

**Quadra-Flex®  
4-Way Flexing**

*Martin*

## **QUADRA-FLEX® FLEXIBLE COUPLINGS**

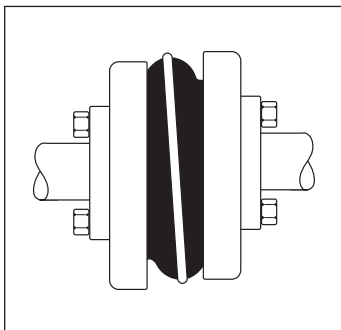


**Stocked nationwide  
In sizes 3 through 16**

**Styles J, S, B, and  
SC spacers**



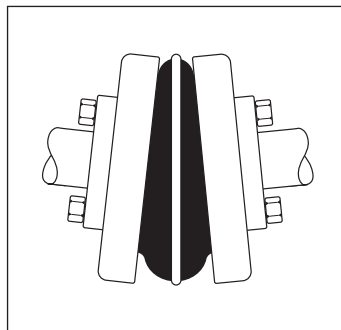
**Martin Quadra-Flex® couplings, non lubricated, maintenance free, easy and quick installation  
Handles all combinations of shock, vibration, and misalignment**



**Parallel**

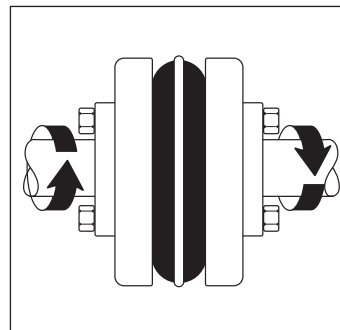
Quadra-Flex® couplings absorb parallel misalignment without wear and with minimal loss of energy.

The amount of parallel offset handled varies by size from .015 on the size 5 up to .062 on the size 16. This minimizes the radial loads on bearings when parallel misalignment occurs.



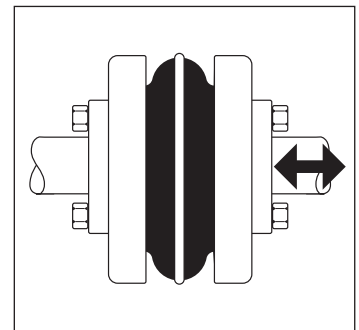
**Angular**

Due to the flexing characteristics of the sleeve and the locking action of the teeth, Quadra-Flex® couplings easily handle angular misalignment up to 1 degree without any appreciable wear.



**Torsional**

Quadra-Flex® sleeves are torsionally resilient and are well suited to absorbing shocks and dampening vibrations that would otherwise be transmitted between the equipment.



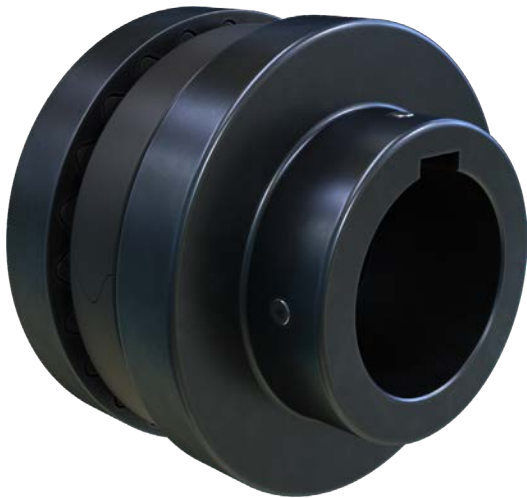
**S/B**

The axial flexibility of the sleeve allows the Quadra-Flex® coupling to accept a limited amount of end float. This serves to reduce thrust loads transferred to bearings. Quadra-Flex® units will accept axial movement of approximately .125.

## Available in Three Styles

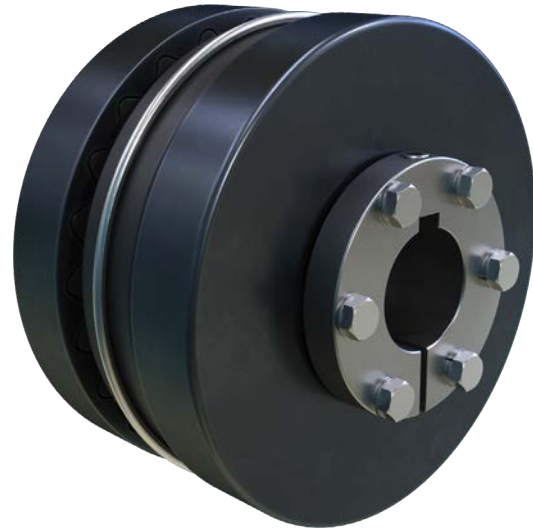
### Type J and S Flanges

Bored-to-size flanges are manufactured for a slip fit on standard shafting. Available from stock in a wide range of shaft sizes.



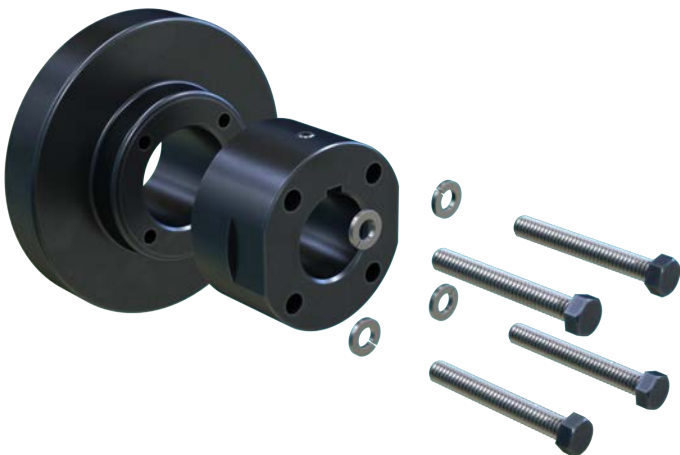
### Available in Three Styles

Manufactured from high strength cast iron to fit standard QD bushings in sizes 6 thru 16.



### Fast Coupling Disassembly

Martin offers the first true drop-out spacer assembly for the 4JSC spacer coupling. The center portion of the spacer can be taken out, just as in the 5SC thru 14SC, by simply removing four cap screws in each hub. The couplings center section can then be lifted out and the pump gaskets exposed. Flats on the spacer hubs facilitate turning shafts with a wrench.



### Type SC Spacer Flange

Quadra-Flex® SC spacer couplings feature all standard spacing requirements for the pump industry. Spacer sizes range from sizes 4 thru 14.



