



LEADERS IN DESIGN TECHNOLOGY



**METRIC
PRODUCT CATALOG**

ATRA-FLEX®
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 175°C. 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® MILLENNIUM® (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.

T-FLEX®

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MILLENIUM®

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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 230,600Nm and shaft diameters to 500mm. 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 versus hours compared to lubricated coupling maintenance.

Learn more at www.ustsubaki.com/products/atra-flex/

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- ▲ 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 -50° to 120° Celsius with high temperature inserts available up to 175°C.
- ▲ The inserts are available in a range of hardness to meet most torsional stiffness and torque requirements, and offer 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 6.8Nm to 230,600Nm with shaft capacities ranging from 9.5mm to 500mm running from low rpm to 18,000 rpm.

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

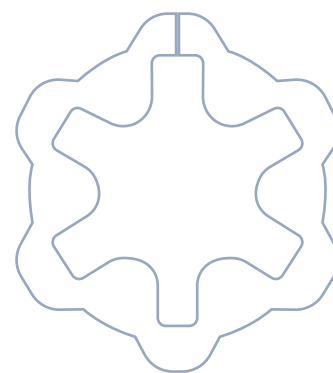
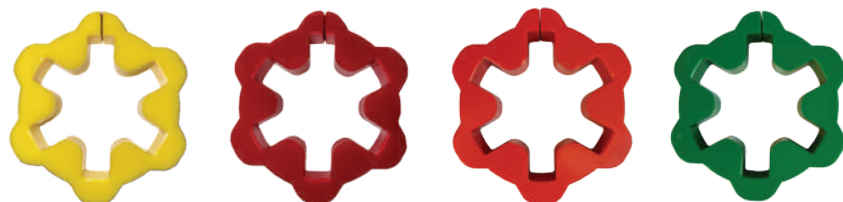
HOW IT WORKS

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 minimal maintenance.

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

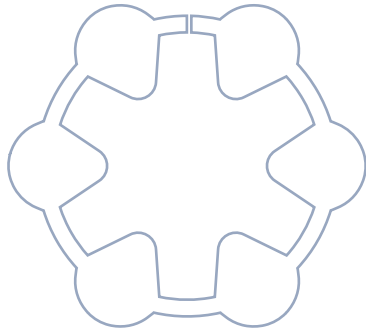
TORQUE RATINGS (Nm)
MAX RPM'S BASED ON INSERT TYPES

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
General Use, High Dampening Use: General Applications (standard) Max Temp C: 120 Min Temp C: -50 Durometer: 60D	Continuous (Nm)	113	181	429	678	1,356	3,954	7,310	13,558	22,823	34,347	61,012	81,349	107,336
	Intermittent (Nm)	203	282	791	1,085	2,169	6,779	11,705	22,597	30,461	56,493	97,167	118,634	155,919
	kW @ 100 RPM (SF1)	1.19 2.13	1.89 2.96	4.50 8.28	7.10 11.36	14.20 22.71	41.8 70.8	76.8 122.3	141.7 236.4	239.4 319.2	359.4 591.3	639.1 1,017.9	851.6 1,242.3	1,123.8 1,633.1
	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
High Temperature, High Dampening Use: High Temperature Running Applications Max Temp C: 175 Min Temp C: -6 Durometer: 90A	Continuous (Nm)	96	154	365	576	1,152	3,361	6,214	11,524	19,400	29,195	51,860	69,147	91,235
	Intermittent (Nm)	173	240	672	922	1,844	5,762	9,949	19,207	25,892	48,019	82,592	100,839	132,531
	kW @ 100 RPM (SF1)	1.00 1.81	1.61 2.51	3.82 7.03	6.03 9.65	12.06 19.30	35.79 60.40	65.6 103.6	120.8 200.5	203.5 271.4	305.7 502.5	542.8 865.0	724.0 1,055.8	955.2 1,388.4
	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
High Torque, Medium Dampening Use: High Torque, Low Speed Applications Max Temp C: 120 Min Temp C: -28 Durometer: 70D	Continuous (Nm)	128	339	678	1,017	2,102	6,779	12,067	22,597	37,692	51,069	100,557	124,284	177,386
	Intermittent (Nm)	255	452	1,017	1,424	2,712	9,039	19,309	33,896	50,267	68,130	158,179	186,425	257,606
	kW @ 100 RPM (SF1)	1.33 2.68	3.55 4.74	7.10 10.65	10.65 14.91	18.46 28.40	70.8 94.7	126.0 202.1	249.8 415.3	394.5 526.5	534.7 713.6	1,052.9 1,656.2	1,301.2 1,952.2	1,857.5 2,697.9
	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
Extra High Dampening Use: Engine or Reciprocating with High Vibratory Torques Max Temp C: 120 Min Temp C: -50 Durometer: 90A	Continuous (Nm)	47	51	181	305	610	1,631	3,015	6,101	9,424	14,151	22,879	33,218	40,251
	Intermittent (Nm)	84	102	356	508	1,017	2,796	4,828	8,474	12,565	23,303	36,438	46,606	58,470
	kW @ 100 RPM (SF1)	0.48 0.88	0.53 1.07	1.89 3.73	3.19 5.32	6.39 10.65	17.15 29.08	31.32 50.71	64.1 88.7	98.4 131.2	148.4 243.8	239.4 381.8	348.2 488.4	422.1 612.2
	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 RATINGS



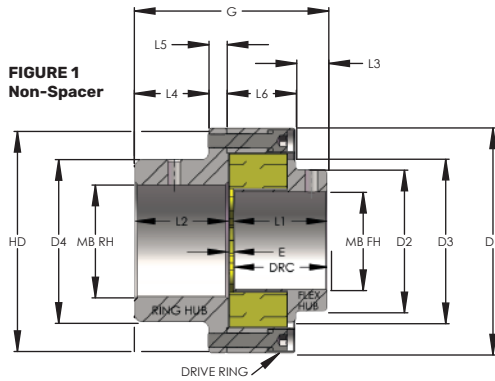
HD INSERT

30% HIGHER TORQUE THAN THE STANDARD RATING

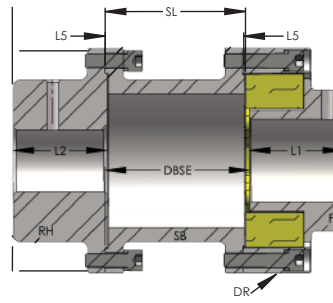
Orange insert is not recommended for high speed applications
Refer to Quick Selection Guide on page 38 in this catalog for the appropriate service factors

INSERT TYPE

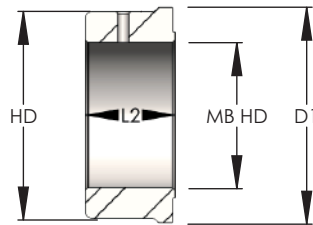
YELLOW		T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
General Use, High Dampening Use: General Applications (standard) Max Temp C: 120 Min Temp C: -50 Durometer: 60D	Continuous (Nm)	147	235	558	881	1,763	5,141	9,503	17,626	29,670	44,652	79,315	105,754	139,536
	Intermittent (Nm)	264	367	1,028	1,410	2,820	8,813	15,217	29,376	39,599	73,440	126,317	154,225	202,695
	kW @ 100 RPM (SF1)	1.54 2.77	2.46 3.85	5.85 10.77	9.23 14.76	18.46 29.53	53.8 92.5	99.2 159.6	184.9 308.0	311.0 414.6	467.5 768.8	830.7 1,322.9	1,107.3 1,615.2	1,461.6 2,122.2
	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
High Temperature, High Dampening Use: High Temperature Running Applications Max Temp C: 175 Min Temp C: -6 Durometer: 90A	Continuous (Nm)	125	200	475	749	1,498	4,370	8,078	14,982	25,219	37,954	67,418	89,891	118,606
	Intermittent (Nm)	225	312	874	1,199	2,397	7,491	12,934	24,970	33,659	62,424	107,370	131,091	172,291
	kW @ 100 RPM (SF1)	1.30 2.36	2.10 3.27	4.97 9.15	7.84 12.55	15.69 25.10	45.8 78.3	84.3 135.7	156.6 261.7	264.0 352.7	397.5 654.0	706.2 1,124.5	941.1 1,372.8	1,242.3 1,804.6
	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
High Torque, Medium Dampening Use: High Torque, Low Speed Applications Max Temp C: 120 Min Temp C: -28 Durometer: 70D	Continuous (Nm)	166	441	881	1,322	2,732	8,813	15,687	29,376	48,999	66,390	130,724	161,569	230,602
	Intermittent (Nm)	332	588	1,322	1,851	3,525	11,750	25,102	44,064	65,347	88,569	205,633	242,353	334,888
	kW @ 100 RPM (SF1)	1.74 3.47	4.62 6.15	9.23 13.84	13.84 19.38	28.61 36.91	92.5 123.0	164.1 263.2	308.0 461.6	513.0 684.5	695.0 927.6	1,369.1 2,153.6	1,692.0 2,537.6	2,414.5 3,507.0
	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
Extra High Dampening Use: Engine or Reciprocating with High Vibratory Torques Max Temp C: -50 Durometer: 90A	Continuous (Nm)	61	66	235	397	793	2,121	3,920	7,932	12,250	18,397	29,743	43,183	52,326
	Intermittent (Nm)	109	132	463	661	1,322	3,635	6,277	11,016	16,335	30,294	47,369	60,588	76,011
	kW @ 100 RPM (SF1)	0.63 1.14	0.69 1.39	2.46 4.85	4.15 6.92	8.31 13.84	22.21 38.10	41.1 65.7	82.8 115.6	128.3 170.8	192.4 316.9	311.7 495.9	451.9 634.6	548.1 795.7
	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



**FIGURE 2
Spacer**



**FIGURE 3
Heavy Duty Hub**



MBHD: Use the Heavy Duty Ring Hub for shafts larger than MBRH. RHHD 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
G	72.4	91.4	116.8	129.5	169.7	207.8	258.6	309.9	360.7	411.5	462.3	514.4	565.8
D1	74.9	100.6	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7	506.7	590.6	723.9
MBFH	32.0	42.0	55.0	60.0	85.0	110.0	130.0	145.0	170.0	200.0	230.0	260.0	325.0
MBRH	40.0	55.0	60.0	85.0	95.0	130.0	145.0	170.0	190.0	260.0	290.0	310.0	380.0
MBHD	45.0	65.0	70.0	110.0	130.0	160.0	200.0	230.0	260.0	330.0	380.0	440.0	500.0
RSB	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	61.0	73.7	94.0	99.1	99.1
E	2.54	2.54	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08	5.08	6.35	6.99
D2	50.7	65.7	81.3	101.6	124.5	165.1	200.0	235.0	258.2	324.5	371.5	406.4	469.9
D3	52.1	71.6	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0	399.0	454.0	533.1
D4	62.7	81.3	92.1	127.0	142.9	190.5	225.4	273.1	288.9	352.4	419.1	444.5	581.0
HD	72.4	97.5	118.1	155.6	190.5	241.3	288.9	336.6	365.1	448.8	500.4	584.2	685.8
L1	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L2	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L3	16.5	17.1	29.8	27.9	27.9	32.4	62.9	63.1	83.8	98.4	105.2	108.0	124.5
L4	24.9	32.8	43.9	46.4	65.2	77.9	100.1	122.3	144.5	163.6	174.6	200.7	214.4
L5	9.5	11.1	12.7	15.9	15.9	22.2	25.4	28.6	31.8	38.1	50.8	50.8	63.5
L6	22.5	29.6	29.6	38.1	60.3	73.0	69.0	96.4	99.1	111.4	131.7	154.9	163.2
DRC	38.1	52.7	55.9	68.6	108.0	131.4	123.6	173.1	181.4	203.5	243.1	281.9	299.1
SS (INCH)	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
WEIGHT (KG)	2.3	4.5	6.8	11.3	22.5	47.3	81	128	164	270	428	563	788

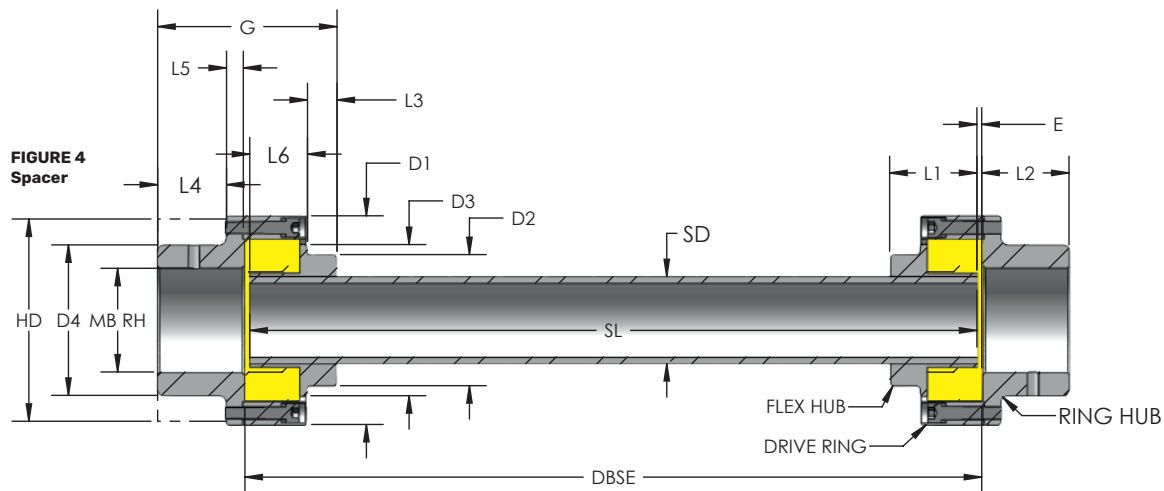
STANDARD SPACER LENGTH

SIZE	76.2	88.9	95.3	101.6	127.0	139.7	152.4	177.8	190.5	228.6	241.3	247.7	254.0	304.8
T0	X	X	X											
T1	X	X	X											
T2	X	X	X	X	X									
T3	X	X	X	X	X	X		X	X					
T4		X	X	X	X	X	X	X	X	X	X	X	X	
T5					X		X	X	X	X	X	X	X	X

Note: Custom lengths available. Size T6 through 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.

All dimensions are millimeter unless specified.

- **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 (kg) is for non-spacer couplings with RSB hubs



Size	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
G	72.4	91.4	116.8	129.5	169.7	207.8	258.6	309.9	360.7	411.5	462.3	514.4	565.8
D1	74.9	100.6	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7	506.7	590.6	723.9
MBFH	32.0	42.0	55.0	60.0	85.0	110.0	130.0	145.0	170.0	200.0	230.0	260.0	325.0
MBRH	40.0	55.0	60.0	85.0	95.0	130.0	145.0	170.0	190.0	260.0	290.0	310.0	380.0
MBHD	45.0	65.0	70.0	110.0	130.0	160.0	200.0	230.0	260.0	330.0	380.0	440.0	500.0
RSB	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	61.0	73.7	94.0	99.1	99.1
E	2.54	2.54	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08	5.08	6.35	6.99
D2	50.7	65.7	81.3	101.6	124.5	165.1	200.0	235.0	258.2	324.5	371.5	406.4	469.9
D3	52.1	71.6	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0	399.0	454.0	533.1
D4	62.7	81.3	92.1	127.0	142.9	190.5	225.4	273.1	288.9	352.4	419.1	444.5	581.0
HD	72.4	97.5	118.1	155.6	190.5	241.3	288.9	336.6	365.1	448.8	500.4	584.2	685.8
L1	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L2	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L3	16.5	17.1	29.8	27.9	27.9	32.4	62.9	63.1	83.8	98.4	105.2	108.0	124.5
L4	24.9	32.8	43.9	46.4	65.2	77.9	100.1	122.3	144.5	163.6	174.6	200.7	214.4
L5	9.5	11.1	12.7	15.9	15.9	22.2	25.4	28.6	31.8	38.1	50.8	50.8	63.5
L6	22.5	29.6	29.6	38.1	60.3	73.0	69.0	96.4	99.1	111.4	131.7	154.9	163.2
DRC	38.1	52.7	55.9	68.6	108.0	131.4	123.6	173.1	181.4	203.5	243.1	281.9	299.1
SD	31.8	38.1	50.8	63.5	82.6	108.0	133.4	152.4	177.8	228.6	254.0	279.4	304.8

Note: Consult factory for floating shaft material alternatives such as stainless steel or composite tubing.

All dimensions are millimeter unless specified.

