2°	2°	2°	2°	2°	1.3°	1.3°	1.3°	1°	1°	1°	1°



- ▲ All splined and taper bores are available with extra charge & lead time
- ▲ Factory dynamic balancing is available with extra charge & lead time
- ▲ Puller holes are available with extra charge & lead time



## ADDITIONAL FEATURES

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- ▲ Reliable and predictable performance for all your Tsubaki products
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- ▲ Lower cost of ownership

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### Coupling Selection Formula

**INFORMATION NEEDED TO SIZE A COUPLING:**

- ▲ Driver HP
- ▲ Operating RPM
- ▲ Service Factor
- ▲ DBSE (Distance Between Shaft Ends)
- ▲ Shaft Diameters

DRIVER F1	SF
ELECTRIC MOTOR	1.0
GAS OR STEAM TURBINE	1.0
GEAR BOX INCREASER/REDUCER	1.0
GAS OR DIESEL ENGINE 4+ CYL	3.0
GAS OR DIESEL ENGINE 1-3 CYL	4.0

DRIVER F2	SF
GENERATORS, GEAR BOXES, LIGHT DUTY AGITATORS & CONVEYORS, STOKERS	1.0
CENTRIFUGAL PUMPS, COMPRESSORS, BLOWERS, FANS, ETC.	1.0
RECIPROCATING PUMPS, COMPRESSORS, FEEDERS, FREQUENT STOPS/STARTS, ETC.	2.0
PULP & PAPER MILL EQUIPMENT (REFER TO MILL STANDARD COUPLING SF GUIDE)	1-3
STEEL MILL EQUIPMENT (REFER TO MILL STANDARD COUPLING SF GUIDE)	1-3

For a complete list of service factors reference page 41 of the catalog

**HP/100 RPM Method:**

**1. Obtain Service Factor**

(SF) SF = F1 x F2 (Not to Exceed 4)

**2. Determine HP/100 RPM as Follows:**

$$\text{HP/100 RPM} = \frac{\text{HP Transmitted} \times 100 \times \text{SF}}{\text{RPM}}$$

**3. Reference the appropriate insert table depending on coupling type and choose coupling size that has a higher HP/100 RPM than what was calculated.**

**4. Check maximum coupling speed rating and compare to the coupling application speed.**

**5. Compare the shaft sizes of the driver and driven equipment with the maximum bore of the selected coupling series and size.**

**Transmitted Torque Method:**

**1. Obtain Service Factor**

(SF) SF = F1 X F2 (Not to Exceed 4)

**2. Determine Torque as Follows:**

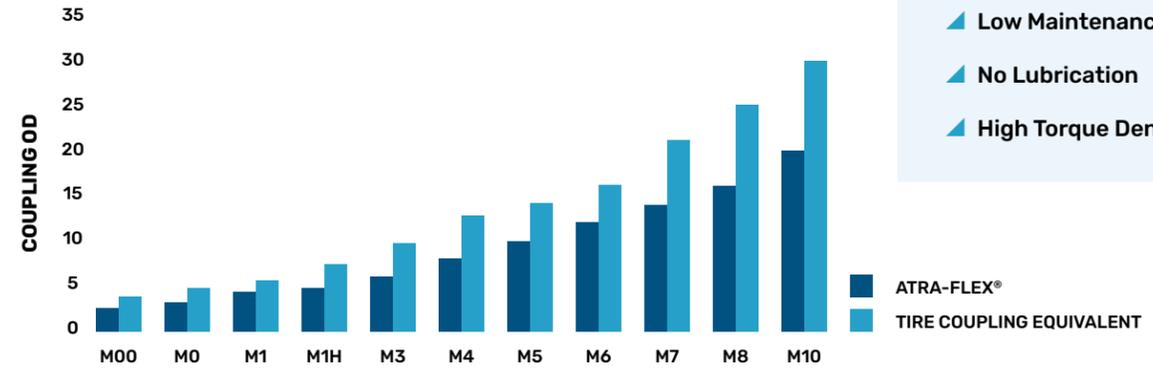
$$\text{Torque (in lbs)} = \frac{\text{HP Transmitted} \times 63025 \times \text{SF}}{\text{RPM}}$$