## Quadra-Flex® Nomenclature

Type	Description
J ★	SINTERED STEEL, BORED-TO-SIZE
S	CAST IRON, BORED-TO-SIZE
B	CAST IRON, QD BUSHED
SC	SPACER COUPLING FLANGES

★ #6 Currently Supplied in Cast Iron

### Hubs — (For SC flanges)

Type	Description
H	REGULAR LENGTH
HS	SHORT LENGTH

Quadra-Flex® couplings come in a variety of styles and designs to meet specific customer needs. These include flanges and sleeves of various types and materials. The total product line includes 13 sizes varying in torque ratings up to 72,000 in-lbs.

When ordering Quadra-Flex® couplings, the following basic procedure should help expedite order processing. For coupling flanges, give the basic coupling size, then the letter for the type flange followed by the bore size required. For coupling sleeves, give the coupling size followed by the letter(s) designating the type and material required. (See above)

The following are various examples for reference:

Example: Type J Flange

	Size	Flange	Bore
5J × .75	5	J	.75
7S × 30mm	7	S	30mm

(Note: Bored-to-size flanges are furnished with standard keyway and 2 setscrews unless specified otherwise.)

## Sleeves

Type	Description
JEM	TPR – 1-PIECE SOLID, THERMOPLASTIC
JEMS	TPR – 1-PIECE SPLIT, THERMOPLASTIC
EM	TPR – 2-PIECE W/RETAINING RING
E	EPDM – 2-PIECE W/RETAINING RING
N	NEOPRENE – 2-PIECE W/RETAINING RING
H	HYTREL – 1-PIECE SOLID
HS	HYTREL – 2-PIECE

Example: Type B Flange

	Size	Flange	Bushing
8B — SH	8	B	SH

(Note: The SH bushing with required bore size should be specified separately.)

Example: Sleeves

	Size	Style and Material
8JEM	8	Solid, TPR
13E	13	2 Piece, EPDM

(Note: Unless specified, TPR (3 thru 12) or EPDM (13 thru 16) will be supplied.)

Example: Complete spacer coupling

1	6EM	(6 TPR 2 Piece Sleeve)
2	6sc35	(Flanges for 3.5 dropout)
1	6H × 1	(6 Spacer Hub for 1 Bore)
1	6H × 1.125	(6 Spacer Hub for 1.125 Bore)

# Sleeve Selection



Quadra-Flex® coupling sleeves are available in four different types of compounds. These include TPR (Thermoplastic Rubber) in types JEM, JEMS, EM; EPDM Rubber in type E; Neoprene in type N; Hytrel in type H and HS. To determine the sleeve best suited for the application, the material characteristics are given below.

## TPR (Sizes 3-12)

Quadra-Flex® couplings are usually supplied with TPR sleeves in sizes 3-12. TPR is a general use sleeve which combines the characteristics of both EPDM and Neoprene into one. These sleeves operate within a temperature range from -50° F to +275° F (-46° C to +135° C). Torsional flexibility is 15°.

## EPDM (Sizes 13-16)

Quadra-Flex® couplings are usually supplied with EPDM rubber sleeves in sizes 13-16. EPDM is a general use sleeve and can operate within a temperature range from -30° F to +275° F (-34° C to +135° C). Torsional flexibility is 15°.

## NEOPRENE (Sizes 11-16)

Neoprene flexible sleeves are also available in sizes 11-14. These sleeves offer a higher resistance than EPDM and are self-extinguishing. Operating temperature range for this sleeve is 0° F to +200° F (-18° C to +93° C). Torsional flexibility is 15°.

## \*HYTREL® (Sizes 6-14)

Hytrel sleeves are molded specifically for high torque applications. The type H will transmit approximately four times as much power as an equivalent TPR, EPDM, or Neoprene sleeve. Hytrel has an operating temperature from -65° F to +250° F (-54° C to +121° C). Torsional flexibility is 7°.

Note: Do not use a Hytrel sleeve as a replacement for a TPR, EPDM, or Neoprene sleeve.

## Sleeve Chemical Resistance

Resistance To:	TPR	EPDM	Neoprene	Hytrel ★	Resistance To:	TPR	EPDM	Neoprene	Hytrel ★
Acetone	A	A	B	B	Kerosene	B	X	B	T
Ammonia, Anhydrous	B	T	A	N	Lacquer Solvents	T	...	C	B
Ammonium Hydroxide Solutions	T	A	A(158F)	T	Lubricating Oils	B	X	B(158F)	A
ASTM hydrocarbon test fluid	N	C	X	A	Methyl Alcohol	A	T	A(158F)	A
ASTM oil no. 1	B	C	A	A	Mineral Oil	B	X	A	A
ASTM oil no. 3	B	C	B(158F)	A	Naphtha	B	C	C	A
ASTM reference fuel A	B	C	A	A	Nitric Acid, 10%	A	T	B	B
ASTM reference fuel B	B	C	C	A	Nitrobenzene	T	A	C	C
ASTM reference fuel C	B	X	C	B	Phenol	T	T	B	C
Benzene	C	C	C	B	Phosphoric Acid, 20%	A	T	T	N
Butane	B	B	A	A	Phosphate Esters	A	A	C	A
Carbon Tetrachloride	X	C	C	C	Pickling Solution (20% Nitric Acid, 4% HF)	N	X	B-C	X
Chlorobenzene	C	X	X	X	Soap Solutions	A	T	A(158F)	A
Chloroform	X	C	C	C	Sodium Hydroxide, 20%	A	A	A	A
Chromic Acid, 10-50%	T	T	C	N	Stearic Acid	T	T	B(158F)	T
Dowtherm A Solvent	X	N	B	N	Sulfuric Acid, up to 50%	A	T	A(158F)	A
Ethyl Alcohol	A	A	A(158F)	A	Sulfuric Acid, up to 80%	A	T	B-C	C
Ethylene Glycol	A	A	A(158F)	A	Tannic Acid, 10%	T	T	A	T
Fuel Oil	B	X	A	A	Toluene	C	C	C	B
Gasoline	B	B-C	B	A	Trichloroethylene	C	X	C	C
Glycerine	A	T	A(158F)	A	Turpentine	B	C	C	N
Hydraulic Oils	B	N	A	A	Water	A	A(158F)	A(212F)	A(158F)
Hydrochloric Acid, 20%	A	T	A	B	Xylene	C	C	X	B
Hydrogen Peroxide, 881/2%	N	T	B	T					
Isopropyl	A	T	A	A					

A — Fluid has little or no effect  
 B — Fluid has minor to moderate effect  
 C — Fluid has severe effect

N — No evaluation has been attempted.  
 T — No data; likely to be compatible  
 X — No data; not likely to be compatible

\*Hytrel is a Registered Trademark of Dupont

## Selection Procedure

**When the driver is an electric motor with standard speed.**

**Step 1.** Determine Service Factor (SF) Symbol based on equipment listed on page C-10.

**Step 2.** Determine proper Service Factor from chart at top of page C-10.

**Step 3.** Refer to page C-12 and C-13 for proper selection of coupling. Based on chemical resistance and operating environment found on page C-8, select from chart the type of sleeve material. Find RPM of motor, then, in the column for service factor determined in Step 2, read down to the corresponding horsepower of motor being used as the driver. The number listed is the correct coupling size.

