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# **FORM-FLEX<sup>®</sup>**

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# **FLEXIBLE DISC**

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# **COUPLINGS**

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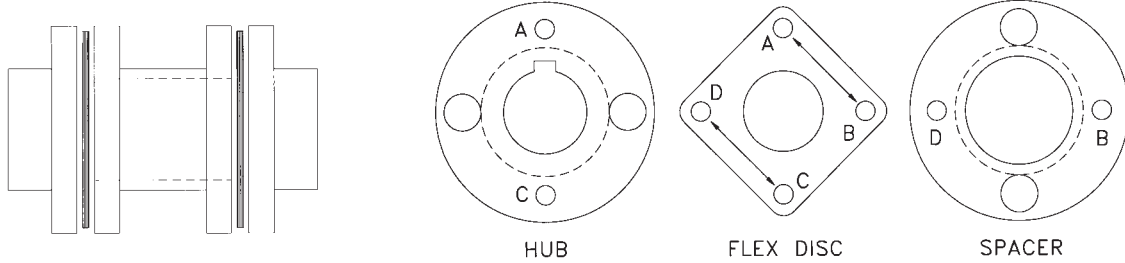
- **Long Life**
- **Low Maintenance**
- **Design Flexibility**



# FORM-FLEX METAL DISC FLEXIBLE COUPLINGS

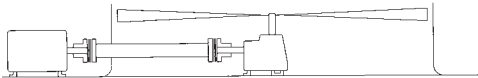
Form-Flex couplings transmit torque while compensating for angular, parallel and axial misalignment between two connected shafts. Flexible disc couplings minimize the misalignment forces on the connected equipment.

The Basic flex coupling consists of two hubs, a spacer and two flexible discs. The flex disc is an assembly of thin metal laminations. In figure shown below, flex disc holes A & C are bolted to the hub and holes B & D are bolted to the spacer. Torque is transmitted in direct tensions from A to B and from C to D through the flex disc. Misalignment is taken through bending in the link between the bolt holes.

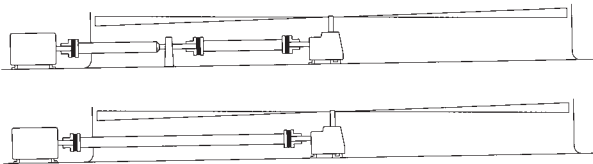


## COOLING TOWER DRIVES

Form-Flex metal disc couplings are widely used in cooling fan drive applications. Form-Flex 4 bolt disc couplings offer more misalignment capacity than any competing metal disc design.

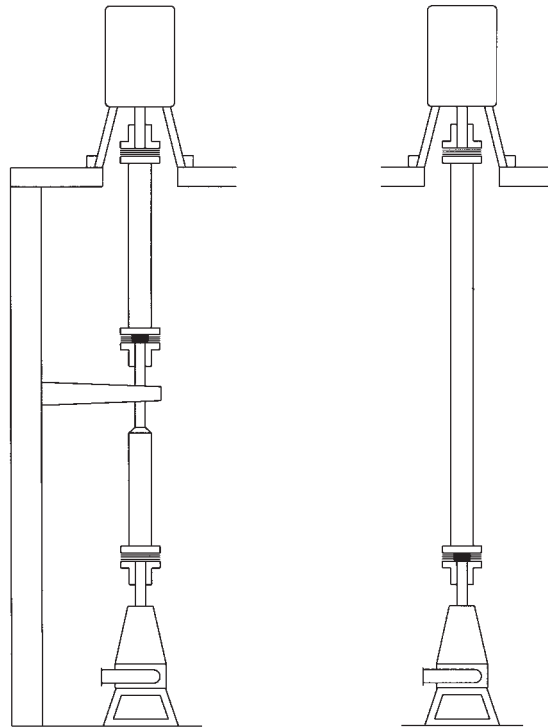


For smaller towers up to about 100 inches DBSE, TB Wood's offers steel and composite spacer tubing options. TrueTube composite torque tubes are lighter than steel and eliminate thermal growth and vibration problems.



Form-Flex composite floating shaft couplings are recommended as a replacement for older multi-section drivelines. Composite couplings can span up to 240 inches without high maintenance center support bearings.

## VERTICAL PUMP DRIVES



Form-Flex floating shaft couplings are a cost-effective, maintenance free alternative to cardan U-joints for vertical pump drivelines. Form-Flex couplings are available with either steel or composite spacer tubing. Composite spacer tubing can reduce total cost by eliminating the need for bearings and support structures.

# FORM-FLEX METAL DISC FLEXIBLE COUPLINGS



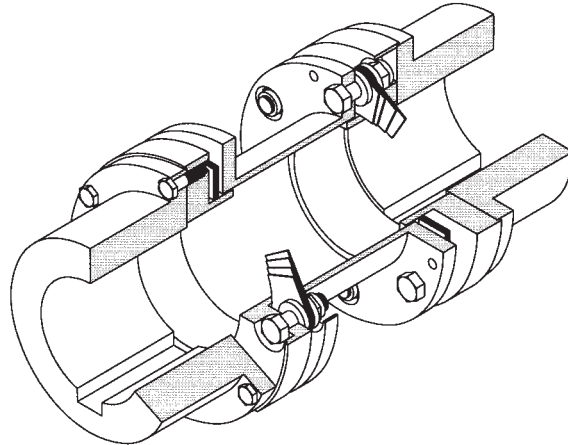
## COMPLETE PRODUCT OFFERING

- TORQUE CAPACITY TO 3175 HP/100 RPM
- CLOSE COUPLE, SPACER AND FLOATING SHAFT DESIGNS

## HIGH STRENGTH STEEL FASTENERS

- NO MOVING PARTS
- ZERO BACKLASH

## OVER 30 YEARS EXPERIENCE IN METAL DISC COUPLINGS



## HIGH STRENGTH STAINLESS STEEL FLEX DISCS

- HIGH TORSIONAL STIFFNESS
- NO LUBRICATION REQUIRED

## APPLICATIONS

- PUMPS
- COMPRESSORS
- PRINTING

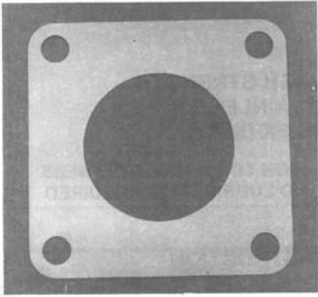
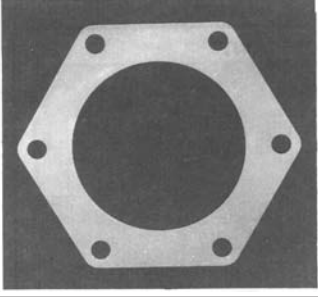
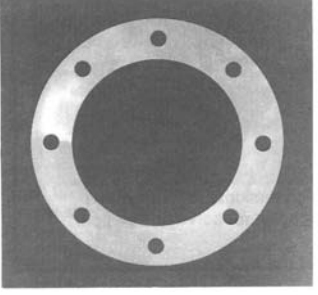
- FANS AND BLOWERS
- FOOD PROCESSING
- MACHINE TOOLS

## ALL METAL CONSTRUCTION

- WIDE TEMPERATURE RANGE
- AVAILABLE IN CARBON OR STAINLESS STEEL
- COMPOSITE MATERIALS NOW AVAILABLE

## TYPICAL APPLICATIONS

- **PUMPS**  
Form-Flex spacer and close couple designs are ideally suited for all types of pump applications
- **ENGINE DRIVEN EQUIPMENT**  
Form-Flex heavy duty FSH series couplings are commonly used to drive reciprocating compressors and other engine driven equipment
- **PRINTING**  
Form-Flex couplings' high torsional stiffness allows precise registration for high quality printing lineshaft applications
- **POSITIONING SYSTEMS**  
Zero backlash and high torsional stiffness make Form-Flex the first choice for servo and stepper drives

DISC STYLE	DESIGN FEATURES	WHERE USED
<b>4 BOLT (A, M SERIES)</b> 	Straight sided flex disc. 1 degree angular misalignment. Torque range: 35 LB. IN. to 30,240 LB. IN. Zero backlash. All machined steel construction. Stainless steel flex discs. Steel or stainless steel materials. Minimum reaction forces.	Ideal for general industrial applications with motor or turbine drivers and smooth to moderate load conditions. Low to moderate speed ranges. Serve or stepper driven positioning systems. Applications where misalignment may be a problem. 4 bolt designs offer the highest misalignment capacity of any metal disc design. Not recommended for engine driven applications.
<b>6 BOLT (B SERIES)</b> 	Straight sided disc. 0.7 degree angular misalignment. Torque range: 3050 LB. IN. to 233,000 LB. IN. Suitable for precision balancing. Zero backlash. All machined steel construction. Stainless steel flex discs. Steel or stainless steel materials.	Ideal for motor or turbine drivers with any load conditions. Use for reversing, reciprocating or other rough load conditions. May be used with industrial engines driving smooth loads. Moderate to high speed ranges and applications where dynamic balancing is required. Consider 6 bolt where 4 bolt size requires increasing coupling size to meet bore size requirements.
<b>8 BOLT (D, F, H SERIES)</b> 	Round disc design. 0.3 degree angular misalignment. Torque range: 9500 LB. IN. to 2,000,000 LB. IN. Zero backlash. Heavy duty cast construction. Alloy or stainless steel flex discs. Flywheel mount designs.	High torque-low speed applications. Industrial engines driving reciprocating equipment. Heavy-duty reversing applications. Custom designs for high torque applications.

### MATERIAL CLASSES

APPLIES TO 4 AND 6 BOLT DESIGNS

MATERIAL CLASS BY COMPONENT				DESCRIPTION
COUPLING	HUB	SPACER ASSY	REPAIR KIT	
A	A	A	A	Mild steel hubs and spacer, alloy steel hardware, 300 series SS flex disc
B	B	B	A	Zinc plated steel hubs and spacer, alloy steel hardware, 300 series SS flex disc
C	B	C	E	Zinc plated steel hubs and spacer, 300 series SS flex disc and hardware
E	E	E	E	All 300 series stainless steel construction

### PRODUCT FEATURES AND OPTIONS

FEATURE	AR, AK, AP AX, AY	BH, BP, BY DP*	BF	BA, DA*	A5, A7	B5	HFTH	HH, HSH, FSH
STANDARD BORE FIT	CLEARANCE	INTERFERENCE			CLEARANCE	INTERFERENCE		
SET SCREWS	STANDARD	OPTIONAL			STANDARD	OPTIONAL		
PULLER HOLES	OPTIONAL	STANDARD			OPTIONAL	STANDARD	OPTIONAL	
STANDARD FLEX DISCS	300 SERIES STAINLESS STEEL*						ALLOY STEEL	
BALANCE CLASS	AGMA 7	AGMA 8	AGMA 9	AGMA 7	N/A			N/A
DYNAMIC BALANCE	OPTIONAL				PER TBW COMMERCIAL STANDARD			N/A

\*Alloy steel flex disc is standard for DA and DP series. Stainless steel is optional.

# COUPLING/APPLICATION TYPES



COUPLING TYPE	TYPICAL APPLICATIONS	PAGES		
		SERIES	PAGE	
<b>SINGLE FLEX</b>	<p>Single flexing couplings compensate for angular and axial misalignment only. Single couplings should only be used in a three bearing system with a self-aligning bearing as shown in the illustration.</p> <p>Single couplings may also be used in pairs to support a clutch, transducer or other system component. These arrangements are double flexing and must be used with two fully supported shafts as described below.</p>		AR	F5-12
			BH	F5-13
<b>CLOSE COUPLE DOUBLE FLEX</b>	<p>Close couple designs accommodate angular, parallel and axial misalignment types where two fully supported shafts are located very close together. Close shaft separations are generally in the range of 1/8 to 2 inches.</p>		AX	F5-15
			AA	F5-16
			AY	F5-17
			BY	F5-18
			BA	F5-19
			DA	F5-19
<b>SPACER COUPLINGS DOUBLE FLEX</b>	<p>Spacer couplings are used to connect fully supported shafts with wider separations than can be reached with a close couple design. Spacer couplings allow room for installation and maintenance without moving the connected equipment. Shaft separations are generally in the range of 3 to 12 inches. These couplings accommodate angular, parallel and axial misalignment.</p>		AK	F5-20
			AP	F5-20
			BP	F5-21
			BF	F5-23
			DP	F5-22
			HSB	F5-24
			FSH	F5-25
<b>FLOATING SHAFT COUPLINGS</b>	<p>Floating shaft couplings are spacer style couplings which are designed to connect widely separated shafts. The coupling spacers are fabricated. Both steel and TrueTube composite tubing options are available.</p> <p>Semi-floating shaft couplings are a special single flex version of the floating shaft coupling. These may be used alone for some applications or in combination with floating shaft couplings and pillow block bearings to span long distances.</p> <p>Composite floating shaft couplings should be considered as an alternative to multiple span applications with center bearings.</p>		A5	F5-26
			A7	F5-27
			B5	F5-28
			HFTB	F5-29
			C/S	F5-30, 31
<b>MICRO COUPLINGS DOUBLE FLEX</b>	<p>Form-Flex Micro Couplings are used for precision low torque applications. They are a smaller version of our 4 bolt line. Micro Couplings are constructed of aluminum for reduced inertia. Close couple and spacer designs are available.</p>		MA	F5-32
			MB	F5-32
			MC	F5-32



# SELECTING AND ORDERING FORM-FLEX COUPLINGS

1) Select correct service factor from the chart below.

2) Calculate HP @ 100 or Design Torque (in lbs).

$$\text{HP @ 100} = \frac{\text{HP} \times \text{service factor} \times 100}{\text{coupling RPM}}$$

**OR**

$$\text{Design Torque (in lbs)} = \frac{63025 \times \text{HP} \times \text{service factor}}{\text{coupling RPM}}$$

**OR**

$$\text{Design Torque} = \text{Torque (in lbs)} \times \text{Service Factor}$$

3) Compare this to the HP @100 column or the Rated Torque column.

4) Check other limiting factors such as bores and overall dimensions.

5) Standard Four or Six bolt couplings can be ordered as hubs and a center assembly.  
All other couplings should be ordered by description.

## SERVICE FACTOR TABLE

These service factors assume a smooth motor or turbine type driver. The adders listed for other driver types must be added to the service factor shown for the driven equipment.

ADDERS FOR DRIVER TYPE		DRIVEN EQUIPMENT	S.F.	DRIVEN EQUIPMENT	S.F.	DRIVEN EQUIPMENT	S.F.
DRIVER	ADD	CONVEYORS-Uniform load (Cont.)		FANS		PAPER MILLS-(Cont.)	
TURBINE	0	Flight	1.25	Centrifugal	1.00	Couch	1.75
AC MOTORS		Oven	1.50	Cooling Tower	2.00	Cutters, Platers	2.00
With Soft Start	0	Screw	1.25	FEEDERS		Cylinders	1.75
NEMA A or B	0	CONVEYORS-Non-Uniform Load		Apron	1.25	Dryers	1.75
NEMA C or D	1	Apron	1.50	Belt	1.25	Felt Stretchers	1.25
DC MOTORS		Assembly	1.25	Disc	1.25	Felt Whipper	2.00
Shunt Type	0	Belt	1.25	Reciprocating	2.50	Presses	2.00
Series or Compound	1	Bucket	1.50	Screw	1.25	Reel	1.50
I/C ENGINES		Chain	1.50	FOOD INDUSTRY		Stock Chests	1.50
8 or More Cylinders	1	Flight	1.50	Cereal Cookers	1.25	Suction Roll	1.75
4-6 Cylinders	1.5	Oven	1.50	Dough Mixers	1.75	Washers and Thickeners	1.50
1-3 Cylinders	2	Reciprocating	2.50	Meat Grinders	1.75	Winders	1.50
		Screw	1.50	Slicers	1.75	PRINTING PRESSES	1.50
DRIVEN EQUIPMENT	S.F.	Shaker	2.50	LUMBER INDUSTRY		PUMPS	
AGITATORS		CRANES AND HOISTS		Barkers-Drum Type	2.00	Centrifugal	1.00
Pure Liquids	1.00	Main Cranes	2.00	Edger Feeders	2.00	Reciprocating	
Liquids and Solids	1.25	Reversing	2.00	Live Rolls	2.00	Double Acting	2.00
Liquids-Variable Density	1.25	Skip Hoists	1.75	Log Haul	2.00	Single Acting 1-2 Cylinders	2.25
BLOWERS		Trolley Drive	1.75	Off Bearing Rolls	2.00	Single Acting 3+ Cylinders	1.75
Centrifugal	1.00	Bridge Drive	1.75	Planers	1.75	Rotary-Gear, Lobe, Vane	1.50
Lobe	1.50	Slope	1.50	Slab Conveyors	1.50	TEXTILE INDUSTRY	
Vane	1.25	DREDGES		Sorting Table	1.50	Batchers	1.25
BRIQUETTER MACHINE	1.00	Cable Reels	1.75	Trimmer Feed	1.75	Calenders	1.75
CAN FILLING MACHINE	1.00	Conveyors	1.50	MACHINE TOOLS		Card Machines	1.50
COMPRESSORS		Maneuvering Winches	1.75	Bending Roll	2.00	Cloth Finishing Machines	1.50
Centrifugal	1.25	Pumps	1.75	Plate Planer	1.50	Dry Cans	1.75
Lobe	1.50	Screen Drives	1.75	Spindle Drives	1.50	Dryers	1.50
Reciprocating	C/F	Stracers	1.75	Table/Axis Drives	1.25	Dyeing Machinery	1.25
CONVEYORS-Uniform Load		Utility Winches	1.50	Tapping Machines	2.50	Looms	1.50
Apron	1.25	ELEVATORS		PAPER MILLS		Mangles	1.25
Assembly	1.00	Bucket	1.75	Beater & Pulper	1.75	Nappers	1.25
Belt	1.00	Centrifugal Discharge	1.50	Bleacher	1.00	Soapers	1.25
Bucket	1.25	Freight	2.00	Calendars	2.00	Spinners	1.50
Chain	1.25	Gravity Discharge	1.50	Converting Machines	1.50	Tinter Frames	1.50

# COUPLING SELECTION GUIDE



- 1) CONSULT FACTORY FOR APPLICATIONS IN SHADED AREAS.
- 2) TORQUE RATINGS MAY VARY BY COUPLING SERIES.
- 3) USE THE 1.0 SERVICE FACTOR COLUMN IF A SERVICE FACTOR WAS USED IN THE HP/100 RPM CALCULATION.

TYPICAL APPLICATION CONDITIONS						
SMOOTH MOTOR OR TURBINE DRIVEN	STEADY MOTOR OR TURBINE DRIVEN	MODERATE MOTOR OR TURBINE DRIVEN	MEDIUM MOTOR OR TURBINE DRIVEN	HEAVY-HIGH TQ. MOTOR OR ENGINE DRIVEN	EXTRA HEAVY ENGINE DRIVEN	EXTREMELY HEAVY ENGINE DRIVEN
SOFT START WITH STEADY LOAD	AVERAGE STARTING LOADS AND SLIGHT TORQUE VARIATIONS	ABOVE AVERAGE STARTING LOADS AND MODERATE LOAD VARIATIONS	HIGH STARTING TORQUES AND MEDIUM TO HEAVY LOAD VARIATIONS	MILD SHOCK LOADING ENGINES. DRIVING SMOOTH LOADS. EXTREME RELIABILITY	HEAVY SHOCK LOADING OR LIGHT REVERSING	EXTREME SHOCK LOADING. FREQUENT WIDE TORQUE VARIATIONS.