- ▶ **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

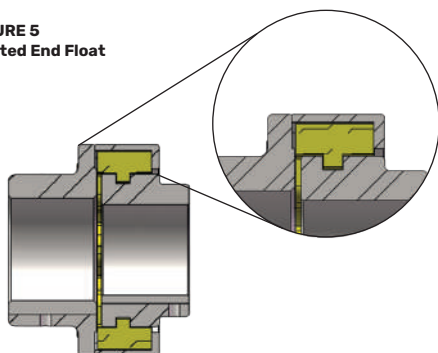
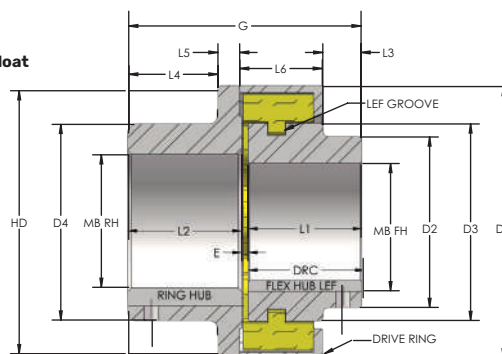


FIGURE 6
Limited End Float



SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
G	72.4	91.4	116.8	129.5	169.7	207.8	258.6	309.9	360.7	411.5	462.3	514.4	565.8
D1	74.9	100.6	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7	506.7	590.6	723.9
MBFH	32.0	42.0	55.0	60.0	85.0	110.0	130.0	145.0	170.0	200.0	230.0	260.0	325.0
MBRH	40.0	55.0	60.0	85.0	95.0	130.0	145.0	170.0	190.0	260.0	290.0	310.0	380.0
MBHD	45.0	65.0	70.0	110.0	130.0	160.0	200.0	230.0	260.0	330.0	380.0	440.0	500.0
RSB	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	61.0	73.7	94.0	99.1	99.1
E	2.54	2.54	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08	5.08	6.35	6.99
D2	50.7	65.7	81.3	101.6	124.5	165.1	200.0	235.0	258.2	324.5	371.5	406.4	469.9
D3	52.1	71.6	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0	399.0	454.0	533.1
D4	62.7	81.3	92.1	127.0	142.9	190.5	225.4	273.1	288.9	352.4	419.1	444.5	581.0
HD	72.4	97.5	118.1	155.6	190.5	241.3	288.9	336.6	365.1	448.8	500.4	584.2	685.8
L1	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L2	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L3	16.5	17.1	29.8	27.9	27.9	32.4	62.9	63.1	83.8	98.4	105.2	124.5	124.5
L4	24.9	32.8	43.9	46.4	65.2	77.9	100.1	122.3	144.5	163.6	174.6	200.7	214.4
L5	9.5	11.1	12.7	15.9	15.9	22.2	25.4	28.6	31.8	38.1	50.8	50.8	63.5
L6	22.5	29.6	29.6	38.1	60.3	73.0	69.0	96.4	99.1	111.4	131.7	154.9	163.2
DRC	38.1	52.7	55.9	68.6	108.0	131.4	123.6	173.1	181.4	203.5	243.1	281.9	299.1
SS (INCH)	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
WEIGHT (KG)	2.3	4.5	6.8	11.3	22.5	47.3	81.0	128.3	164.3	270.0	427.5	562.5	787.5

SIZE T-FLEX® LEF	END FLOAT +/-	PARALLEL P (TIR)	ANGULAR A
T1	1.27 / .889	1.02	1°
T2	1.27 / .889	1.02	1°
T3	1.27 / .889	1.02	1°
T4	1.27 / .889	1.52	.5°
T5	1.27 / .889	1.52	.5°
T6	1.27 / .889	1.52	.5°
T7	1.27 / .889	1.52	.5°
T8	1.27 / .889	1.52	.5°
T9	1.27 / .889	2.03	.5°
T10	1.27 / .889	2.03	.5°
T11	1.27 / .889	2.54	.5°
T12	1.27 / .889	2.54	.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.

All dimensions are millimeter unless specified.

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

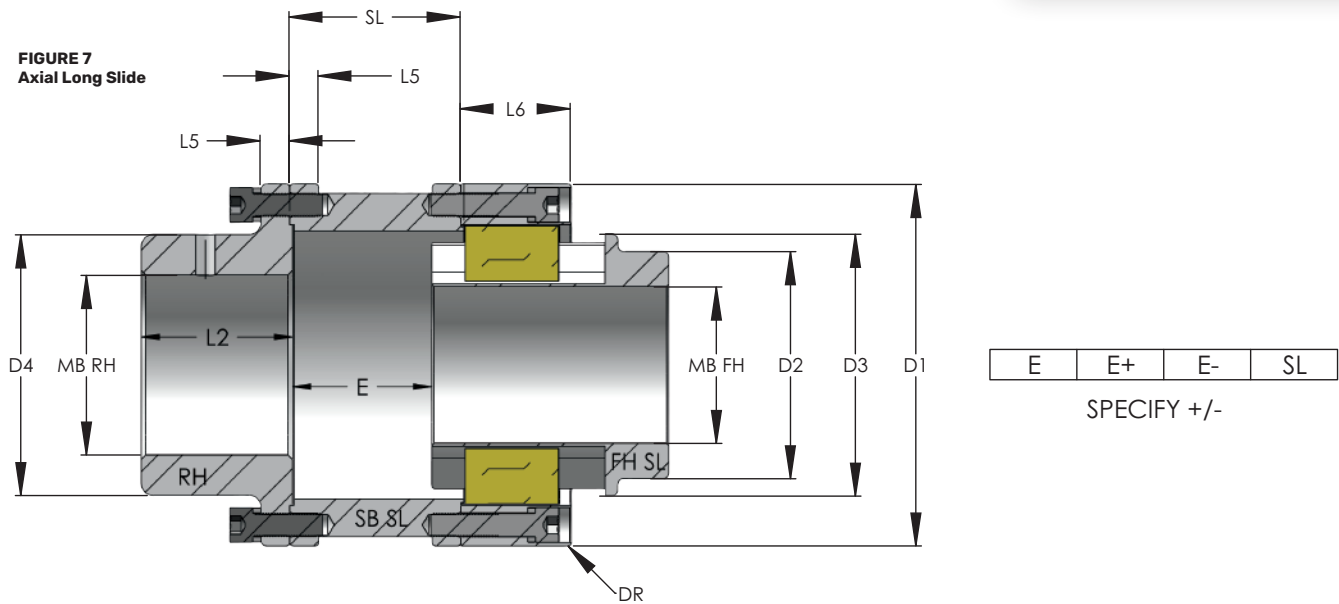
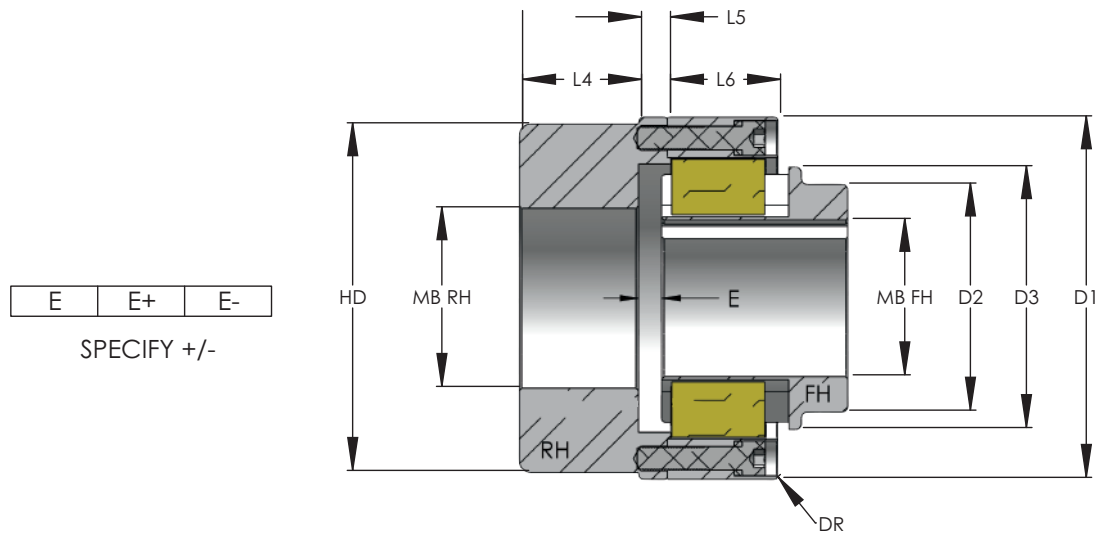


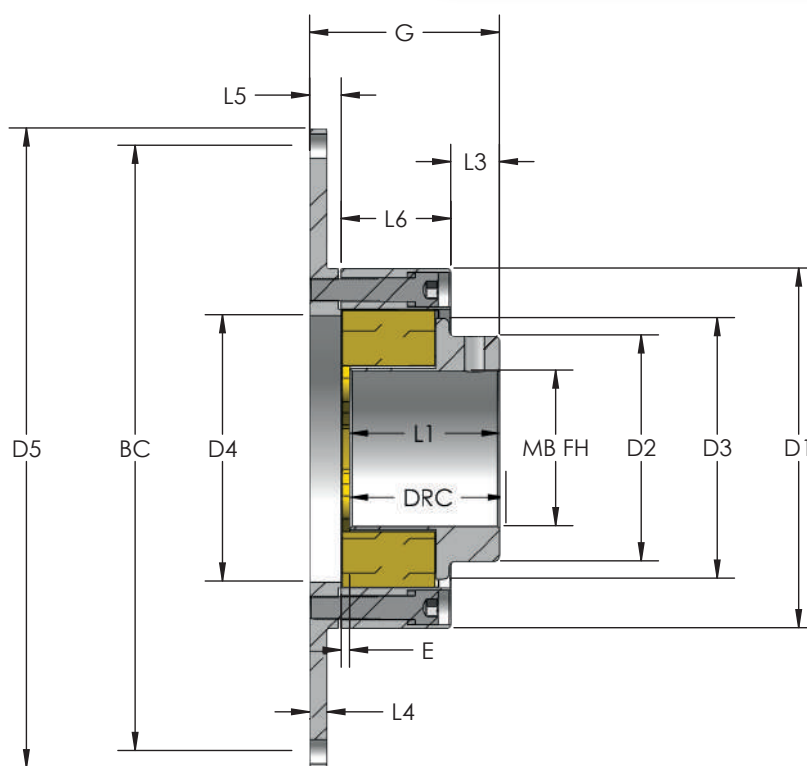
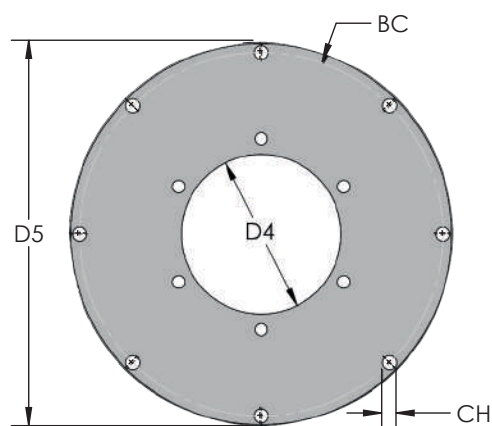
FIGURE 8
Axial Medium Slide



SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
D1	74.9	100.6	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7	506.7	590.6	723.9
MBFH	32.0	42.0	55.0	60.0	85.0	110.0	130.0	145.0	170.0	200.0	230.0	260.0	325.0
MBRH	40.0	55.0	60.0	85.0	95.0	130.0	145.0	170.0	190.0	260.0	290.0	310.0	380.0
MBHD	45.0	65.0	70.0	110.0	130.0	160.0	200.0	230.0	260.0	330.0	380.0	440.0	500.0
RSB	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	61.0	73.7	94.0	99.1	99.1
E MIN	2.54	2.54	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08	5.08	6.35	6.99
D2	50.7	65.7	81.3	101.6	124.5	165.1	200.0	235.0	258.2	324.5	371.5	406.4	469.9
D3	52.1	71.6	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0	399.0	454.0	533.1
D4	62.7	81.3	92.1	127.0	142.9	190.5	225.4	273.1	288.9	352.4	401.3	444.5	581.0
HD	72.4	97.5	118.1	155.6	190.5	241.3	288.9	336.6	365.1	448.8	500.4	584.2	685.8
L2	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L4	24.9	32.8	43.9	46.4	65.2	77.9	100.1	122.3	144.5	163.6	174.6	200.7	214.4
L5	9.5	11.1	12.7	15.9	15.9	22.2	25.4	28.6	31.8	38.1	50.8	50.8	63.5
L6	22.5	29.6	29.6	38.1	60.3	73.0	69.0	96.4	99.1	111.4	131.7	154.9	163.2

All dimensions are millimeter unless specified.

FIGURE 9
Flywheel



SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
G	47.2	58.4	72.8	82.6	104.5	129.9	158.2	184.8	215.9	247.9	287.7	313.1	351.4
D1	74.9	100.6	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7	506.7	590.6	723.9
MBFH	32.0	42.0	55.0	60.0	85.0	110.0	130.0	145.0	170.0	200.0	230.0	260.0	325.0
RSB	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	61.0	73.7	94.0	99.1	99.1
E	2.54	2.54	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08	5.08	6.35	6.99
D2	50.7	65.7	81.3	101.6	124.5	165.1	200.0	235.0	258.2	324.5	371.5	406.4	469.9
D3	52.1	71.6	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0	399.0	454.0	533.1
L1	34.9	44.5	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4
L3	16.5	17.1	29.8	27.9	27.9	32.4	62.9	63.1	83.8	98.4	105.2	108.0	124.5
L5	9.5	11.1	12.7	15.9	15.9	22.2	25.4	28.6	31.8	38.1	50.8	50.8	63.5
L6	22.5	29.6	29.6	38.1	60.3	73.0	69.0	96.4	99.1	111.4	131.7	154.9	163.2

SAE	6.5	7.5	8	10	11.5	14	16	18	21	24
D5	215.9	241.3	263.5	314.3	352.4	466.7	517.5	571.5	673.1	733.4
BC	200.0	222.3	244.5	295.3	333.4	438.2	489.0	542.9	641.4	692.2
L4	7.9	7.9	9.5	9.5	9.5	9.5	15.9	19.1	19.1	19.1
CH	8.3	8.3	9.9	9.9	9.9	13.1	13.1	16.3	16.3	19.4
CHX	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 or sliding.

All dimensions are millimeter unless specified.

SIZE	WHEEL BXF	F1	F2	L7	T	DISC BXF	A
T2	152.4 X 79.4	41.3	38.1	16.4	6.4	203.2 X 6.4	15.1
	152.4 X 95.3	57.2		16.4	6.4	254.0 X 6.4	
T3	203.2 X 63.5	25.4	38.1	22.0	9.5	203.2 X 6.4	17.1
	203.2 X 82.6	44.5		22.0	9.5	254.0 X 6.4	
	203.2 X 88.9	50.8		22.0	9.5	304.8 X 6.4	
T4	254.0 X 95.3	25.4	57.15	22.2	9.5	254.0 X 6.4	17.4
	254.0 X 108.0	50.8		22.2	9.5	304.8 X 6.4	
	254.0 X 139.7	82.6		22.2	9.5	406.4 X 12.7	
	279.4 X 127.0	69.9		22.2	9.5	457.2 X 12.7	
T5	330.2 X 139.7	50.8	88.9	30.1	12.7	304.8 X 6.4	23.7
	330.2 X 146.1	57.2		30.1	12.7	406.4 X 12.7	
	355.6 X 165.1	76.2		30.1	12.7	457.2 X 12.7	
	406.4 X 161.9	73.0		30.1	12.7	508.0 X 12.7	
	406.4 X 209.6	120.7		30.1	12.7	558.8 X 12.7	
	431.8 X 165.1	76.2		31.8	15.9		
T6	355.6 X 165.1	76.2	88.9	33.0	12.7	406.4 X 12.7	26.7
	406.4 X 161.9	73.0		33.0	12.7	457.2 X 12.7	
	406.4 X 209.6	120.7		33.0	12.7	508.0 X 12.7	
	431.8 X 165.1	76.2		34.7	15.9	558.8 X 12.7	
	482.6 X 209.6	120.7		36.2	19.1	609.6 X 12.7	
T7	431.8 X 165.1	63.5	101.6	38.0	15.9	457.2 X 12.7	30.1
	482.6 X 209.6	108.0		39.6	19.1	508.0 X 12.7	
	482.6 X 222.3	120.7		39.6	19.1	558.8 X 12.7	
	508.0 X 209.6	108.0		39.6	19.1	609.6 X 12.7	
	584.2 X 209.6	108.0		39.6	19.1	762.0 X 12.7	
	584.2 X 235.0	133.4		39.6	19.1		
T8	482.6 X 209.6	108.0	101.6	42.8	19.1	508.0 X 12.7	33.3
	482.6 X 222.3	120.7		42.8	19.1	558.8 X 12.7	
	508.0 X 209.6	108.0		42.8	19.1	609.6 X 12.7	
	584.2 X 209.6	108.0		42.8	19.1	762.0 X 12.7	
	584.2 X 235.0	133.4		42.8	19.1	914.4 X 15.9	
	609.6 X 254.0	152.4		44.5	22.2		
	635.0 X 260.4	158.8		46.0	25.4		
T9	584.2 X 209.6	82.6	127.0	49.1	19.1	609.6 X 12.7	39.6
	584.2 X 235.0	108.0		49.1	19.1	762.0 X 12.7	
	609.6 X 254.0	127.0		50.8	22.2	914.4 X 15.9	
	635.0 X 260.4	133.4		52.3	25.4		
	660.4 X 260.4	133.4		52.3	25.4	1,016.0 X 15.9	
	711.2 X 285.8	158.8		55.5	31.8		