**3. Reference the appropriate insert table depending on coupling type and choose coupling size that has a higher torque rating than what was calculated.**

**4. Check maximum coupling speed rating and compare to the coupling application speed.**

**5. Compare the shaft sizes of the driver and driven equipment with the maximum bore of the selected coupling series and size.**

### Atra-Flex® M-Series vs. Tire Coupling OD



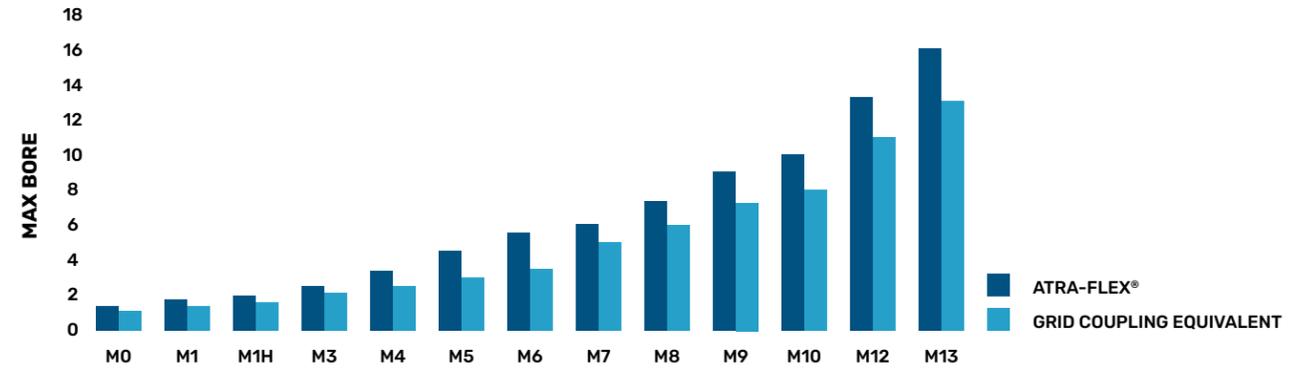
**ATRA-FLEX® COUPLING ADVANTAGES:**

- ▲ Low Maintenance
- ▲ No Lubrication
- ▲ High Torque Density

**Higher torque in a smaller footprint**

▲ Up to 40% Reduction in OD

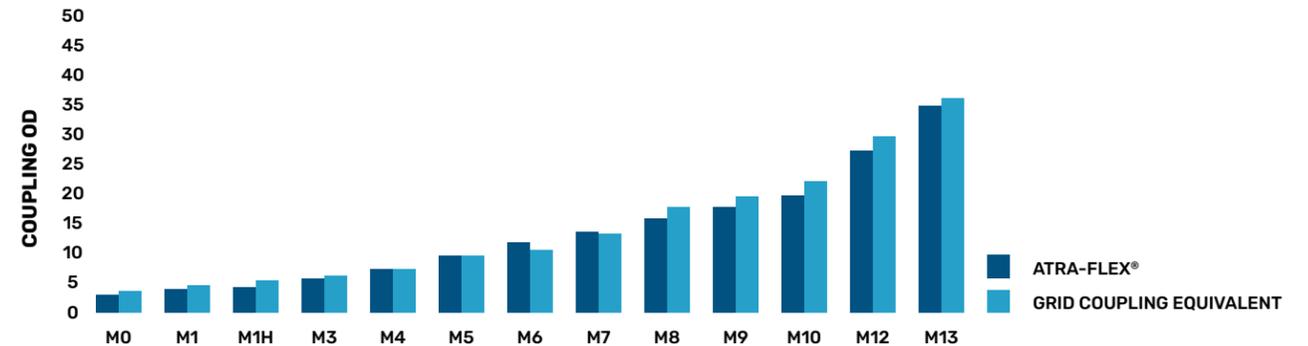
### Atra-Flex® M-Series vs. Grid Coupling Max Bore