TYPE/SIZE	RATED TORQUE LB*IN	MAX RPM	O.D.	MAX BORE	SERVICE FACTOR										
					1.0	1.5	2.0	2.5	3.0	3.25	4.0				
					RATED HP/100 RPM AT SERVICE FACTOR SHOWN										
<b>MICRO 4 BOLT</b>	01	9	20,000	1.02	0.38	0.01	0.01	0.01	<b>NOT RECOMMENDED FOR THESE APPLICATIONS</b>						
	02	17	20,000	1.26	0.59	0.03	0.02	0.01							
	03	35	20,000	1.65	0.79	0.06	0.04	0.03							
	04	87	20,000	2.24	0.79	0.14	0.09	0.07							
<b>A SERIES 4 BOLT</b>	05	300	8,500	2.65	0.87	0.48	0.32	0.24					0.19		
	10	800	7,500	3.19	1.25	1.27	0.85	0.63					0.51		
	15	1,575	6,700	3.65	1.37	2.50	1.67	1.25					1.00		
	20	2,200	6,200	4.08	1.62	3.49	2.33	1.75					1.40		
	25	3,800	5,500	4.95	2.00	6.03	4.02	3.02					2.41		
	30	6,930	5,000	5.63	2.37	11.00	7.33	5.50					4.40		
	35	11,340	4,400	6.63	2.87	18.00	12.00	9.00	7.20						
	40	18,270	4,000	7.64	3.25	29.00	19.33	14.50	11.60						
	45	30,240	3,700	8.43	3.75	48.00	32.00	24.00	19.20						
<b>B SERIES 6 BOLT</b>	33	3,050	17,400	4.69	2.50	4.84	3.23	2.42	1.94	1.61	1.49				
	38	6,860	14,300	5.87	3.25	10.89	7.26	5.44	4.36	3.63	3.35				
	43	13,500	12,700	6.7	3.75	21.43	14.29	10.71	8.57	7.14	6.59				
	48	18,400	11,000	7.5	4.38	29.21	19.47	14.60	11.68	9.74	8.99				
	53	24,000	10,700	7.87	4.50	38.10	25.40	19.05	15.24	12.70	11.72				
	58	41,000	9,475	9	5.13	65.08	43.39	32.54	26.03	21.69	20.02				
	63	48,000	8,590	10	5.50	76.19	50.79	38.10	30.48	25.40	23.44				
	68	72,000	7,800	10.75	6.00	114.29	76.19	57.14	45.71	38.10	35.16				
	73	125,000	6,740	12.5	6.50	198.41	132.28	99.21	79.37	66.14	61.05				
	78	233,000	5,600	15.05	7.50	369.84	246.56	184.92	147.94	123.28	113.80				
<b>D SERIES 8 BOLT</b>	22	9,500	3,800	6.00	2.25	15.08	10.05	7.54	6.03	5.03	4.64	3.77			
	26	16,000	3,300	6.88	2.63	25.40	16.93	12.70	10.16	8.47	7.81	6.35			
	31	24,000	2,800	8.13	3.13	38.10	25.40	19.05	15.24	12.70	11.72	9.52			
	35	44,000	2,600	9.13	3.63	69.84	46.56	34.92	27.94	23.28	21.49	17.46			
	37	60,000	2,500	10.06	3.75	95.24	63.49	47.62	38.10	31.75	29.30	23.81			
	42	73,000	2,400	11.00	4.50	115.87	77.25	57.94	46.35	38.62	35.65	28.97			
	45	99,000	2,250	11.88	4.75	157.14	104.76	78.57	62.86	52.38	48.35	39.29			
	50	128,000	2,000	13.44	5.50	203.17	135.45	101.59	81.27	67.72	62.52	50.79			
	55	189,000	1,800	15.00	6.25	300.00	200.00	150.00	120.00	100.00	92.31	75.00			
	60	261,000	1,600	16.75	7.12	414.29	276.19	207.14	165.71	138.10	127.47	103.57			
	70	415,000	1,400	18.94	7.87	658.73	439.15	329.37	263.49	219.58	202.69	164.68			
	75	533,000	1,300	20.63	8.75	846.03	564.02	423.02	338.41	282.01	260.32	211.51			
	80	685,000	1,200	22.38	9.12	1,087.30	724.87	543.65	434.92	362.43	334.55	271.83			
	85	829,000	1,100	23.75	9.62	1,315.87	877.25	657.94	526.35	438.62	404.88	328.97			
	92	1,040,000	1,000	25.75	11.00	1,650.79	1,100.53	825.40	660.32	550.26	507.94	412.70			
105	1,250,000	1,000	29.25	12.00	1,984.13	1,322.75	992.06	793.65	661.38	610.50	496.03				
160	2,000,000	900	33.50	17.00	3,174.60	2,116.40	1,587.30	1,269.84	1,058.20	976.80	793.65				

CONSULT WOOD'S SAN MARCOS



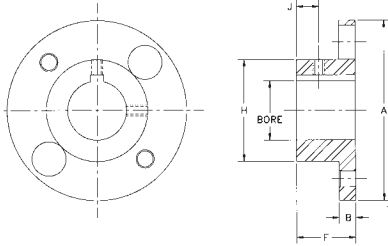
# 4 BOLT COUPLING HUB OPTIONS

TB Wood's

TO ORDER A COMPLETE COUPLING, ORDER TWO HUBS OF ANY TYPE AND A COUPLING (SPACER) SUB ASSEMBLY FOR THE REQUIRED COUPLING TYPE. ALL DIMENSIONS SHOWN IN INCHES.

## AJ STANDARD HUBS

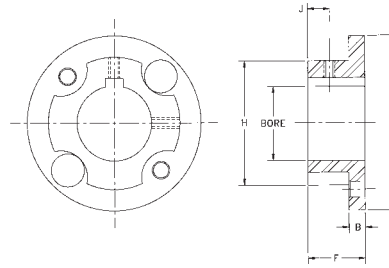
PROVIDED WITH STRAIGHT BORE AND KEYWAY  
SOLID HUBS AVAILABLE FROM STOCK



SIZE	MAX BORE	A	B	F	H	J	STD SET SCREW SIZE
05	0.87	2.65	0.25	1.00	1.30	0.38	10-24 UNC
10	1.25	3.19	0.30	1.00	1.80	0.38	1/4-20 UNC
15	1.37	3.65	0.35	1.13	2.00	0.41	1/4-20 UNC
20	1.62	4.08	0.35	1.32	2.40	0.50	1/4-20 UNC
25	2.00	4.95	0.45	1.62	2.80	0.63	5/16-18 UNC
30	2.38	5.63	0.55	1.88	3.30	0.69	5/16-18 UNC
35	2.88	6.63	0.55	2.25	4.15	0.88	1/2-13 UNC
40	3.25	7.64	0.65	2.50	4.65	0.94	1/2-13 UNC
45	3.75	8.43	0.65	3.00	5.40	1.20	1/2-13 UNC

## AZ OVERSIZE BORE HUBS

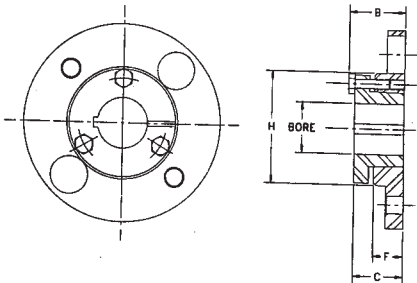
PROVIDED WITH STRAIGHT BORE AND KEYWAY



SIZE	MAX BORE	A	B	F	H	J	STD SET SCREW SIZE
05	1.13	2.65	0.25	1.00	1.88	0.38	10-24 UNC
10	1.63	3.19	0.30	1.00	2.37	0.38	1/4-20 UNC
15	1.88	3.65	0.35	1.13	2.69	0.41	1/4-20 UNC
20	2.13	4.08	0.35	1.32	3.13	0.50	1/4-20 UNC
25	2.38	4.95	0.45	1.62	3.75	0.63	5/16-18 UNC
30	2.88	5.63	0.55	1.88	4.25	0.69	5/16-18 UNC
35	3.75	6.63	0.55	2.25	5.25	0.88	1/2-13 UNC
40	4.00	7.64	0.65	2.50	6.02	0.94	1/2-13 UNC
45	4.63	8.43	0.65	3.00	6.75	1.20	1/2-13 UNC

## QD BORED HUBS

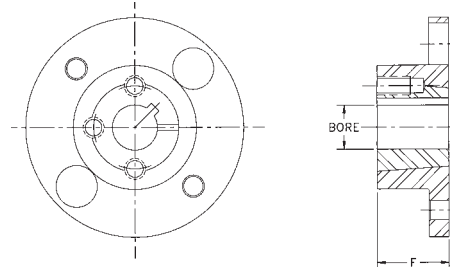
MATERIAL CLASS A OR B ONLY - CLASS A AVAILABLE FROM STOCK



CPLG SIZE	BUSH. SIZE	BUSH. TQ. LB*IN	MAX BORE	B	C	F	H	BOLT SIZE UNC
15	JA	1000	1-1/4	1.17	1.00	.56	2.00	#10
20	JA	1000	1-1/4	1.17	1.00	.56	2.40	#10
25	SH	3500	1-11/16	1.50	1.25	.75	2.80	1/4
30	SD	5000	2	2.06	1.81	1.25	3.30	1/4
35	SK	7000	2-5/8	2.19	1.87	1.25	4.15	5/16
40	SF	11000	2-15/16	2.38	2.06	1.37	4.65	3/8

## HUBS FOR TAPER LOCK BUSHINGS

AVAILABLE MTO ONLY



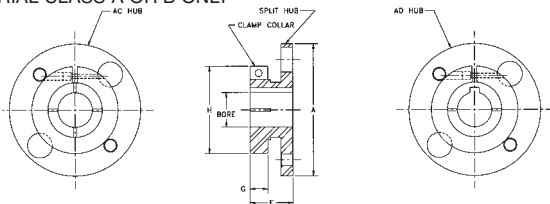
CPLG SIZE	REGULAR MOUNT				REVERSE MOUNT			
	BUSH SIZE	BUSH TQ LB*IN	MAX BORE	F	BUSH SIZE	BUSH TQ LB*IN	MAX BORE	F
15	N/A	...	...	...	1108	1300	1.12	0.87
20	1108	1300	1.12	0.87	1215	3550	1.25	1.50
25	1215	3550	1.25	1.50	1310	3850	1.37	1.00
30	1310	3850	1.37	1.00	1615	4300	1.62	1.50
35	2012	7150	2.00	1.25	2517	11600	2.50	1.75
40	2525	11300	2.50	2.50	2525	11300	2.50	2.50

## AC/AD CLAMPING HUBS

AC HUBS PROVIDED WITHOUT KEYWAY

AD HUBS PROVIDED WITH KEYWAY

MATERIAL CLASS A OR B ONLY

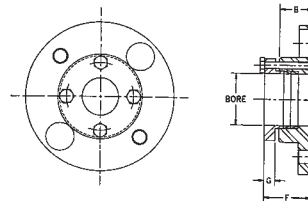


SIZE	MAX BORE		A	F	G	H	SCREW SIZE
	AC	AD					
05	1.00	0.87	2.65	1.13	.50	2.06	1/4-20 UNC
10	1.00	0.87	3.19	1.18	.50	2.06	1/4-20 UNC
	1.50	1.25		1.36	.69	2.75	5/16-18 UNC
15	1.00	0.87	3.65	1.27	.50	2.06	1/4-20 UNC
	1.75	1.37		1.46	.69	3.00	5/16-18 UNC
20	1.31	1.00	4.08	1.32	.55	2.38	1/4-20 UNC
	2.12	1.62		1.52	.75	3.50	3/8-16 UNC
25	2.13	1.62	4.95	1.62	.64	3.50	5/16-18 UNC
	2.50	1.87		1.86	.88	4.00	3/8-16 UNC

## AL LOCK ELEMENT HUBS

THESE HUBS USE RINGFEDER TAPERED LOCKING ELEMENTS

MATERIAL CLASS A OR B ONLY



SIZE	HUB TYPE	BORE SIZE-mm		B	F	G	SCREW SIZE
		MIN	MAX				
05	AJ	6	13	1.00	1.32	.32	10-32 UNF
	AZ	14	19	1.00	1.42	.42	1/4-28 UNF
10	AJ	12	18	1.00	1.42	.42	1/4-28 UNF
	AZ	19	30	1.00	1.42	.42	1/4-28 UNF
15	AJ	12	22	1.13	1.55	.42	1/4-28 UNF
	AZ	24	35	1.13	1.55	.42	1/4-28 UNF
20	AJ	22	30	1.32	1.78	.42	1/4-28 UNF
	AZ	32	42	1.32	1.83	.51	5/16-24 UNF
25	AJ	22	32	1.63	2.05	.42	1/4-28 UNF
	AZ	35	50	1.63	2.23	.60	3/8-24 UNF

NOTE: AC and AL Hubs do not carry full torque capacity. Please consult engineering.

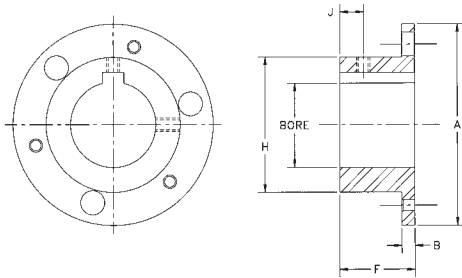


# COUPLING HUB OPTIONS



## 6 BOLT COUPLING HUBS

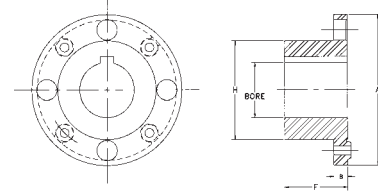
BH SERIES—USED ON BH, BP, B5, BY SERIES  
 PROVIDED WITH STRAIGHT BORE AND KEYWAY  
 INTERFERENCE FIT WITHOUT SETSCREWS IS RECOMMENDED



SIZE	MAX BORE	A	B	F	H	J	OPTIONAL SET SCREW SIZE
33	2.25	4.69	0.30	1.75	3.14	0.88	1/4-20 UNC
38	3.00	5.87	0.35	2.25	4.13	1.13	3/8-16 UNC
43	3.25	6.70	0.42	2.50	4.63	1.25	3/8-16 UNC
48	3.75	7.50	0.40	2.75	5.40	1.50	1/2-13 UNC
53	3.88	7.87	0.55	2.88	5.65	1.44	1/2-13 UNC
58	4.25	9.00	0.65	3.25	6.22	1.63	1/2-13 UNC
63	4.88	10.00	0.65	3.38	7.14	1.69	3/4-10 UNC
68	5.00	10.75	0.75	3.75	7.33	1.88	3/4-10 UNC
73	5.25	12.50	1.00	5.13	7.80	2.50	3/4-10 UNC
78	6.50	15.05	1.15	6.38	9.50	3.12	3/4-10 UNC

## 8 BOLT COUPLING HUBS

Dxx-3 CAST IRON MATERIAL, Dxx-3ST CAST STEEL MATERIAL  
 USED ON HH, HSH, FSH, HFTH SERIES  
 INTERFERENCE FIT WITHOUT SETSCREWS IS RECOMMENDED



SIZE	MAX BORE		A	B	F	H
	IRON	STEEL				
22	2.25	—	6.00	0.53	2.50	3.88
26	2.62	—	6.87	0.62	2.88	4.50
31	3.12	—	8.12	0.69	3.38	5.50
35	3.62	—	9.12	0.88	3.75	6.12
37	3.75	—	10.06	0.88	4.00	6.50
42	4.25	4.50	11.00	1.00	4.25	7.00
45	4.50	4.75	11.87	1.13	4.50	7.43
50	5.12	5.50	13.43	1.25	5.00	8.38
55	5.62	6.25	15.00	1.25	5.50	9.50
60	6.50	7.12	16.75	1.44	6.25	10.50
70	7.00	7.87	18.93	1.75	7.00	11.75
75	7.75	8.75	20.62	1.75	7.25	13.00
80	8.00	9.12	22.37	2.09	7.75	13.75
85	8.50	9.62	23.75	2.13	8.25	14.50
92	10.00	11.00	25.75	2.62	9.00	15.87

# FORM-FLEX DISC IDENTIFICATION CHART

ALL DIMENSIONS ARE ROUNDED TO THE NEAREST FRACTIONAL SIZE FOR IDENTIFICATION PURPOSES. NO TOLERANCES ARE SPECIFIED OR IMPLIED.  
 DISC SET THICKNESS VARIES FOR TYPE BA AND DA

4 BOLT DISCS	SIZE	WIDTH	I.D.	HOLE DIA	B.C. DIA	CHORD	DISC SET THICKNESS
		5	1-13/16	1	1/4	1-7/8	1-5/16
	10	2-3/16	1-3/16	1/4	2-3/8	1-5/8	0.09
	15	2-9/16	1-1/4	5/16	2-5/8	1-7/8	0.12
	20	2-13/16	1-5/8	5/16	3-1/8	2-3/16	0.14
	25	3-9/16	1-3/4	7/16	3-3/4	2-5/8	0.15
	30	4	2-1/16	1/2	4-1/4	3	0.18
	35	4-3/4	2-3/4	1/2	5-1/4	3-3/4	0.28
	40	5-1/2	3	5/8	6	4-1/4	0.30
	45	6-1/16	3-1/2	5/8	6-3/4	4-3/4	0.40
	50	7	4	3/4	7-3/4	5-1/2	0.43
	55	7-3/4	4-1/4	1	8-1/2	6	0.51
6 BOLT DISCS	SIZE	WIDTH	I.D.	HOLE DIA	B.C. DIA	CHORD	DISC SET THICKNESS
		33	3-3/4	2-3/4	1/4	3-3/4	1-7/8
	38	4-13/16	3-9/16	5/16	4-7/8	2-7/16	0.13
	43	5-11/16	3-15/16	7/16	5-9/16	2-7/8	0.16
	48	6-3/8	4-5/8	7/16	6-3/8	3-3/16	0.19
	53	6-3/4	4-3/4	1/2	6-5/8	3-5/16	0.24
	58	7-3/4	5-1/4	5/8	7-7/16	3-3/4	0.25
	63	8-1/2	6	5/8	8-3/8	4-3/16	0.30
	68	9-1/4	6-1/4	3/4	9-15/16	5	0.34
8 BOLT DISCS	SIZE	WIDTH	I.D.	HOLE DIA	B.C. DIA	CHORD	DISC SET THICKNESS
		22	5-5/8	3-7/8	5/16	4-3/4	1-13/16
	26	6-9/16	4-7/16	13/32	5-1/2	2-1/8	0.23
	31	7-3/4	5-1/4	15/32	6-1/2	2-1/2	0.25
	35	8-5/8	5-3/4	17/32	7-1/4	2-3/4	0.29
	37	9-5/8	6-5/16	5/8	8	3-1/16	0.31
	42	10-1/2	6-3/4	11/16	8-5/8	3-5/16	0.31
	45	11-1/4	7-1/4	3/4	9-1/4	3-1/2	0.37
	50	12-13/16	8-1/2	7/8	10-1/2	4	0.46
	55	14-3/8	9	1	11-3/4	4-1/2	0.54
	60	15-15/16	9-15/16	1-1/8	13	5	0.59
	70	18-8	11-1/8	1-5/16	14-3/4	5-5/8	0.78
	75	19-3/4	12	1-7/16	16	6-1/8	0.80
	80	21-7/16	13-1/8	1-9/16	17-3/8	6-5/8	0.81
	85	22-7/8	14	1-3/4	18-1/2	7-1/8	0.87
	92	24-7/8	15	1-7/8	20	7-5/8	1.00

## INDUSTRY STANDARDS REFERENCED

AGMA 9002-A86—BORES AND KEYWAYS FOR FLEXIBLE COUPLINGS

AGMA 9000-C90—FLEXIBLE COUPLINGS – POTENTIAL UNBALANCED CLASSIFICATION

AGMA 514.02—LOAD CLASSIFICATION AND SERVICE FACTORS FOR FLEXIBLE COUPLINGS

API610—CENTRIFUGAL PUMPS FOR GENERAL REFINERY SERVICE, 7th Edition—BF and BP series meet the requirements of API610, 7th Edition when supplied with interference fit bores. Other coupling series can be altered to comply with API610.

NEMA MG1-14.37 AND MG1-21.81—All Form-Flex metal disc couplings meet these standards without limited end float devices

Certain tables and data in this catalog were extracted from the reference AGMA standards with the permission of the publisher, the American Gear Manufacturers Association, 1901 North Meyer Drive, Arlington, VA 22209.

## MATERIAL CLASSES APPLICABLE TO 4 AND 6 BOLT DESIGNS

CLASS A—	Mild steel hubs and spacer, alloy steel hardware, 300 series stainless steel flex discs.
CLASS B—	Zinc plated mild steel hubs and spacer, alloy steel hardware, 300 series stainless steel flex discs.
CLASS C—	Zinc plated mild steel hubs and spacer, 300 series stainless steel hardware and flex discs.
CLASS E—	All 300 series stainless steel construction.