**Example:** A coupling is needed to connect a 25 HP standard electric motor to a lumber log haul at 1750 RPM.

1. Service Factor Symbol — H
2. Service Factor — 2.0
3. Coupling Size — 9 with TPR sleeve or 6 with Hytrel Sleeve

**Step 4.** Select flanges from pages C-15 thru C-19, check coupling bore size range for proper shaft fit.

★ **NOTE: Do not oversize coupling hub — will cause premature wear of element.**

When the driver is other than an electric motor or the speeds are different than those shown in the chart on page C-11.

**Step 1.** Follow steps 1 and 2 in previous procedure.

**Step 2.** Calculate Horsepower at 100 RPM as follows:

$$\text{HP at 100 RPM} = \frac{\text{HP} \times \text{Service Factor} \times 100}{\text{Coupling RPM}}$$

**Step 3.** Select coupling size from Tables A or C. Find a HP equal to or greater than the HP/100 RPM

**Step 4.** Check Maximum bore to be sure that both shaft sizes do not exceed figure listed for size selected in step 4. If maximum is exceeded select the next largest size which will allow for bore size. Do not exceed maximum RPM for new size selected.

**Example:** A bucket elevator is driven by a motor/reducer and requires a coupling to transmit 14 HP at 1300 RPM.

1. Service Factor Symbol — M
2. Service Factor — 1.5
3. HP at 100 RPM =  $\frac{14 \times 1.5 \times 100}{1300} = 1.61 \text{ HP/100 RPM}$
4. Refer to page C-11; under column for 100 RPM the required 1.61 HP falls between the size 7 (1.2) and the size 8 (1.8). Correct selection is size 8 with TPR sleeve. Check bore sizes for flanges on pages C-15 thru C-19.

## Maximum RPM and Allowable Misalignment

Size	Maximum RPM	Types JEM, JEMS, EM, E and N		Types H and HS	
		Parallel	Angular	Parallel	Angular
3	9200	0.010	0.035	—	—
4	7600	0.010	0.043	—	—
5	7600	0.015	0.056	—	—
6	6000	0.015	0.070	0.010	0.016
7	5250	0.020	0.081	0.012	0.020
8	4500	0.020	0.094	0.015	0.025
9	3750	0.025	0.109	0.017	0.028
10	3600	0.025	0.128	0.020	0.032
11	3600	0.032	0.151	0.022	0.037
12	2800	0.032	0.175	0.025	0.042
13	2400	0.040	0.195	0.030	0.050
14	2200	0.045	0.242	0.035	0.060
16	1500	0.062	0.330	—	—

Note: Values shown above apply if the actual torque transmitted is more than 1/4 the coupling rating. For lesser torque, reduce the above values by .5.

## Service Factors For Quadra-Flex® Couplings

Service Factor Symbol	Electric Motor Standard Torque	Electric Motor High Torque	Turbines	Reciprocating Engines
L (LIGHT)	1.25	1.5	1.0	1.5
M (MEDIUM)	1.5	2.0	1.25	2.0
H (HEAVY)	2.0	2.5	1.5	2.5

**Table 1**

Application	SF Symbol	Application	SF Symbols	Application	SF Symbols
AGITATORS - Paddle, Propeller, Screw	L	DISC FEEDER	L	MILLS	
BAND RESAW	M	DOUGH MIXER	M	Ball, Pebble, Rod, Tube	H
BARGE HAUL PULLER	H	DRAW BENCH CONVEYOR AND Main Drive	H	Rubber, Tumbling	H
BARKING (Lumber)	H	DREDGES		Dryer and Cooler	M
BAR SCREEN (sewage)	L	Cable Reel, Pumps	M	MIXER	
BATCHES (textile)	L	Cutter Head Drive, Jig Drive	H	Concrete, Muller	M
BEATER AND PULPER (paper)	M	Screen Drive	H	Banbury	H
BENDING ROLL (metal)	M	Maneuvering and Utility Winch	M	ORE CRUSHER	H
BLEACHER (paper)	L	Stacker	M	OVEN CONVEYOR	L
BLOWERS		DYNAMOMETER	L	PLANER (metal or wood)	M
Centrifugal, Vane	L	DRYERS (rotary)	M	PRESSES	
Lobe	M	EDGER (lumber)	H	Brick, Briquette Machine	H
BOTTLING MACHINERY	L	ELEVATORS		Notching, Paper, Punch, Printing	M
BREW KETTLES (distilling)	L	Bucket	M	PUG MILL	M
BUCKET ELEVATOR OR CONVEYOR	M	Escalator	L	PULP GRINDER (paper)	H
CALENDERS		Freight, Passenger, Service, Man Lift	H	PULVERIZERS	
Calender (paper)	M	ESCALATORS	L	Hammermill — light duty, Roller	M
Calender-super (paper, rubber)	H	EXTRUDER (metal)	H	Hammermill — heavy duty, Hog	H
CANE KNIVES (sugar)	M	FANS		PUMPS	
CARD MACHINE (textile)	H	Centrifugal	L	Centrifugal, Axial	L
CAR DUMPERS	H	Cooling Tower	H	Gear, Lobe, Vane	M
CEMENT KILN	H	Forced Draft, Large Industrial, Mine	M	Reciprocating — sgl. or dbl. acting	*
CENTRIFUGAL BLOWERS		FEEDERS		REEL, REWINDER (paper) CABLE	M
COMPRESSORS, FANS or PUMPS	L	Apron, Belt, Disc	L	ROD MILL	H
CHEMICAL FEEDERS (sewage)	L	Reciprocating	H	SAWDUST CONVEYOR	L
CHILLER (oil)	M	Screw	M	SCREENS	
CHIPPER (paper)	H	FILTER, PRESS-OIL	M	Air Washing, Water	L
CIRCULAR RESAW	M	GENERATORS		Rotary for coal or sand	M
CLARIFIER or CLASSIFIER	L	Uniform load	L	Vibrating	H
CLAY WORKING MACHINERY	M	Varying load, Holst	M	SCREW CONVEYOR	L
COLLECTORS (sewage)	L	Welders	H	SLAB CONVEYOR (lumber)	M
COMPRESSORS		GRIT COLLECTOR (sewage)	L	SLITTERS (metal)	M
Centrifugal	L	GRIZZLY	H	SOAPERS (textile)	L
Reciprocating	*	HAMMERMILL		SORTING TABLE (lumber)	M
Screw, Lobe	L	Light Duty, Intermittent	M	SPINNER (textile)	M
CONCRETE MIXERS	M	Heavy Duty, Continuous	H	STOKER	L
CONVERTING MACHINE (paper)	M	HOISTS		SUCTION ROLL (paper)	M
CONVEYORS		Heavy Duty	H	TENTER FRAMES (textile)	M
Apron, Assembly Belt, Flight	L	Medium Duty	M	TIRE BUILDING MACHINES	H
Oven, Screw	L	JORDAN (paper)	H	TIRE AND TUBE PRESS OPENER	L
Bucket	M	KILN, ROTARY	H	TUMBLING BARRELS	H
COOKERS- Brewing, Distilling, Food	L	LAUNDRY WASHER or TUMBLER	H	WASHER and THICKENER (paper)	M
COOLING TOWER FANS	H	LINE SHAFTS	L	WINCHES	M
COUCH (paper)	M	LOG HAUL (lumber)	H	WINDERS, Paper, Textile, Wire	M
CRANES AND HOISTS	M	LOOM (textile)	M	WINDLASS	M
Heavy Duty Mine	H	MACHINE TOOLS, MAIN DRIVE	M	WIRE	
CRUSHERS — Cane (sugar), Stone, Ore	H	MANGLE (textile)	L	Drawing	H
CUTTER — Paper	H	MASH TUBS (distilling)	L	Winding	M
CYLINDER (paper)	H	MEAT GRINDER	M	WOODWORKING MACHINERY	L
DEWATERING SCREEN (sewage)	M	METAL FORMING MACHINES	M		