**Larger bore capacity for equivalent torque rating**

▲ Up to 35% Larger Bore Capacity

### Atra-Flex® M-Series vs. Grid Coupling OD



**High torque density compared to a grid coupling without the need for lubrication**

▲ Up to 25% reduction in OD with Orange Insert

Fluid Resistance of ATRA-FLEX® Polyurethane Flexible Inserts

The following information has been prepared as a guide to the fluid resistance of the ATRA-FLEX® Flexible Coupling Inserts. This table should be used as a guide only. Other requirements necessary for satisfactory performance must also be taken into consideration.

The best way to determine whether or not the insert will be entirely satisfactory for a given application is to test it in actual service. If this is impractical, then tests should be devised which simulate actual service conditions as closely as possible.

The inserts were immersed for seven days at 75° F. The rating was based on volume change according to the following key:

1	Excellent	(0-3%)
2	Good	(4-15%)
3	Fair	(16-35%)
4	Poor	(36% Up)

Acetaldehyde	4	Butyl Alcohol	2	Fuel Oil	1
Acetic Acid, 20%	4-3	Calcium Carbonate	2	Gasoline	2
Acetic Anhydride	4	Calcium Chloride	1	Glycerine (Glycerol)	1
Acetone	4	Calcium Hydroxide	1	Glycolic Acid	2
Acetylene Bromide	3-4	Calcium Nitrate	2	Greases	1-2
Acetylene Chloride	3-4	Calcium Sulfate	2	Heptane	1
Acetylene	2-3	Calcium Dioxide	1	Hexane	1
Adipic Acid	1	Carbon Disulfide	2-3	Hydrazine	4
Aluminum Chloride	2	Carbon Monoxide	1	Hydrobromic Acid	2
Aluminum Sulphate	2	Carbon Tetrachloride	3	Hydrocarbon Oil	1
Aluminum Sulfide	2	Castor Oil	1-2	Hydrochloric Acid, 20%	2
Ammonia	2	Chlorine	2-3	Hydrofluoric Acid	2-3
Ammonium Acetate	3-4	Chloroacetic Acid	3-4	Hydrogen	1-2
Ammonium Carbonate	2	Chloroform	4	Hydrogen Peroxide	2
Ammonium Hydroxide	1-2	Chromic Acid	3-4	Hydrogen Sulfide	3-4