FIGURE 10
Brake Wheel

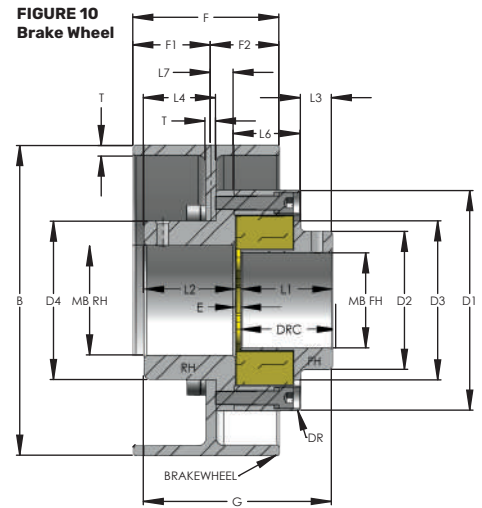
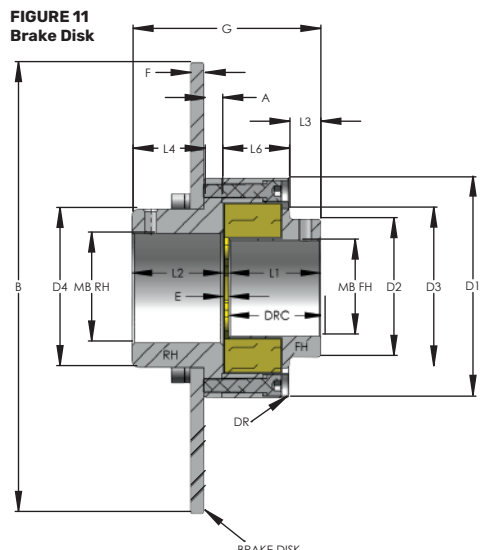


FIGURE 11
Brake Disk



SIZE	T2	T3	T4	T5	T6	T7	T8	T9
G	116.8	129.5	169.7	207.8	258.6	309.9	360.7	411.5
D1	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7
MBFH	55.0	60.0	85.0	110.0	130.0	145.0	170.0	200.0
MBRH	60.0	85.0	95.0	130.0	145.0	170.0	190.0	260.0
E	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08
D2	81.3	101.6	124.5	165.1	200.0	235.0	258.2	324.5
D3	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0
D4	92.1	127.0	142.9	190.5	225.4	273.1	288.9	352.4
L1	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2
L2	57.2	63.5	82.6	101.6	127.0	152.4	177.8	203.2
L3	30.5	28.6	28.3	33.7	62.9	63.1	82.6	98.4
L4	43.9	46.4	65.2	77.9	100.1	125.1	144.5	163.6
L6	29.6	38.1	60.3	73.0	69.0	96.4	99.1	111.4
DRC	63.5	68.6	108.0	131.4	123.6	173.1	181.4	203.5
SS (INCH)	3/8	3/8	1/2	5/8	3/4	1-8	1-8	1-8

All dimensions are millimeter unless specified.

QD BUSHING

SIZE	QD	MB	GB	G	D1	D3	D4	E	BL
T0	JA	31.8	61.2	39.4	74.9	52.1	62.7	2.54	25.4
T1	SH	41.3	119.8	69.2	100.6	71.6	81.3	2.54	33.3
T2	SD	50.8	100.3	69.2	121.9	88.9	92.1	2.54	46.0
T3	SK	66.7	181.0	105.8	159.8	114.3	127.0	2.54	49.2
T4	SF	74.6	157.0	97.3	198.1	143.5	142.9	4.57	52.4
T5	F	101.6	217.4	147.4	248.0	186.7	190.5	4.57	95.3
T6	J	114.3	259.1	182.4	302.3	216.3	225.4	4.57	117.5
T7	M	139.7	368.8	284.5	345.4	255.7	273.1	5.08	171.5
T8	N	152.4	494.0	341.6	371.5	265.0	288.9	5.08	206.4
T9	P	177.8	523.0	402.0	457.7	350.0	352.4	5.08	238.1

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

TAPER LOCK BUSHING EXTERNAL

SIZE	TL-EXT	MB	G	D1	D3	D4	E	BL
T0	1008	25.4	59.7	74.9	52.1	62.7	2.54	22.2
T1	1108	28.6	57.4	100.6	71.6	81.3	2.54	22.2
T2	1615	41.3	85.1	121.9	88.9	92.1	2.54	38.1
T3	2012	50.8	72.4	159.8	114.3	127.0	2.54	31.8
T4	2525	63.5	131.6	198.1	143.5	142.9	4.57	63.5
T5	3020	76.2	140.5	248.0	186.7	190.5	4.57	50.8
T6	4040	101.6	214.1	302.3	216.3	225.4	4.57	101.6
T7	5050	127.0	361.1	345.4	255.7	273.1	5.08	127.0
T8	5050	127.0	271.8	371.5	265.0	288.9	5.08	127.0
T9	7060	177.8	427.4	457.7	350.0	352.4	5.08	152.4

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

TAPER LOCK BUSHING INTERNAL

SIZE	TL-INT	MB	G	D1	D3	D4	E	BL
T1	1108	28.6	55.4	100.6	71.6	81.3	2.54	22.2
T2	1310	36.5	58.4	121.9	88.9	92.1	2.54	25.4
T3	1610	42.8	85.1	159.8	114.3	127.0	2.54	25.4
T4	2012	54.0	94.1	198.1	143.5	142.9	4.57	31.8
T5	2525	63.5	140.5	248.0	186.7	190.5	4.57	63.5
T6	3535	100.0	188.7	302.3	216.3	225.4	4.57	88.9
T7	4040	112.7	233.7	345.4	255.7	273.1	5.08	101.6
T8	4545	125.4	240.0	371.5	265.0	288.9	5.08	114.3
T9	5050	127.0	271.8	457.7	350.0	352.4	5.08	127.0

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.

All dimensions are millimeter unless specified.

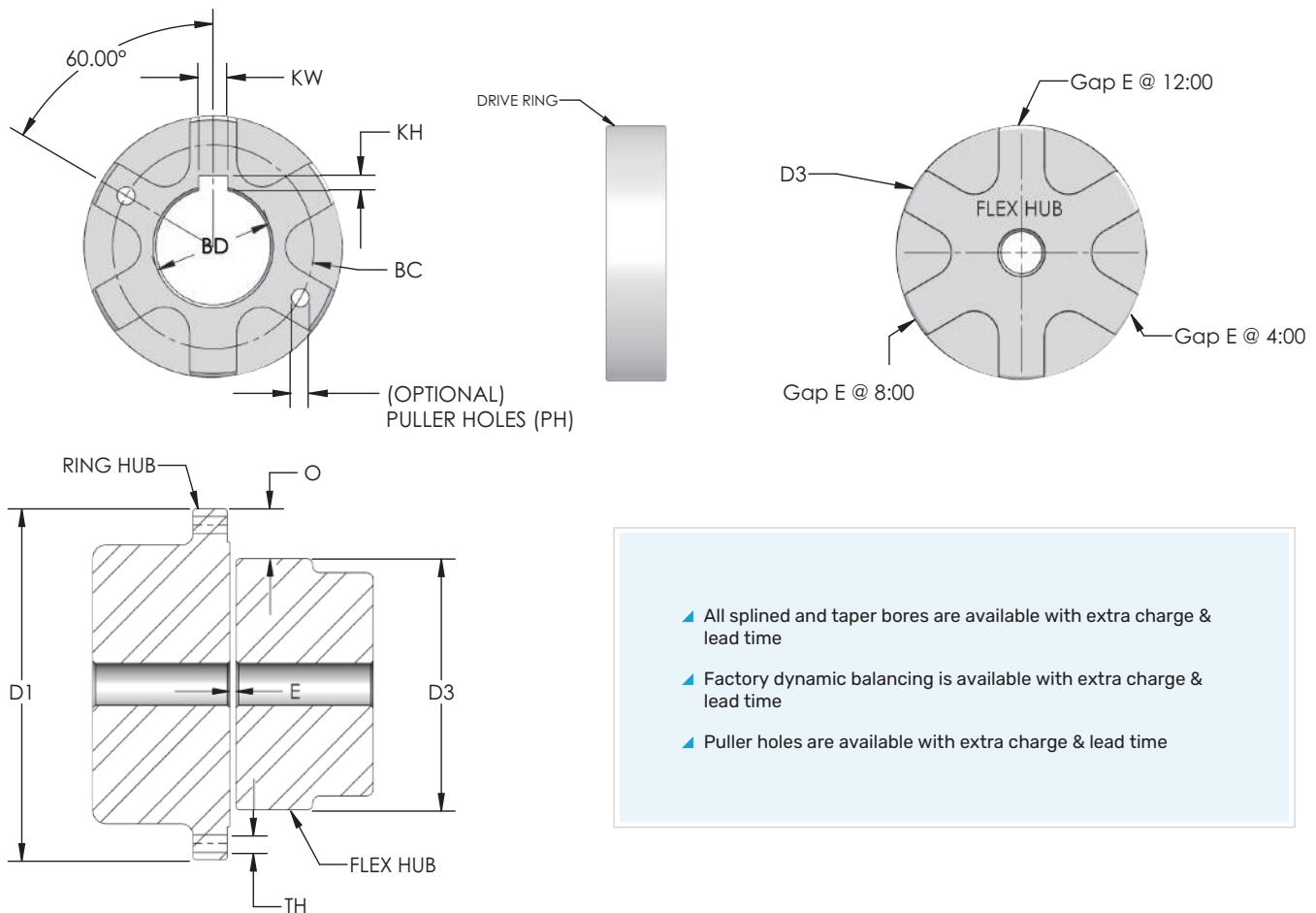
ALIGNMENT TOLERANCES

SIZE	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
GAP E	2.54	2.54	2.54	2.54	4.57	4.57	4.57	5.08	5.08	5.08	5.08	6.35	6.99
E +	2.54	3.18	3.18	4.45	4.45	5.72	5.72	6.35	6.35	6.35	8.89	8.89	8.89
E -	0.51	0.76	0.76	1.02	1.02	1.27	1.27	1.78	1.78	1.78	1.78	1.78	2.54
PARALLEL O	11.4	14.5	16.5	22.7	27.3	30.7	43.0	44.9	53.2	53.8	53.8	68.2	95.4
O +/-	0.51	0.76	0.76	0.76	1.02	1.02	1.02	1.02	1.02	1.14	1.27	1.91	1.91
TIR	1.02	1.52	1.52	1.52	2.03	2.03	2.03	2.03	2.03	2.29	2.54	3.81	3.81
ANGULAR (DEGREE)	2°	2°	2°	2°	1°	1°	1°	1°	1°	1°	1°	1°	1°
D1	74.9	100.6	121.9	159.8	198.1	248.0	302.3	345.4	371.5	457.7	506.7	590.6	723.9
D3	52.1	71.6	88.9	114.3	143.5	186.7	216.3	255.7	265.0	350.0	399.0	454.0	533.1
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 Nm	3.5	9.6	23.7	46.9	215	215	395	395	700	960	1,389	1,750	5,250

TT - Tightening Torque is for a dry black alloy steel fastener; reference the I&M for the stainless steel fastener tightening torque.

*UNC Thread

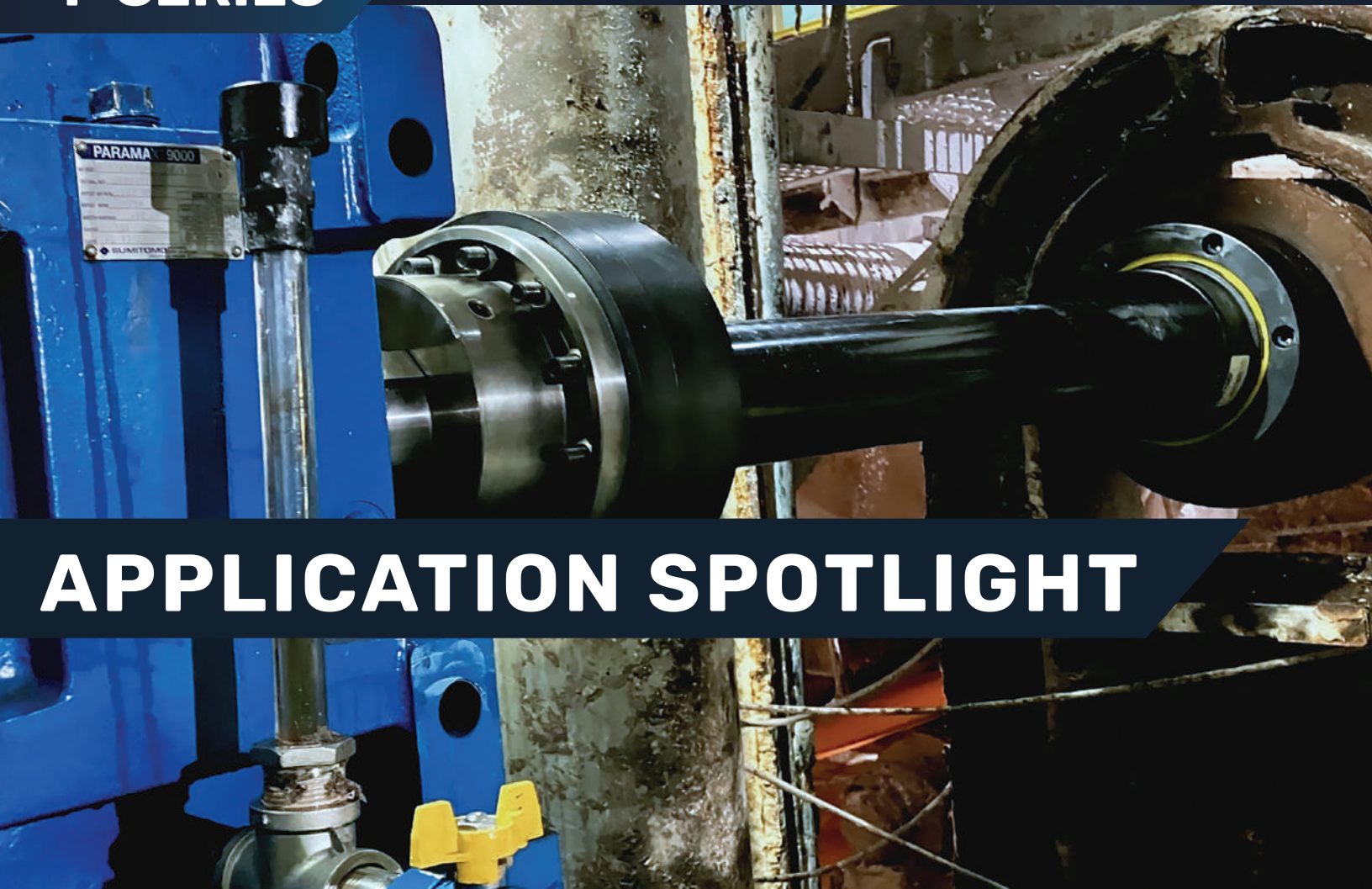
All dimensions are millimeter unless specified.



FLEX HUB PULLER HOLES (OPTIONAL)

SIZE	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
PH (INCH)	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	58.0	73.0	88.9	114.9	150.5	177.8	207.0	215.9	289.6	339.1	372.1	418.9

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.

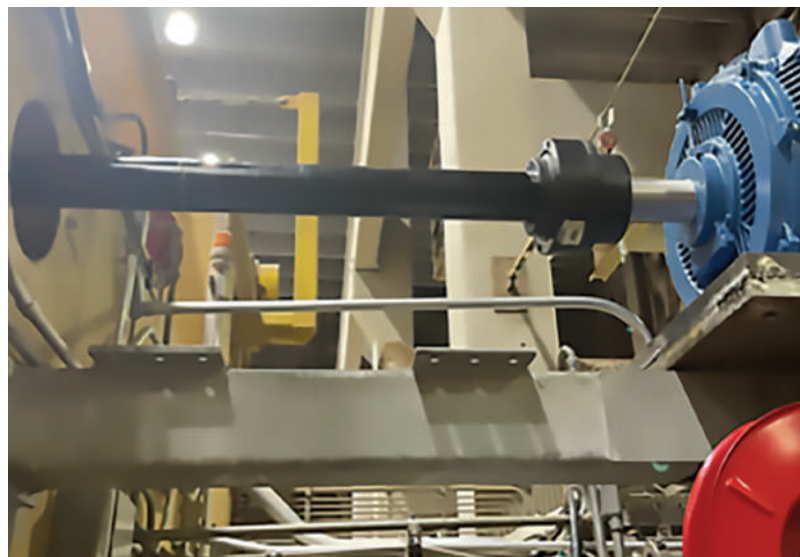


Above:

T11 composite floating shaft coupling with OnyxShield™ hubs in a dredging application.