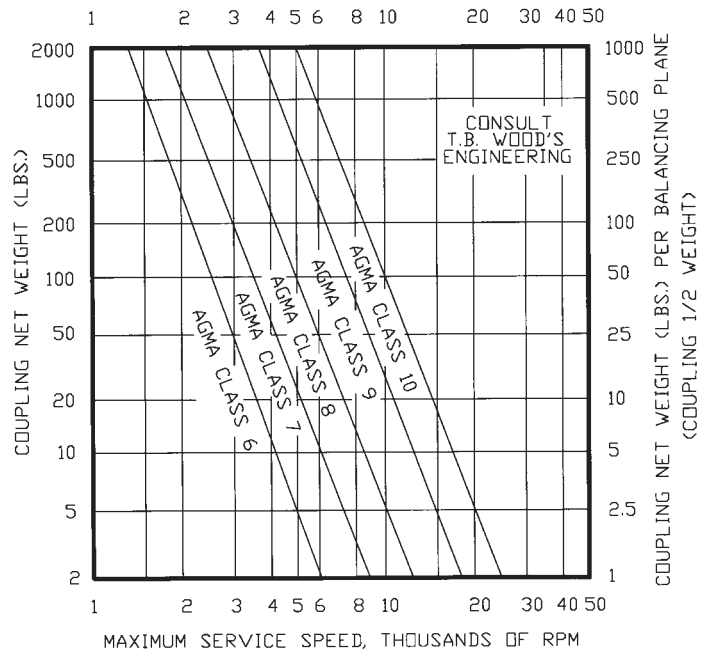
## DYNAMIC BALANCING RECOMMENDATIONS

Use this graph to determine the appropriate balance class based on coupling weight and operating speed. The balance classes listed on the graph are for equipment with average sensitivity to coupling unbalance. The user should determine how sensitive the equipment train is to coupling unbalance. Use one balance class higher if your system has higher than average sensitivity to unbalance. Use one balance class lower if your system has lower than average sensitivity to unbalance. Use this guide to check your coupling selection against the recommended balance class for your operating conditions.

The following factors should be considered when determining a machine's sensitivity to coupling unbalance.

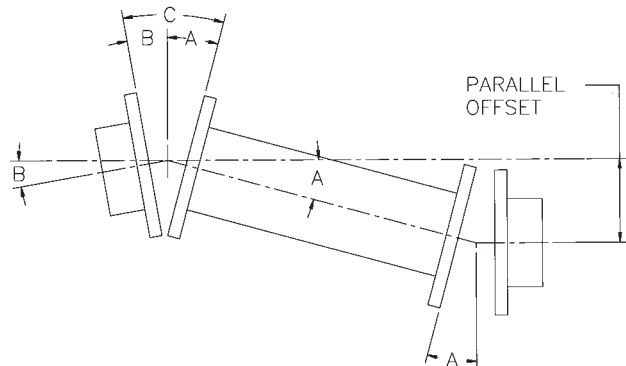
- 1) Shaft End Deflection: Machines having flexible shaft extensions are relatively sensitive to coupling unbalance.
- 2) Bearing Load Due to Coupling Weight Relative to Total Bearing Load: Machines having lightly loaded bearings, bearings that are primarily loaded by the weight of the coupling or other overhung weight are relatively sensitive to coupling unbalance.
- 3) Bearing, Bearing Support and Foundation Flexibility: Machines or systems with flexible foundations for supports for the rotating elements are relatively sensitive to coupling unbalance.
- 4) System Natural Frequencies: Machines operating at or near natural frequencies are sensitive to coupling unbalance.
- 5) Machine Separation: System having widely separated machines are relatively sensitive to coupling unbalance.
- 6) Shaft Extension Relative to Bearing Span: Machines having a short bearing span relative to their shaft extensions are sensitive to static unbalance.

BALANCE CLASS SELECTION CHART



## HOW FORM-FLEX COUPLINGS ACCOMMODATE MISALIGNMENT

Double flexing metal disc couplings may be used to accommodate angular, parallel and axial misalignment. Single flexing couplings may only be used to accommodate angular and axial misalignment. A metal disc type coupling uses a double hinge effect through two flexible discs and the spacer to compensate for parallel offset misalignment between shafts. Parallel misalignment imposes the same angular deflection (A) on each flex disc. Angular misalignment of either connected shaft, (B), creates additional angular deflections which are added to the angular offset due to parallel misalignment. The total misalignment angle, (C), at the flex disc is equal to the angular offset due to parallel misalignment (A) plus the angular offset due to angular misalignment (B). The maximum misalignment angle (C) should never exceed the rated misalignment capacity of the coupling type being used. Machinery equipment changes in actual operation and over the life of the equipment. We recommend that the machinery misalignment be set as close to zero as possible when a coupling is installed. We recommend keeping the measured misalignment below 25% of the rated misalignment capacity of the coupling type used when the machinery is installed and aligned. The remaining coupling misalignment capacity will then be available to accommodate additional misalignment caused by foundation shifts, vibrations, thermal growth or other causes.



# ENGINEERING STANDARDS FORM-FLEX COUPLINGS



## PRODUCT FEATURES AND OPTIONS

FEATURE	AR, AK, AP AX, AY	BH, BP, BY DP*	BF	BA, DA*	A5, A7	B5	HFTH	HH, HSH, FSH
STANDARD BORE FIT	CLEARANCE	INTERFERENCE			CLEARANCE	INTERFERENCE		
SET SCREWS	STANDARD	OPTIONAL			STANDARD	OPTIONAL		
PULLER HOLES	OPTIONAL	STANDARD			OPTIONAL	STANDARD	OPTIONAL	
STANDARD FLEX DISCS	300 SERIES STAINLESS STEEL*						ALLOY STEEL	
BALANCE CLASS	AGMA 7	AGMA 8	AGMA 9	AGMA 7	N/A		N/A	
DYNAMIC BALANCE	OPTIONAL				PER TBW COMMERCIAL STANDARD		N/A	

\*Alloy steel flex disc is standard for DA and DP series. Stainless steel is optional.

### STANDARD BORE TOLERANCES

INCH SIZE	SIZE	KEYWAY SIZE	BORE TOLERANCE	
			CLEARANCE FIT	INTERFERENCE FIT
1/2	12	1/8 X 1/16	.500/.501	...
5/8	58	3/16 X 3/32	.625/.626	...
3/4	34	3/16 X 3/32	.750/.751	.7490/.7495
7/8	78	3/16 X 3/32	.875/.876	.8740/.8745
15/16	15/16	1/4 X 1/8	.9375/.9385	.9365/.9370
1	1	1/4 X 1/8	1.000/1.001	.9990/.9995
1-1/8	118	1/4 X 1/8	1.125/1.126	1.1240/1.1245
1-3/16	1316	1/4 X 1/8	1.1875/1.1885	1.1865/1.1870
1-1/4	114	1/4 X 1/8	1.250/1.251	1.2490/1.2495
1-3/8	138	5/16 X 5/32	1.375/1.376	1.3740/1.3745
1-7/16	1716	3/8 X 3/16	1.4375/1.4385	1.4365/1.4370
1-1/2	112	3/8 X 3/16	1.500/1.501	1.4990/1.4995
1-5/8	158	3/8 X 3/16	1.625/1.626	1.623/1.624
1-3/4	134	3/8 X 3/16	1.750/1.751	1.748/1.749
1-7/8	178	1/2 X 1/4	1.875/1.876	1.873/1.874
1-15/16	11516	1/2 X 1/4	1.9375/1.9385	1.9355/1.9365
2	2	1/2 X 1/4	2.000/2.001	1.998/1.999
2-1/8	218	1/2 X 1/4	2.1250/2.1265	2.123/2.124
2-1/4	214	1/2 X 1/4	2.2500/2.2515	2.248/2.249
2-3/8	238	5/8 X 5/16	2.3750/2.3765	2.373/2.374
2-7/16	2716	5/8 X 5/16	2.4375/2.4390	2.4355/2.4365
2-1/2	212	5/8 X 5/16	2.5000/2.5015	2.498/2.499
2-5/8	258	5/8 X 5/16	2.6250/2.6265	2.623/2.624
2-3/4	234	5/8 X 5/16	2.7500/2.7515	2.748/2.749
2-7/8	278	3/4 X 3/8	2.8750/2.8765	2.873/2.874
2-15/16	21516	3/4 X 3/8	2.9375/2.9390	2.9355/2.9365
3	3	3/4 X 3/8	3.000/3.0015	2.998/2.999
3-1/4	314	3/4 X 3/8	3.2500/3.2515	3.2470/3.2485
3-3/8	338	7/8 X 7/16	3.3750/3.3765	3.3720/3.3735
3-1/2	312	7/8 X 7/16	3.5000/3.5015	3.4970/3.4985
3-5/8	358	7/8 X 7/16	3.6250/3.6265	3.6220/3.6235
3-3/4	334	7/8 X 7/16	3.7500/3.7515	3.7470/3.7485
4	4	1 X 1/2	4.0000/4.0015	3.9970/3.9985
4-1/4	414	1 X 1/2	4.2500/4.2515	4.2465/4.2480
4-1/2	412	1 X 1/2	4.5000/4.5015	4.4965/4.4980
4-3/4	434	1-1/4 X 5/8	4.7500/4.7515	4.7465/4.7480
5	5	1-1/4 X 5/8	...	4.9965/4.9980
5-1/4	514	1-1/4 X 5/8	...	5.2460/5.2475
5-1/2	512	1-1/4 X 5/8	...	5.4960/5.4975
5-3/4	534	1-1/2 X 3/4	...	5.7460/5.7475

METRIC SIZE	SIZE CODE	KEYWAY SIZE	BORE TOLERANCE	
			CLEARANCE FIT	INTERFERENCE FIT
6	6MM	2 X 1	.236/.237	
8	8MM	2 X 1	.315/.316	
10	10MM	3 X 1.4	.394/.395	
12	12MM	4 X 1.8	.4725/.4735	
13	13MM	5 X 2.3	.512/.513	
14	14MM	5 X 2.3	.551/.552	
15	15MM	5 X 2.3	.591/.592	
16	16MM	5 X 2.3	.630/.631	
18	18MM	6 X 2.8	.709/.710	
20	20MM	6 X 2.8	.7875/.7885	
22	22MM	6 X 2.8	.866/.867	
24	24MM	8 X 3.3	.945/.946	
25	25MM	8 X 3.3	.984/.985	
28	28MM	8 X 3.3	1.1025/1.1035	
30	30MM	8 X 3.3	1.181/1.182	
32	32MM	10 X 3.3	1.260/1.261	
35	35MM	10 X 3.3	1.378/1.379	
38	38MM	10 X 3.3	1.496/1.497	
40	40MM	12 X 3.3	1.575/1.576	
45	45MM	14 X 3.8	1.772/1.773	
48	48MM	14 X 3.8	1.890/1.891	
50	50MM	14 X 3.8	1.969/1.970	
55	55MM	16 X 4.3	2.1655/2.1670	
60	60MM	18 X 4.4	2.3620/2.3635	
65	65MM	18 X 4.4	2.5590/2.5605	
70	70MM	20 X 4.9	2.7560/2.7575	
75	75MM	20 X 4.9	2.9530/2.9545	
80	80MM	22 X 5.4	3.1500/3.1515	
85	85MM	22 X 5.4	3.3465/3.3480	
90	90MM	25 X 5.4	3.5435/3.5450	
95	95MM	25 X 5.4	3.7400/3.7415	
100	100MM	28 X 6.4	3.9370/3.9385	
110	110MM	28 X 6.4	4.3310/4.3325	

BORE TOLERANCES IN INCHES  
KEYWAY SIZES IN MM

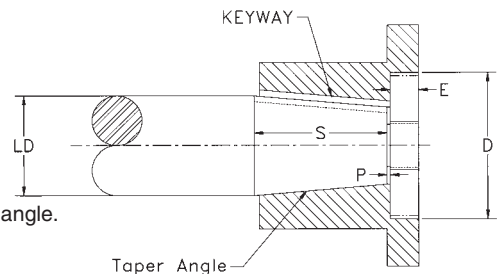
### KEYWAY TOLERANCES

WIDTH	ENGLISH	+ .002" / -0.000"
	METRIC	+ .001" / -0.000"
HEIGHT AT SIDE OF KW	BORE <= 3.375"	+ .015" / -0.000"
	BORE > 3.375"	+ .020" / -0.000"

### SPECIFYING TAPERED BORES

Please provide the following information for taper bore hubs:

- 1) Drawing of HUB showing bore and keyway details.  
OR
- 2) Drawing of shaft showing:
  - (LD) Large diameter, specify with tolerance.
  - (S) Length of taper, measure parallel to shaft centerline.
  - (T) Taper angle. Specify as degrees, taper per foot or a percentage.
  - (P) Desired pull-up of hub on shaft.
  - (D) Counterbore diameter as required.
  - (E) Counterbore depth as required.
 Keyway or shaft keyseat dimensions. Specify width, depth and keyway taper angle.  
-AND OPTIONALLY-
- 3) Drawing or sketch of equipment layout in order to determine correct spacer length.



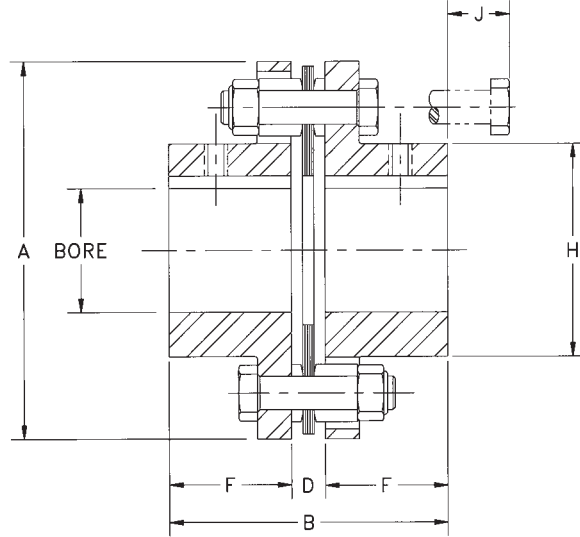


# SINGLE FLEX - AR SERIES

## 4 BOLT SINGLE FLEXING COUPLING

(FORMERLY AJ SERIES)

The AR series coupling accommodates angular and axial misalignment only. Single couplings may be used in pairs to support a clutch, brake or other power transmission component in a floating shaft arrangement, or to support a component that is supported by a self-aligning bearing. The AR coupling consists of two hubs and one set of standard hardware, including stainless steel flex discs.



RATED MISALIGNMENT: 1.0 DEG/DISC

HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-45
AZ OVERSIZE	05-45
QD BUSHING MOUNT	15-40
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25
SEE PAGE F5-8	

COUPLING CONSISTS OF:  
 2 - HUBS - EXAMPLE- AJ35A X 1-3/8  
 1 - FLEX ASSEMBLY - EXAMPLE- A35RKA  
 THIS COUPLING IS SOLD AS COMPONENTS

MATERIAL CLASSES		FLEX ASSY PART #
CLASS	SIZE	
A	05-45	AxxRKA
B	05-45	AxxRKA
C	15-45	AxxRKE
E	15-45	AxxRKE
SEE PAGE F5-4		xx = SIZE

SIZE	DIMENSIONS IN INCHES*								FREE END FLOAT +/- INCH
	MAX BORE		A	B	D DBSE	F	H	J	
	AJ	AZ							
05	0.87	1.13	2.65	2.24	0.24	1.00	1.30	0.54	0.015
10	1.25	1.63	3.19	2.27	0.27	1.00	1.80	0.59	0.020
15	1.37	1.88	3.65	2.58	0.32	1.13	2.00	0.88	0.021
20	1.62	2.13	4.08	2.98	0.34	1.32	2.40	0.79	0.027
25	2.00	2.38	4.95	3.69	0.45	1.62	2.80	1.00	0.030
30	2.38	2.88	5.63	4.23	0.47	1.88	3.30	1.14	0.032
35	2.88	3.75	6.63	5.05	0.55	2.25	4.15	0.97	0.042
40	3.25	4.00	7.64	5.60	0.60	2.50	4.65	1.30	0.050

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED

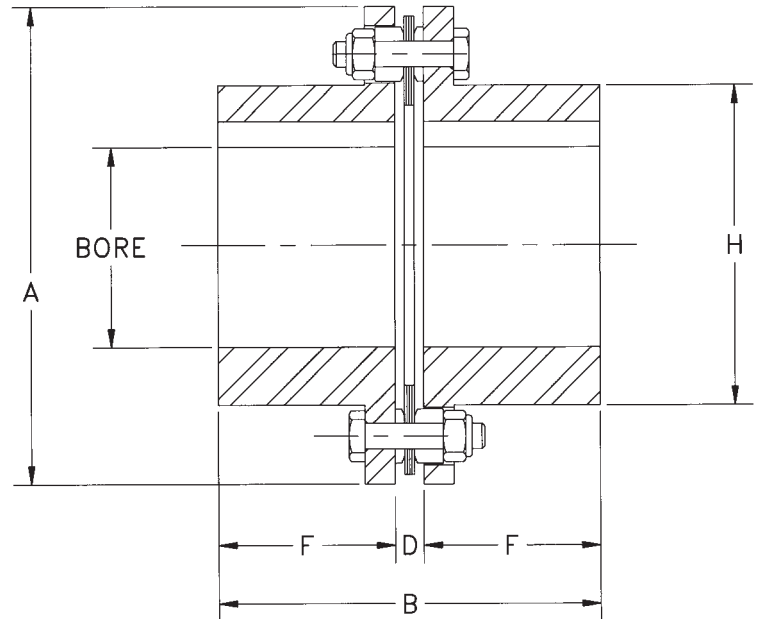
SIZE	HP PER 100 RPM 1.0 S.F	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 7 MAX RPM	MAX RADIAL LOAD (lbs.)	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	TQ/RAD X10 <sup>6</sup> (lb. in./rad)
05	0.48	300	600	8,500	34	1.24	0.96	0.28
10	1.27	800	1,600	7,500	56	1.96	2.35	0.84
15	2.50	1,575	3,150	6,700	125	2.98	4.62	1.47
20	3.49	2,200	4,400	6,200	183	4.07	7.48	2.11
25	6.03	3,800	7,600	5,500	275	7.01	20.4	3.62
30	11.00	6,930	13,860	5,000	400	10.8	41.5	5.91
35	18.00	11,340	22,680	4,400	600	17.2	88.3	11.0
40	29.00	18,270	36,540	4,000	850	25.6	178.	17.0

NOTE:  
 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.

# SINGLE FLEX - BH SERIES 6 BOLT SINGLE FLEXING COUPLING



The BH series coupling accommodates angular and axial misalignment only. Single couplings may be used in pairs to support a clutch, brake or other power transmission component in a floating shaft arrangement, or to support a component that is supported by a self-aligning bearing. The BH coupling consists of two hubs and one set of standard hardware, including stainless steel flex discs.