## Coupling Rating

**Table 2A** Thermoplastic Rubber (TPR), EPDM and Neoprene

Coupling Size	Sleeve Construction	Basic HP Rating Per Given RPM					Rated Torque (in-lb)	Torsional • Stiffness Factor (in-lb/radians)	Maximum RPM
		100	860	1160	1750	3500			
3	TPR	0.12	1.1	1.4	2.2	4.3	78	229	9200
4	TPR	0.25	2.1	2.9	4.3	8.7	156	458	7600
5	TPR	0.50	4.3	5.7	8.7	17	312	916	7600
6	TPR	0.93	8	11	16	32	585	1718	6000
7	TPR	1.5	13	17	26	52	940	2769	5250
8	TPR	2.3	20	27	41	82	1475	4335	4500
9	TPR	3.7	32	43	65	130	2340	6875	3750
10	TPR	5.9	51	69	104	207	3735	10980	3600
11	TPR	9.3	80	108	164	327	5890	17300	3600
12	TPR	15	128	172	260	-	9360	27500	2800
13	EPDM and Neoprene	23	201	271	410	-	14750	43350	2400
14	EPDM and Neoprene	37	319	431	650	-	23400	68755	2200
16	EPDM	75	645	870	-	-	47250	180480	1500

**Table 2C**

**Hytrell**

Coupling Size	Sleeve Construction	Basic HP Rating Per Given RPM					Rated Torque (in-lb)	Torsional • Stiffness Factor (in-lb/radians)	Maximum RPM
		100	860	1160	1750	3500			
3★	HYTREL	-	-	-	-	-	-	-	-
4★	HYTREL	-	-	-	-	-	-	-	-
5★	HYTREL	-	-	-	-	-	-	-	-
6	HYTREL	2.90	25	33	50	100	1800	10000	6000
7	HYTREL	4.6	39	53	80	160	2875	20000	5250
8	HYTREL	7.2	62	83	126	252	4530	30000	4500
9	HYTREL	11.4	98	133	200	400	7200	47500	3750
10	HYTREL	18	155	209	315	630	11350	100000	3600
11	HYTREL	29	246	331	500	1000	18000	125000	3600
12	HYTREL	50	430	580	875	-	31500	225000	2800
13	HYTREL	75	645	870	1312	-	47268	368900	2400
14	HYTREL	115	989	1334	2013	-	72480	593250	2200

★ Hytrell sleeves are available on a made-to-order basis, Consult factory.

• Values shown are for an ambient temperature of 75° F (24° C)



# Sleeve Selection Chart



## Selection Chart for TPR<sup>1</sup>, EPDM, and Neoprene Sleeves

HP	860 RPM Motor					1160 RPM Motor					1750 RPM Motor					3500 RPM Motor				
	Service Factor					Service Factor					Service Factor					Service Factor				
	1.0	1.25	1.5	2.0	2.5	1.0	1.25	1.5	2.0	2.5	1.0	1.25	1.5	2.0	2.5	1.0	1.25	1.5	2.0	2.5
.5	3	3	3	4	4	3	3	3	3	4	3	3	3	3	3	—	—	—	—	—
.75	3	4	4	4	5	3	3	4	4	4	3	3	3	3	4	3	3	3	3	3
1	4	4	4	5	5	3	4	4	4	5	3	3	3	4	4	3	3	3	3	3
1.5	4	5	5	5	6	4	4	5	5	5	3	4	4	4	5	3	3	3	3	4
2	5	5	5	6	6	4	5	5	5	6	4	4	4	5	5	3	3	3	4	4
3	5	6	6	6	7	5	5	6	6	6	4	5	5	5	6	3	4	4	4	5
5	6	6	7	7	8	6	6	6	7	7	5	5	6	6	6	4	4	5	5	5
7.5	7	7	8	8	9	6	7	7	8	8	6	6	6	7	7	5	5	5	6	6
10	7	8	8	9	9	7	7	8	8	9	6	6	7	7	8	5	5	6	6	6
15	8	9	9	10	10	8	8	9	9	10	7	7	8	8	9	6	6	6	7	7
20	9	9	10	10	11	8	9	9	10	10	7	8	8	9	9	6	6	7	7	8
25	9	10	10	11	11	9	9	10	10	11	8	8	9	9	10	6	7	7	8	8
30	10	10	11	11	12	9	10	10	11	11	8	9	9	10	10	7	7	8	8	9
40	10	11	11	12	12	10	10	11	11	12	9	9	10	10	11	7	8	8	9	9
50	11	11	12	12	13	10	11	11	12	12	9	10	10	11	11	8	8	9	9	10
60	11	12	12	13	13	11	11	12	12	13	10	10	11	11	12	8	9	9	10	10
75	12	12	13	13	14	11	12	12	13	13	10	11	11	12	12	9	9	10	10	11
100	12	13	13	14	14	12	12	13	13	14	11	11	12	12	13	9	10	10	11	11
125	13	13	14	14	—	12	13	13	14	14	11	12	12	13	13	10	10	11	11	—
150	13	14	14	16	16	13	13	14	14	16	12	12	13	13	14	10	11	11	—	—
200	14	14	16	16	16	13	14	14	16	16	12	13	13	14	14	11	11	—	—	—
250	14	16	16	16	16	14	14	16	16	16	13	13	14	14	—	11	—	—	—	—
300	16	16	16	16	—	14	16	16	16	16	13	14	14	—	—	—	—	—	—	—
350	16	16	16	—	—	16	16	16	16	16	14	14	—	—	—	—	—	—	—	—
400	16	16	16	—	—	16	16	16	16	—	14	14	—	—	—	—	—	—	—	—
450	16	16	—	—	—	16	16	16	—	—	14	—	—	—	—	—	—	—	—	—
500	16	16	—	—	—	16	16	16	—	—	14	—	—	—	—	—	—	—	—	—
600	16	—	—	—	—	16	16	—	—	—	—	—	—	—	—	—	—	—	—	—
700	—	—	—	—	—	16	16	—	—	—	—	—	—	—	—	—	—	—	—	—
800	—	—	—	—	—	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—

<sup>1</sup> Thermoplastic Rubber

Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact factory with specific requirements.