Ammonium Nitrate	2	Chromium Potassium Sulfate	2	Hydroiodic Acid	2
Ammonium Persulfate	2	Citric Acid	2	Iodine Solution	1
Ammonium Sulfate	2	Cottonseed Oil	1	Isooctane	2
Ammonium Sulfide	2	Cresol (meta)	4	Isopropyl Alcohol (Isopropanol)	2-3
Ammonium Thiocyanide	2	Cupric Chloride	1	Isopropyl Ether	2-3
Amyl Acetate	4	Cupric Nitrate	2	JP-4 Oil	2-3
Amyl Alcohol	3	Cupric Sulphate	2	Jp-5 & 6	4
Amyl Chloride	3	Cyclohexanone	4	Kerosene	2
Aniline	4	Cyclohexane	2	Lactic Acid	2
Aniline Hydrochloride	4	Dibutyl Pthalate	3-4	Lead Acetate	2
Animal Fats & Oils	2-3	Dibutyl Ether	2	Linseed Oil	2
Antimony Salts	2	Dichlorobenzene (Ortho)	3	Lubricating Oil	2
Aqua Regia	4	Dodecyl Mercaptan	2-3	Magnesium Hydroxide	1
Arsenic Salts	2-1	Diester Oil	2	Magnesium Salts	2
ASTM Oil #1	1-2	Dimethyl Acetamide	4	Malaic Acid	3-4
ASTM Oil #2	2	Dimethyl Formamide	4	Mercury	1-2
ASTM Oil #3	2	DTE Oil (heavy, medium)	2	Methyl Alcohol (Methanol)	4
ASTM Reference Fuel A	1	Ether	2-3	Methyl Ethyl Ketone	4
ASTM Reference Fuel B	2	Ethyl Acetate	4	Methylene Chloride	4
Atlantic Oil	1	Ethyl Alcohol (Ethanol)	3	MIL-D-5605 Oil	3
Barium Carbonate	2	Ethyl Bromide	3	MIL-L-7808	1-2
Barium Hydroxide	1	Ethyl Chloride	3	Mineral Oil	1
Benzaldehyde	3-2	Ethylene Glycol	2	Mobil Artic Oil	1
Benzene	4	Esso #90 Lub Oil	1	Naphthalene	2
Benzene (Gasoline)(Aromatic)	2-3	Ferric Chloride	2	Natural Gas	2
Benzoic Acid	2-3	Ferric Nitrate	2	Nickel Salts	3
Boric Acid	1	Ferrous Chloride	2	Nitric Acid	4
Bromine	2-3	Ferrous Sulfate	2	Nitrobenzene	4
Bunker Oil	1-2	Formaldehyde	3	Nitrogen	1
Butane	1	Formic Acid	3-4	Oleic Acid	1-2
Butyl Acetate	4	Freon, 12 or 113	1	Oxalic Acid (5%)	1
Tannic Acid, 10%	1	Transformer Oil	2-3	Trisodium Phosphate	2
Tartaric Acid	1	Trichloroacetic Acid	4	Turpentine	3
Tin Salts	2	Trichloroethylene	4	Urca	2
Titanium Salts	2	Tricresyl Phosphate	3-4	Varnish	2
Toluene	4	Triethanol Amine	2	Vegetable	1