Right:

T5 steel floating shaft coupling with OnyxShield™ hubs in a pulp and paper application.





M-SERIES MILLENNIUM®

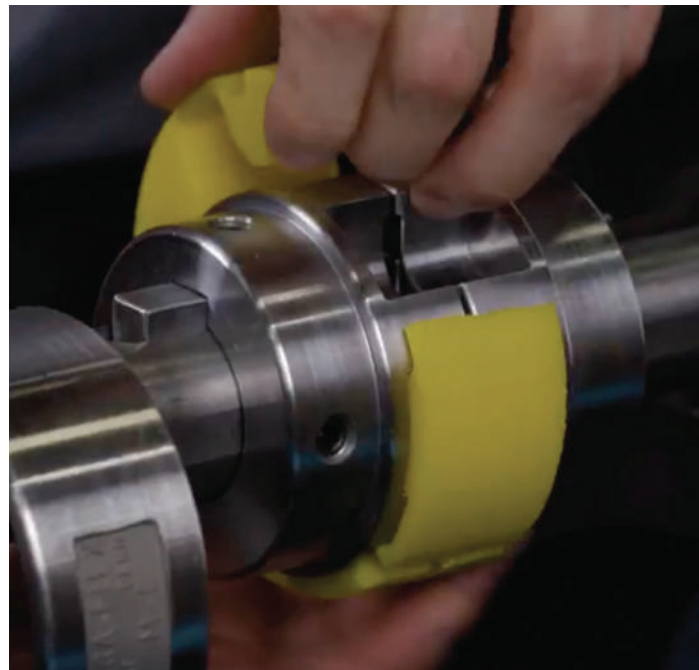
ATRA-FLEX®
Flexible Couplings

The ATRA-FLEX® M-Series flexible couplings are designed to accommodate a wide range of industrial applications, offering a torque capacity up to 407,800Nm and can handle shaft diameters up to 400mm. 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 -50°C to 175°C. 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.ustsubaki.com/products/atra-flex/m-series/

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- ▲ 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 407,800Nm 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 -50° to 120° Celsius with high temperature inserts available up to 175°C.
- ▲ OnyxShield™ couplings are available for enhanced corrosion and wear resistance.

APPLICATION RANGE

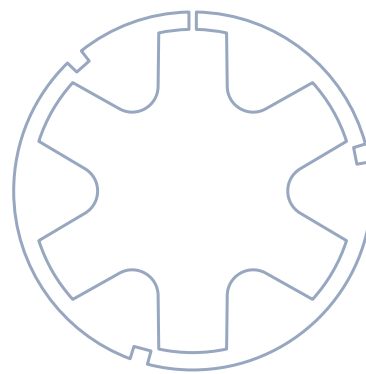
M-Series couplings are suited for a wide range of industrial applications. Torque capacity range up to 407,800Nm and shaft capacities up to 400mm.

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, 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 (Nm)
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

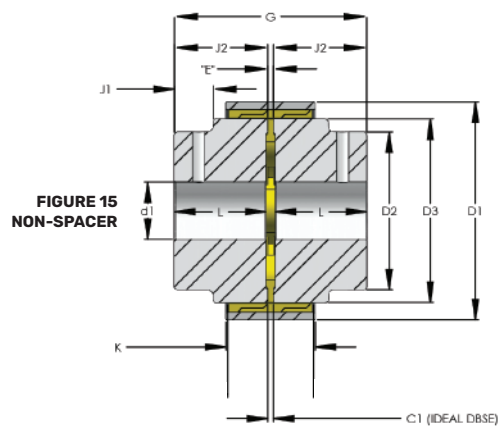
YELLOW	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (Nm)	20.3	67.7	142	271	339	651	1,424	3,254	5,423	12,541	21,083	30,845	47,454	108,466	214,672
Intermittent (Nm)	33.8	113	237	452	565	1,085	2,373	5,423	9,039	20,902	35,138	51,408	79,090	180,776	361,552
kW @ 100 RPM (SF1)	0.22 0.36	0.71 1.19	1.49 2.48	2.84 4.74	3.55 5.91	6.82 11.36	14.91 24.61	34.3 56.7	56.7 94.7	131.2 219.2	220.7 367.6	322.9 538.4	496.6 828.5	1,135.7 1,893.3	2,248.3 3,785.9
Max RPM Unbalanced	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 Balanced G2.5	13,483	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 C: 120 Min Temp C: -50					Durometer: 60D							

RED	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (Nm)	17.2	57.6	121	230	288	553	1,210	2,765	4,609	10,660	17,920	26,218	40,335	92,195	182,470
Intermittent (Nm)	28.8	96.0	201	384	480	921	2,016	4,609	7,682	17,766	29,867	43,696	67,226	153,659	307,319
kW @ 100 RPM (SF1)	0.19 0.31	0.60 1.01	1.27 2.11	2.42 4.03	3.02 5.03	5.79 9.66	12.68 20.88	29.08 48.47	48.5 80.5	111.9 186.4	187.9 312.4	274.4 457.9	422.1 703.9	965.7 1,609.2	1,911.2 3,217.7
Max RPM Unbalanced	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 Balanced G2.5	13,483	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 C: 175 Min Temp C: -6					Durometer: 90A							

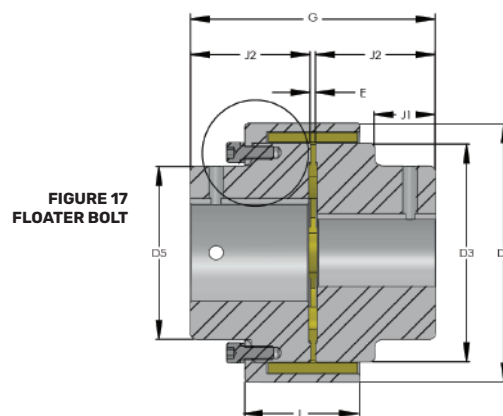
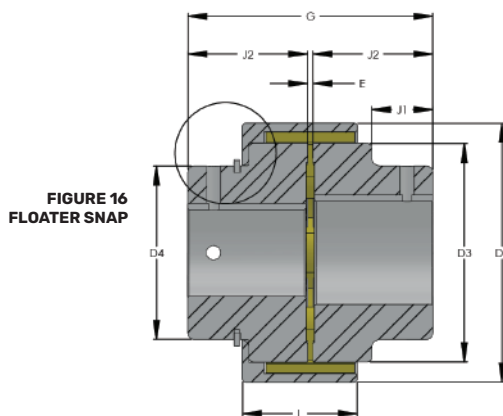
ORANGE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (Nm)	38.6	128	270	515	644	1,236	2,704	6,182	10,304	23,828	40,057	58,605	90,162	206,084	407,875
Intermittent (Nm)	64.4	214	450	858	1,073	2,060	4,508	10,304	17,173	39,714	66,762	97,675	150,270	343,474	686,948
kW @ 100 RPM (SF1)	0.40 0.67	1.35 2.24	2.83 4.72	5.40 8.99	6.74 11.24	12.95 21.58	28.34 46.98	64.9 108.1	108.1 179.7	249.8 416.1	419.8 699.5	613.7 1,023.1	944.0 1,573.4	2,158.0 3,596.5	4,271.3 7,193.7
Max RPM Unbalanced	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 Balanced G2.5	13,483	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, Low Speed Applications			Max Temp C: 120 Min Temp C: -28					Durometer: 70D							

GREEN	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
Continuous (Nm)	9.9	33.1	69.3	132	165	317	694	1,586	2,643	6,113	10,244	15,036	23,133	52,876	108,748
Intermittent (Nm)	16.4	55.1	115	220	275	528	1,156	2,643	4,406	10,189	17,129	25,061	38,556	88,128	176,256
kW @ 100 RPM (SF1)	0.10 0.17	0.35 0.57	0.73 1.22	1.39 2.31	1.73 2.89	3.33 5.54	7.46 12.68	17.15 28.34	28.34 46.23	64.1 106.6	107.4 179.7	158.1 262.5	242.3 404.2	554.0 923.2	1,096.2 1,845.6
Max RPM Unbalanced	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 Balanced G2.5	13,483	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 C: 120 Min Temp C: -50					Durometer: 90A							

NON-SPACER COUPLINGS



SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
D1	57.4	74.7	100.6	108.5	119.4	145.5	193.0	246.4	299.7	345.4	402.6	453.6	504.8	694.7	890.3
G	52.1	71.8	90.8	100.3	116.2	128.9	170.2	233.7	284.5	309.9	373.4	462.3	514.4	590.6	566.4
MAXIMUM BORE	25.0	32.0	42.0	48.0	55.0	60.0	85.0	110.0	130.0	145.0	180.0	220.0	250.0	330.0	400.0
RSB	6.4	7.6	10.9	10.4	10.4	15.9	23.9	25.4	38.1	44.5	61.0	73.7	95.3	101.6	177.8
C1 (IDEAL DBSE)	3.05	4.45	4.45	4.45	4.45	4.45	7.62	8.13	8.13	8.13	8.13	8.13	8.13	9.40	12.70
L	24.5	33.7	43.2	48.0	55.9	62.2	81.3	112.8	138.2	150.9	182.6	227.1	252.5	290.8	276.9
D2	40.6	55.9	73.0	78.7	88.9	101.6	139.7	165.1	203.2	228.6	266.7	304.8	355.6	469.9	609.6
D3	43.2	61.0	80.0	88.1	99.1	124.5	162.6	207.8	252.2	299.7	354.1	403.9	453.9	605.8	756.4
J1	15.2	19.7	21.6	26.4	31.8	28.6	34.3	58.4	76.2	63.5	69.9	111.1	139.7	139.7	82.6
J2	25.4	34.9	44.5	49.2	57.2	63.5	82.6	114.3	139.7	152.4	184.2	228.6	254.0	292.1	279.4
K	17.3	26.2	39.4	41.9	41.5	51.8	78.7	88.9	101.6	131.6	159.5	165.9	168.9	233.7	317.5
E (GAP)	1.57	1.91	1.91	1.91	1.91	1.91	5.08	5.08	5.08	5.08	5.08	5.08	6.35	6.35	7.62
APPROX. WT. (KG)	0.34	0.9	1.8	2.3	4.5	8.6	16.2	32.4	56.3	85.5	144.0	213.8	433.8	540.0	675.0

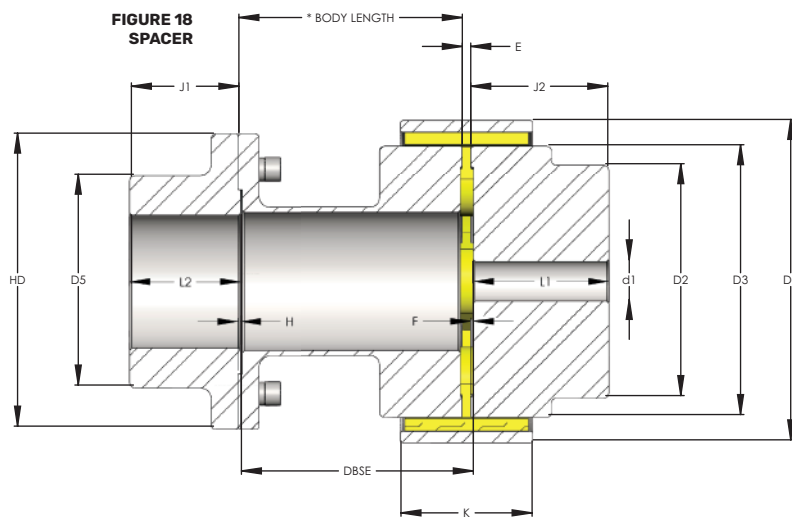
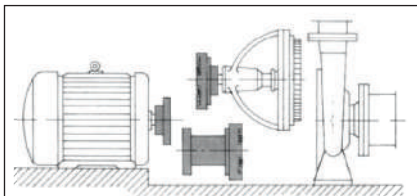
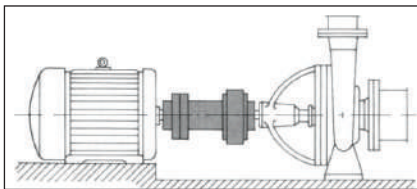


M-SERIES FLOATER **Note:** Floater style coupling dimensions differ from non-spacer as shown below.

SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
D1	54.0	72.1	98.4	108.0	119.4	150.6	193.0	246.4	299.7	347.5	402.6	461.9	504.8	701.0	879.3
D4 (FSS0)	39.7	54.8	73.0	73.0	88.9	101.6	139.7	165.1	*	*	*	*	*	*	*
D5 (FSB0)	39.8	48.3	67.3	69.9	77.5	95.3	130.2	165.1	188.0	228.6	266.7	304.8	373.4	469.9	*
L	22.9	34.4	47.6	49.0	52.0	66.9	96.0	109.5	128.5	168.3	209.6	215.9	215.1	301.0	*

*M6 through M13 are only available as a floater bolt style.

All dimensions are millimeter unless specified.



SIZE	M00	M0	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12
D1	57.4	74.7	100.6	119.4	145.5	193.0	246.4	299.7	345.4	402.6	453.6	504.8	701.0
MAXIMUM BORE HUB	25.0	32.0	42.0	55.0	60.0	85.0	110.0	130.0	145.0	180.0	220.0	250.0	330.0
MAXIMUM BORE FLANGE HUB	32	32*	45*	60*	70*	85*	100*	125*	145*	180*	200*	260*	330*
MAX BORE HEAVY DUTY FLANGE	40	40*	50*	60*	75*	95*	125*	170*	180*	220*	230*	300*	
RSB	6.4	7.6	10.9	10.4	15.9	23.9	25.4	38.1	44.5	61.0	73.7	95.3	101.6
L1	24.5	33.7	43.2	55.9	62.2	81.3	113.0	138.2	150.9	182.6	227.1	252.5	290.8
L2	36.8	36.8	41.1	54.0	61.2	66.3	86.6	109.5	117.5	177.8	231.1	281.9	295.3
D2	40.6	55.9	73.0	88.9	101.6	139.7	165.1	203.2	228.6	266.7	304.8	355.6	469.9
D3	43.2	61.0	80.0	99.1	124.5	162.6	207.8	252.2	299.7	354.1	403.9	453.9	605.8
HD	86.7	86.7	100.1	119.6	140.1	176.5	225.0	254.0	266.4	325.1	383.2	482.6	607.1
D5 (HEAVY DUTY FLANGE USE HD)	57.9	57.9	73.0	88.9	106.7	127.0	168.3	184.2	210.2	254.0	301.6	330.2	457.2
J1	35.3	35.3	39.6	52.5	59.7	64.8	85.1	108.0	116.0	175.3	228.6	279.4	292.1
J2	25.4	34.9	44.5	57.2	63.5	82.6	114.3	139.7	152.4	184.2	228.6	254.0	292.1
F	0.89	0.89	1.27	1.27	1.27	1.27	1.52	1.52	1.52	1.52	1.52	1.52	1.52
H	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	2.54	2.54	2.54	3.18
K	17.3	26.2	39.4	41.5	51.8	78.7	88.9	99.1	130.8	159.5	165.9	168.9	233.7
E (GAP)	1.57	1.91	1.91	1.91	1.91	5.08	5.08	5.08	5.08	5.08	5.08	6.35	6.35
STANDARD BODY LENGTH	88.9	76.2 88.9	76.2 88.9 95.3 101.6 114.3 127.0	76.2 88.9 95.3 101.6 127.0 139.7 177.8	88.9 95.3 127.0 133.4 152.4 177.8 241.3 247.7 190.5	101.6 127.0 152.4 177.8 241.3 247.7	127.0 152.4 177.8 184.2 247.7 254.0 304.8	177.8 TO 355.6	177.8 TO 457.2	190.5 TO 457.2	241.3 TO 457.2	241.3 TO 508.0	304.8 TO 609.6

Custom lengths available with extra charge.

*A-Series flanges are the standard flange for M-Series spacer couplings.

All dimensions are millimeter unless specified.