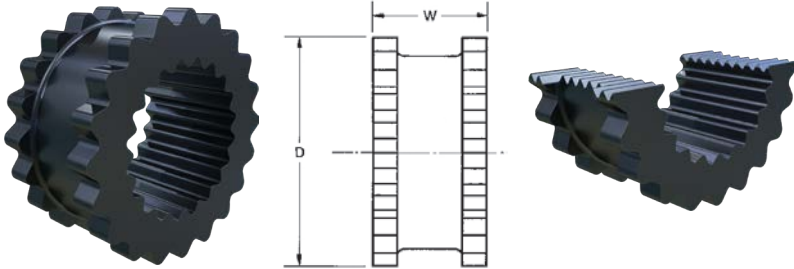
# Hytrell Selection Chart

## Selection Chart for Hytrell Sleeves

HP	860 RPM Motor					1160 RPM Motor					1750 RPM Motor					3500 RPM Motor				
	Service Factor					Service Factor					Service Factor					Service Factor				
	1.0	1.25	1.5	2.0	2.5	1.0	1.25	1.5	2.0	2.5	1.0	1.25	1.5	2.0	2.5	1.0	1.25	1.5	2.0	2.5
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7.5	6H	6H	6H	6H	6H	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	—	—	—	—	—	—	—	—	—	—
15	6H	6H	6H	7H	7H	6H	6H	6H	6H	7H	6H	6H	6H	6H	6H	—	—	—	—	—
20	6H	6H	7H	7H	8H	6H	6H	6H	7H	7H	6H	6H	6H	6H	6H	—	—	—	—	—
25	6H	7H	7H	8H	8H	6H	6H	7H	7H	8H	6H	6H	6H	6H	7H	—	—	—	—	—
30	7H	7H	8H	8H	9H	6H	7H	7H	8H	8H	6H	6H	6H	7H	7H	6H	6H	6H	6H	6H
40	7H	8H	8H	9H	9H	7H	7H	8H	8H	9H	6H	6H	7H	7H	8H	6H	6H	6H	6H	6H
50	8H	8H	9H	9H	10H	7H	8H	8H	9H	9H	6H	7H	7H	8H	8H	6H	6H	6H	6H	7H
60	8H	9H	9H	10H	10H	8H	8H	9H	9H	10H	7H	7H	8H	8H	9H	6H	6H	6H	7H	7H
75	9H	9H	10H	10H	11H	8H	9H	9H	10H	10H	7H	8H	8H	9H	9H	6H	6H	7H	7H	8H
100	9H	10H	10H	11H	11H	9H	9H	10H	10H	11H	8H	8H	9H	9H	10H	6H	7H	7H	8H	8H
125	10H	10H	11H	11H	12H	9H	10H	10H	11H	11H	8H	9H	9H	10H	10H	7H	7H	8H	8H	9H
150	10H	11H	11H	12H	12H	10H	10H	11H	11H	12H	9H	9H	10H	10H	11H	7H	8H	8H	9H	9H
200	11H	11H	12H	12H	13H	10H	11H	11H	12H	12H	9H	10H	10H	11H	11H	8H	8H	9H	9H	10H
250	11H	12H	12H	13H	13H	11H	11H	12H	12H	13H	10H	10H	11H	11H	12H	8H	9H	9H	10H	10H
300	12H	12H	13H	13H	14H	11H	12H	12H	13H	13H	10H	11H	11H	12H	12H	9H	9H	10H	10H	11H
350	12H	12H	13H	14H	14H	12H	12H	12H	13H	14H	11H	11H	12H	12H	12H	9H	10H	10H	11H	11H
400	12H	13H	13H	14H	14H	12H	12H	13H	13H	14H	11H	11H	12H	12H	13H	9H	10H	10H	11H	11H
500	13H	13H	14H	14H	—	12H	13H	13H	14H	14H	11H	12H	12H	13H	13H	10H	10H	11H	11H	—
600	13H	14H	14H	—	—	13H	13H	13H	14H	—	12H	12H	13H	13H	14H	10H	11H	11H	—	—
700	14H	14H	—	—	—	13H	13H	14H	14H	—	12H	12H	13H	14H	14H	11H	11H	—	—	—
800	14H	14H	—	—	—	13H	14H	14H	—	—	12H	13H	13H	14H	14H	11H	11H	—	—	—
900	14H	—	—	—	—	14H	14H	14H	—	—	13H	13H	14H	14H	—	11H	—	—	—	—
1000	—	—	—	—	—	14H	14H	—	—	—	13H	13H	14H	14H	—	11H	—	—	—	—

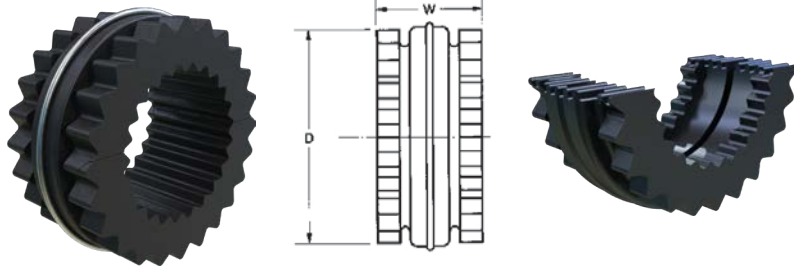
## Quadra-Flex® Sleeves

Martin flexible sleeve elements are offered in four material compounds (Thermoplastic Rubber (TPR), EPDM, Neoprene, and Hytrel) available in three construction styles. Our EM sleeve offers the combination of EPDM's extended temperature range as well as the higher oil resistance which Neoprene provides.



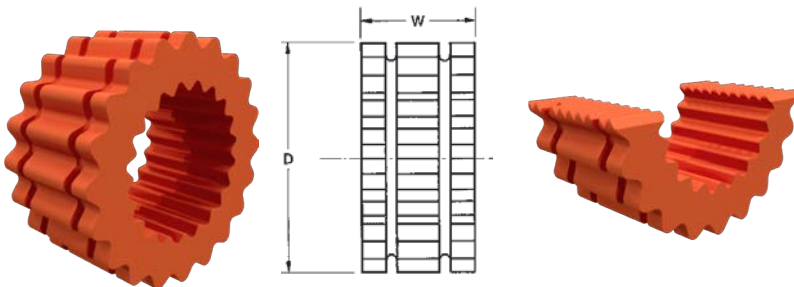
### Types JEM — JEMS

Type J sleeves are molded Thermoplastic Rubber (TPR). Available in 1 piece solid (JEM), and 1 piece split, construction (JEMS). TPR material will handle higher temperature ranges as well as be oil resistant.