TABLE 4 – FLEXIBLE COUPLING SERVICE FACTORS FOR MOTOR® AND TURBINE DRIVES

Service factors listed are typical values based on normal operation of the drive systems.

APPLICATION	SERVICE FACTOR	APPLICATION	SERVICE FACTOR	INDUSTRY	SERVICE FACTOR	INDUSTRY	SERVICE FACTOR
<b>AERATOR</b> .....	2.0	<b>HAMMERMILL</b> .....	1.75	<b>AGGREGATE PROCESSING, CEMENT, MINING</b>		Shear, Croppers.....	Refer to Factory
<b>ACITATORS</b>		<b>LAUNDRY WASHER OR TUMBLER</b> .....	2.0	<b>KILNS; TUBE, ROD AND BALL MILLS</b>		Sideguards.....	3.0
Vertical and Horizontal		<b>LINE SHAFTS</b>		Direct or on L.S. shaft of Reducer,		Skelp Mills.....	Refer to Factory
Screw, Propeller, Paddle.....	1.0	Any Processing Machinery.....	1.5	with final drive Machined Spur Gears.....	2.0	Slitters, Steel Mill only.....	1.75
<b>BARGE HAUL PULLER</b> .....	1.5	<b>MACHINE TOOLS</b>		Single Helical or Herringbone Gears.....	1.75	Soaking Pit Cover Drives –	
<b>BLOWERS</b>		Auxiliary and Traverse Drive.....	1.0	Conveyors, Feeders, Screens,		Lift.....	1.0
Centrifugal.....	1.0	Bending Roll, Notching Press, Punch Press,		Elevators.....	See General Listing	Travel.....	2.0
Lobe or Vane.....	1.25	Planer, Plate Reversing.....	1.75	Crushers, Ore or Stone.....	2.5	Straighteners.....	2.0
<b>CAR DUMPERS</b> .....	2.5	Main Drive.....	1.5	Dryer, Rotary.....	1.75	Unscramblers (Billet Bundle Busters).....	2.0
<b>CAR PULLERS</b> .....	1.5	<b>MAN LIFTS</b>		Crizzly.....	2.0	Wire Drawing Machinery.....	1.75
<b>CLARIFIER OR CLASSIFIER</b> .....	1.0	Not Approved		Hammermill or Hog.....	1.75	<b>OIL INDUSTRY</b>	
<b>COMPRESSORS</b>		<b>METAL FORMING MACHINES</b>		Tumbling Mill or Barrel.....	1.75	Chiller.....	1.25
Centrifugal.....	1.0	Continuous Caster.....	1.75	<b>BREWING AND DISTILLING</b>		Oilwell Pumping (not over 150% peak torque).....	2.0
Rotary, Lobe or Vane.....	1.25	Draw Bench Carriage and Main Drive.....	2.0	Bottle and Can Filling Machines.....	1.0	Paraffin Filter Press.....	1.5
Rotary, Screw.....	1.0	Extruder.....	2.0	Brew Kettle.....	1.0	Rotary Kiln.....	2.0
Reciprocating		Farming Machine and Forming Mills.....	2.0	Cookers, Continuous Duty.....	1.25	<b>PAPER MILLS</b>	
Direct Connected.....	Refer to Factory	Slitters.....	1.0	Lauter Tub.....	1.5	Barker Auxiliary, Hydraulic.....	2.0
Without Flywheel.....	Refer to Factory	Wire Drawing or Flattening.....	1.75	Mash Tub.....	1.25	Barker, Mechanical.....	2.0
With Flywheel and Gear between Compressor		Wire Winder.....	1.5	Scale Hopper, Frequent Peaks.....	1.75	Barking Drum	
and Prime Mover ⊕		Coilers and Uncoilers.....	1.5	<b>CLAY WORKING INDUSTRY</b>		L.S. shaft of reducer with final drive - Helical	
1 cylinder, single acting.....	3.0	<b>MIXERS (see Agitators)</b>		Brick Press, Briquette Machine, Clay Working		or Herringbone Gear.....	2.0
1 cylinder, double acting.....	3.0	Concrete.....	1.75	Machine, Pug Mill.....	1.75	Machined Spur Gear.....	2.5