RATED MISALIGNMENT: 0.7 DEG/DISC

SIZE	DIMENSIONS IN INCHES					
	MAX BORE	A	B	D DBSE	F	H
33	2.25	4.69	3.79	0.29	1.75	3.14
38	3.00	5.87	4.84	0.34	2.25	4.13
43	3.25	6.70	5.47	0.47	2.50	4.63
48	3.75	7.50	6.00	0.50	2.75	5.40
53	3.88	7.87	6.28	0.52	2.88	5.65
58	4.25	9.00	7.06	0.56	3.25	6.22
63	4.88	10.00	7.36	0.60	3.38	7.14
68	5.00	10.75	8.35	0.85	3.75	7.33

HUB TYPES	SIZES
BH	33-78
SEE PAGE F5-9	

MATERIAL CLASSES		FLEX ASSY PART #
CLASS	SIZE	
A	33-78	BOxxRKA
B	33-78	BOxxRKA
C	38-63	BOxxRKE
E	MTO 38-63	BOxxRKE
SEE PAGE F5-4		xx = SIZE

COUPLING CONSISTS OF:  
 2 – HUBS – EXAMPLE- BH48Ax3”  
 1 – FLEX ASSEMBLY – EXAMPLE- BO48RKA  
 THIS COUPLING IS SOLD AS COMPONENTS

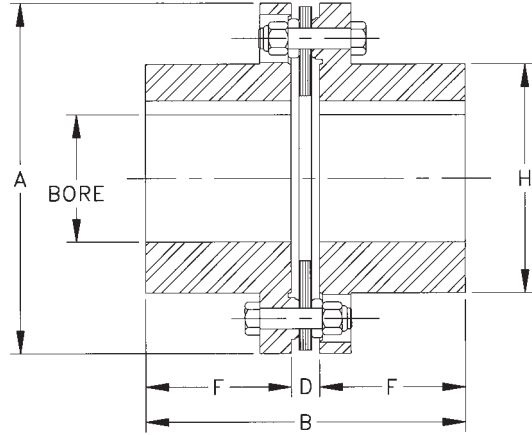
SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 8 MAX RPM	MAX RADIAL LOAD (lbs.)	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	TQ/RAD X10 <sup>6</sup> (lb. in./rad)	FREE END FLOAT +/- inch
	1.0 S.F.								
33	4.84	3,050	6,100	8,400	150	5.76	14.5	4.57	0.03
38	10.08	6,350	12,500	7,500	240	11.4	46.6	9.41	0.04
43	19.84	12,500	25,000	6,800	420	17.3	91.7	17.8	0.05
48	26.98	17,000	34,000	6,500	655	25.2	171	25.5	0.06
53	38.10	24,000	48,000	6,000	720	29.8	226	29.8	0.06
58	53.97	34,000	68,000	5,500	930	45.4	443	50.0	0.06
63	76.19	48,000	96,000	5,200	1,125	58.4	715	76.6	0.07
68	114.29	72,000	144,000	4,800	1,530	73.4	984	96.7	0.07

NOTE:  
 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR BH HUBS AT MAXIMUM BORE SIZE.



# SINGLE FLEX- HH SERIES 8 BOLT SINGLE COUPLING

The HH series is designed for high torque, low speed applications. Hubs are cast iron. Steel is optional. Flex discs are high strength alloy steel. Stainless steel flex discs are optional. Dynamic balancing for higher speed operation is not recommended. Single plane balancing of individual hubs is available.



SIZE	DIMENSIONS IN INCHES						
	MAX BORE		A (2)	B	D DBSE	F	H
	IRON	STEEL					
22	2.25	-	6.00	5.43	0.43	2.50	3.87
26	2.62	-	6.87	6.29	0.53	2.88	4.50
31	3.12	3.63	8.12	7.38	0.62	3.38	5.50
35	3.62	4.00	9.12	8.16	0.66	3.75	6.12
37	3.75	4.50	10.06	8.81	0.81	4.00	6.50
42	4.25	4.75	11.00	9.31	0.81	4.25	7.00
45	4.50	5.13	11.87	9.87	0.87	4.50	7.43
50	5.12	5.50	13.43	11.06	1.06	5.00	9.50
55	5.62	6.25	15.00	12.25	1.25	5.50	9.50
60	6.50	7.12	16.75	13.84	1.34	6.25	10.50
70	7.00	7.87	18.93	15.50	1.50	7.00	11.75
75	7.75	8.75	20.62	16.05	1.55	7.25	13.00
80	8.00	9.12	22.37	17.06	1.56	7.75	13.75
85	8.50	9.62	23.75	18.12	1.62	8.25	14.50
92	10.00	11.00	25.75	19.75	1.75	9.00	15.87
105	10.50	12.00	29.25	22.75	1.75	10.50	20.00
160	16.00	17.00	33.50	26.25	2.25	12.00	24.00

RATED MISALIGNMENT: 0.5 DEG/DISC

HUB OPTIONS	
HUB TYPE	SIZE
C.I.	26-160
STL	31-160
SEE PAGE F5-9	

**ORDERING:** HH Series couplings are sold as complete assemblies. Please specify hub type, bore sizes, and flex disc materials. A coupling will be configured to meet your specification.

SIZE	HP PER 100 RPM 1.0S.F	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 8 MAX RPM	MAX RADIAL LOAD (lbs.)	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	TQ/RAD X10 <sup>6</sup> (lb. in./rad)	FREE END FLOAT +/- inch
22	15.08	9,500	14,250	3,800	338	17	62	12.7	0.018
26	25.40	16,000	24,000	3,300	570	26	129	22.1	0.022
31	38.10	24,000	36,000	2,800	700	43	304	36.4	0.026
35	69.84	44,000	66,000	2,600	930	61	557	52.8	0.028
37	95.24	60,000	90,000	2,500	1,170	77	820	69.6	0.031
42	115.87	73,000	109,500	2,400	1,300	95	1,250	84	0.034
45	157.14	99,000	148,500	2,250	1,700	115	1,810	106	0.036
50	203.17	128,000	192,000	2,000	2,250	163	3,290	147	0.041
55	300.00	189,000	283,500	1,800	3,200	228	5,570	243	0.046
60	414.29	261,000	391,500	1,600	4,000	328	10,300	349	0.051
70	658.73	415,000	622,500	1,400	6,100	451	18,200	482	0.058
75	846.03	533,000	799,500	1,300	6,900	588	27,400	682	0.062
80	1,087.30	685,000	1,027,500	1,200	7,500	732	42,100	779	0.068
85	1,315.87	829,000	1,243,500	1,100	8,700	840	54,700	911	0.070
92	1,650.79	1,040,000	1,560,000	1,000	11,100	1,160	89,400	1220	0.078
105	1,984.13	1,250,000	1,875,000	1,000	8,460	1,780	160,000	3200	0.085
160	3,174.60	2,000,000	3,000,000	900	11,300	2,310	325,000	5140	0.125

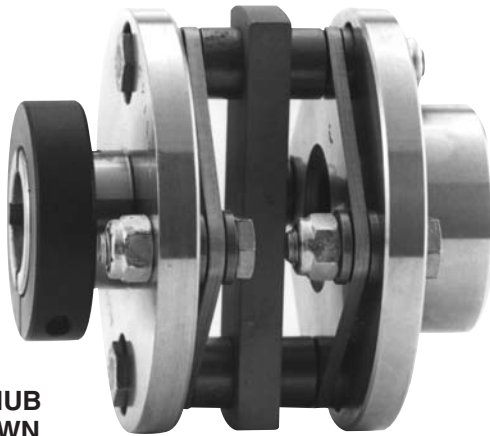
NOTE:

- 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR CAST IRON HUBS AT MAXIMUM BORE SIZE.
- 2) HUB FLANGE O.D. MAY VARY WITH STEEL HUBS.

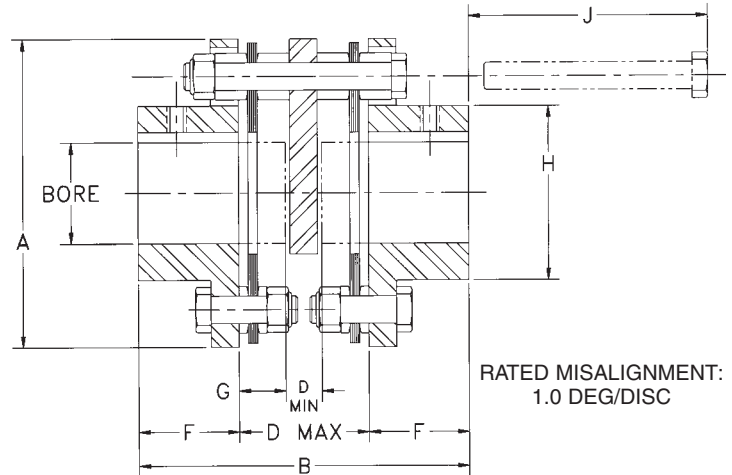
# CLOSE COUPLE - AX SERIES 4 BOLT CLOSE COUPLED COUPLING (GENERAL USE)



The AX series close coupling is made up of two hubs, a steel spacer block, two stainless flex discs and AX hardware. A special bolting arrangement supports the spacer between the flex discs. The AX is an economical design that is well suited to many general purpose applications. The AX accommodates close shaft separations when it is installed with the shafts extending through the flex discs into the center of the coupling. The shaft diameter must be less than the flex disc I.D. listed in the dimensional table.



AD HUB SHOWN



HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-45
AZ - OVERSIZE	05-45
QD BUSHING MOUNT	15-40
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25
SEE PAGE F5-8	

COUPLING CONSISTS OF:  
2 - HUBS - EXAMPLE- AJ20A x 1-1/2"  
1 - SPACER ASSEMBLY - EXAMPLE- AX20SAA  
THIS COUPLING IS SOLD AS COMPONENTS

MATERIAL CLASSES		SPACER ASSEMBLY
CLASS	SIZE	PART #
A	05-45	AXxxSAA
B	05-45	AXxxSAB
C	N/A	N/A
E	N/A	N/A
SEE PAGE F5-4		xx = SIZE

SIZE	DIMENSIONS IN INCHES*										
	MAX BORE		A	B	DBSE		F	G	H	J	DISC I.D.**
	AJ	AZ			Dmin	Dmax					
05	0.87	1.13	2.65	3.34	0.38	1.34	1.00	0.48	1.30	1.68	1.00
10	1.25	1.63	3.19	3.40	0.44	1.40	1.00	0.48	1.30	1.79	1.17
15	1.37	1.88	3.65	3.80	0.63	1.54	1.13	0.44	2.00	1.85	1.28
20	1.62	2.13	4.08	4.22	0.63	1.58	1.32	0.48	2.40	1.66	1.65
25	2.00	2.38	4.95	5.36	0.75	2.12	1.62	0.69	2.80	2.39	1.78
30	2.38	2.88	5.63	6.30	1.00	2.54	1.88	0.77	3.30	3.18	2.01
35	2.88	3.75	6.63	7.17	1.13	2.67	2.25	0.77	4.15	2.81	2.71
40	3.25	4.00	7.64	8.30	1.13	3.30	2.50	1.08	4.65	4.03	3.00

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED.

\*\* SHAFT O.D. MUST BE LESS THAN DISC I.D. IN ORDER TO EXTEND SHAFTS INTO COUPLING TO MEET Dmin DIMENSION.

SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 7 MAX RPM	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	TQ/RAD X10 <sup>6</sup> (lb. in./rad)	FREE END FLOAT +/- inch
	1.0 S.F.							
05	0.48	300	450	8,500	1.63	1.26	0.04	0.030
10	1.27	800	1,200	7,500	2.48	2.90	0.06	0.040
15	2.50	1,575	2,363	6,700	3.84	5.80	0.21	0.042
20	3.49	2,200	3,300	6,200	5.10	9.16	0.25	0.055
25	6.03	3,800	5,700	5,500	9.13	26.1	0.56	0.060
30	11.00	6,930	10,395	5,000	13.8	51.7	0.79	0.065
35	18.00	11,340	17,010	4,400	21.1	108	1.48	0.085
40	29.00	18,270	27,405	4,000	32.0	222	1.68	0.100

NOTES

1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.



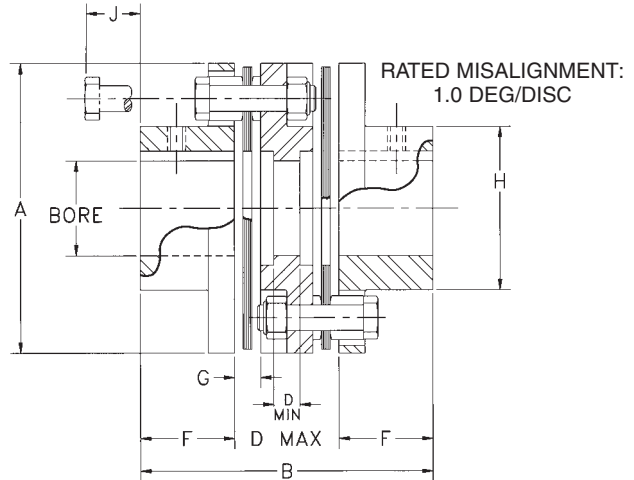
# CLOSE COUPLE - AA SERIES

## 4 BOLT CLOSE COUPLED COUPLING

### (GENERAL USE - SHORTER BOLT REMOVAL)

The AA series close coupling is made up of two hubs, a cast iron block type spacer and two sets of standard hardware. Stainless steel flex discs are standard. The AA accommodates close shaft separations when it is installed with the shafts extending through the flex discs into the center of the coupling. The shaft diameter must be less than the flex disc I.D. listed in the dimensional table. This coupling is recommended when the bolt removal length (J) makes the AX coupling impractical.

**Special machined steel block spacers are also available in several sizes.**



HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-45
AZ - OVERSIZE	05-45
QD BUSHING MOUNT	15-40
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25
SEE PAGE F5-8	

COUPLING CONSISTS OF:  
2 - HUBS - EXAMPLE- AJ35A x 2"  
1 - SPACER ASSEMBLY - EXAMPLE- AA35SAA  
THIS COUPLING IS SOLD AS COMPONENTS

MATERIAL CLASSES		SPACER ASSEMBLY
CLASS	SIZE	PART #
A	05-45	AAxxSAA
B	05-45	AAxxSAB
C	15-45	AAxxSAC
E	N/A	N/A
SEE PAGE F5-4		xx = SIZE

SIZE	DIMENSIONS IN INCHES*										
	MAX BORE		A	B	DBSE		F	G	H	J	DISC I.D.**
	AJ	AZ			Dmin	Dmax					
05	0.87	1.13	2.65	3.23	0.25	1.23	1.00	0.24	1.30	0.54	1.00
10	1.25	1.63	3.19	3.73	0.25	1.73	1.00	0.27	1.80	0.56	1.17
15	1.37	1.88	3.65	3.82	0.31	1.56	1.13	0.32	2.00	0.88	1.28
20	1.62	2.13	4.08	4.38	0.41	1.74	1.32	0.34	2.40	0.79	1.65
25	2.00	2.38	4.95	5.26	0.41	2.02	1.62	0.45	2.80	1.00	1.78
30	2.38	2.88	5.63	6.24	0.56	2.48	1.88	0.47	3.30	1.14	2.01
35	2.88	3.75	6.63	6.91	0.66	2.41	2.25	0.55	4.15	0.97	2.71
40	3.25	4.00	7.64	7.70	0.75	2.70	2.50	0.60	4.65	1.30	3.00

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED.

\*\* SHAFT I.D. MUST BE LESS THAN DISC I.D. IN ORDER TO EXTEND SHAFTS INTO COUPLING TO MEET Dmin DIMENSION.

SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	MAX RPM	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	TQ/RAD X10° (lb. in./rad)	FREE END FLOAT +/- inch
	1.0 S.F							
05	0.48	300	450	3,600	1.76	1.40	0.06	0.030
10	1.27	800	1,200	3,500	2.77	3.35	0.10	0.040
15	2.50	1,575	2,363	3,450	4.24	6.66	0.26	0.042
20	3.49	2,200	3,300	3,350	5.48	10.2	0.25	0.055
25	6.03	3,800	5,700	3,200	9.81	29.4	0.62	0.060
30	11.00	6,930	10,395	3,000	15.0	59	0.94	0.065
35	18.00	11,340	17,010	2,800	22.4	121	1.44	0.085
40	29.00	18,270	27,405	2,650	34.3	250	2.43	0.100

NOTES:

1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.

2) MAX RPM SHOWN BASED ON CAST IRON SPACER MATERIAL.



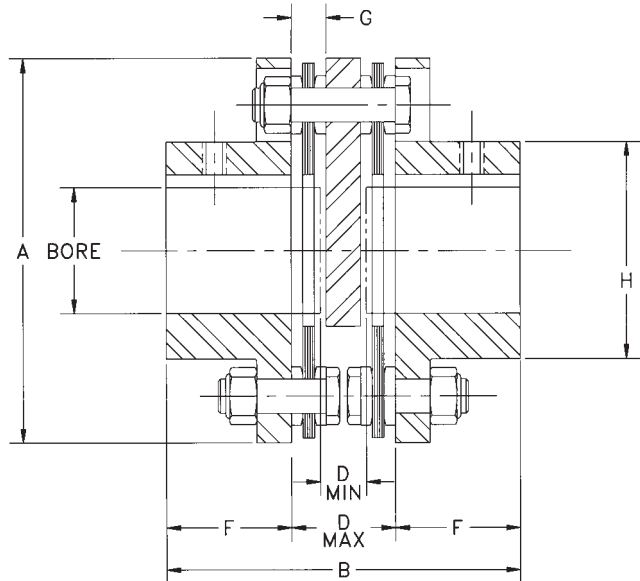
# CLOSE COUPLE - AY SERIES 4 BOLT CLOSE COUPLED COUPLING (POSITIONING APPLICATIONS)



The AY series is specifically designed for positioning applications where a servo or stepper drive is C flange mounted and connects to a ball screw. The AY accommodates the small amounts of angular and parallel misalignment with an absolute minimum size package, zero backlash and high torsional stiffness. The AY is made up of two hubs, a steel spacer block, two stainless flex discs and AY hardware. The coupling must be installed as an assembled unit. The spacer is not service removable.



**AL  
HUB SHOWN**



RATED MISALIGNMENT: 1.0 DEG/DISC

HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-25
AZ - OVERSIZE	05-25
QD BUSHING MOUNT	15-25
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25
SEE PAGE F5-8	

COUPLING CONSISTS OF:  
2 - HUBS - EXAMPLE- AJ20A x 1-1/2"  
1 - SPACER ASSEMBLY - EXAMPLE- AY20SAA  
THIS COUPLING IS SOLD AS COMPONENTS

MATERIAL CLASSES		SPACER ASSEMBLY
CLASS	SIZE	PART #
A	05-25	AYxxSAA
B	05-25	AYxxSAB
C	N/A	N/A
E	N/A	N/A
SEE PAGE F5-4		xx = SIZE

SIZE	DIMENSIONS IN INCHES*									
	MAX BORE		A	B	DBSE		F	G	H	DISC I.D.**
	AJ	AZ			Dmin	Dmax				
05	0.87	1.13	2.65	2.85	0.49	0.85	1.00	0.24	1.30	1.00
10	1.25	1.63	3.19	2.91	0.50	0.91	1.00	0.27	1.80	1.17
15	1.37	1.88	3.65	3.33	0.56	1.07	1.13	0.32	2.00	1.28
20	1.62	2.13	4.08	3.76	0.56	1.12	1.32	0.34	2.40	1.65
25	2.00	2.38	4.95	4.77	0.87	1.53	1.62	0.45	2.80	1.78

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED.

\*\* SHAFT I.D. MUST BE LESS THAN DISC I.D. IN ORDER TO EXTEND SHAFTS INTO COUPLING TO MEET Dmin DIMENSION.

SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 7 MAX RPM	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> ) (lb. in./rad)	TQ/RAD X10 <sup>6</sup>	FREE END FLOAT +/- inch
	1.0 S.F.							
05	0.48	300	600	8,500	1.64	1.24	0.13	0.030
10	1.27	800	1,600	7,500	2.68	3.08	0.35	0.040
15	2.50	1,575	3,150	6,700	4.23	6.41	0.64	0.042
20	3.49	2,200	4,400	6,200	5.49	9.92	0.83	0.055
25	6.03	3,800	7,600	5,500	9.78	27.6	1.56	0.060

NOTE:

1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.

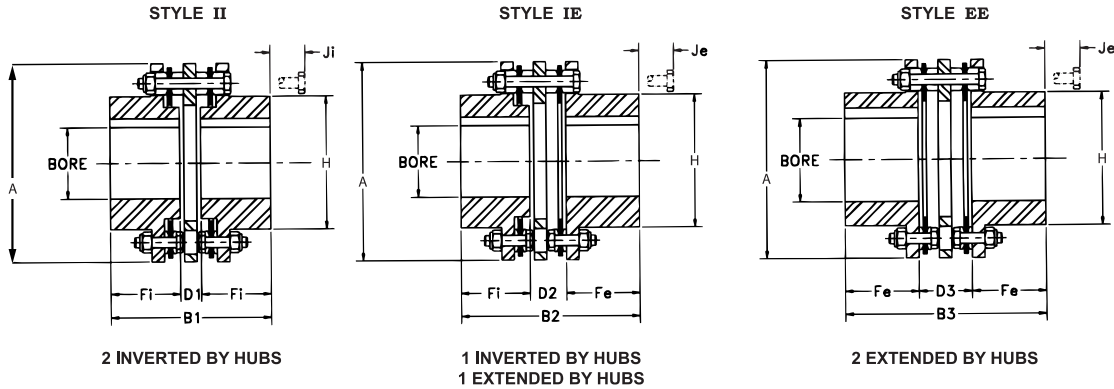


# CLOSE COUPLE - BY SERIES

## 6 BOLT CLOSE COUPLED COUPLING

The BY series close coupling is a low cost replacement for gear or elastomeric couplings. It is ideal for use in low to moderate speed applications with motor or turbine drivers. The BY is an economical alternative to Axial Split spacer designs. The BY accommodates close shaft spacings by allowing the connected shafts to extend through the flex discs and spacer without restriction. The spacer is not service removable if the shaft gap is less than the D1 dimension shown. For shorter shaft spacings, the flex discs may still be replaced by removing the coupling bolts and shuttling the spacer from side to side.