### Types EM — E — N

Type EM, E, and N sleeves are of two piece molded construction with retaining ring. They are available in Thermoplastic Rubber (type TPR), EPDM (Type E), or Neoprene (type N). These can be used with any type flanges within a given size range.



### Types H and HS

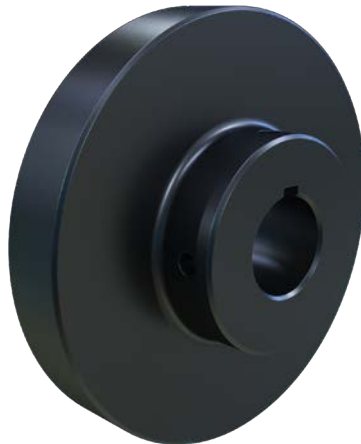
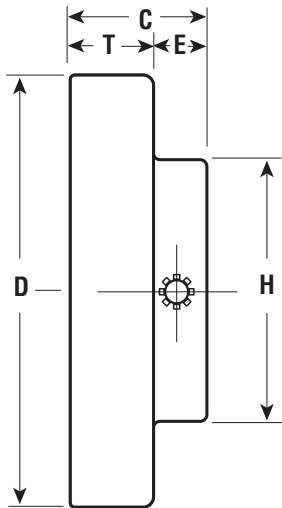
Martin H and HS sleeves are molded Hytrel for higher torque loading than standard EM sleeves. H and HS sleeves cannot be used with style J and B flanges. Hytrel sleeves are not a direct replacement for TPR, EPDM, or Neoprene sleeves.

## Dimensions (Inches)

Coupling Size	JEM — JEMS Sleeves			EM — E — N Sleeves			H and HS Sleeves Hytrel •		
	D	W	Wt. (lb)	D	W	Wt. (lb)	D	W	Wt. (lb)
3	1.875	1.000	0.1	—	—	—	—	—	—
4	2.313	1.250	0.1	2.313	1.250	0.1	—	—	—
5	2.938	1.563	0.2	2.938	1.563	0.3	—	—	—
6	3.750	1.875	0.4	3.750	1.875	1.0	3.750	1.875	0.4
7	4.344	2.188	0.5	4.344	2.188	0.8	4.344	2.188	0.7
8	5.063	2.500	0.9	5.063	2.500	1.4	5.063	2.500	1.4
9	6.000	3.000	2.0	6.000	3.000	2.0	6.000	3.000	1.8
10	7.063	3.438	2.2	7.063	3.438	2.9	7.063	3.438	3.0
11	—	—	—	8.188	4.000	4.7	8.188	4.000	4.7
12	—	—	—	9.563	4.688	8.1	9.563	4.688	8.0
13	—	—	—	11.188	5.500	13.0	11.188	5.500	11.8
14	—	—	—	13.094	6.500	21.1	13.094	6.500	19.3
16	—	—	—	17.906	8.750	53.0	—	—	—

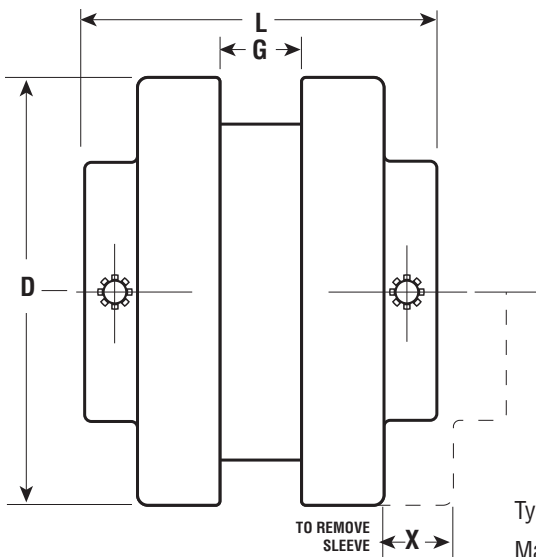
• 13 and 14 Hytrel available with HS sleeves only.

## Quadra-Flex® Type J Flanges



### Quadra-Flex® Type J Flanges

Martin Type J Flanges are supplied bored to size with standard keyway and two setscrews to slip fit on standard shafting.



Type J Flanges use the Martin JEM 1 Piece, the Martin JEMS 1 piece split and the Martin EM 2 piece split sleeves.  
(Note: Hytrel sleeves are not intended for use with this type of flange.)

### Dimensions (Inches)

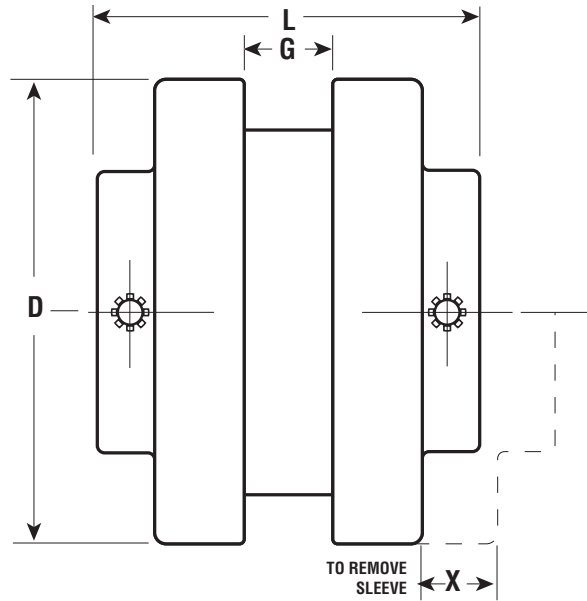
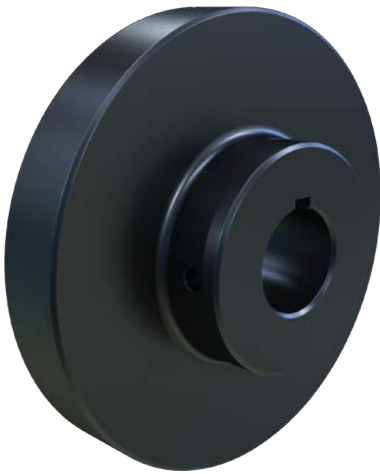
Coupling Size	Dimensions								Wt. (lb) ★	Finished Bore Sizes •							Max. Bore	Millimeters			
	C	D	E	G	H	L	T	X		(Inches)											
3J	0.813	2.062	0.438	0.375	1.250	2.000	0.375	0.563	0.3	0.375**	0.500	0.625	0.750	0.875	0.938	1.000	1.125	1.375	—	—	—
	0.813	2.062	0.438	0.375	1.500	2.000	0.375	0.563													
4J	0.875	2.460	0.438	0.625	1.625	2.375	0.438	0.750	0.5	0.500	0.625	0.750	0.875	0.938	1.000	1.000	1.125	1.375	15	20	25
5J	0.688	3.250	0.469	0.750	1.875	2.875	0.594	0.969	0.9	0.500	0.625	0.750	0.875	0.938	1.000	1.125	1.375	1.625	—	—	—
6J	0.531	4.000	0.594	0.875	1.938	3.313	0.625	1.094	1.7	0.625	0.750	0.875	0.938	1.000	1.125	1.188	1.250	1.375	—	—	—
	0.531	4.000	0.594	0.875	2.500	3.313	0.625	1.094													