2 cylinders, single acting.....	3.0	Muller.....	1.5	<b>DREDGES</b>		Cast Tooth Spur Gear.....	3.0
2 cylinders, double acting.....	3.0	<b>PRESS, PRINTING</b> .....	1.5	Cable Reel.....	1.75	Beater&Pulper.....	1.75
3 cylinders, single acting.....	3.0	<b>PUG MILL</b> .....	1.75	Conveyors.....	1.25	Bleachers, Coaters.....	1.0
3 cylinders, double acting.....	2.0	<b>PULVERIZERS</b>		Cutter head, Jig Drive.....	2.0	Calender & Super Calender.....	1.75
4 or more cyl., single act.....	1.75	Hammermill and Hog.....	1.75	Roller.....	1.5	Chipper.....	2.5
4 or more cyl., double act.....	1.75	4 or more cyl., single act.....	1.5	Pumps (uniform load).....	1.5	Converting Machine.....	1.25
<b>CONVEYORS</b> ⊕		<b>PUMPS</b>		Screen Drive, Stacker.....	1.75	Couch.....	1.75
Apron, Assembly, Belt, Chain, Flight, Screw.....	1.0	Boiler Feed.....	1.5	Utility Winch.....	1.5	Dryer, Felt Whipper.....	2.0
Bucket.....	1.25	Centrifugal—Constant Speed.....	1.0	<b>FOOD INDUSTRY</b>		Cylinder.....	1.75
LiveRoll, Shaker and Reciprocating.....	3.0	Frequent Speed Changes under Load.....	1.25	Beet Slicer.....	1.75	Dryer.....	1.75
<b>CRANES AND HOIST</b> ⊕⊙		Descaling, with accumulators.....	1.25	Bottling, Can Filling Machine.....	1.0	Felt Stretcher.....	1.25
Main Hoist.....	1.7	Cear, Rotary, or Vane.....	1.25	Cereal Cooker.....	1.25	Fourdrinier.....	1.75
Skip Hoist.....	1.75	Reciprocating, Plunger Piston		Dough Mixer, Meat Crinder.....	1.75	Jordan.....	2.0
Slope.....	1.5	1 cyl., single or double act.....	3.0	<b>LUMBER</b>		Log Haul.....	2.0
Bridge, Travel or Trolley.....	1.75	2 cyl., single acting.....	2.0	Band Resaw.....	1.5	Line Shaft.....	1.5
<b>DYNAMOMETER</b> .....	1.0	Line Shaft.....	1.75	Circular Resaw, Cut-off.....	1.75	Press.....	1.75
<b>ELEVATORS</b>		3 or more cylinders.....	1.5	Edger, Head Rig, Hog.....	2.0	Pulp Crinder.....	1.75
Bucket, Centrifugal Discharge.....	1.25	Screw Pump, Progressing Cavity.....	1.25	Cang Saw(Reciprocating).....	Refer to Factory	Reel, Rewinder,Winder.....	1.5
Freight or Passenger.....	Not Approved	Vacuum Pump.....	1.25	Log Haul.....	2.0	Stock Chest,Washer, Thickener.....	1.5
Gravity Discharge.....	1.25	<b>SCREENS</b>		Planer.....	1.75	Stock Pumps, Centrifugal	
<b>ESCALATORS</b> .....	Not Approved	Air Washing.....	1.0	Rolls, Non-Reversing.....	1.25	Constant Speed.....	1.0
<b>EXCITER, GENERATOR</b> .....	1.0	Crizzly.....	2.0	Rolls, Reversing.....	2.0	Frequent Speed Changes Under Load.....	1.25
<b>EXTRUDER, PLASTIC</b> .....	1.5	Rotary Coal or Sand.....	1.5	Sawdust Conveyor.....	1.25	Suction Roll.....	1.75
<b>FANS</b>		Vibrating.....	2.5	Slab Conveyor.....	1.75	Vacuum Pumps.....	1.25
Centrifugal.....	1.0	Water.....	1.0	Sorting Table.....	1.5	<b>RUBBER INDUSTRY</b>	
Cooling Tower.....	2.0	<b>SKI TOWS &amp; LIFTS</b> .....	Not Approved	Trimmer.....	1.75	Calender.....	2.0
Forced Draft—Across the Line start.....	1.5	<b>STEERING GEAR</b> .....	1.0	<b>METAL ROLLING MILLS</b> ⊕		Cracker, Plasticator.....	2.5