Inverted (BY) and Extended (BH) hubs are available to allow varying shaft diameters and spacing.



COUPLING CONSISTS OF:  
 2 – HUBS – EXAMPLE- BY43A x 2-1/2”  
 1 – SPACER ASSEMBLY – EXAMPLE- BY43SAA  
 THIS COUPLING IS SOLD AS COMPONENTS

RATED MISALIGNMENT: 0.5 DEG/DISC

SIZE	DIMENSIONS IN INCHES														
	MAX BORE		A	B1	B2	B3	C	DBSE			Fi	Fe	H	Ji	Je
	BY inv	BH ext						D1	D2	D3					
33	2.00	2.25	4.69	4.13	4.530	4.93	1.350	0.43	0.930	1.43	1.85	1.75	3.14	1.46	1.06
38	2.63	3.00	5.87	4.45	5.260	6.07	1.440	0.57	1.070	1.57	1.94	2.25	4.13	1.61	0.80
43	2.88	3.25	6.70	5.41	6.265	7.12	1.645	0.81	1.465	2.12	2.30	2.50	4.63	2.51	1.60
48	3.25	3.75	7.50	5.64	6.630	7.62	1.760	0.76	1.440	2.12	2.44	2.75	5.40	2.34	1.35
53	3.63	3.88	7.87	6.77	7.600	8.43	2.050	1.01	1.840	2.67	2.88	2.88	5.65	2.93	2.10
58	4.00	4.25	9.00	7.60	8.700	9.80	2.150	1.20	2.250	3.30	3.20	3.25	6.22	4.40	3.30
63	4.50	4.88	10.00	8.40	9.230	10.06	2.550	1.20	2.250	3.30	3.60	3.38	7.14	4.00	3.17
68	4.75	5.00	10.75	9.20	10.450	11.70	2.500	1.60	2.900	4.20	3.80	3.75	7.33	5.28	4.03

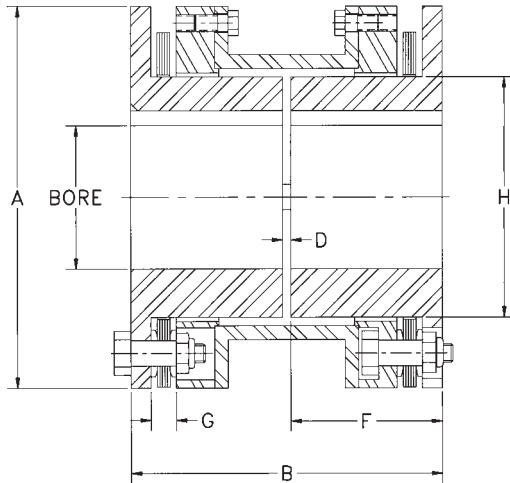
SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 8 MAX RPM	WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	TQ/RAD X10° (lb. in./rad)	FREE END FLOAT +/- inch
33	4.84	3,050	4,575	8,400	8.06	22.3	0.94	0.060
38	10.08	6,350	9,525	7,500	13.9	65.1	2.98	0.084
43	19.84	12,500	18,750	6,800	23.2	144	4.99	0.090
48	26.98	17,000	25,500	6,500	31.1	241	5.42	0.108
53	38.10	24,000	36,000	6,000	40.3	345	9.10	0.108
58	53.97	34,000	51,000	5,500	65.4	734	15.4	0.118
63	76.19	48,000	72,000	5,200	82.8	1150	25.8	0.140
68	114.29	72,000	108,000	4,800	106	1760	37.4	0.144

MATERIAL CLASSES		SPACER ASSEMBLY
CLASS	SIZE	PART #
A	33-68	BYxxSAA
B	33-68	BYxxSAB
C	N/A	N/A
E	N/A	N/A
SEE PAGE F5-4		xx = SIZE

# CLOSE COUPLE – BA SERIES-6 BOLT DESIGN & DA SERIES-8 BOLT DESIGN AXIAL SPLIT SPACER COUPLINGS



Axial split spacer couplings are an ideal replacement for lubricated gear or grid couplings. Close shaft separations are met without requirements for extending shafts through hubs. The split spacer removes radially to allow removal of connected equipment. Flex discs may be replaced without disturbing the connected equipment. The axial split series features all steel construction. Stainless steel flex discs are standard for the BA series. Both stainless and high strength alloy steel flex disc options are available with the DA series.



RATED MISALIGNMENT: 0.7 DEG/DISC

SIZE	DIMENSIONS IN INCHES						
	MAX BORE	A	B	D DBSE	F	G	H
BA33	1.75	4.69	3.88	0.12	1.88	0.33	2.71
BA38	2.50	5.87	4.38	0.12	2.13	0.40	3.55
BA43	2.63	6.70	5.00	0.12	2.44	0.48	3.91
DA31	3.38	7.81	5.87	0.19	2.84	0.44	5.22
DA35	3.75	8.69	6.81	0.25	3.28	0.54	5.71
DA37	4.19	9.69	7.37	0.25	3.56	0.69	6.18
DA42	4.50	10.50	8.19	0.25	3.97	0.69	6.70
DA45	4.75	11.31	9.31	0.31	4.50	0.75	7.20
DA50	5.00	12.88	9.75	0.31	4.72	0.96	7.93
DA55	5.50	14.44	11.00	0.38	5.31	1.04	8.95
DA60	6.00	16.00	12.38	0.38	6.00	1.10	9.89
DA70	7.00	18.25	14.38	0.38	7.00	1.40	11.08

**ORDERING:** BA and DA Series couplings are sold as components. Please specify hub bore sizes and specify flex disc materials for DA series couplings.

SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	MAX RPM		WEIGHT (lbs.)	WR <sup>2</sup> (lb. in. <sup>2</sup> )	FREE END FLOAT +/- inch
	1.0 S.F			UNBALANCED	BALANCED			
BA33	6.29	3,965	7,930	4,200	7,000	10.7	29.2	0.060
BA38	13.10	8,255	16,510	3,800	6,300	18.1	81.7	0.084
BA43	25.79	16,250	32,500	3,700	6,000	30.2	158	0.090
DA31	38.10	24,000	48,000	3,000	5,000	45.5	372	0.052
DA35	54.13	34,100	68,200	2,800	4,500	63.4	627	0.056
DA37	81.11	51,100	102,200	2,500	4,000	87	1,110	0.062
DA42	114.76	72,300	144,600	2,300	3,700	114	1,670	0.067
DA45	130.48	82,200	164,400	2,200	3,400	152	2,550	0.072
DA50	196.83	124,000	248,000	2,000	3,300	215	4,610	0.082
DA55	300.00	189,000	378,000	1,900	2,800	317	8,550	0.092
DA60	390.48	246,000	492,000	1,800	2,500	450	14,900	0.102
DA70	549.21	346,000	692,000	1,700	2,500	664	28,800	0.115

NOTE:  
1) WEIGHTS AND WR<sup>2</sup> VALUES SHOWN ARE AT MAXIMUM BORE SIZE.

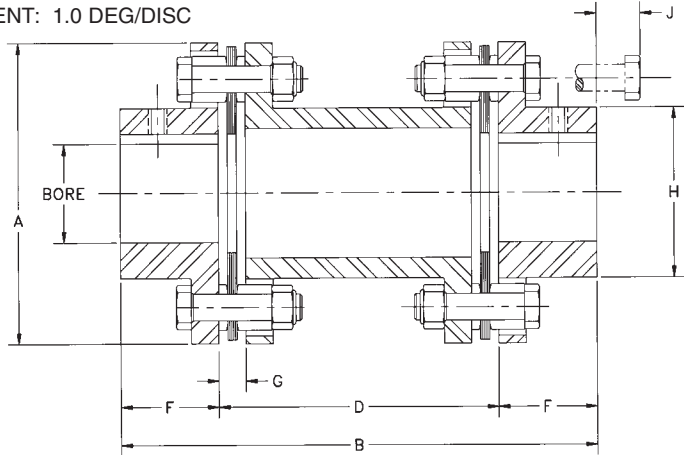


# SPACER - 4 BOLT AK SERIES-STOCK LENGTH COUPLING AP SERIES-CUSTOM LENGTH COUPLING

The AK and AP series couplings are standard design spacer couplings. They are made up of two hubs, a one-piece machined spool spacer and two sets of flex discs with standard hardware, including stainless steel flex discs. The AK is the stocked minimum length spacer. The AP is made-to-order to any custom spacer length. AP series pricing is standard for any spacer length up to 9 inches.



RATED MISALIGNMENT: 1.0 DEG/DISC



For type AP, specify the D (DBSE) dimension in 1/100th inches.  
Example: AP10A350 specifies AP10 class A 3.50" DBSE.

HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-45
AZ - OVERSIZE	05-45
QD BUSHING MT.	15-40
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25
SEE PAGE F5-8	

COUPLING CONSISTS OF:  
2 – HUBS – EXAMPLE- AJ25A x 1-3/4"  
1 – SPACER ASSEMBLY – EXAMPLE- AK25SAA  
THIS COUPLING IS SOLD AS COMPONENTS

MATERIAL CLASSES		SPACER ASSEMBLY PART #	
CLASS	SIZE	AK	AP
A	05-45	AKxxSAA	APxxAddd
B	05-45	AKxxSAB	APxxBddd
C	15-45	AKxxSAC	APxxCddd
E	MTO 15-45	AKxxSAE	APxxEddd
SEE PAGE F5-4		xx = SIZE	ddd=DBSE

SIZE	DIMENSIONS IN INCHES*									FREE END FLOAT +/- inch
	MAX BORE		A	Bmin (AK)	Dmin (AK)	F	G	H	J	
	AJ	AZ								
05	0.87	1.13	2.65	3.72	1.72	1.00	0.24	1.30	0.54	0.030
10	1.25	1.63	3.19	4.06	2.06	1.00	0.27	1.80	0.56	0.040
15	1.37	1.88	3.65	4.67	2.41	1.13	0.32	2.00	0.88	0.042
20	1.62	2.13	4.08	5.02	2.38	1.32	0.34	2.40	0.79	0.055
25	2.00	2.38	4.95	6.16	2.92	1.62	0.45	2.80	1.00	0.060
30	2.38	2.88	5.63	7.57	3.81	1.88	0.47	3.30	1.14	0.065
35	2.88	3.75	6.63	8.81	4.31	2.25	0.55	4.15	0.97	0.085
40	3.25	4.00	7.64	9.88	4.88	2.50	0.60	4.65	1.30	0.100

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED.

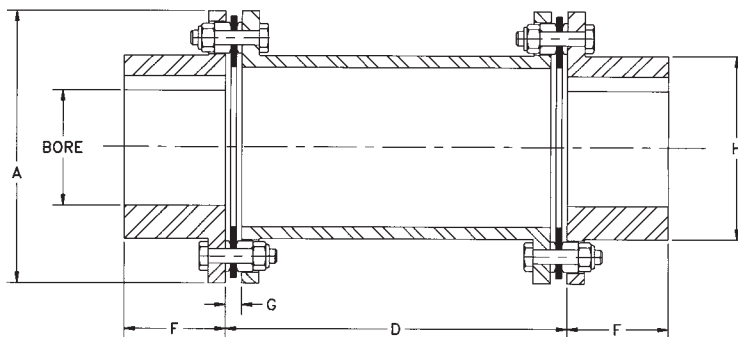
SIZE	HP PER 100 RPM	RATED TORQUE LB*IN (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 7 MAX RPM	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORS. STIFFNESS 10° (lb. in./rad)	
					AT MIN D	ADD PER in. OF D	AT MIN D	ADD PER in. OF D	K factor	Y factor
					1.0 S.F		1.0 S.F			
05	0.48	300	600	8,500	2.32	0.14	1.87	0.05	0.15	2.00
10	1.27	800	1,600	7,500	3.62	0.22	4.48	0.11	0.43	4.64
15	2.50	1,575	3,150	6,700	5.44	0.26	8.86	0.19	0.74	7.51
20	3.49	2,200	4,400	6,200	6.96	0.32	13.8	0.34	1.08	13.8
25	6.03	3,800	7,600	5,500	12.7	0.41	38.8	0.62	1.74	25.1
30	11.00	6,930	13,860	5,000	19.0	0.46	77.7	0.92	2.89	37.4
35	18.00	11,340	22,680	4,400	27.6	0.63	156	2.29	5.34	93
40	29.00	18,270	36,540	4,000	42.1	0.76	322	3.55	8.21	144

NOTES:  
1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.  
2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L= D - Dmin  
TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]

# SPACER – BP SERIES 6 BOLT SPACER COUPLING



The BP series coupling is a standard design spacer coupling using the 6 bolt disc design. The coupling is made up of two hubs, a one-piece machined spool spacer and two sets of flex discs with standard hardware, including stainless steel flex discs. The BP is made-to-order to any custom spacer length. BP series pricing is standard for any spacer length up to 9 inches.



RATED MISALIGNMENT: 0.7 DEG/DISC

HUB TYPES	SIZES
BH	33-78
SEE PAGE F5-9	

COUPLING CONSISTS OF:  
 2 – HUBS – EXAMPLE- BH33Ax2”  
 1 – SPACER ASSEMBLY – EXAMPLE-  
 BP33A500 (5”DBSE)  
 THIS COUPLING IS SOLD AS COMPONENTS

Specify the D (DBSE) dimension in 1/100th inches.  
 Example: BP33A350 specifies BP33 class A 3.50”  
 DBSE. Specify each hub bore size as required.

SIZE	DIMENSIONS IN INCHES						FREE END FLOAT +/- inch
	MAX BORE	A	Dmin	F	G	H	
33	2.25	4.69	2.09	1.75	0.285	3.14	0.060
38	3.00	5.87	2.37	2.25	0.335	4.13	0.084
43	3.25	6.70	2.95	2.50	0.465	4.63	0.090
48	3.75	7.50	3.00	2.75	0.495	5.40	0.108
53	3.88	7.87	3.91	2.88	0.520	5.65	0.108
58	4.25	9.00	4.80	3.25	0.555	6.22	0.118
63	4.88	10.00	4.88	3.38	0.600	7.14	0.140
68	5.00	10.75	6.20	3.75	0.849	7.33	0.144

MATERIAL CLASSES		SPACER ASSEMBLY PART #
CLASS	SIZE	
A	33-73	BPxxAddd
B	33-78	BPxxBddd
C	38-63	BPxxCddd
E	N/A	N/A
SEE PAGE F5-4		ddd = DBSE

SIZE	HP PER 100 RPM	RATED TORQUE LB*IN (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 8 MAX RPM	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORS. STIFFNESS x10 <sup>6</sup> (lb. in./rad)	
	1.0 S.F				AT MIN D	ADD PER in. OF D	AT MIN D	ADD PER in. OF D	K factor	Y factor
33	4.84	3,050	6,100	8,400	8.49	0.47	23.3	0.91	2.42	37.1
38	10.08	6,350	12,700	7,500	15.9	0.63	71.8	2.24	4.93	90.8
43	19.84	12,500	25,000	6,800	24.3	0.74	143	3.59	9.40	146.
48	26.98	17,000	34,000	6,500	33.2	0.87	248	5.79	13.2	235.
53	38.10	24,000	48,000	6,000	41.7	0.93	354	6.93	15.1	281.
58	53.97	34,000	68,000	5,500	65.1	0.98	707	8.14	23.7	330.
63	76.19	48,000	96,000	5,200	80.5	1.14	1,100	13.0	34.9	528.
68	114.29	72,000	144,000	4,800	104	1.17	1,560	14.7	44.0	597.

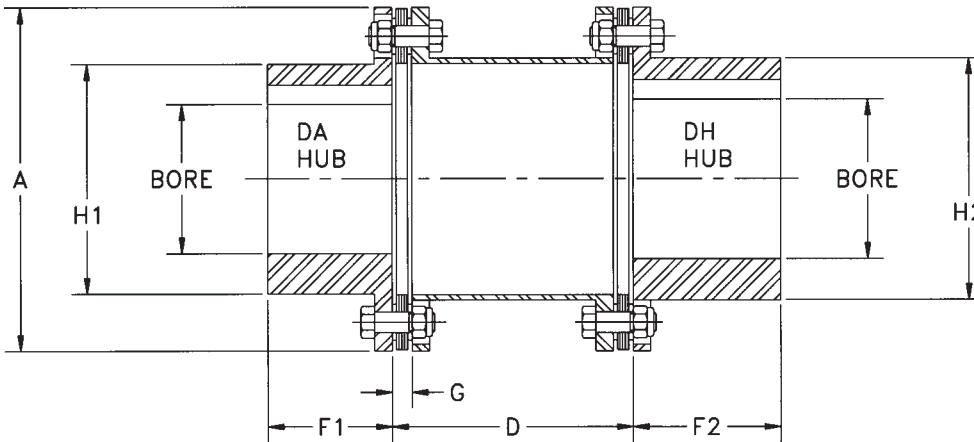
NOTES:

- 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR BH HUBS AT MAXIMUM BORE SIZE.
- 2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L= D - Dmin  
 TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]



# SPACER - DP SERIES 8 BOLT SPACER COUPLINGS

The DP series coupling is a fully machined spacer coupling using the 8 bolt disc design used for high torque applications at higher speeds. The coupling is made up of two hubs, a one-piece machined spool spacer and two sets of flex discs and hardware. The DP is made-to-order to any customer spacer length. Both stainless and high strength alloy flex disc materials are available.



**MEETS API 610  
9TH EDITION  
WITH OPTIONAL  
BALANCING**

RATED MISALIGNMENT: 0.5 DEG/DISC

SPECIFY BORES & DBSE  
THIS COUPLING IS SOLD AS AN ASSEMBLY.