★ Approximate weight for each flange.  
 \*\* .375 Bore has no Keyway  
 • J flanges can be rebored if necessary.

# Type S Flanges

## Quadra-Flex® Type S Couplings (Bored-to-Size)

Type S flexible coupling flanges are bored to size to fit on any standard shaft. They are produced from high strength cast iron. Units are easy to install and remove and are stocked in a wide range of bore sizes as shown on the next page.



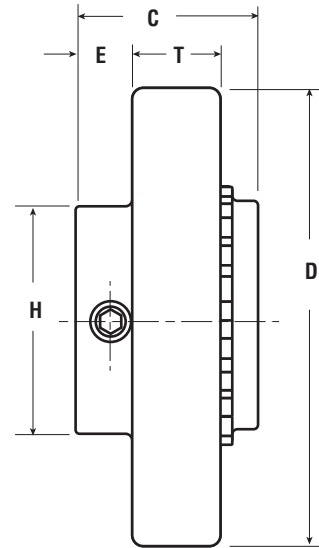
### Dimensions

Coupling Size	Flange Diameter (D)	Bore (Inches)			Hub (Inches)			G	L	T	X	Weight (lb) •
		Stock	Rec. Max. ★	Rec. Max. ★★	Hub Diameter (H)	Length Thru (C)	Hub Projected (E)					
5S	3.250	0.500	1.188	1.250	1.875	1.375	0.453	0.750	2.813	0.594	0.969	1.0
6S	4.000	0.625	1.438	1.500	2.500	1.625	0.531	0.875	3.500	0.750	1.094	2.1
	4.000	0.625	—	1.875	2.500	1.563	0.813	0.875	4.000	0.750	1.094	2.1
7S	4.625	0.625	1.625	1.875	2.813	1.844	0.688	1.000	3.938	0.781	1.313	2.7
8S	5.450	0.750	1.938	2.250	3.250	0.719	0.750	1.125	4.438	0.906	1.500	4.5
	5.450	0.750	—	2.375	3.250	1.938	1.031	1.125	5.000	0.906	1.500	4.5
9S	6.350	0.875	2.375	2.500	3.625	2.406	0.781	1.438	5.063	1.031	1.750	6.5
	6.350	0.875	—	2.875	4.125	2.281	1.250	1.438	6.000	1.031	1.750	6.5
10S	7.500	1.125	2.750	3.125	4.375	2.719	0.813	1.625	5.688	1.219	2.000	11.3
	7.500	1.125	—	3.375	4.750	2.688	1.469	1.625	7.000	1.219	2.000	11.3
11S	8.625	1.250	3.375	3.625	5.250	3.438	1.125	1.875	7.125	1.500	2.375	17.6
	8.625	1.250	—	3.875	5.625	3.063	1.563	1.875	8.000	1.500	2.375	17.6
12S	10.000	1.500	3.875	3.938	5.750	4.000	0.594	2.313	8.250	1.688	2.688	27.2
13S	11.750	2.000	4.500	—	6.750	4.375	0.938	2.688	9.250	1.969	3.063	45.6
14S	13.875	2.000	5.000	—	7.500	4.500	0.688	3.250	9.875	2.250	3.500	70.0
16S	18.875	2.000	5.500	6.000	8.000	6.000	2.000	4.750	14.250	2.750	4.250	162.0

- ★ Recommended max. bore with standard keyway.
- ★★ Recommended max. bore with shallow keyway. See chart on page C-18 for recommended keyway size.
- Approximate weight for each flange.

## Quadra-Flex® Type S Couplings (Bored-to-Size)

Type S flexible coupling flanges are bored to size to fit on any standard shaft. They are produced from high strength cast iron. Units are easy to install and remove and are stocked in a wide range of bore sizes as shown on the next page.

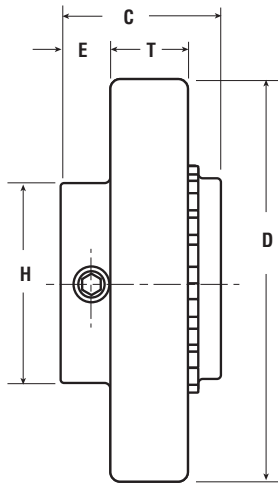


### Inches / Millimeters

Coupling Size	Finished Bore Sizes
	Inches /mm
5S	.625, .75, .813, .875, .938, 1, 1.063, 1.125, 1.188, 1.25 15mm, 20mm, 25mm
6S	.75, .875, .938, 1, 1.063, 1.125, 1.188, 1.25, 1.313, 1.375, 1.438, 1.5, 1.625, 1.75, 1.875 20mm, 25mm, 28mm, 30mm, 35mm
7S	.75, .875, .938, 1, 1.063, 1.125, 1.188, 1.25, 1.313, 1.375, 1.438, 1.5, 1.563, 1.625, 1.688, 1.75, 1.875 25mm, 28mm, 30mm, 38mm, 42mm
8S	.875, .938, 1, 1.063, 1.125, 1.188, 1.25, 1.313, 1.375, 1.438, 1.5, 1.563, 1.625, 1.688, 1.75, 1.875, 1.938, 2.063, 2.125, 2.375 28mm, 30mm, 32mm, 38mm, 42mm, 48mm
9S	.938, 1, 1.063, 1.125, 1.25, 1.375, 1.438, 1.5, 1.563, 1.625, 1.688, 1.75, 1.875, 1.938, 2, 2.063, 2.125, 2.188, 2.25, 2.375, 2.5, 2.875 30mm, 32mm, 38mm, 42mm, 48mm
10S	1.125, 1.25, 1.375, 1.438, 1.5, 1.563, 1.625, 1.688, 1.75, 1.875, 1.938, 2, 2.063, 2.125, 2.188, 2.25, 2.375, 2.438, 2.5, 2.75, 2.875, 3.375 55mm, 60mm
11S	1.25, 1.375, 1.438, 1.563, 1.625, 1.75, 1.875, 2.063, 2.125, 2.25, 2.375, 2.625, 2.75, 2.875, 3.375, 3.875
12S	1.875, 2.125, 2.375, 2.625, 2.875, 3.375, 3.875, 3.938 90mm
13S	2.375, 2.875, 3.375
14S	2.875
16S	*

\* Plain bore only.