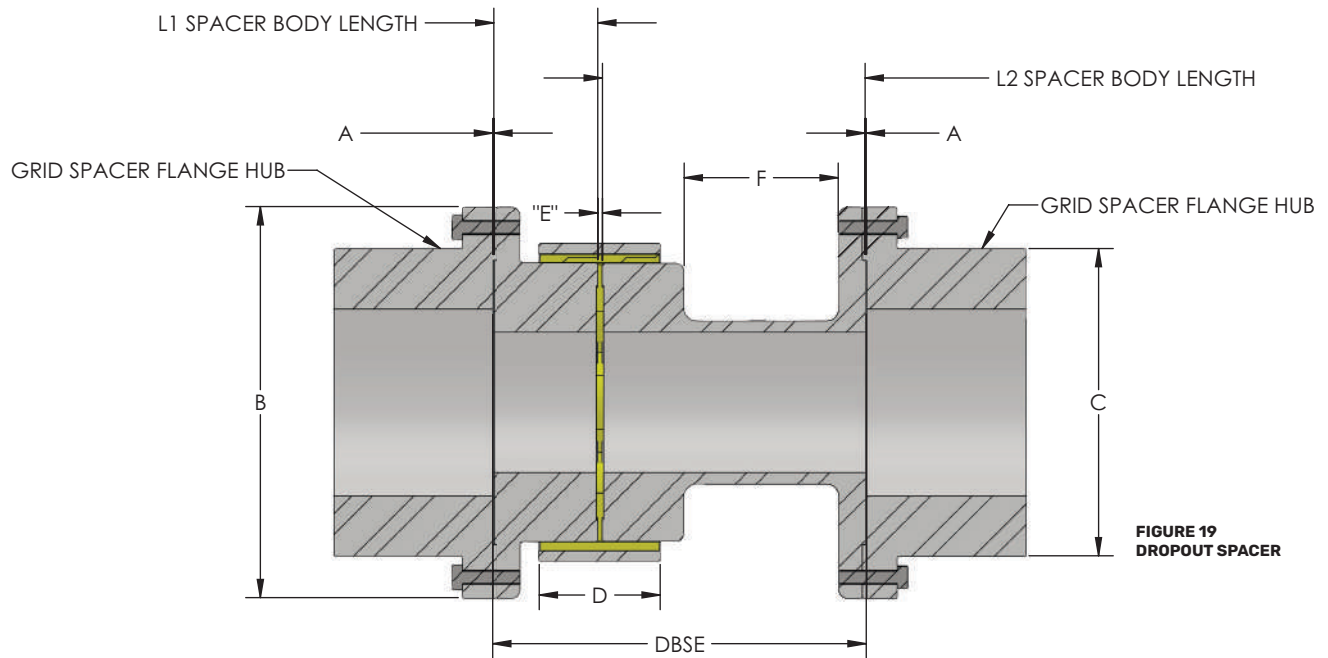


FIGURE 19
DROPOUT SPACER

GRID SIZE	SIZE ATRA-FLEX®	ANSI STD DBSE (INCH)	A	B	C	D (RING WIDTH)	F	"E"	L1	DBSE=L2 (INCH)
1020 T31	20SB0MF	88.9mm (3.50) 111.3mm (4.38) 127.0mm (5.00)	1.27	84.2	52.3	29.1	43.2 65.5 81.3	1.91	22.9	88.9 (3.50) = 66.0 (2.60) 111.3 (4.38) = 88.4 (3.48) 127.0 (5.00) = 104.1 (4.10)
1030 T31	30SB1MF	88.9mm (3.50) 111.3mm (4.38) 127.0mm (5.00) 184.2mm (7.25)	1.27	91.9	59.4	39.9	22.9 45.2 61.0 118.1	1.91	33.0	88.9 (3.50) = 55.9 (2.20) 111.3 (4.38) = 78.2 (3.08) 127.0 (5.00) = 94.0 (3.70) 184.2 (7.25) = 151.1 (5.95)
1040 T31	40SB2MF	88.9mm (3.50) 111.3mm (4.38) 127.0mm (5.00) 184.2mm (7.25)	1.27	111.1	78.5	40.6	17.8 40.1 55.9 113.0	1.91	35.6	88.9 (3.50) = 53.3 (2.10) 111.3 (4.38) = 75.7 (2.98) 127.0 (5.00) = 91.4 (3.60) 184.2 (7.25) = 148.6 (5.85)
1050 T31	50SB2MF	111.3mm (4.38) 127.0mm (5.00) 184.2mm (7.25)	1.27	123.8	87.4	40.6	40.1 55.9 113.0	1.91	35.6	111.3 (4.38) = 75.7 (2.98) 127.0 (5.00) = 91.4 (3.60) 184.2 (7.25) = 148.6 (5.85)
1060 T31	60SB3MF	127.0mm (5.00) 184.2mm (7.25) 247.7mm (9.75) 311.2mm (12.25)	1.27	142.9	103.1	52.1	6.7 83.8 147.3 261.0	1.91	50.2	127.0 (5.00) = 76.8 (3.03) 184.2 (7.25) = 134.0 (5.28) 247.7 (9.75) = 197.5 (7.78) 311.2 (12.25) = 261.0 (10.28)
1070 T31	70SB4MF	127.0mm (5.00) 184.2mm (7.25) 247.7mm (9.75) 311.2mm (12.25)	1.27	150.9	109.5	78.7	22.9 80.0 128.3 207.0	5.08	53.3	127.0 (5.00) = 71.1 (2.80) 184.2 (7.25) = 128.3 (5.05) 247.7 (9.75) = 197.5 (7.55) 311.2 (12.25) = 255.3 (10.05)
1080 T31	80SB5MF	184.2mm (7.25) 247.7mm (9.75) 311.2mm (12.25)	1.27	177.8	121.9	88.9	34.3 97.8 161.3	5.08	78.1	184.2 (7.25) = 106.0 (4.18) 247.7 (9.75) = 169.5 (6.68) 311.2 (12.25) = 233.0 (9.18)
1090 T31	90SB5MF	184.2mm (7.25) 247.7mm (9.75) 311.2mm (12.25)	1.27	207.8	142.7	88.9	34.3 97.8 161.3	5.08	78.1	184.2 (7.25) = 106.0 (4.18) 247.7 (9.75) = 169.5 (6.68) 311.2 (12.25) = 233.0 (9.18)

Consult factory for larger sizes.

All dimensions are millimeter unless specified.



*Dimensions subject to change without notice.
Consult factory for floating shaft material alternatives such as stainless steel or composite tubing.

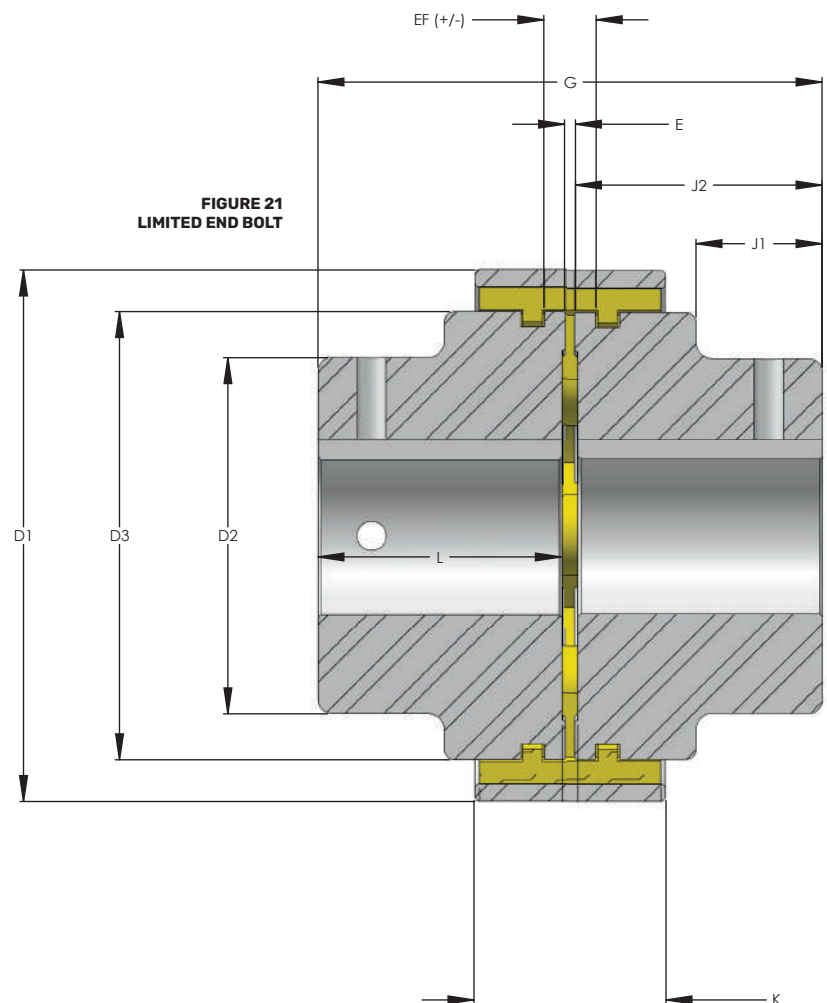
All dimensions are millimeter unless specified.

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
D1	100.6	119.4	145.5	193.0	246.4	299.7	345.4	402.6	453.6	504.8	701.0
G	90.8	116.2	128.9	170.2	233.7	284.5	309.9	373.4	462.3	514.4	590.6
MAXIMUM BORE	42.0	55.0	60.0	85.0	110.0	130.0	145.0	180.0	220.0	250.0	330.0
RSB	10.9	10.4	15.9	23.9	25.4	38.1	44.5	61.0	73.7	95.3	101.6
L	43.2	55.9	62.2	81.3	112.8	138.2	150.9	182.6	227.1	252.5	290.8
D2	73.0	88.9	101.6	139.7	165.1	203.2	228.6	266.7	304.8	355.6	469.9
D3	80.0	99.1	124.5	162.6	207.0	252.2	302.3	354.1	403.9	454.7	607.1
J1	21.6	31.8	28.6	34.3	58.4	76.2	63.5	69.9	111.1	139.7	139.7
J2	44.5	57.2	63.5	82.6	114.3	139.7	152.4	184.2	228.6	254.0	292.1
K	39.4	41.5	51.8	78.7	88.9	99.1	131.6	159.5	165.9	168.9	233.7
E	1.91	1.91	1.91	5.08	5.08	5.08	5.08	5.08	5.08	6.35	6.35
AXIAL END FLOAT +/-	0.635	0.381	0.381	1.27	2.032	2.54	2.54	2.54	2.54	2.54	2.54
APPROX. WT. (KG)	1.8	4.5	8.6	16.2	32.4	56.3	85.5	144.0	213.8	433.8	540.0

All dimensions are millimeter unless specified.

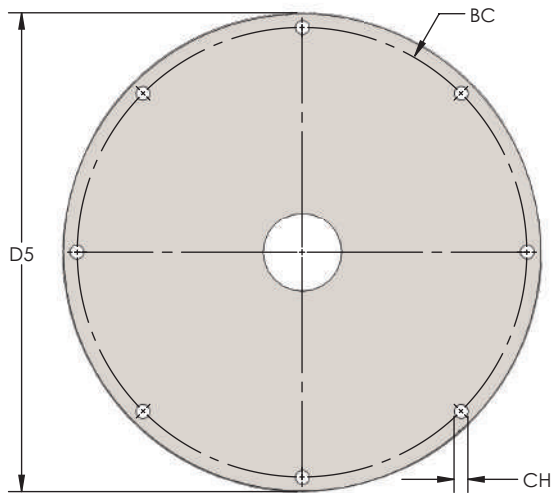
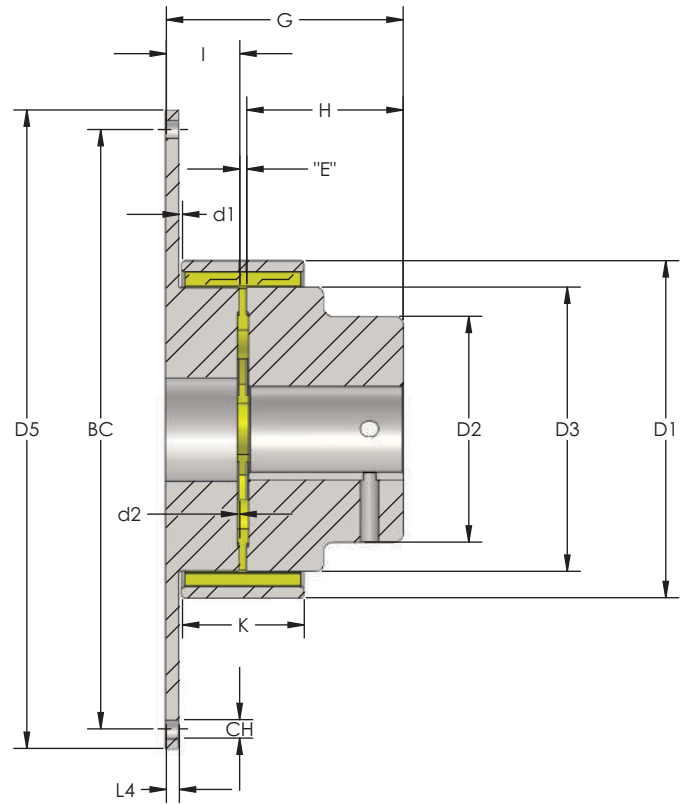


FIGURE 22
FLYWHEEL



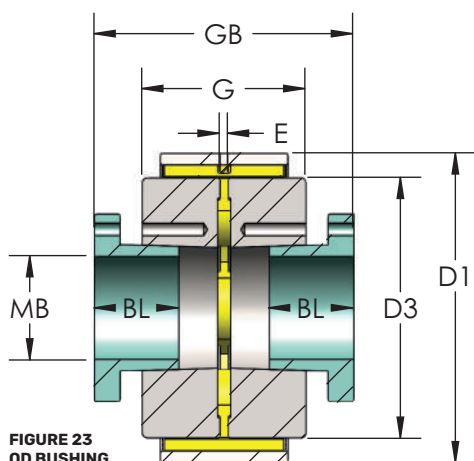
SIZE	M4	M5	M6	M7	M8	M9	M10	M12
D1	193.0	246.4	299.7	336.8	392.7	453.6	504.8	701.0
D2	139.7	165.1	203.2	228.6	266.7	304.8	355.6	469.9
D3	162.6	207.8	252.2	302.3	353.1	403.9	454.7	607.1
d1	12.7	2.3	15.2	25.4	38.1	38.1	31.8	38.1
d2	1.27	1.52	1.52	1.52	1.52	1.52	1.52	1.52
E	5.08	5.08	5.08	5.08	5.08	5.08	5.08	6.35
L4	9.5	9.5	15.9	19.1	19.1	25.4	31.8	31.8
G	145.4	173.1	225.4	265.4	322.6	376.6	406.4	527.1
H	82.6	114.3	141.0	152.4	184.2	228.6	254.0	336.6
I	57.8	53.7	79.4	108.0	133.4	142.9	146.1	184.2
MAX BORE	85.0	110.0	130.0	145.0	180.0	220.0	250.0	330.0
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	215.9	241.3	263.5	314.3	352.4	466.7	517.5	571.5	673.1	733.4
BC	200.0	222.3	244.5	295.3	333.4	438.2	489.0	542.9	641.4	692.2
L4	7.9	7.9	9.5	9.5	9.5	15.9	15.9	19.1	19.1	19.1
CH	8.3	8.3	9.9	9.9	9.9	13.1	13.1	16.3	16.3	19.4
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.

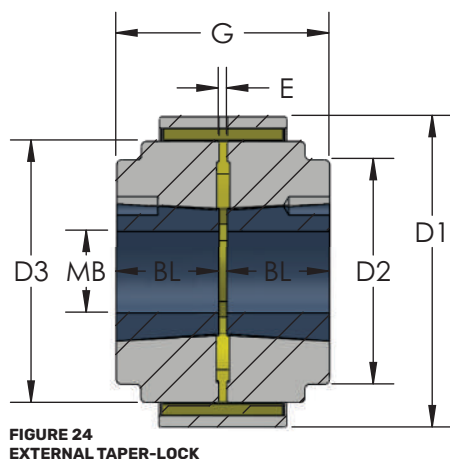
All dimensions are millimeter unless specified.