Forced Draft Motor driven thru fluid		<b>STOKER</b> .....	1.0	Coilers (Up or Down)Cold Mills only.....	1.5	Extruder.....	1.75
or electric slip clutch.....	1.0	<b>TIRE SHREDDER</b> .....	1.50	Coilers (Up or Down)Hot Mills only.....	2.0	Intensive or Banbury Mixer.....	2.5
Gas Recirculating.....	1.5	<b>TUMBLING BARREL</b> .....	1.75	<b>WINCH, MANEUVERING</b>		Mixing Mill, Refiner or Sheeter	
Induced Draft with damper control		Dredge, Marine.....	1.5	Pusher Ram Drive.....	2.5	One or two in line.....	2.5
or blade cleaner.....	1.25	<b>WINDLASS</b> .....	1.5	Door Opener.....	2.0	Three or four in line.....	2.0
Induced Draft without controls.....	2.0	<b>WOOD WORKING MACHINERY</b>		Pusher or Larry Car Traction Drive.....	3.0	Five or more in line.....	1.75
<b>FEEDERS</b>		<b>WORK LIFT PLATFORMS</b> .....	Not Approved	Continuous Caster.....	1.75	Tire Building Machine.....	2.5
Apron, Belt, Disc, Screw.....	1.0	<b>GENERATORS</b>		Cold Mills—Strip Mills.....	Refer to Factory	Tire & Tube Press Opener (Peak Torque).....	1.0
Reciprocating.....	2.5	Even Load.....	1.0	Temper Mills.....	Refer to Factory	Tuber, Strainer, Pelletizer.....	1.75
<b>GENERATORS</b>		Hoist or Railway Service.....	1.5	Cooling Beds.....	1.5	Warming Mill	
Welder Load.....	2.0	WINDLASS.....	1.5	Drawbench.....	2.0	One or two Mills in line.....	2.0
		<b>WOOD WORKING MACHINERY</b>		Feed Rolls - Blooming Mills.....	3.0	Three or more Mills in line.....	1.75
		<b>WORK LIFT PLATFORMS</b> .....	Not Approved	Furnace Pushers.....	2.0	Washer.....	2.5
				Hot and Cold Saws.....	2.0	<b>SEWAGE DISPOSAL EQUIPMENT</b>	
				Hot Mills—		Bar Screen, Chemical Feeders, Collectors,	
				Strip or Sheet Mills.....	Refer to Factory	Dewatering Screen, Crit Collector.....	1.0
				Reversing Blooming.....	Refer to Factory	<b>SUGAR INDUSTRY</b>	
				Slabbing Mills.....	Refer to Factory	Cane Carrier & Leveler.....	1.75
				Edger Drives.....	Refer to Factory	Cane Knife & Crusher.....	2.0
				Ingot Cars.....	2.0	Mill Stands, Turbine Drive with all Helical	
				Manipulators.....	3.0	or Herringbone gears.....	1.5
				Merchant Mills.....	Refer to Factory	Electric Drive or Steam Engine Drive with Helical,	
				Mill Tables		Herringbone, or Spur Gears	
				Roughing Breakdown Mills.....	3.0	with any Prime Mover.....	1.75
				Hot Bed or Transfer, non-reversing.....	1.5	<b>TEXTILE INDUSTRY</b>	
				Runout, reversing.....	3.0	Batcher.....	1.25
				Runout, non-reversing, non-plugging.....	2.0	Calender, Card Machine.....	1.5
				Reel Drives.....	1.75	Cloth Finishing Machine.....	1.5
				Rod Mills.....	Refer to Factory	DryCan, Loom.....	1.5
				Screw down.....	2.0	Dyeing Machinery.....	1.25
				Seamless Tube Mills		Knitting Machine.....	Refer to Factory
				Piercer.....	3.0	Mangle, Napper, Soaper.....	1.25
				Thrust Block.....	2.0	Spinner, Tenter Frame,Winder.....	1.5
				Tube Conveyor Rolls.....	2.0		
				Reeler.....	2.0		
				Kick Out.....	2.0		