SIZE	DIMENSIONS IN INCHES									FREE END
	MAX BORE		A	Dmin DBSE	F1 DA	F2 DH	G	H1 DA	H2 DH	FLOAT +/- inch
	DA	DH								
DP31	3.38	3.63	7.81	4.38	2.84	3.37	0.44	5.22	5.50	0.052
DP35	3.75	4.00	8.69	4.75	3.28	3.75	0.54	5.71	5.88	0.056
DP37	4.00	4.50	9.69	5.00	3.56	4.00	0.69	6.18	6.50	0.062
DP42	4.50	4.75	10.50	5.13	3.97	4.25	0.69	6.70	7.00	0.067
DP45	4.75	5.13	11.31	5.25	4.50	4.50	0.75	7.20	7.44	0.072
DP50	5.00	5.38	12.88	7.25	4.72	5.00	0.96	7.93	8.38	0.082
DP55	5.50	6.00	14.44	7.62	5.31	5.50	1.04	8.95	9.44	0.092
DP60	6.00	6.50	16.00	8.13	6.00	6.00	1.10	9.89	10.25	0.102
DP70	7.00	7.50	18.25	9.25	7.00	7.00	1.40	11.06	11.75	0.115

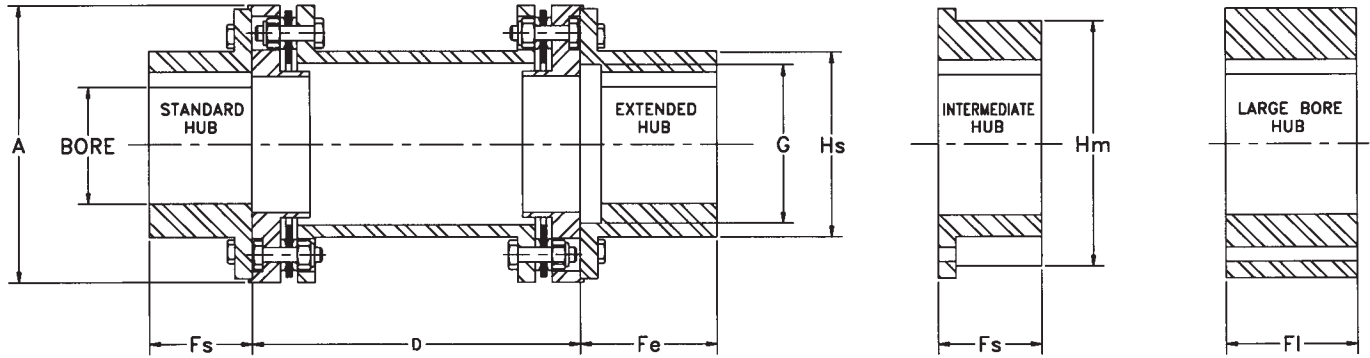
SIZE	HP PER 100 RPM	RATED TORQUE LB*IN	PEAK O/L TORQUE	AGMA 8 MAX RPM	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORS. STIFFNESS x10 <sup>6</sup> (lb. in./rad)	
	1.0 S.F	(lb. in.)	(lb. in.)		AT MIN	ADD PER	AT MIN	ADD PER	K factor	Y factor
					D	in. OF D	D	in. OF D		
DP31	50.75	32,000	64,000	6,500	37.2	0.60	289	4.30	16.7	168
DP35	76.12	48,000	96,000	5,700	54.5	0.97	525	8.16	26.7	318
DP37	107.84	68,000	136,000	5,400	69.3	1.05	839	10.7	34.7	417
DP42	146.69	92,500	185,000	5,100	91.4	1.54	1,270	18.2	47.2	711
DP45	157.00	99,000	198,000	4,800	118	1.66	1,910	23.4	61.0	912
DP50	260.08	164,000	328,000	4,300	175	2.28	3,560	38.3	78.7	1,490
DP55	396.47	250,000	510,000	4,100	260	3.03	6,690	63.2	133	2,470
DP60	586.77	370,000	740,000	3,600	367	4.01	11,600	101	187	3,950
DP70	840.51	530,000	1,060,000	3,300	559	5.46	23,500	172	285	6,690

NOTES:  
 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR DA HUBS AT MAXIMUM BORE SIZE.  
 2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L= D - Dmin  
 TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]

# SPACER – BF SERIES 6 BOLT DROP OUT SPACER COUPLING



The BF series is designed for moderate service in higher speed applications. The coupling consists of factory assembled spacer unit which mounts between two hubs. The spacer assembly drops out as one unit for easy maintenance. The BF has all steel construction with standard stainless steel flex discs. The coupling is manufactured to meet AGMA class 9 balance requirements. Dynamic balancing for higher speed operation is also available. Standard length spacers are stocked. Pricing is standard for any spacer length up to the Dmax value listed. Longer spacer lengths are also available.



RATED MISALIGNMENT: 0.5 DEG/DISC

SPECIFY BORES & DBSE  
THIS COUPLING IS SOLD AS COMPONENTS  
UNLESS BALANCED.

**MEETS API 610  
9TH EDITION**

SIZE	DIMENSIONS IN INCHES												
	MAX BORE			A	DBSE			Fs STD INTERM.	Fe EXT	FI LRG	G MAX	Hs STD EXT	Hm INTERM.
	STD EXT	INTERM. HUB	LARGE HUB		Dmin	Dmax*	STOCK						
15(3)	1.50	1.88	2.38	3.65	3.43	9.00	3.5, 4.37	1.31	1.69	1.63	2.09	2.33	2.75
20(3)	1.88	2.13	2.75	4.19	3.43	9.00	3.5, 4.37, 5	1.56	2.06	1.81	2.56	2.81	3.00
33	2.25	-	3.25	4.93	3.09	9.00	3.5, 5, 7	2.00	2.50	2.06	3.13	3.38	-
38	3.00	-	4.00	6.00	3.50	9.00	5, 7	2.63	3.25	2.75	4.13	4.43	-
43	3.50	-	4.50	6.77	4.43	9.00	5, 7	3.12	3.75	3.00	5.00	5.25	-
48	3.75	-	5.00	7.62	4.50	9.00	5, 7	3.25	4.00	3.25	5.38	5.63	-
53	4.13	-	-	8.00	5.69	9.00	7	3.63	4.38	-	5.75	6.13	-
58	4.63	-	-	9.00	6.88	9.00	7	4.12	5.00	-	6.50	6.88	-
63	5.13	-	-	10.00	6.93	9.00	7	4.50	5.38	-	7.25	7.63	-
68	5.63	-	-	11.00	7.56	12.00	-	5.00	6.00	-	8.00	8.38	-
73	6.50	-	-	12.75	11.00	15.00	-	5.13	6.38	-	8.38	9.38	-
78	7.50	-	-	15.30	11.08	15.00	-	6.38	7.38	-	10.19	10.75	-

\* Longer D dimensions are available. Consult factory for pricing.

SIZE (4)	HP PER 100 RPM	RATED TORQUE LB*IN (lb. in.)	PEAK O/L TORQUE (lb. in.)	AGMA 9 (3) MAX. RPM	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORSIONAL STIFFNESS		FREE END FLOAT +/- inch
	1.0 S.F				AT MIN.	ADD PER	AT MIN.	ADD PER	x10 <sup>6</sup> (lb. in./rad)		
					D	(in.) OF D	D	(in.) OF D	K factor	Y factor	
15	2.50	1,575	3,150	13,500	7.22	0.12	11.9	0.05	0.52	2.09	0.045
20	3.49	2,200	4,400	12,500	9.31	0.19	19.9	0.15	0.92	3.72	0.055
33	6.27	3,950	7,900	11,000	13.1	0.47	39.3	0.91	3.32	37.0	0.060
38	13.10	8,255	16,510	9,800	24.3	0.63	114.0	2.23	6.91	90.7	0.076
43	21.43	13,500	27,000	8,800	44.5	0.70	276	3.05	9.66	124	0.090
48	29.21	18,400	36,800	8,300	54.3	0.79	422	4.61	12.8	187	0.108
53	38.10	24,000	48,000	7,800	72	0.88	633	5.92	14.9	240	0.108
58	65.08	41,000	82,000	7,000	107	0.98	1,200	8.14	23.4	330	0.118
63	76.19	48,000	96,000	6,700	134	1.14	1,870	13.0	33.5	528	0.140
68	114.29	72,000	144,000	6,200	188	1.48	3,020	16.2	44.7	569	0.144
73	198.41	125,000	250,000	5,700	272	2.02	5,890	27.0	75.1	1,100	0.156
78	369.84	233,000	466,000	5,000	475	3.21	14,700	63.8	142	2,590	0.170

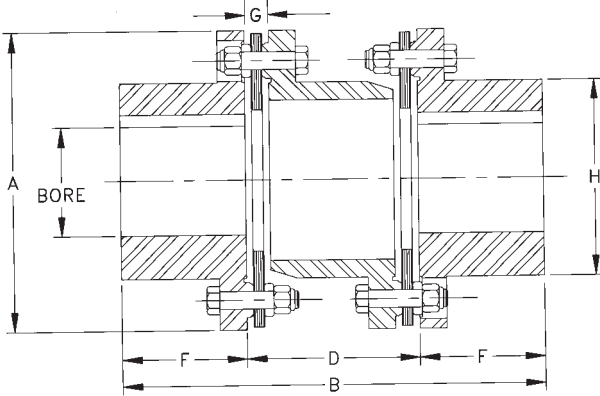
NOTES:

- 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR STANDARD HUBS AT MAXIMUM BORE SIZE.
- 2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L= D - Dmin  
TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]
- 3) CONSULT FACTORY FOR HIGHER SPEED OPERATION
- 4) SIZES 15-20 ARE A 4-BOLT DISC DESIGN, SIZES 33-68 ARE A 6-BOLT DISC DESIGN AND SIZES 73-78 ARE AN 8-BOLT DESIGN.



# SPACER - HSH SERIES 8 BOLT SPACER COUPLINGS

The HSH series is designed for high torque, low speed applications. Hubs are cast iron. Steel is optional. Spacers are cast grey or ductile iron. Flex discs are high strength alloy steel. Stainless steel flex discs are optional. Dynamic balancing for higher speed operation is not recommended. Single plane balancing of hubs and spacers is available.



SIZE	DIMENSIONS IN INCHES							
	MAX BORE		A (2)	B	D DBSE	F	G	H
	IRON	STEEL						
22	2.25	-	6.00	8.00	3.00	2.50	0.43	3.87
26	2.62	-	6.87	9.50	3.50	2.88	0.55	4.50
31	3.12	3.63	8.12	10.87	4.12	3.37	0.62	5.50
35	3.62	4.00	9.12	12.06	4.56	3.75	0.66	6.12
37	3.75	4.50	10.06	13.12	5.12	4.00	0.81	6.50
42	4.25	4.75	11.00	13.93	5.43	4.25	0.81	7.00
45	4.50	5.13	11.87	14.75	5.75	4.50	0.87	7.43
50	5.12	5.50	13.43	16.81	6.81	5.00	1.06	9.50
55	5.62	6.25	15.00	18.68	7.68	5.50	1.25	9.50
60	6.50	7.12	16.75	20.93	8.43	6.25	1.34	10.50
70	7.00	7.87	18.93	23.62	9.62	7.00	1.50	11.75
75	7.75	8.75	20.62	25.00	10.50	7.25	1.53	13.00
80	8.00	9.12	22.37	26.87	11.37	7.75	1.56	13.75
85	8.50	9.62	23.75	28.62	12.12	8.25	1.62	14.50
92	10.00	11.00	25.75	31.00	13.00	9.00	1.75	15.87
105	10.50	12.00	29.25	34.25	13.25	10.50	1.75	20.00
160	16.00	17.00	33.50	40.25	16.25	12.00	2.25	24.00

**ORDERING: HSH**  
Series couplings are sold as complete assemblies. Please specify hub type, bore sizes, and flex disc materials. A coupling will be configured to meet your specifications.

RATED MISALIGNMENT: 0.3 DEG/DISC

HUB TYPES	SIZES
C.I.	22-160
STL	31-160
SEE PAGE F5-9	

SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	MAX RPM	WEIGHT (lbs.) (1)	WR <sup>2</sup> (lb. in. <sup>2</sup> ) (1)	TQ/RAD X10 <sup>6</sup> (1) (lb. in./rad)	FREE END FLOAT +/- inch
	1.0S.F							
22	15.08	9,500	14,250	3,800	22	80	1.5	0.036
26	25.40	16,000	24,000	3,300	33	161	2.3	0.044
31	38.10	24,000	36,000	2,800	56	401	2.9	0.052
35	69.84	44,000	66,000	2,600	81	750	6.5	0.056
37	95.24	60,000	90,000	2,500	103	1,130	9.9	0.062
42	115.90	73,000	109,500	2,400	133	1,740	6.9	0.067
45	157.10	99,000	148,500	2,250	161	2,510	14.8	0.072
50	203.20	128,000	192,000	2,000	223	4,580	44.3	0.082
55	300.00	189,000	283,500	1,800	302	7,480	54.2	0.092
60	414.30	261,000	391,500	1,600	435	13,800	80.1	0.102
70	658.70	415,000	622,500	1,400	640	25,900	144	0.115
75	846.00	533,000	799,500	1,300	839	38,600	148	0.125
80	1,087.00	685,000	1,027,500	1,200	1,070	59,800	205	0.136
85	1,316.00	829,000	1,243,500	1,100	1,240	79,400	204	0.140
92	1,651.00	1,040,000	1,560,000	1,000	1,710	131,000	384	0.156
105	1,984.00	1,250,000	1,875,000	1,000	C/F	C/F	C/F	0.170
160	3,175.00	2,000,000	3,000,000	900	C/F	C/F	C/F	0.250

NOTE:

- 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR CAST IRON HUBS AT MAXIMUM BORE SIZE.
- 2) HUB FLANGE DIAMETER MAY VARY WITH STEEL HUBS



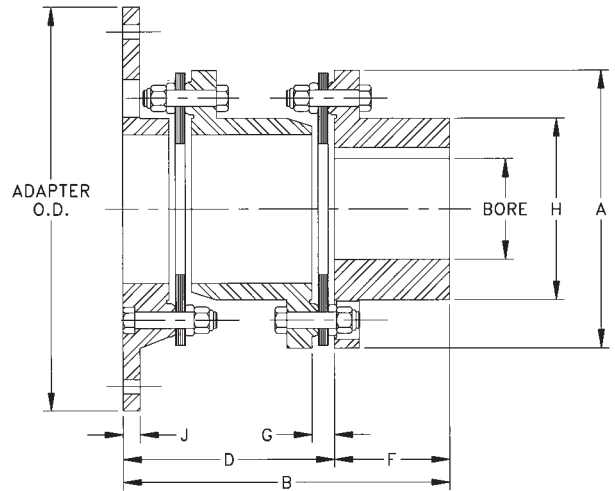
# SPACER - FSH SERIES 8 BOLT FLYWHEEL MOUNT COUPLINGS



The FSH series is designed for high torque, low speed applications. Hubs are cast iron. Steel is optional. Adapter plates and spacers are cast grey or ductile iron. Flex discs are high strength alloy steel. Stainless flex discs are optional. Dynamic balancing for higher speed operation is not recommended. Single plane balancing of flywheel adapters, hubs and spacers is available.

HUB TYPES	SIZES
C.I.	31-105
STL.	31-105
SEE PAGE F5-9	

**ORDERING:** FSH Series couplings are sold as complete assemblies. Please specify hub type, bore sizes, and flex disc materials. A coupling will be configured to meet your specifications.



RATED MISALIGNMENT: 0.3 DEG/DISC

STANDARD ADAPTER SIZES							
SIZE	OD	SAE BOLTING			HD BOLTING		
		BC	HOLE QTY	HOLE SIZE	BC	HOLE QTY	HOLE SIZE
10	10.375	9.625	6	13/32	9.500	8	15/32
12	12.375	11.625	8	13/32	11.500	8	17/32
14	13.875	13.125	8	13/32	12.500	8	21/32
18	18.375	17.250	8	17/32	16.750	8	25/32
20	20.375	19.250	8	17/32	18.500	8	29/32
22	22.500	21.375	6	21/32	20.500	8	1-1/32
26	26.500	25.250	12	21/32	24.500	12	1-1/32
28	28.875	27.250	12	25/32	26.875	12	1-1/32

SIZE	DIMENSIONS IN INCHES									AVAILABLE ADAPTER SIZES									
	MAX BORE		A(3)	B	D DBSE	F	G	H	J	X = STOCK SIZE				0 = MTO					
	IRON	STEEL								10	12	14	18	20	22	26	28		
31	3.12	3.63	8.12	8.68	5.31	3.37	0.62	5.50	0.50	O	O	X	X	O	O				
35	3.62	4.00	9.12	9.62	5.87	3.75	0.66	6.12	0.50	O	O	X	X	O	X				
37	3.75	4.50	10.06	10.62	6.62	4.00	0.81	6.50	0.56			O	O	O	O				
42	4.25	4.75	11.00	11.37	7.12	4.25	0.81	7.00	0.63			O	X	O	X	X	X	X	X
45	4.50	5.13	11.87	12.00	7.50	4.50	0.87	7.43	0.69			O	X	O	X	X	X	X	X
50	5.12	5.50	13.43	13.75	8.75	5.00	1.06	8.37	0.75				X	O	X	X	X	X	X
55	5.62	6.25	15.00	15.38	9.87	5.50	1.25	9.50	0.88				X	O	X	X	X	X	X
60	6.50	7.12	16.75	17.12	10.87	6.25	1.34	10.50	1.00				X	O	X	X	X	X	X
70	7.00	7.87	18.93	19.43	12.43	7.00	1.50	11.75	1.00						X	X	X	X	X
75	7.75	8.75	20.62	20.75	13.50	7.25	1.53	13.00	1.13						O	O	X	X	X
80	8.00	9.12	22.37	22.50	14.75	7.75	1.56	13.75	1.25						O	O	X	X	X
85	8.50	9.62	23.75	23.93	15.68	8.25	1.62	14.50	1.25						O	O	X	X	X
92	10.00	11.00	25.75	26.25	17.25	9.00	1.75	15.87	1.38										X
105	10.50	12.00	29.25	27.77	17.27	10.50	1.75	20.00	1.75										

SIZE	HP PER 100 RPM	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	MAX RPM (2)	WEIGHT (lbs.) (1)	WR <sup>2</sup> (lb. in. <sup>2</sup> ) (1)	TQ/RAD X10 <sup>6</sup> (1) (lb. in./rad)	FREE END FLOAT +/- inch
	1.0S.F							
31	38.10	24,000	36,000	2,800	48	442	2.95	0.052
35	69.84	44,000	66,000	2,600	64	661	6.69	0.056
37	95.24	60,000	90,000	2,500	87	1,170	10.3	0.062
42	115.9	73,000	109,500	2,400	115	1,860	7.03	0.067
45	157.1	99,000	148,500	2,250	138	2,500	15.4	0.072
50	203.2	128,000	192,000	2,000	202	5,550	48.8	0.082
55	300.0	189,000	283,500	1,800	263	8,000	58.6	0.092
60	414.3	261,000	391,500	1,600	359	12,700	86.5	0.102
70	658.7	415,000	622,500	1,400	559	26,200	161	0.115
75	846.0	533,000	799,500	1,300	766	43,600	160	0.125
80	1087	685,000	1,027,500	1,200	930	60,100	225	0.136
85	1316	829,000	1,243,500	1,100	1,110	83,000	222	0.140
92	1651	1,040,000	1,560,000	1,000	1,460	124,000	433	0.156
105	1984	1,250,000	1,875,000	1,000	C/F	C/F	C/F	0.170

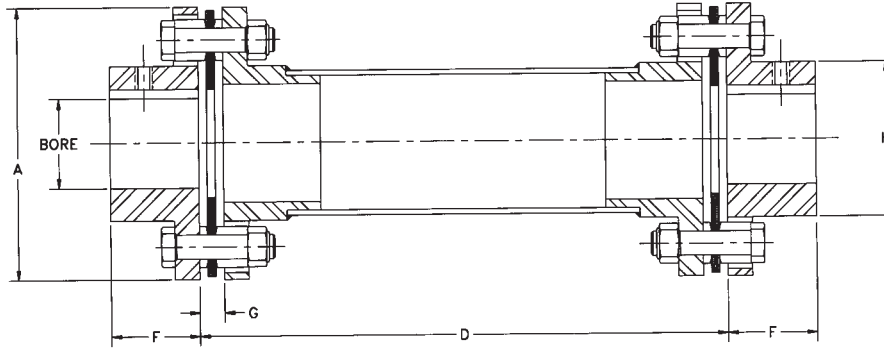
- 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR CAST IRON HUBS AT MAXIMUM BORE SIZE AND MINIMUM AVAILABLE ADAPTER O.D.
- 2) MAX RPM LISTED IS FOR SMALLEST ADAPTER SIZE. CONSULT FACTORY FOR SPEED RATINGS BY ADAPTER SIZE.
- 3) HUB FLANGE DIAMETER MAY VARY WITH STEEL HUBS.



# FLOATING SHAFT - A5 SERIES

## 4 BOLT FLOATING SHAFT COUPLINGS

The A5 series is used for spacer lengths that are longer than can be spanned economically with spacer couplings. The A5 series has a welded tubular spacer assembly along with two hubs and standard hardware, including stainless steel flex discs. The A5 is Made to Order to any custom spacer length. A5 series standard pricing is listed for D dimensions up to 36" and for D dimensions from 36" to maximum D at 1800 RPM.



RATED MISALIGNMENT: 1.0 DEG/DISC

HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-45
AZ - OVERSIZE	05-45
QD BUSHING MOUNT	15-40
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25

SEE PAGE F5-8

ORDERING: A5 Series couplings are sold as complete assemblies. Please specify hub types and bore sizes, DBSE (D) dimension, speed for dynamic balancing, and material class. A coupling will be configured to meet your specifications.