QD BUSHING



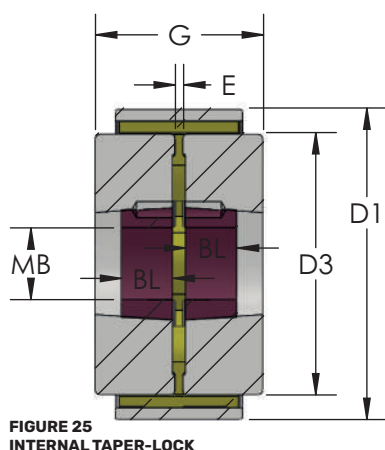
SIZE	QD	MB	GB	G	D1	D3	E	BL
M0	JA	31.8	59.6	38.7	74.7	61.0	1.91	25.4
M1	SH	42.9	87.4	59.1	100.6	80.0	1.91	33.4
M1H	SH	42.9	87.4	59.1	108.5	88.1	1.91	33.4
M2	SDS	50.8	76.8	48.9	119.4	99.1	1.91	33.4
M3	SK	63.5	164.7	125.1	145.5	124.5	1.91	49.2
M4	SF	75.9	144.8	101.6	193.0	162.6	5.08	52.4
M5	F	101.6	219.2	151.0	246.4	207.0	5.08	95.3
M6	J	114.3	262.6	185.9	299.7	252.2	5.08	117.6
M7	M	139.7	503.2	418.8	336.6	302.3	5.08	171.5
M8	N	152.4	603.8	506.7	392.7	354.1	5.08	206.4
M9	P	177.8	526.3	405.4	453.6	403.9	5.08	238.1

TAPER-LOCK BUSHING EXTERNAL



SIZE	TL EXT	MB	G	D1	D3	E	BL
M0	1008	14.3	52.7	74.7	61.0	1.91	22.2
M1	1108	28.6	50.2	100.6	80.0	1.91	22.2
M1H	1215	31.8	81.2	108.5	88.1	1.91	38.1
M2	1615	42.9	80.6	119.4	99.1	1.91	38.1
M3	2012	54.0	103.5	145.5	124.5	1.91	31.8
M4	2525	63.5	134.6	193.0	162.6	5.08	63.5
M5	3020	76.2	116.8	246.4	207.0	5.08	50.8
M6	4040	112.7	211.3	299.7	252.2	5.08	101.6
M7	5050	127.0	398.8	336.6	302.3	5.08	127.0
M8	6050	152.4	443.2	392.7	354.1	5.08	127.0
M9	7060	177.8	491.5	453.6	403.9	5.08	152.4

TAPER-LOCK BUSHING INTERNAL



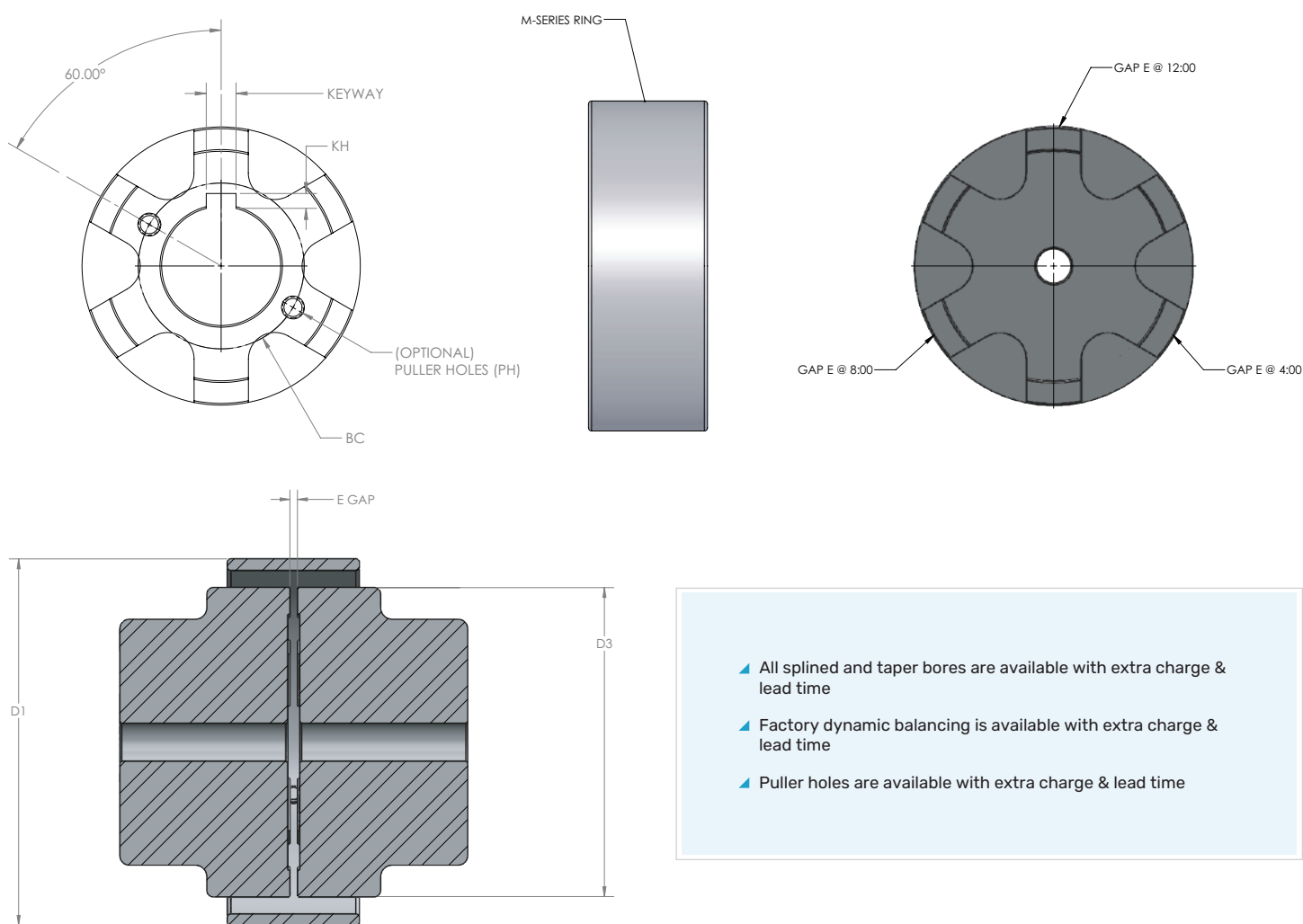
SIZE	TL INT	MB	G	D1	D3	E	BL
M1	1108	28.6	50.2	100.6	80.0	1.91	22.2
M1H	1215	31.8	81.2	108.5	88.1	1.91	38.1
M2	1310	34.9	59.1	119.4	99.1	1.91	25.4
M3	1610	41.3	65.4	145.5	124.5	1.91	25.4
M4	2012	54.0	104.1	193.0	162.6	5.08	31.8
M5	3020	76.2	116.8	246.4	207.0	5.08	50.8
M6	3535	88.9	192.3	299.7	252.2	5.08	88.9
M7	4040	112.7	211.3	336.6	302.3	5.08	101.6
M8	4545	125.4	240.0	392.7	354.1	5.08	114.3
M9	5050	127.0	271.8	453.6	403.9	5.08	127.0

Note: Coupling torque may be de-rated due to the bushing's maximum torque capacity. Consult the bushing manufacturer for specifications.
All dimensions are millimeter unless specified.

M-SERIES ALIGNMENT TOLERANCES

SIZE	M00	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12	M13
GAP E	1.57	1.91	1.91	1.91	1.91	1.91	5.08	5.08	5.08	5.08	5.08	5.08	5.08	6.35	7.62
E +	0.76	1.02	1.02	1.02	1.02	1.02	1.91	2.54	2.54	2.54	2.54	2.54	3.81	5.08	5.08
E -	0.25	0.25	0.51	0.51	0.51	0.51	1.02	1.02	1.02	1.02	1.02	1.52	2.54	2.54	2.54
TIR	0.51	1.02	1.02	1.02	1.02	1.02	1.52	1.52	1.52	1.52	1.52	1.52	2.03	2.54	2.67
ANGULAR (DEGREE)	2°	2°	2°	2°	2°	2°	1°	1°	1°	1°	1°	1°	1°	1°	1°
D1	57.4	74.7	100.6	108.5	119.4	145.5	193.0	246.4	299.7	345.4	402.6	453.6	504.8	694.7	890.3
D3	43.2	61.0	80.0	88.1	99.1	124.5	162.6	207.8	252.2	299.7	354.1	403.9	453.9	605.8	756.4

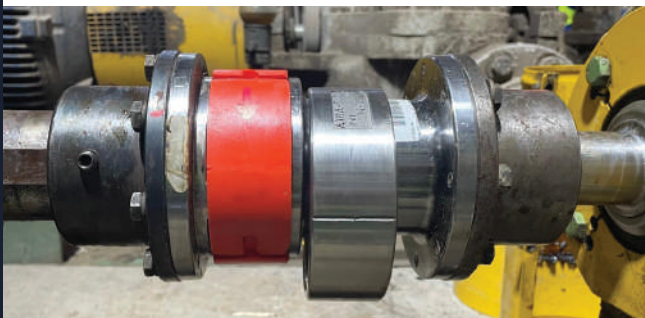
All dimensions are millimeter unless specified.



- ▲ 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

M-SERIES HUB

SIZE	M0	M1	M1H	M2	M3	M4	M5	M6	M7	M8	M9	M10	M12
PH (INCH)	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
BC	43.2	58.7	67.3	73.0	88.9	120.7	152.4	177.8	209.6	241.3	285.8	311.2	419.1



The ATRA-FLEX® M-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

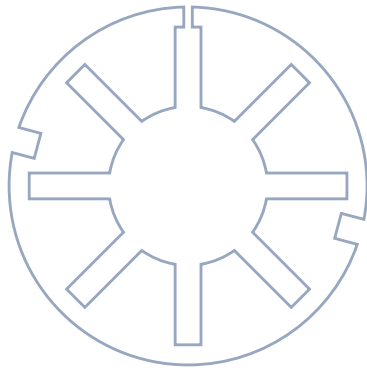
ATRA-FLEX®
Flexible Couplings

The ATRA-FLEX® A-Series 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 offerings. Users seeking enhanced features may refer to the M-Series catalog pages.

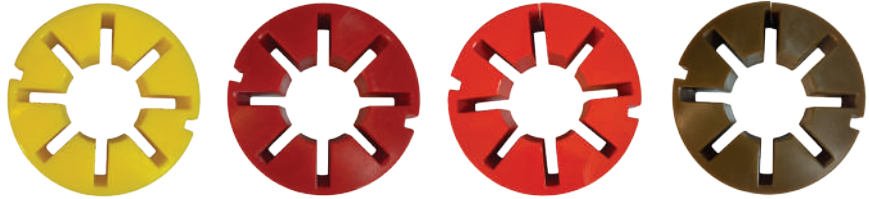
Learn more at www.ustsubaki.com/products/atra-flex/a-series/

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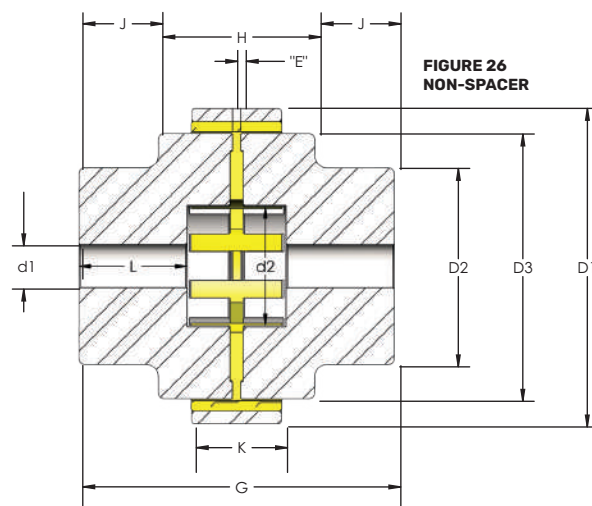
STANDARD INSERT



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
General Use, High Dampening Use: General Applications (standard) Max Temp C: 120 Min Temp C: -50 Durometer: 60D	Continuous (Nm)	11.9	29.9	38.4	150	299	599	1,495	2,395	4,785	8,971	13,592	33,896
	Intermittent (Nm)	19.9	46.4	92.5	249	498	997	2,491	3,986	7,972	14,948	22,653	56,493
	kW @ 100 RPM (SF1)	0.13 0.21	0.31 0.52	0.40 0.97	1.57 2.61	2.98 5.22	5.97 10.44	15.66 26.10	25.35 41.76	50.0 83.5	94.0 156.6	142.4 237.1	354.9 591.3
	Max RPM Unbalanced	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	Max RPM Balanced G2.5	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
High Temperature, High Dampening Use: High Temperature Running Applications Max Temp C: 175 Min Temp C: -6 Durometer: 90A	Continuous (Nm)	10.0	25.4	32.6	127	254	508	1,270	2,035	4,067	7,625	11,553	28,811
	Intermittent (Nm)	16.9	39.4	78.6	211	423	847	2,117	3,388	6,776	12,705	19,255	48,019
	kW @ 100 RPM (SF1)	0.10 0.18	0.27 0.45	0.34 0.83	1.33 2.22	2.24 4.47	5.22 8.95	13.42 22.37	21.63 35.79	42.5 70.8	79.8 133.5	120.8 201.3	302.0 502.6
	Max RPM Unbalanced	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	Max RPM Balanced G2.5	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
High Torque, Medium Dampening Use: High Torque, Low Speed Applications Max Temp C: 120 Min Temp C: -28 Durometer: 70D	Continuous (Nm)	22.6	56.8	73.0	284	569	1,138	2,840	4,551	9,091	17,045	25,825	64,401
	Intermittent (Nm)	37.7	94.7	176	473	947	1,893	4,734	7,574	15,147	28,401	43,042	107,336
	kW @ 100 RPM (SF1)	0.24 0.40	0.60 0.99	0.76 1.84	2.98 4.96	5.97 9.69	11.93 20.13	29.83 49.22	47.7 79.0	95.4 158.8	178.2 297.5	270.7 450.4	674.1 1,123.8
	Max RPM Unbalanced	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	Max RPM Balanced G2.5	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
High Dampening Use: Heavy Vibration, Shock Loads Max Temp C: 120 Min Temp C: -50 Durometer: 95A	Continuous (Nm)	9.6	24.2	31.1	121	242	484	1,207	1,934	3,864	7,244	10,976	27,371
	Intermittent (Nm)	16.0	40.2	74.7	201	402	805	2,012	3,219	6,438	12,070	18,293	45,618
	kW @ 100 RPM (SF1)	0.10 0.17	0.25 0.43	0.33 0.78	1.27 2.11	2.24 4.47	5.22 8.20	12.68 20.88	20.13 33.56	40.3 67.1	76.1 126.8	114.8 191.6	286.3 478.0
	Max RPM Unbalanced	14,000	9,800	7,300	5,400	4,200	3,600	2,600	2,200	1,900	1,600	1,360	1,150
	Max RPM Balanced G2.5	20,200	12,200	11,000	9,000	7,000	5,300	4,200	3,400	2,900	2,400	2,100	1,700



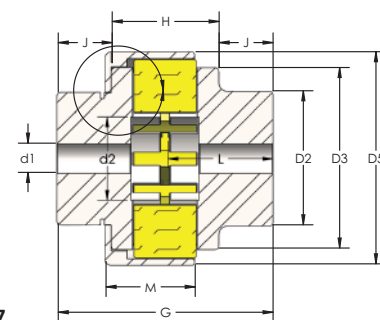
**FIGURE 26
NON-SPACER**

SIZE	A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
D1	48.1	63.0	80.0	108.1	141.0	177.8	226.1	269.9	315.0	372.1	429.9	508.0
G	53.3	70.9	90.4	122.7	151.9	177.5	218.7	258.8	309.6	360.4	412.0	510.5
MAXIMUM BORE	22.0	30.0	40.0	48.0	60.0	70.0	100.0	125.0	150.0	180.0	230.0	260.0
RSB	6.4	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	62.2	73.7	95.0
L	19.4	26.9	34.0	45.1	54.1	61.0	78.0	94.0	116.1	136.1	156.7	189.2
d2	22.4	31.2	35.6	41.9	50.8	68.6	85.1	113.0	133.4	150.6	186.7	196.9
D2	34.3	50.7	60.2	78.0	89.4	110.7	147.1	184.2	203.2	241.3	279.4	330.2
D3	35.2	52.5	63.6	85.3	114.4	149.1	189.2	234.3	266.4	325.1	383.2	454.7
H	22.9	26.9	35.3	51.6	61.5	88.4	99.8	119.1	126.7	152.1	162.8	231.1
J	15.2	22.1	27.9	35.6	45.2	44.6	59.4	69.9	91.4	104.1	124.6	139.7
K	13.1	16.3	21.0	31.4	40.6	50.8	58.7	69.9	76.2	84.3	95.3	127.0
E (GAP)	1.19	1.57	1.57	1.57	1.57	4.78	4.78	4.78	4.78	4.78	5.56	2.54
APPROX. WT. (KG)	0.5	0.9	1.8	4.1	7.7	14.9	30.6	51.8	78.8	138.6	205.2	346.5

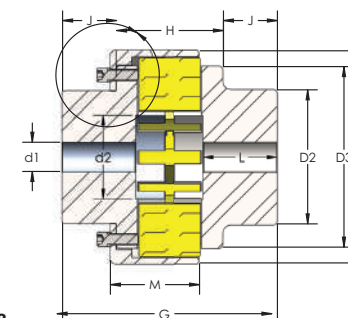
A-SERIES FLOATER

SIZE	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
D5	80.0	108.0	142.2	176.5	222.3	273.1	311.2	365.1	427.6	508.0
G	90.5	122.7	151.9	177.5	218.7	258.8	309.6	360.4	412.0	510.5
MAXIMUM BORE	40.0	48.0	60.0	70.0	100.0	125.0	150.0	180.0	230.0	260.0
RSB	10.9	12.7	15.9	24.1	25.4	38.1	44.5	62.2	73.7	95.0
L	34.0	45.1	54.1	61.0	78.0	94.0	116.1	136.1	156.7	196.9
d2	35.6	41.9	50.8	68.6	85.1	113.0	133.4	150.6	186.7	196.9
D2	60.2	78.0	89.4	110.7	147.1	184.2	198.1	241.3	279.4	330.2
D3	63.8	85.3	114.6	149.1	189.2	235.0	266.4	325.1	383.3	454.7
H	35.3	51.6	61.5	88.4	99.8	119.1	126.7	152.1	162.8	231.1
J	27.7	35.6	45.2	44.7	59.4	69.9	91.4	104.1	124.7	139.7
M	34.0	48.9	61.0	73.7	83.8	101.6	116.1	129.5	142.2	190.5
E (GAP)	1.57	1.57	1.57	4.78	4.78	4.78	4.78	4.78	5.56	2.54
APPROX. WT. (KG)	1.8	4.1	7.7	14.9	17.1	51.8	78.8	138.6	205.2	346.5