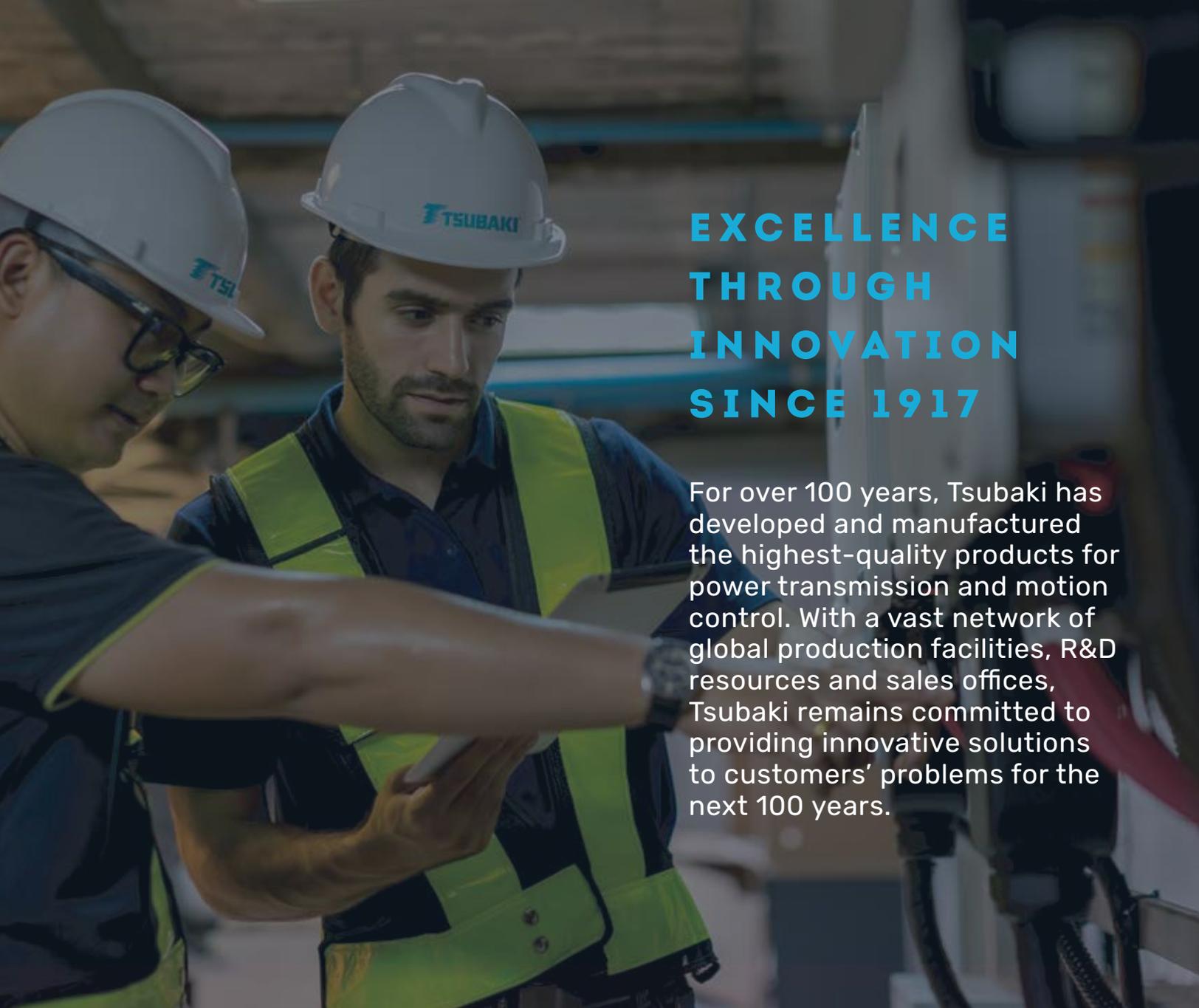
- ⊕ For engine drives, refer to Table 5. Electric motors, generators, engines, compressors and other machines fitted with sleeves or straight roller bearings usually require limited end float couplings. If in doubt, provide axial clearances and centering forces to the Factory for a recommendation.
- ⊙ For balanced opposed design, refer to the Factory.
- ⊙ If people are occasionally transported, refer to the Factory for the selection of the proper size coupling.
- ⊙ For high peak load applications (such as Metal Rolling Mills) refer to the Factory.

TABLE 5 – ENGINE DRIVE SERVICE FACTORS⊕

Service Factors (S.F.) for engine drives are those required for applications where good flywheel regulation prevents torque fluctuations greater than +20%. For drives where torque fluctuations are greater or where the operation is near a serious critical or torsional vibration, a TVA is necessary.

NUMBER OF CYLINDERS	4 OR 5 ⊕					6 OR MORE ⊕				
	1.0	1.25	1.5	1.75	2.0	1.0	1.25	1.5	1.75	2.0
TABLE 4 S.E.	1.0	1.25	1.5	1.75	2.0	1.0	1.25	1.5	1.75	2.0
ENGINE S.F.	2.0	2.25	2.5	2.75	3.0	1.5	1.75	2.0	2.25	2.5

- ⊕ To use Table 5, first determine application service factor from Table 4. Use that factor to determine Engine S.F. from Table 5. When service factor from Table 4 is greater than 2.0, or where 1, 2, or 3 cylinder engines are involved, refer complete application details to engineering.



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