ORDERING TYPE A6 FOR VERTICAL APPLICATIONS LONGER THAN 30" DBSE. A THRUST BUTTON WILL BE ADDED ON THE LOWER END OF THE SPACER TO SUPPORT THE WEIGHT OF THE SPACER

MATERIAL CLASSES	
CLASS	SIZE
A	05-45
B	05-45
C	15-45
E	15-45

SEE PAGE F5-4

SIZE	DIMENSIONS IN INCHES*							MAX DBSE (D INCHES) FOR RPM SHOWN					
	MAX BORE		A	Dmin	F	G	H	1800	1500	1200	900	750	600
	AJ	AZ											
05	0.87	1.13	2.65	4.00	1.00	0.24	1.30	51	56	62	71	78	87
10	1.25	1.63	3.19	4.00	1.00	0.27	1.80	62	69	76	88	96	107
15	1.37	1.88	3.65	5.00	1.13	0.32	2.00	64	71	79	91	99	111
20	1.62	2.13	4.08	5.00	1.32	0.34	2.40	73	81	90	103	113	126
25	2.00	2.38	4.95	5.00	1.62	0.45	2.80	79	87	97	112	122	137
30	2.38	2.88	5.63	6.00	1.88	0.47	3.30	85	94	102	120	132	147
35	2.88	3.75	6.63	7.00	2.25	0.55	4.15	97	107	119	137	150	168
40	3.25	4.00	7.64	7.00	2.50	0.60	4.65	103	113	126	146	160	178

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED

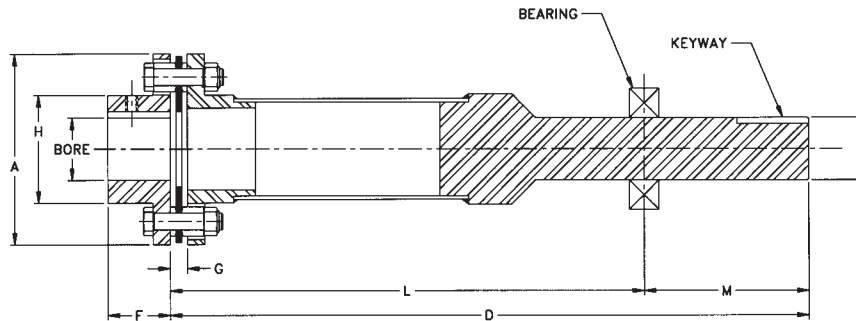
SIZE	HP PER 100 RPM 1.0 S.F	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORS. STIFFNESS 10° (lb. in./rad)		FREE END FLOAT +/- inch
				AT D = 20"	ADD PER in. OF D	AT D = 20"	ADD PER in. OF D	K factor	Y factor	
				05	0.48	300	600	4.37	0.11	
10	1.27	800	1,600	5.64	0.10	5.88	0.07	0.11	2.81	0.040
15	2.50	1,575	3,150	7.48	0.10	10.3	0.07	0.13	2.81	0.042
20	3.49	2,200	4,400	11.5	0.21	18.3	0.22	0.35	8.77	0.055
25	6.03	3,800	7,600	17.0	0.20	45.0	0.29	0.52	12.0	0.060
30	11.00	6,930	13,860	25.7	0.29	90.6	0.56	0.98	22.7	0.065
35	18.00	11,340	22,680	34.8	0.40	180	1.32	1.99	53.9	0.085
40	29.00	18,270	36,540	49.9	0.46	356	1.95	3.14	79.3	0.100

NOTES:  
 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.  
 2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L = D - 20"  
 TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]

# FLOATING SHAFT - A7 SERIES 4 BOLT SEMI-FLOATING SHAFT COUPLINGS



The A7 coupling is a single flexing coupling designed for use in widely spaced three bearing systems. The shaft end of the coupling must be supported by a self-aligning bearing. A full floating coupling may be used in combination with the semi-floating coupling to span longer distances, or a V-Belt drive or other component may be mounted to the shaft end. This A7 is made-to-order to any custom spacer length. A7 series standard pricing is listed at D dimensions up to 36 inches and D dimensions between 36 inches and max L at 1800 RPM motor speed.



RATED MISALIGNMENT: 1.0 DEG/DISC

HUB OPTIONS	
HUB TYPE	SIZE
AJ - STANDARD	05-45
AZ - OVERSIZE	05-45
QD BUSHING MOUNT	15-40
AC/AD CLAMP	05-25
AL LOCK ELEMENT	05-25
SEE PAGE F5-8	

ORDERING: A7 Series couplings are sold as complete assemblies. Please specify hub types and bore sizes, DBSE (D) dimension, speed for dynamic balancing, and material class. A coupling will be configured to meet your specifications.

MATERIAL CLASSES	
CLASS	SIZE
A	10-45
B	05-45
C	15-45
E	15-45
SEE PAGE F5-4	

SIZE	DIMENSIONS IN INCHES*											MAX DBSE (D INCHES) FOR RPM SHOWN				
	MAX BORE		A	Dmin	F	G	H	K	L	M	KEYWAY SIZE	1800	1500	1200	900	600
	AJ	AZ														
10	1.25	1.63	3.19	20	1.00	0.27	1.80	1.25	16.50	3.50	.25 x .12	62	69	76	88	107
15	1.37	1.88	3.65	20	1.13	0.32	2.00	1.25	16.06	3.94	.25 x .12	64	71	79	91	111
20	1.62	2.13	4.08	20	1.32	0.34	2.40	1.50	15.75	4.25	.37 x .18	73	81	90	103	126
25	2.00	2.38	4.95	20	1.62	0.45	2.80	1.75	15.25	4.75	.37 x .18	79	87	97	112	137
30	2.38	2.88	5.63	20	1.88	0.47	3.30	2.00	14.50	5.50	.50 x .25	85	94	102	120	147
35	2.88	3.75	6.63	20	2.25	0.55	4.15	2.50	13.25	6.75	.62 x .31	97	107	119	137	168
40	3.25	4.00	7.64	20	2.50	0.60	4.65	3.00	12.75	7.25	.75 x .37	103	113	126	146	178

\* DIMENSIONS SHOWN ARE FOR AJ HUBS UNLESS OTHERWISE SPECIFIED

SIZE	HP PER 100 RPM 1.0 S.F	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	MAX RADIAL LOAD-(lbs.)	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORS. STIFFNESS 10° (lb. in./rad)		FREE END FLOAT +/- inch
					AT D = 20"	ADD/ (in.) OF D	AT MIN D = 20"	ADD/ (in.) OF D	K factor	Y factor	
					10	1.27	800	1,600	34	5.37	
15	2.50	1,575	3,150	56	6.65	0.10	5.72	0.07	0.28	2.81	0.021
20	3.49	2,200	4,400	125	11.0	0.21	11.0	0.22	0.56	8.77	0.027
25	6.03	3,800	7,600	183	14.7	0.20	24.9	0.29	0.91	12.0	0.030
30	11.00	6,930	13,860	275	19.7	0.29	52.4	0.56	1.52	22.7	0.032
35	18.00	11,340	22,680	400	34.7	0.40	106	1.32	3.03	53.9	0.042
40	29.00	18,270	36,540	600	51.6	0.46	211	1.95	5.26	79.3	0.050

NOTES:

- 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR AJ HUBS AT MAXIMUM BORE SIZE.
- 2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L= D - 20"  
TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]

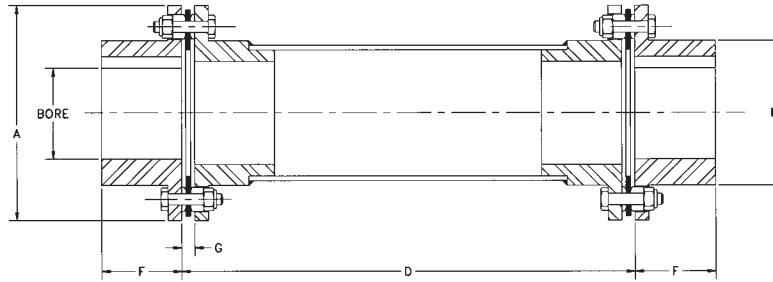


# FLOATING SHAFT - B5 SERIES

## 6 BOLT FLOATING SHAFT COUPLINGS

The B5 series is used for spacer lengths that are longer than can be spanned economically with standard spacer couplings. The B5 has a welded tubular spacer assembly along with two hubs and standard hardware, including stainless steel flex discs. The B5 is made-to-order to any custom spacer length. B5 series standard pricing is listed at D dimensions up to 36 inches and D dimensions between 36 inches and max D at 1800 RPM motor speed.

**Consult factory for vertical modifications and semi-floating designs.**



RATED MISALIGNMENT: 0.7 DEG/DISC

HUB TYPES	SIZES
BH	33-78
SEE PAGE F5-9	

MATERIAL CLASSES	
CLASS	SIZE
A	33-78
B	33-78
C	38-63
E	N/A
SEE PAGE F5-4	

ORDERING: B5 Series couplings are sold as complete assemblies. Please specify hub types and bore sizes, DBSE (D) dimension, speed for dynamic balancing, and material class. A coupling will be configured to meet your specifications.

SIZE	DIMENSIONS IN INCHES*						MAX DBSE (D INCHES)					
	MAX BORE	A	Dmin	F	G	H	FOR RPM SHOWN					
							1800	1500	1200	900	750	600
33	2.25	4.69	4.25	1.75	0.285	3.14	79	87	97	112	122	137
38	3.00	5.87	6.00	2.25	0.335	4.13	97	107	119	137	150	168
43	3.25	6.70	7.00	2.50	0.465	4.63	103	113	126	146	160	178
48	3.75	7.50	7.50	2.75	0.495	5.40	113	125	139	160	175	196
53	3.88	7.87	7.50	2.88	0.520	5.65	113	125	139	160	175	196
58	4.25	9.00	7.50	3.25	0.555	6.22	123	136	151	170	186	208
63	4.88	10.00	7.50	3.38	0.600	7.14	123	136	151	170	186	208
68	5.00	10.75	8.00	3.75	0.849	7.33	130	142	159	183	201	225

SIZE	HP PER 100 RPM 1.0 S.F	RATED TORQUE LB*IN (in. lbs.)	PEAK O/L TORQUE (in. lbs.)	WEIGHT (lbs.)		WR <sup>2</sup> -(lb. in. <sup>2</sup> )		TORS. STIFFNESS x10 <sup>6</sup> (in. lbs./rad)		FREE END FLOAT +/- inch
				AT D = 20"	ADD PER in. OF D	AT D = 20"	ADD PER in. OF D	K factor	Y factor	
				33	4.84	3,050	6,100	14.4	0.20	
38	10.08	6,350	12,700	29.1	0.39	113	1.28	1.77	51.9	0.084
43	19.84	12,500	25,000	41.0	0.44	210	1.88	2.89	76.4	0.090
48	26.98	17,000	34,000	60.0	0.52	402	3.10	4.57	126	0.108
53	38.10	24,000	48,000	67.4	0.52	494	3.10	5.52	126	0.108
58	53.97	34,000	68,000	85.5	0.63	874	5.43	8.44	220	0.118
63	76.19	48,000	96,000	108	0.63	1340	5.43	9.52	220	0.140
68	114.29	72,000	144,000	140	1.15	1940	13.37	19.9	543	0.144

NOTES:  
 1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR BH HUBS AT MAXIMUM BORE SIZE.  
 2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L = D - 20"  
 TORSIONAL STIFFNESS = 1/[(1/K) + (L/Y)]

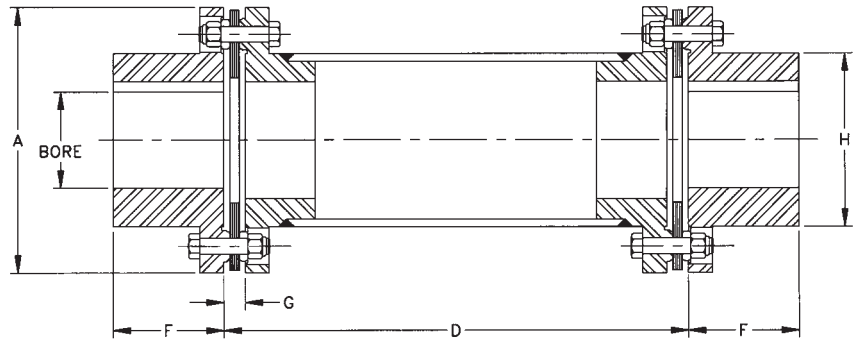
# FLOATING SHAFT - HFTH SERIES 8 BOLT FLOATING SHAFT COUPLINGS



The HFTH series is designed for heavy duty applications that cannot use the A5 or B5 series. These include high torque and engine driven applications. The HFTH uses a welded tubular spacer assembly. Flex discs are high strength alloy steel. Stainless steel flex discs are optional. Dynamic balancing of the spacer assembly is included. The HFTH is made-to-order to any custom spacer length. Large tube designs are also available.

**Consult factory for vertical modifications, and semi-floating designs or flywheel mounting.**

**ORDERING:** HFTH Series couplings are sold as complete assemblies. Please specify hub speed for dynamic balancing. A coupling will be configured to meet your specification.



HUB TYPES	SIZES
STL.	35-160
SEE PAGE F5-9	

RATED MISALIGNMENT: 0.5 DEG/DISC

SIZE	DIMENSIONS IN INCHES*						MAX DBSE (D INCHES) FOR RPM SHOWN					
	MAX BORE STEEL	A	Dmin	F	G	H	1800	1500	1200	900	750	600
35	4.00	9.12	10.0	3.75	0.66	6.12	114	124	139	161	176	197
37	4.50	10.06	10.0	4.00	0.81	6.50	121	132	148	172	187	210
42	4.75	11.00	10.0	4.25	0.81	7.00	128	140	157	182	198	222
45	5.13	11.87	10.0	4.50	0.87	7.43	130	143	160	185	201	226
50	5.50	13.43	10.0	5.00	1.06	8.37	139	153	171	197	215	242
55	6.25	15.00	10.0	5.50	1.25	9.50	145	159	178	206	224	252
60	7.12	16.75	15.0	6.25	1.34	10.50	153	168	188	217	237	266
70	7.87	18.93	15.0	7.00	1.50	11.75	161	176	197	228	250	279
75	8.75	20.62	15.0	7.25	1.55	13.00	172	189	211	244	267	299
80	9.12	22.37	15.0	7.75	1.56	13.75	182	199	222	257	282	315
85	9.62	25.75	20.0	8.25	1.62	14.50	<b>CONSULT TB WOOD'S</b>					
92	11.00	25.75	20.0	9.00	1.75	15.87						
105	12.00	29.25	20.0	10.50	1.75	20.00						
160	17.00	33.50	20.0	12.00	2.25	24.00						

SIZE	HP PER 100 RPM 1.0 S.F	RATED TORQUE (lb. in.)	PEAK O/L TORQUE (lb. in.)	WEIGHT (lbs.) (1)		WR <sup>2</sup> -(lb. in. <sup>2</sup> ) (1)		TORS. STIFFNESS (1) x10 <sup>6</sup> (lb. in./rad) (2)		FREE END FLOAT +/- inch						
				AT	ADD PER	AT	ADD PER	K factor	Y factor							
				D = 20"	in. OF D	D = 20"	in. OF D									
35	76.12	48,000	96,000	111	0.81	1,040	5	9	190	0.056						
37	107.8	68,000	136,000	120	0.97	1,406	8.2	15	333	.062						
42	146.7	92,500	185,000	186	1.14	2,520	13	21	537	0.067						
45	157.0	99,000	198,000	201	1.14	3,370	13	23	537	0.072						
50	260.1	164,000	328,000	311	1.31	6,430	20	38	810	0.082						
55	396.5	250,000	500,000	374	1.95	10,100	37	67	1,510	0.092						
60	586.8	370,000	740,000	556	3.21	18,600	75	110	3,020	0.102						
70	840.5	530,000	1,060,000	769	3.21	33,000	75	134	3,020	0.115						
75	1142	720,000	1,440,000	948	4.13	49,000	158	252	6,430	0.125						
80	1507	950,000	1,900,000	1260	4.13	78,900	158	265	6,430	0.136						
85	1903	1,200,000	2,400,000	<b>CONSULT TB WOOD'S</b>								0.140				
92	2062	1,300,000	2,600,000													0.166
105	2855	1,800,000	3,600,000													0.170
160	3806	2,400,000	4,800,000													0.250

**NOTES:**

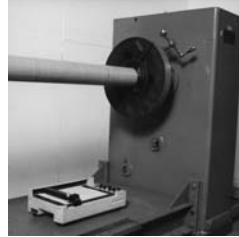
1) WEIGHT, WR<sup>2</sup> AND TORSIONAL STIFFNESS VALUES SHOWN ARE FOR BH HUBS AT MAXIMUM BORE SIZE.

2) TO CALCULATE TORSIONAL STIFFNESS FOR A GIVEN SPACER LENGTH, LET L= D - 20"

$$\text{TORSIONAL STIFFNESS} = 1/[(1/K) + (L/Y)]$$



# TRUE TUBE™ COMPOSITE TORQUE TUBES



True-Tube composite tubes are high-strength, lightweight torque tubes for long span drive shafts. These tubes are filament wound carbon or glass fiber construction in an oven cured epoxy matrix. True-Tube composites offer the following advantages over steel tubing.

## LONGER SPANS

TrueTube composite tubes have a higher stiffness to weight ratio than steel tubing. That increases the critical speed of the tubing and allows longer spans without center bearings.

## LIGHT WEIGHT

TrueTube drive shafts weigh up to 80% less than equivalent steel driveshafts. That means better balance and reduced vibration. Bearing life may be improved by minimizing overhung weight.

## DESIGN FLEXIBILITY

TrueTube composite tubes may be custom designed to meet your requirements for torsional stiffness, critical speed or torque capacity. With TrueTube, a designer can tune torsional or lateral critical speeds out of a machine system.

All TrueTube products include an ultraviolet barrier that is wound into the structure of the tube before it is cured. This UV barrier eliminates the need for paints or other protective coatings and results in a smooth, durable finish that other composite tubes don't offer. TrueTube products are cured in an enclosed oven to assure consistent strength and quality. Design data is shown below for standard series tubes. Standard series tubes are designed for maximum length at moderate torques. High torque designs are also available.

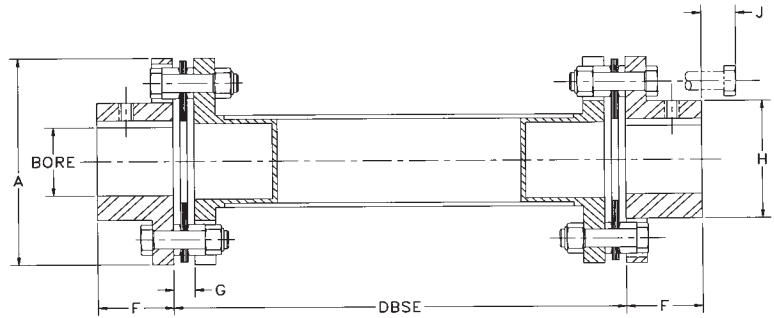
MODEL NUMBER	TUBE I.D. INCHES	TUBE O.D. INCHES	SLEEVE O.D. INCHES	RATED TORQUE LB*IN	TUBE WEIGHT (lb./in.)	TORSIONAL STIFFNESS x10 <sup>6</sup> LB*IN/RAD	MAX DBSE – INCHES				MAX TUBE LENGTH INCHES	
							2000 RPM	1800 RPM	1500 RPM	1000 RPM		
<b>SERIES SL – ALL CARBON CONSTRUCTION</b>												
SL2.0	2.00	2.30	2.40	6,500	0.05	1.26	90	95	104	127	82	
SL3.0	3.00	3.25	3.50	12,000	0.08	3.61	110	116	127	155	128	
SL4.0	4.00	4.23	4.50	22,000	0.11	8.60	127	134	147	180	145	
SL6.0	6.00	6.25	6.63	42,000	0.20	34.4	152	160	175	214	177	
SL8.0	8.00	8.25	8.63	63,000	0.24	80.2	180	190	208	255	192	
SL10.0	10.00	10.25	10.75	80,000	0.32	155	199	210	230	281	232	
SL12.0	12.00	12.25	12.75	100,000	0.38	258	215	227	249	304	232	
<b>SERIES SS – CARBON/GLASS CONSTRUCTION</b>												
SS2.0	2.00	2.30	2.40	5,500	0.06	0.97	79	83	91	111	82	
SS3.0	3.00	3.25	3.50	10,500	0.08	2.86	97	102	112	137	128	
SS4.0	4.00	4.23	4.50	22,000	0.12	7.28	112	118	129	158	145	
SS6.0	6.00	6.25	6.63	42,000	0.20	26.4	135	142	155	190	177	
SS8.0	8.00	8.25	8.63	58,000	0.28	57.3	151	160	176	216	192	
SS10.0	10.00	10.25	10.75	73,000	0.34	115	173	183	200	245	232	
SS12.0	12.00	12.25	12.75	88,000	0.42	206	189	199	218	267	232	
<b>SERIES LS – ALL GLASS CONSTRUCTION</b>												
LS2.0	2.00	2.30	2.40	5,000	0.07	0.75	66	70	77	94	82	
LS3.0	3.00	3.25	3.50	10,000	0.09	2.06	80	84	92	113	128	
LS4.0	4.00	4.23	4.50	18,000	0.14	5.04	93	98	107	131	145	
LS6.0	6.00	6.25	6.63	39,000	0.23	18.9	110	116	127	155	177	
LS8.0	8.00	8.25	8.63	51,000	0.30	43.0	128	135	148	181	192	
LS10.0	10.00	10.25	10.75	64,000	0.37	86.0	142	150	164	201	232	
LS12.0	12.00	12.25	12.75	77,000	0.46	149	155	163	178	218	232	

- NOTES: 1) TORQUE RATINGS ARE AT 100% HUMIDITY AND 200 DEG. F.  
 2) MAX RPM VALUES SHOWN ARE CALCULATED AT 75% OF FIRST CRITICAL SPEED.  
 3) TORSIONAL STIFFNESS SHOWN IS PER INCH OF TUBE LENGTH.  
 ACTUAL STIFFNESS = TORSIONAL STIFFNESS/TUBE LENGTH (IN.)