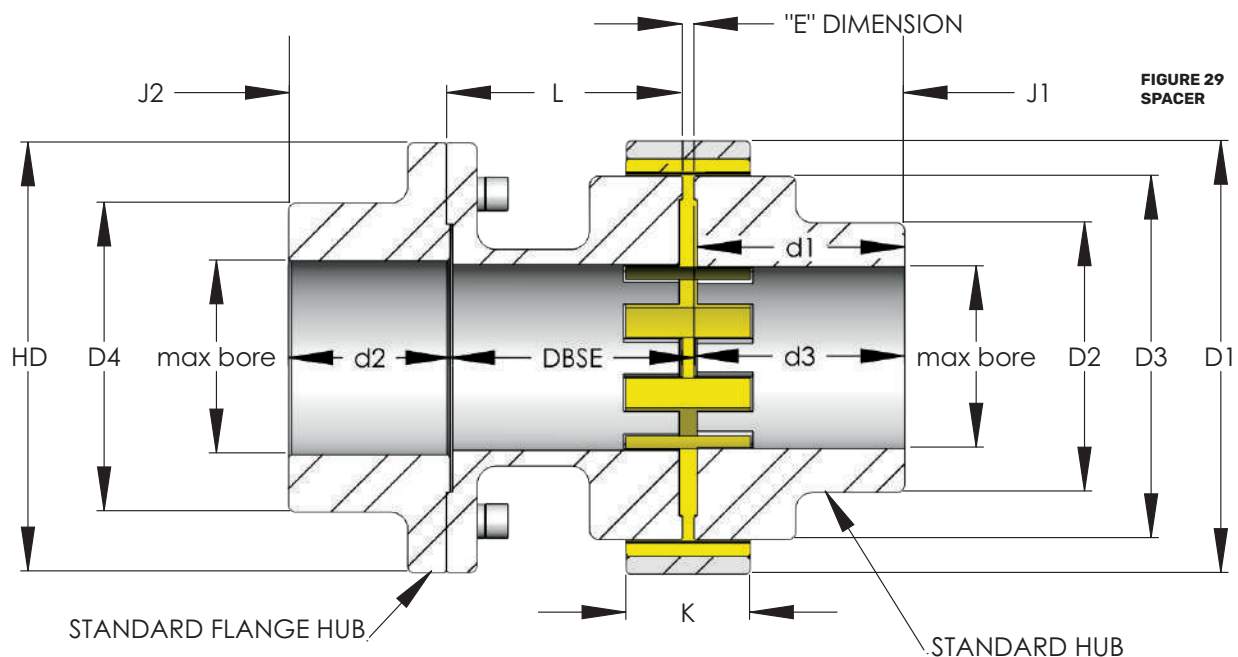
All dimensions are millimeter unless specified.



**FIGURE 27
FLOATER SNAP**



**FIGURE 28
FLOATER BOLT**



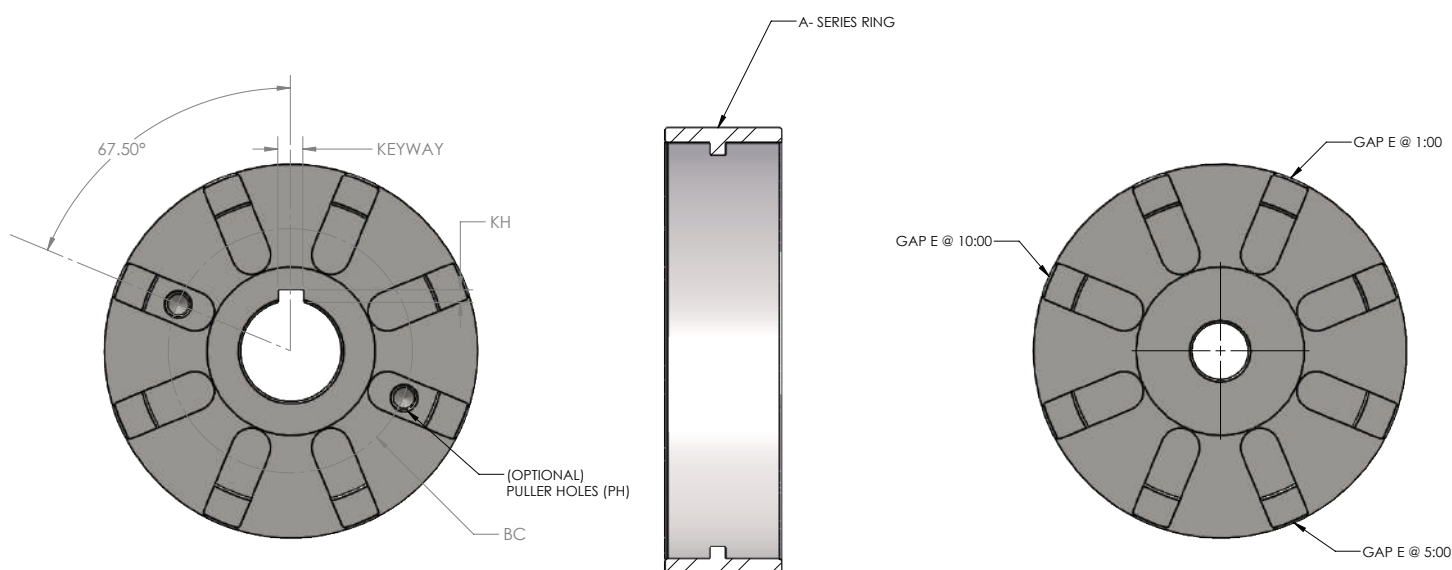
SIZE	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
D1	63.0	80.0	108.1	141.0	177.8	226.1	269.9	315.0	372.1	429.9	508.0
MAXIMUM BORE HUB	30.0	40.0	48.0	60.0	70.0	100.0	125.0	150.0	180.0	230.0	260.0
MAXIMUM BORE FLANGE HUB	32.0	45.0	60.0	70.0	85.0	100.0	125.0	145.0	180.0	200.0	260.0
MAX BORE HEAVY DUTY FLANGE	40.0	50.0	60.0	75.0	95.0	125.0	170.0	180.0	225.0	230.0	300.0
RSB	7.6	10.9	12.7	15.9	24.1	25.4	38.1	44.5	62.2	73.7	95.0
d1	26.8	34.0	45.1	54.1	61.0	78.0	94.0	116.1	136.1	156.6	196.9
d2	36.8	41.1	54.0	61.2	66.3	86.6	109.5	117.5	177.8	231.1	250.2
d3	34.7	44.5	59.1	73.7	84.8	105.4	125.5	150.9	176.3	201.7	252.5
D2	50.7	60.2	78.0	89.4	110.7	147.1	184.2	198.1	241.3	279.4	330.2
D3	52.5	63.6	85.3	114.4	149.1	189.2	235.0	266.4	325.1	383.2	454.7
D4 (HEAVY DUTY FLANGE USE HD)	57.9	73.0	88.9	106.7	127.0	168.3	184.2	210.2	254.0	301.6	355.6
HD	86.7	100.1	119.6	140.1	176.5	225.0	254.0	266.4	325.1	383.2	454.7
J1	34.7	44.5	60.6	75.2	86.4	106.9	127.0	152.4	177.8	203.2	254.0
J2	35.3	39.6	52.5	59.7	64.8	85.1	108.0	116.0	175.3	228.6	247.7
K	16.3	21.0	31.4	40.6	50.8	58.7	69.9	76.2	84.3	95.3	127.0
E (GAP)	1.57	1.57	1.57	1.57	4.78	4.78	4.78	4.78	4.78	5.56	2.54
STANDARD BODY LENGTH	76.2 88.9	76.2 88.9 95.3 101.6 114.3 127.0	76.2 88.9 95.3 101.6 127.0 139.7 190.5	88.9 95.3 127.0 133.4 139.7 177.8 184.2 190.5	101.6 127.0 152.4 177.8 241.3 247.7	127.0 152.4 177.8 184.2 247.7 254.0 304.8	177.8 TO 355.6	177.8 TO 457.2	190.5 TO 457.2	241.3 TO 457.2	241.3 TO 508.0

All dimensions are millimeter unless specified.

A-SERIES ALIGNMENT TOLERANCES

SIZE	A00	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A11
GAP E	1.19	1.57	1.57	1.57	1.57	4.78	4.78	4.78	4.78	4.78	5.56	2.54
E +	0.99	0.99	1.47	1.47	1.98	1.98	2.97	2.97	2.97	3.96	3.96	3.96
E -	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TIR	0.51	0.51	0.99	0.99	1.47	1.47	1.47	1.47	1.47	1.47	1.98	1.98
ANGULAR (DEGREE)	2°	2°	2°	2°	2°	1.3°	1.3°	1.3°	1°	1°	1°	1°

All dimensions are millimeter unless specified.



- ▲ 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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37	ProService®
38	Quick Selection Guide
39	Competitor Comparison
40	Fluid Resistance Chart
41	AGMA Service Factors

ONYXSHIELD™ A POWERFUL COMBINATION



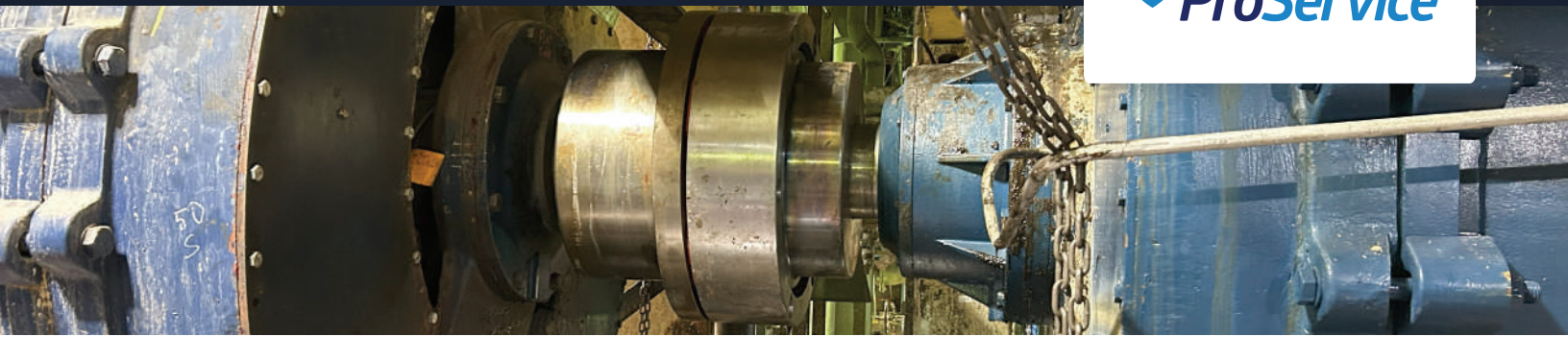
Looking for a cost-saving alternative to stainless steel?

Look no further than our OnyxShield™ couplings. Available for our complete line of couplings, OnyxShield™ provides corrosion and wear resistance and is suitable for corrosive applications.

BENEFITS OF ONYXSHIELD™ COUPLINGS

- ▲ Increased surface hardness
- ▲ Improved running wear performance
- ▲ Lower coefficient of friction
- ▲ Enhanced corrosion resistance
- ▲ Enhanced surface lubricity

For more information on how our OnyxShield™ couplings can optimize your operations visit www.ustsubaki.com/products/atra-flex/onyxshield



ProService® is a unique portfolio of lifecycle consultative services performed directly by Tsubaki's own engineers. It's an investment that proactively enhances your operations and establishes the technical basis necessary to achieve maximum value and reliability from your Tsubaki products and systems.

- ▲ Proactive partnership with the world's premier motion control solutions provider
- ▲ Reliable and predictable performance for all your Tsubaki products
- ▲ Coupling inspections and preventative maintenance
- ▲ Employee development and training programs
- ▲ Improved operational reliability
- ▲ Lower cost of ownership

THE PROSERVICE® LIFECYCLE



**Exclusive expertise,
tailored for your success.**

Elevate your systems reliability and reduce unplanned downtime with lifecycle expertise from Tsubaki ProService®. Unlock the full benefits of ProService® tailored to your needs.

For more information visit www.ustsubaki.com/support/proservice/

Coupling Selection Formula

INFORMATION NEEDED TO SIZE A COUPLING:

- ▲ Driver kW
- ▲ 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) $SF = F1 \times F2$ (Not to Exceed 4)

2. Determine kW/100 RPM as Follows:

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

3. Reference the appropriate insert table depending on coupling type and choose coupling size that has a higher kW/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) $SF = F1 \times F2$ (Not to Exceed 4)

2. Determine Torque as Follows:

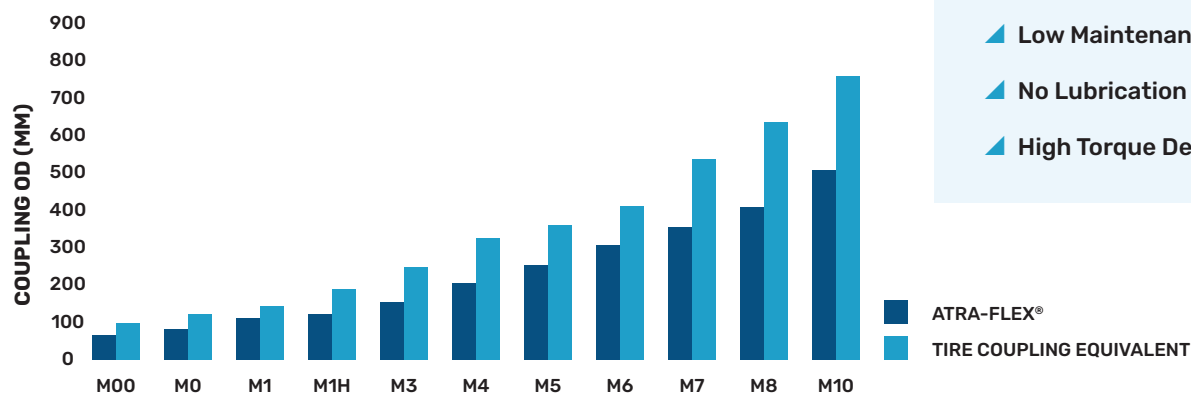
$$\text{Torque (Nm)} = \frac{kW \text{ Transmitted} \times 9550 \times SF}{RPM}$$

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.