# FORM-FLEX® COMPOSITE FLOATING SHAFT COUPLINGS



Form-Flex flexible couplings may be mated to TrueTube composite tubes for use as long floating shaft couplings. All types and most sizes of Form-Flex couplings can be mated to TrueTube composites. Common combinations are shown below.



COUPLING TYPE	RATED TORQUE LB IN	HP PER 100 RPM	COUPLING PRODUCT NO.	MAXIMUM DBSE-INCHES			DIMENSIONS IN INCHES						
				MAX	1800 RPM	1500 RPM	MAXIMUM BORE		A	F	G	H	J
							STD HUB	AZ HUB					
A520	2,200	3.49	A520-CS2G	83	70	77	1.625	2.125	4.08	1.32	0.34	2.40	2.30
			A520-CS2R	83	83	83*							2.30
A525	3,800	6.03	A525-CS2G	83	70	77	2.000	2.375	4.95	1.62	0.45	2.80	2.30
			A525-CS2R	83	83	83*							2.30
A530	6,930	11.00	A530-CS3R	128	102	112	2.375	2.875	5.63	1.88	0.47	3.30	3.25
			A530-CS3B	128	116	127							3.25
A535	11,340	18.00	A535-CS4R	146	118	129	2.875	3.750	6.63	2.25	0.55	4.15	4.25
			A535-CS4B	146	134	146*							4.25
			A535-CS6R	179	142	155							6.30
			A535-CS6B	179	160	175							6.30
			A535-CS8R	196	175	191							8.31
			A535-CS8B	196	190	207*							8.31
A540	18,270	29.00	A540-CS4R	146	118	129	3.250	4.000	7.63	2.50	0.60	4.65	4.25
			A540-CS4B	146	134	146*							4.25
B558	34,000	54.00	B558-CS6R	179	142	155	3.75	-	9.00	2.75	0.56	5.43	6.30
			B558-CS6B	179	160	175							6.30
			B558-CS6X	182	165	181							6.30
			B558-CS8R	196	175	191							8.31
			B558-CS8B	196	190	207							8.31
			B558-CS10R**	236	206	224							10.31
B558-CS10B**	236	210	230	10.31									

## QUICK SELECTION GUIDE FOR COOLING TOWER APPLICATIONS

1800 RPM		COUPLING MODEL	1500 RPM	
DBSE	MAX HP		MAX HP	DBSE
70"	30	A520-CS2G	25	77"
	50	HD4-CS2G***	42	
	50	A525-CS2G	42	
83"	30	A525-CS2R	25	83**
	50	HD4-CS2R***	42	
	50	A525-CS2R	42	
102"	100	A530-CS3R	83	112"
116"	100	A530-CS3B	83	127"
118"	150	A535-CS4R	125	129"
	250	A540-CS4R	208	
134"	150	A535-CS4B	125	146**
	250	A540-CS4B	208	
142"	150	A535-CS6R	125	155"
	400	B558-CS6R	333	
160"	150	A535-CS6B	125	175"
	400	B558-CS6B	333	
165"	400	B558-CS6X	333	181"
	150	A535-CS8R	125	191"
175"	400	B558-CS8R	333	
	150	A535-CS8B	125	207"
190"	400	B558-CS8B	333	
	400	B558-CS10R	333	224"
206"	400	B558-CS10B	333	230"
210"	400	B558-CS10B	333	230"
227"	400	B558-CS12B	333	236**

ALL SELECTIONS USE A 2.0 SERVICE FACTOR

## COMPOSITE TUBE CONSTRUCTION

MODEL CODE	TUBE MATERIAL OF CONSTRUCTION
G	GLASS
R	CARBON/GLASS HYBRID
B	STANDARD CARBON
X,Z	HIGH MODULUS CARBON

THE MODEL CODE IS THE LAST LETTER IN THE COUPLING MODEL NUMBER. THE NUMBER xx IN THE TUBE MODEL NUMBER CSxxB DENOTES THE NOMINAL TUBE ID.

MATERIAL CLASS	MATERIAL USED		
	HUB	HARDWARE	SPACER FLANGES
A	STEEL	STEEL	COMPOSITE OR STEEL
B	STEEL	STEEL, ZINC PLT	COMPOSITE OR ZINC PLATED STEEL
C	ZINC PLT	304SS	
E	304SS	304SS	COMPOSITE OR 304SS

METAL SPACER FLANGES USED IF COMPOSITE IS NOT AVAILABLE.

### NOTES

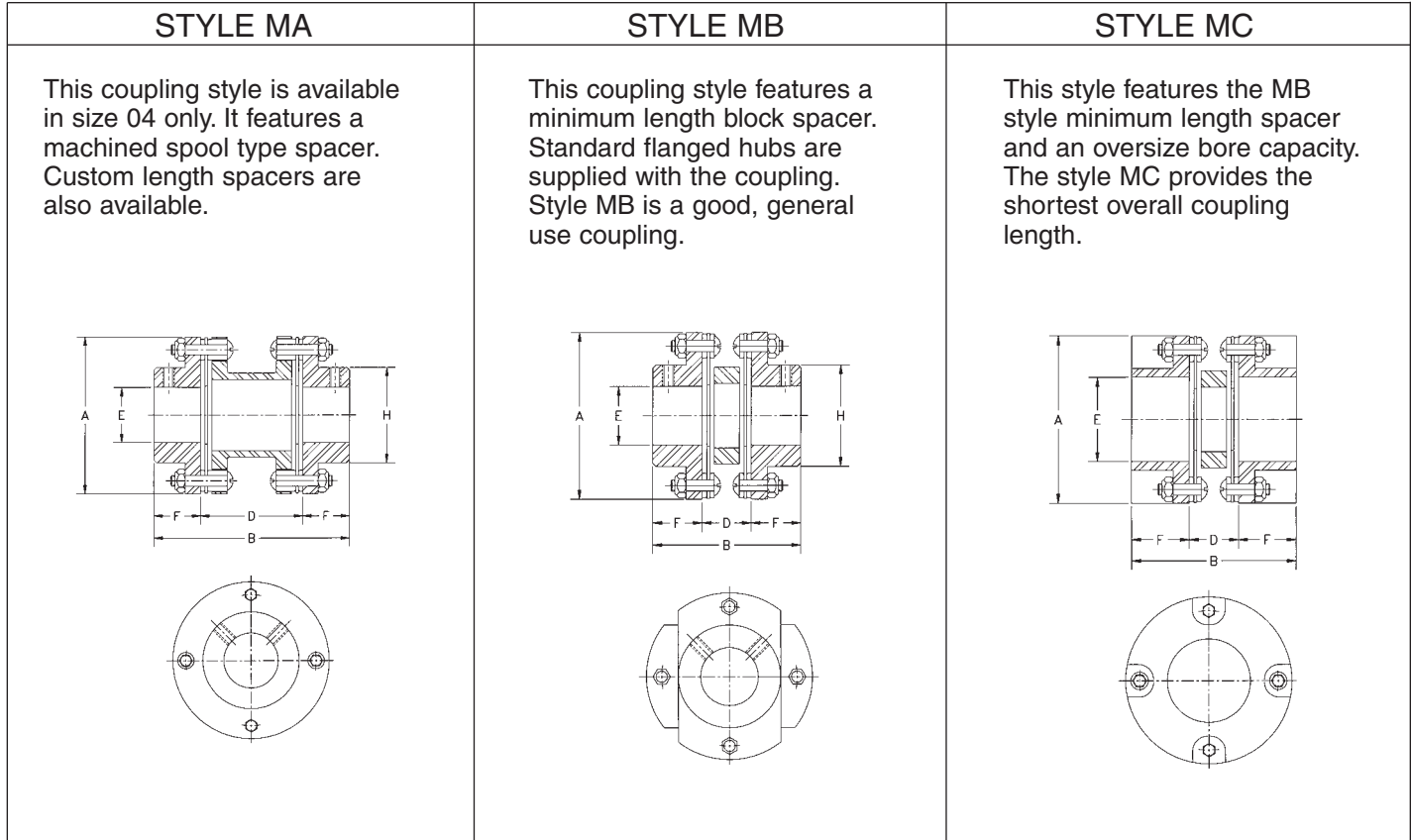
\* LENGTH IS RESTRICTED BY AVAILABLE MANDRELS FOR WINDING COMPOSITE TUBES. CONSULT FACTORY FOR LONGER LENGTHS.

\*\* TUBE DIAMETER IS LARGER THAN COUPLING "A" DIAMETER. CONSULT FACTORY FOR COUPLING DRAWING.

\*\*\* HD4-CS COUPLINGS ARE AN ALL COMPOSITE, HIGH MISALIGNMENT COUPLING. CONSULT PAGE F4-3 IN THE HD ELASTOMERIC SECTION OF THIS CATALOG FOR DETAILS.

# M SERIES – 4 BOLT MICRO COUPLINGS

Form-Flex M series microcouplings are a more compact and lighter design than traditional A Series couplings. They are free from backlash and their high torsional stiffness makes them ideally suited for small servo and tachometer drives. Aluminum hub construction meets low inertia requirements while the bolted assembly provides superior life when compared to riveted types.



DIMENSIONS IN INCHES									RATED TORQUE (in. lbs.)	PEAK O/L TORQUE (in. lbs.)	WR <sup>2</sup> OZ. (in. <sup>2</sup> )	TORSIONAL STIFFNESS (in. lbs./rad)	RATED MISALIGNMENT deg/disc	FREE END FLOAT (in.)
STYLE	SIZE	MAX BORE	A	B	D DBSE	F	H	STD SET SCREW SIZE						
MA	04	0.79	2.24	2.93	1.36	0.79	1.22	M6X1.0	87	174	6.11	64.7X10 <sup>3</sup>	1.5	0.60
MB	02	0.38	1.26	1.39	0.45	0.47	0.71	M4X0.7	17	34	0.29	2.9X10 <sup>3</sup>	1.5	0.40
	03	0.63	1.65	1.80	0.54	0.63	1.02	M4X0.7	35	70	1.33	14.9X10 <sup>3</sup>	1.5	0.50
	04	0.79	2.24	2.38	0.81	0.79	1.22	M6X1.0	87	174	4.99	64.7X10 <sup>3</sup>	1.5	0.60
MC	01	0.38	1.02	1.08	0.45	0.32	–	M3X0.5	9	18	0.17	2.4X10 <sup>3</sup>	1.5	0.25
	02	0.59	1.26	1.53	0.45	0.32	–	M4X0.7	17	34	0.35	2.9X10 <sup>3</sup>	1.5	0.40
	03	0.79	1.65	1.53	0.54	0.50	–	M4X0.7	35	70	1.34	14.9X10 <sup>3</sup>	1.5	0.50

NOTE: STYLE MBO4 COUPLING HUBS WILL HAVE ROUND FLANGES AS SHOWN FOR TYPE MA.



# INDIVIDUAL PARTS & KITS



Repair kits consist of flex discs and all the necessary installation hardware. SINGLE REPAIR KITS have one set of flex discs and all required hardware. Two single repair kits are required for a double flexing coupling. DOUBLE REPAIR KITS have two sets of flex discs and all required hardware. HARDWARE KITS have all the components of a repair kit except the flex discs. FLEX DISCS are also sold individually.

## A SERIES (4 BOLT) COUPLING PARTS

KIT TYPE	REPAIR		HARDWARE		REPAIR	HDWR	REPAIR	HDWR	FLEX
SGL/DBL	SINGLE				DOUBLE		DOUBLE		DISC
USED ON	AA, AK, AP, AR, A5, A7				AX		AY		ALL
MAT'L CLASS	A,B	C,E	A,B	C,E	A,B	A,B	A,B	A,B	ALL
05	A05RKA	...	A05HKA	...	AX05RKA	AX05HKA	AY05RKA	AY05HKA	A0054101
10	A10RKA	...	A10HKA	...	AX10RKA	AX10HKA	AY10RKA	AY10HKA	A0104101
15	A15RKA	A15RKE	A10HKA	A15HKE	AX15RKA	AX15HKA	AY15RKA	AY15HKA	A0154101
20	A20RKA	A20RKE	A20HKA	A20HKE	AX20RKA	AX20HKA	AY20RKA	AY20HKA	A0204101
25	A25RKA	A25RKE	A25HKA	A25HKE	AX25RKA	AX25HKA	AY25RKA	AY25HKA	A0254101
30	A30RKA	A30RKE	A30HKA	A30HKE	AX30RKA	AX30HKA	...	...	A0304101
35	A35RKA	A35RKE	A35HKA	A35HKE	AX35RKA	AX35HKA	...	...	A0354101
40	A40RKA	A40RKE	A10HKA	A15HKE	AX40RKA	AX40HKA	...	...	A0404101
45	A45RKA	A45RKE	A45HKA	A45HKE	AX45RKA	AX45HKA	...	...	A0454101

## B SERIES (6 BOLT) COUPLING PARTS (EXCEPT BA)

KIT TYPE	REPAIR		HARDWARE		REPAIR	HDWR	REPAIR	HDWR	FLEX
SGL/DBL	SINGLE				SINGLE		DOUBLE		DISC
USED ON	BH, BP, B5				BF		BY		ALL
MAT'L CLASS	A,B	C	A,B	C	A,B	A,B	A,B	A,B	ALL
15	...	...	...	...	BF15RKA	BF15HKA	...	...	A0154101
20	...	...	...	...	BF20RKA	BF20HKA	...	...	A0204101
33	B033RKA	...	B033HKA	...	BF33RKA	BF33HKA	BY33RKA	BY33HKA	B0334101
38	B038RKA	B038RKE	B038HKA	B038HKE	BF38RKA	BF38HKA	BY38RKA	BY38HKA	B0384101
43	B043RKA	B043RKE	B043HKA	B043HKE	BF43RKA	BF43HKA	BY43RKA	BY43HKA	B0434101
48	B048RKA	B048RKE	B048HKA	B048HKE	BF48RKA	BF48HKA	BY48RKA	BY48HKA	B0484101
53	B053RKA	B053RKE	B053HKA	B053HKE	BF53RKA	BF53HKA	BY53RKA	BY53HKA	B0534101
58	B058RKA	B058RKE	B058HKA	B058HKE	BF58RKA	BF58HKA	BY58RKA	BY58HKA	B0584101
63	B063RKA	B063RKE	B063HKA	B063HKE	BF63RKA	BF63HKA	BY63RKA	BY63HKA	B0634101
68	B068RKA	...	B068HKA	...	BF68RKA	BF68HKA	BY68RKA	BY68HKA	B0684101
73	...	...	...	...	BF73RKA	...	...	...	...
78	...	...	...	...	BF78RKA	...	...	...	...

## 8 BOLT COUPLING PARTS (EXCEPT DA AND DP)

CPLG SIZE	HH, HSH, FSH, HFTH							
	DOUBLE REPAIR KIT		SINGLE HDWR KIT	FLEX DISC		BOLT	WASHER	NUT
	STD DISC	SS DISC		STD	SS			
22	D22-DF	D22-DF-SS	D22-BNW	D22-5	D22-5-SS	D22-6H	D22-7	D22-6N
26	D26-DF	D26-DF-SS	D26-BNW	D26-5	D26-5-SS	D26-6H	D26-7	D26-6N
31	D31-DF	D31-DF-SS	D31-BNW	D31-5	D31-5-SS	D31-6H	D31-7	D31-6N
35	D35-DF	D35-DF-SS	D35-BNW	D35-5	D35-5-SS	D35-6H	D35-7	D35-6N
37	D37-DF	D37-DF-SS	D37-BNW	D37-5	D37-5-SS	D37-6H	D37-7	D37-6N
42	D42-DF4*	D42-DF4-SS*	D42-BNW4*	D42-5	D42-5-SS	D42-6H4*	D42-7	D42-6N
45	D45-DF4*	D45-DF4-SS*	D45-BNW4*	D45-5	D45-5-SS	D45-6H4*	D45-7	D45-6N
50	D50-DF4*	D50-DF4-SS*	D50-BNW4*	D50-5	D50-5-SS	D50-6H4*	D50-7	D50-6N
55	D55-DF4*	D55-DF4-SS*	D55-BNW4*	D55-5	D55-5-SS	D55-6H4*	D55-7	D55-6N
60	D60-DF4*	D60-DF4-SS*	D60-BNW4*	D60-5	D60-5-SS	D60-6H4*	D60-7	D60-6N
70	D70-DF	D70-DF-SS	D70-BNW	D70-5	D70-5-SS	D70-6H	D70-7	D70-6N
75	D75-DF4*	D75-DF4-SS*	D75-BNW4*	D75-5	D75-5-SS	D75-6H4*	D75-74*	D75-6N4*
80	D80-DF4*	D80-DF4-SS*	D80-BNW4*	D80-5	D80-5-SS	D80-6H4*	D80-7	D80-6N
85	D85-DF	D85-DF-SS	D85-BNW	D85-5	D85-5-SS	D85-6H	D85-7	D85-6N
92	D92-DF	D92-DF-SS	D92-BNW	D92-5	D92-5-SS	D92-6H	D92-7	D92-6N

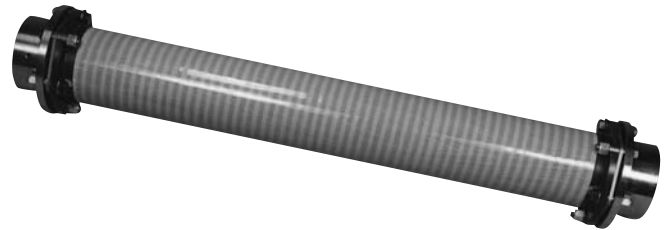
\*ITEMS MARKED \* HAVE NEW STYLE BOLTS. BOLT HEAD HEX MAY NOT FIT FSH TYPE FLYWHEEL ADAPTERS MANUFACTURED IN 1994 OR EARLIER. TO RECEIVE OLD STYLE BOLTS, DELETE THE "4" FROM THESE PART NUMBERS.

# COOLING TOWER COUPLINGS



The traditional A5 design features all metal construction. It can be ordered to meet any custom spacer length. A wide variety of materials and finishes is available.

Designed specifically as a connection for cooling tower applications and other drives requiring long shaft spans. Form-Flex couplings with TrueTube composite tubing weigh less than half of its steel counterpart and can span shaft separations of up to 240 inches. They are easy to handle, install and maintain. TrueTube composites are extremely corrosion resistant and are custom designed to provide the optimum combination of torsional strength and lateral stiffness for cooling tower drive applications. TB Wood's proprietary composite flange design transmits torque reliably from the metal outboard hubs to the composite flange and into the TrueTube composite tube.



HD elastomeric couplings and TrueTube composites are combined into a high misalignment, all composite coupling. These couplings are easy to install and align. Their high misalignment capacity makes them ideal for smaller, wood framed and fiberglass towers.