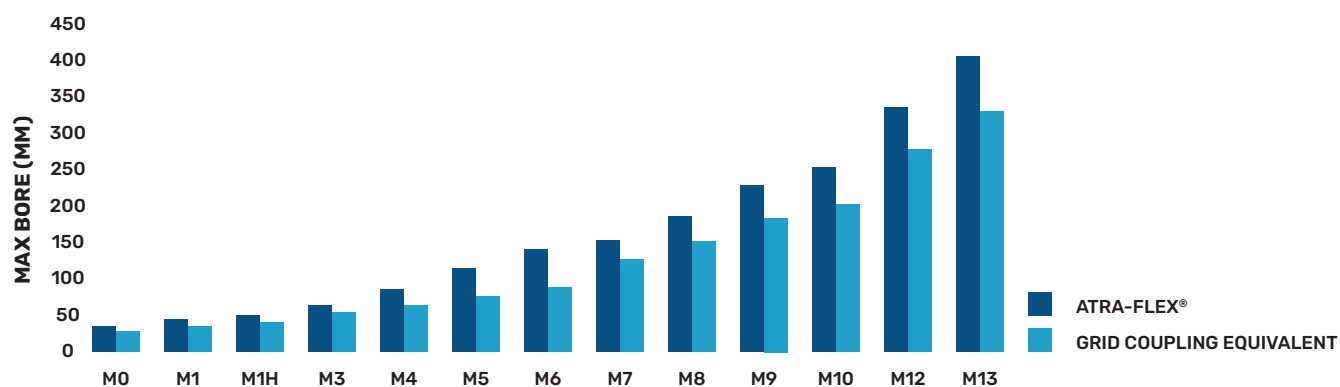
Atra-Flex® M-Series vs. Tire Coupling OD



Higher torque in a smaller footprint

Up to 40% Reduction in OD

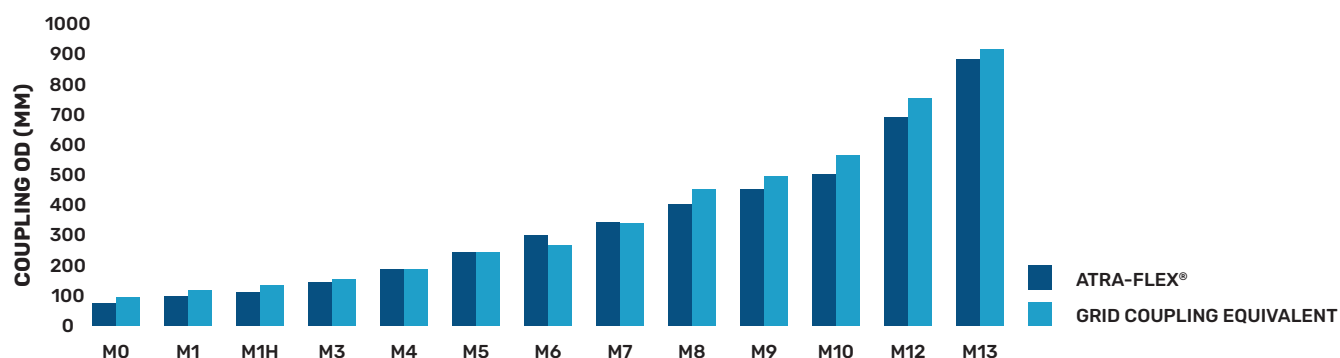
Atra-Flex® M-Series vs. Grid Coupling Max Bore



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 CHART

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 24°C. 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	2	Oxygen	1
Acetic Acid, 20%	4-3	Calcium Carbonate	2	Gasoline	2	Ozone	1
Acetic Anhydride	4	Calcium Chloride	1	Glycerine (Glycerol)	1	Palmitic Acid	1
Acetone	4	Calcium Hydroxide	1	Glycolic Acid	2	Pants	1-2
Acetyl Bromide	3-4	Calcium Nitrate	2	Greases	1-2	Perchloric Acid	4
Acetyl Chloride	3-4	Calcium Sulfate	2	Heptane	1	Perchloroethylene	3-4
Acetylene	2-3	Calcium Dioxide	1	Hexane	1	Petroleum	1-2
Adipic Acid	1	Carbon Disulfide	2-3	Hydrazine	4	Phenol (carbolic acid)	4
Aluminum Chloride	2	Carbon Monoxide	1	Hydrobromic Acid	2	Phosphoric Acid (dil.)	2-3
Aluminum Sulphate	2	Carbon Tetrachloride	3	Hydrocarbon Oil	1	Phosphoric Acid (conc.)	3
Aluminum Sulfide	2	Castor Oil	1-2	Hydrochloric Acid, 20%	2	Potassium Cyanide	1
Ammonia	2	Chlorine	2-3	Hydrofluoric Acid	2-3	Potassium Salts	2
Ammonium Acetate	3-4	Chloroacetic Acid	3-4	Hydrogen	1-2	Propane	2
Ammonium Carbonate	2	Chloroform	4	Hydrogen Peroxide	2	Propyl Alcohol	2-3
Ammonium Hydroxide	1-2	Chromic Acid	3-4	Hydrogen Sulfide	3-4	Propylene Glycol	2
Ammonium Nitrate	2	Chromium Potassium Sulfate	2	Hydrolodic Acid	2	Pydral Oil	4
Ammonium Persulfate	2	Citric Acid	2	Iodine Solution	1	SAE #10 Oil	1
Ammonium Sulfate	2	Cottonseed Oil	1	Isooctane	2	Seawater	1-2
Ammonium Sulfide	2	Cresol (meta)	4	Isopropyl Alcohol (Isopropanol)	2-3	Silicic Acid	2-1
Ammonium Thiocyanide	2	Cupric Chloride	1	Isopropyl Ether	2	Skylol Oil (500)	4
Amyl Acetate	4	Cupric Nitrate	2	JP-4 Oil	2-3	Silver Nitrate	2
Amyl Alcohol	3	Cupric Sulphate	2	Jp-5 & 6	4	Soap	2-3
Amyl Chloride	3	Cyclohexanone	4	Kerosene	2	Sodium Acetate	1-2
Aniline	4	Cyclohexane	2	Lactic Acid	2	Sodium Bicarbonate	2
Aniline Hydrochloride	4	Dibutyl Pthalate	3-4	Lead Acetate	2	Sodium Bisulfate	2
Animal Fats & Oils	2-3	Dibutyl Ether	2	Linseed Oil	2	Sodium Borate	2
Antimony Salts	2	Dichlorobenzene (Ortho)	3	Lubricating Oil	2	Sodium Carbonate	2
Aqua Regia	4	Dodecyl Mercaptan	2-3	Magnesium Hydroxide	1	Sodium Chlorate	2
Arsenic Salts	2-1	Diester Oil	2	Magnesium Salts	2	Sodium Chloride	2
ASTM Oil #1	1-2	Dimethyl Acetamide	4	Malaic Acid	3-4	Sodium Cyanide	2
ASTM Oil #2	2	Dimethyl Formamide	4	Mercury	1-2	Sodium Dichromate	2
ASTM Oil #3	2	DTE Oil (heavy, medium)	2	Methyl Alcohol (Methanol)	4	Sodium Ferrocyanide	2
ASTM Reference Fuel A	1	Ether	2-3	Methyl Ethyl Ketone	4	Sodium Fluoride	2
ASTM Reference Fuel B	2	Ethyl Acetate	4	Methylene Chloride	4	Sodium Hydrosulfite	2
Atlantic Oil	1	Ethyl Alcohol (Ethanol)	3	MIL-D-5605 Oil	3	Sodium Hydroxide, 45%	2
Barium Carbonate	2	Ethyl Bromide	3	MIL-L-7808	1-2	Sodium Nitrate	2
Barium Hydroxide	1	Ethyl Chloride	3	Mineral Oil	1	Sodium Silicate	1-2
Benzaldehyde	3-2	Ethylene Glycol	2	Mobil Artic Oil	1	Sodium Sulfate	2
Benzene	4	Esso #90 Lub Oil	1	Naphthalene	2	Sodium Sulfide	2
Benzene (Gasoline)(Aromatic)	2-3	Ferric Chloride	2	Natural Gas	2	Sodium Hypochlorite 5%	4
Benzoic Acid	2-3	Ferric Nitrate	2	Nickel Salts	3	Sperry Oil	2
Boric Acid	1	Ferrous Chloride	2	Nitric Acid	4	Steam	4
Bromine	2-3	Ferrous Sulfate	2	Nitrobenzene	4	Stoddard Solvent	1
Bunker Oil	1-2	Formaldehyde	3	Nitrogen	1	Styrene	2
Butane	1	Formic Acid	3-4	Oleic Acid	1-2	Sulfur Dioxide	2
Butyl Acetate	4	Freon, 12 or 113	1	Oxalic Acid (5%)	1	Sulfuric Acid 10-50%	3-4
Tannic Acid, 10%	1	Transformer Oil	2-3	Trisodium Phosphate	2	Water	2
Tartaric Acid	1	Trichloroacetic Acid	4	Turpentine	3	Xylene	3
Tin Salts	2	Trichloroethylene	4	Urca	2	Xylol	3-4
Titanium Salts	2	Tricresyl Phosphate	3-4	Varnish	2	Zinc Chloride	2
Toluene	4	Triethanol Amine	2	Vegetable	1	Zinc Sulfate	2

AGMA SERVICE FACTORS

TABLE 1 – 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
AERATOR	2.0	HAMMERMILL	1.75	AGGREGATE PROCESSING, CEMENT, MINING		Shear, Croppers.....	Refer to Factory
AGITATORS		LAUNDRY WASHER OR TUMBLER	2.0	KILNS; TUBE, ROD AND BALL MILLS		Sideguards.....	3.0
Vertical and Horizontal		LINE SHAFTS		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
BARGE HAUL PULLER	1.5	MACHINE TOOLS		Single Helical or Herringbone Gears.....	1.75	Soaking Pit Cover Drives	
BLOWERS		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
CAR DUMPERS	2.5	Main Drive.....	1.5	Dryer, Rotary.....	1.75	Unscramblers (Billet Bundle Busters).....	2.0
CAR PULLERS	1.5	MAN LIFTS	Not Approved	Grizzly.....	2.0	Wire Drawing Machinery.....	1.75
CLARIFIER OR CLASSIFIER	1.0	METAL FORMING MACHINES		Hammermill or Hog.....	1.75	OIL INDUSTRY	
COMPRESSORS		Continuous Caster.....	1.75	Tumbling Mill or Barrel.....	1.75	Chiller.....	1.25
Centrifugal.....	1.0	Draw Bench Carriage and Main Drive.....	2.0	BREWING AND DISTILLING		Oilwell Pumping (not over 150% peak torque).....	2.0
Rotary, Lobe or Vane.....	1.25	Extruder.....	2.0	Bottle and Can Filling Machines.....	1.0	Paraffin Filter Press.....	1.5
Rotary, Screw.....	1.0	Farming Machine and Forming Mills.....	2.0	Brew Kettle.....	1.0	Rotary Kiln.....	2.0
Reciprocating.....		Slitters.....	1.0	Cookers, Continuous Duty.....	1.25	PAPER MILLS	
Direct Connected.....	Refer to Factory	Wire Drawing or Flattening.....	1.75	Lauter Tub.....	1.5	Barker Auxiliary, Hydraulic.....	2.0
Without Flywheel.....	Refer to Factory	Wire Winder.....	1.5	Mash Tub.....	1.25	Barker, Mechanical.....	2.0
With Flywheel and Gear between Compressor		Coilers and Uncoilers.....	1.5	Scale Hopper, Frequent Peaks.....	1.75	Barking Drum	
and Prime Mover ☉		MIXERS (see Agitators)		CLAY WORKING INDUSTRY		L.S. shaft of reducer with final drive - Helical	
1 cylinder, single acting.....	3.0	Concrete.....	1.75	Brick Press, Briquette Machine, Clay Working		or Herringbone Gear.....	2.0
1 cylinder, double acting.....	3.0	Muller.....	1.5	Machine, Pug Mill.....	1.75	Machined Spur Gear.....	2.5
2 cylinders, single acting.....	3.0	PRESS, PRINTING		DREDGES		Cast Tooth Spur Gear.....	3.0
2 cylinders, double acting.....	3.0	PUG MILL	1.75	Cable Reel.....	1.75	Beater and Pulper.....	1.75
3 cylinders, single acting.....	3.0	PULVERIZERS		Conveyors.....	1.25	Bleachers, Coaters.....	1.0
3 cylinders, double acting.....	2.0	Hammermill and Hog.....	1.75	Cutter head, Jig Drive.....	2.0	Calender and Super Calender.....	1.75
4 or more cyl., single act.....	1.75	Roller.....	1.5	Maneuvering Winch.....	1.5	Chipper.....	2.5
4 or more cyl., double act.....	1.75	PUMPS		Pumps (uniform load).....	1.5	Converting Machine.....	1.25
CONVEYORS ☉		Boiler Feed.....	1.5	Screen Drive, Stacker.....	1.75	Couch.....	1.75
Apron, Assembly, Belt, Chain, Flight, Screw.....	1.0	Centrifugal—Constant Speed.....	1.0	Utility Winch.....	1.5	Cutter, Felt Whipper.....	2.0
Bucket.....	1.25	Frequent Speed Changes under Load.....	1.25	FOOD INDUSTRY		Cylinder.....	1.75
LiveRoll, Shaker and Reciprocating.....	3.0	Descaling, with accumulators.....	1.25	Beet Slicer.....	1.75	Dryer.....	1.75
CRANES AND HOIST ☉☉		Cear, Rotary, or Vane.....	1.25	Bottling, Can Filling Machine.....	1.0	Felt Stretcher.....	1.25
Main Hoist.....	1.7	Reciprocating, Plunger Piston		Cereal Cooker.....	1.25	Foundrinier.....	1.75
Skip Hoist.....	1.75	1 cyl., single or double act.....	3.0	Dough Mixer, Meat Grinder.....	1.75	Jordan.....	2.0
Slope.....	1.5	2 cyl., single acting.....	2.0	LUMBER		Log Haul.....	2.0
Bridge, Travel or Trolley.....	1.75	2 cyl., double acting.....	1.75	Band Resaw.....	1.5	Line Shaft.....	1.5
DYNAMOMETER	1.0	3 or more cylinders.....	1.5	Circular Resaw, Cut-Off.....	1.75	Press.....	1.75
ELEVATORS		Screw Pump, Progressing Cavity.....	1.25	Edger, Head Rig, Hog.....	2.0	Pulp Grinder.....	1.75
Bucket, Centrifugal Discharge.....	1.25	Vacuum Pump.....	1.25	Gang Saw (Reciprocating).....	Refer to Factory	Reel, Rewinder, Winder.....	1.5
Freight or Passenger.....	Not Approved	SCREENS		Log Haul.....	2.0	Stock Chest, Washer, Thickener.....	1.5
Gravity Discharge.....	1.25	Air Washing.....	1.0	Planer.....	1.75	Stock Pumps, Centrifugal	
ESCALATORS	Not Approved	Crizzly.....	2.0	Rolls, Non-Reversing.....	1.25	Constant Speed.....	1.0
EXCITER, GENERATOR	1.0	Rotary Coal or Sand.....	1.5	Rolls, Reversing.....	2.0	Frequent Speed Changes Under Load.....	1.25
EXTRUDER, PLASTIC	1.5	Vibrating.....	2.5	Sawdust Conveyor.....	1.25	Suction Roll.....	1.75
FANS		Water.....	1.0	Slab Conveyor.....	1.75	Vacuum Pumps.....	1.25
Centrifugal.....	1.0	SKI TOWS AND LIFTS	Not Approved	Sorting Table.....	1.5	RUBBER INDUSTRY	
Cooling Tower.....	2.0	STEERING GEAR	1.0	Trimmer.....	1.75	Calender.....	2.0
Forced Draft—Across the Line start.....	1.5	STOKER		METAL ROLLING MILLS ☉		Cracker, Plasticator.....	2.5
Forced Draft: Motor driven thru fluid		TIRE SHREDDER	1.50	Coilers (Up or Down) Cold Mills only.....	1.5	Extruder.....	1.75
or electric slip clutch.....	1.0	TUMBLING BARREL	1.75	Coilers (Up or Down) Hot Mills only.....	2.0	Intensive or Banbury Mixer.....	2.5
Gas Recirculating.....	1.5	WINCH, MANEUVERING		Coke Plants		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	WINDLASS	1.5	Door Opener.....	2.0	Three or four in line.....	2.0
Induced Draft without controls.....	2.0	WOOD WORKING MACHINERY		Pusher or Larry Car Traction Drive.....	3.0	Five or more in line.....	1.75
FEEDERS		WORK LIFT PLATFORMS	Not Approved	Continuous Caster.....	1.75	Tire Building Machine.....	2.5
Apron, Belt, Disc, Screw.....	1.0			Cold Mills—Strip Mills.....	Refer to Factory	Tire and Tube Press Opener (Peak Torque).....	1.0
Reciprocating.....	2.5			Temper Mills.....	Refer to Factory	Tuber, Strainer, Pelletizer.....	1.75
GENERATORS				Cooling Beds.....	1.5	Warming Mill	
Even Load.....	1.0			Drawbench.....	2.0	One or two Mills in line.....	2.0
Hoist or Railway Service.....	1.5			Feed Rolls—Blooming Mills.....	3.0	Three or more Mills in line.....	1.75
Welder Load.....	2.0			Furnace Pushers.....	2.0	Washer.....	2.5
				Hot and Cold Saws.....	2.0	SEWAGE DISPOSAL EQUIPMENT	

☉ For engine drives, refer to Table 2. 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 2 – 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 ☉				
TABLE 1 S.F.	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 2, first determine application service factor from Table 1. Use that factor to determine Engine S.F. from Table 2. When service factor from Table 1 is greater than 2.0, or where 1, 2, or 3 cylinder engines are involved, refer complete application details to engineering.

Strip or Sheet Mills.....	Refer to Factory	Strip or Sheet Mills.....	Refer to Factory
Reversing Blooming.....	Refer to Factory	Reversing Blooming.....	Refer to Factory
Slabbing Mills.....	Refer to Factory	Slabbing Mills.....	Refer to Factory
Edger Drives.....	Refer to Factory	Edger Drives.....	Refer to Factory
Ingot Cars.....	2.0	Ingot Cars.....	2.0
Manipulators.....	3.0	Manipulators.....	3.0
Merchant Mills.....	Refer to Factory	Merchant Mills.....	Refer to Factory
Mill Tables		Mill Tables	
Roughing Breakdown Mills.....	3.0	Roughing Breakdown Mills.....	3.0
Hot Bed or Transfer, non-reversing.....	1.5	Hot Bed or Transfer, non-reversing.....	1.5
Runout, reversing.....	3.0	Runout, reversing.....	3.0
Runout, non-reversing, non-plugging.....	2.0	Runout, non-reversing, non-plugging.....	2.0
Reel Drives.....	1.75	Reel Drives.....	1.75
Rod Mills.....	Refer to Factory	Rod Mills.....	Refer to Factory
Screw Down.....	2.0	Screw Down.....	2.0
Seamless Tube Mills		Seamless Tube Mills	
Piercer.....	3.0	Piercer.....	3.0
Thrust Block.....	2.0	Thrust Block.....	2.0
Tube Conveyor Rolls.....	2.0	Tube Conveyor Rolls.....	2.0
Reeler.....	2.0	Reeler.....	2.0
Kick Out.....	2.0	Kick Out.....	2.0

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