# Keyseat Dimensions



## Standard Keyway Dimensions

Shaft Diameter	Width	Depth
0.500 – 0.563	1/8	1/16
0.625 – 0.875	3/16	3/32
0.938 – 1.250	1/4	1/8
0.938 – 1.375	5/16	5/32
1.438 – 1.750	3/8	3/16
1.813 – 2.750	1/2	1/4
2.313 – 2.750	5/8	5/16
2.813 – 3.250	3/4	3/8
3.313 – 3.750	7/8	7/16
3.813 – 4.500	1	1/2
4.563 – 5.500	1 1/4	5/8
5.563 – 6.500	1 1/2	3/4

## Bore Tolerances for Types J and S Flanges, SC Hubs

Shaft Diameter	Width
UP to 1.000	+0.000 to +.0010
1.063 to 2.125	+0.000 to +.0015
2.188 to 2.625	+0.000 to +.0020
2.688 to 3.688	+0.000 to +.0025
3.750 to 4.750	+0.000 to +.0030
4.813 to 6.000	+0.000 to +.0035

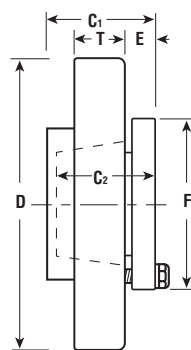
## Shallow Keyseat Dimensions

Coupling Size	Hub Dia. (H)	Length Thru (C)	Shallow Keyseat Dimensions								
			Bore	Keyway	Key	Bore	Keyway	Key	Bore	Keyway	Key
6S	2.500	1.313	1.625	3/8 × 1/8	3/8 × 5/16 × 1 1/4	1.750	3/8 × 1/16	3/8 × 1/4 × 1 1/4	1.875	1/2 × 1/16	1/2 × 5/16 × 11/2
	2.813	1.563									
7S	2.813	1.818	1.875	1/2 × 1/8	1/2 × 3/8 × 1 13/16	–	–	–	–	–	–
8S	3.250	2.188	2.125	1/2 × 3/16	1/2 × 7/16 × 2	2.375	5/8 × 1/8	5/8 × 7/16 × 2	–	–	–
	3.250	1.938	2.125	1/2 × 3/16	1/2 × 7/16 × 2	2.375	5/8 × 1/8	5/8 × 7/16 × 2	–	–	–
9S	3.625	2.406	2.500	5/8 × 3/16	5/8 × 3/8 × 2 3/8	2.875	3/4 × 1/8	3/4 × 1/2 × 2	–	–	–
	4.125	2.281	2.500	5/8 × 3/16	5/8 × 3/8 × 2 3/8	2.875	3/4 × 1/8	3/4 × 1/2 × 2	–	–	–
10S	4.375	2.636	2.875	3/4 × 1/4	3/4 × 5/8 × 2 11/16	3.375	7/8 × 3/16	7/8 × 3/8 × 2 11/16	–	–	–
	4.750	2.688	2.875	3/4 × 1/4	3/4 × 5/8 × 2 11/16	3.375	7/8 × 3/16	7/8 × 3/8 × 2 11/16	–	–	–
11S	3.250	3.438	3.875	1 × 1/4	1 × 3/4 × 3	–	–	–	–	–	–
	4.875	3.438	3.875	1 × 1/4	1 × 3/4 × 3	–	–	–	–	–	–
	5.250	3.438	3.875	1 × 1/4	1 × 3/4 × 3	–	–	–	–	–	–
	5.625	3.063	3.875	1 × 1/4	1 × 3/4 × 3	–	–	–	–	–	–
12S	3.750	4.000	3.938	1 × 1/4	1 × 3/4 × 4	–	–	–	–	–	–
	4.875	4.000	3.938	1 × 1/4	1 × 3/4 × 4	–	–	–	–	–	–
	5.750	4.000	3.938	1 × 1/4	1 × 3/4 × 4	–	–	–	–	–	–

## Type B Bushed Quadra-Flex®

### Flanges

Type B flanges are made of high quality cast iron, the same high strength cast iron used in the Type S and SC Quadra-Flex® flanges. Type B is designed to accommodate Martin QD bushings for easy installation and removal. Type B flanges are not intended for use with Hytrel sleeves

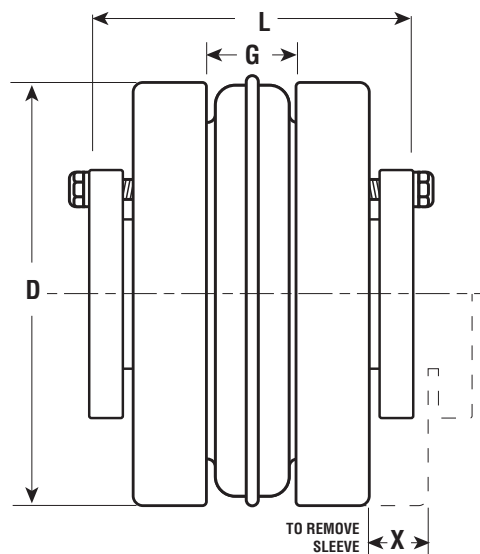


Coupling Size	Bushing Required	Dimensions									Max. Bore ★	Weight (lb) †	
		C <sub>1</sub>	C <sub>2</sub>	D	E	F	G	L	T	X		Flange	Bushing
6B	JA	1.531	1.000	4.000	0.438	2.000	0.875	3.313	0.758	1.094	1.188	1.7	0.9
7B	JA	1.594	1.000	4.625	0.438	2.000	1.000	3.438	0.758	1.313	1.188	2.0	1.0
8B	SH	1.818	1.250	5.450	0.500	2.688	1.438	3.938	2.281	1.500	1.625	3.1	1.0
9B	SD	2.188	1.188	6.350	0.438	3.188	1.438	4.625	1.031	1.750	1.938	4.9	1.5
10B	SK	1.818	1.875	7.500	0.625	3.875	1.625	5.313	1.219	2.000	2.500	7.0	2.0
11B	SF	2.125	2.000	8.625	0.625	4.625	1.875	6.125	1.500	2.375	2.750	11.8	3.0
12B	E	2.688	2.625	10.000	0.875	6.000	2.313	7.438	1.688	2.688	3.438	17.2	10.0
13B	F	3.688	3.625	11.750	1.000	6.625	2.688	8.625	1.939	3.000	3.938	30.5	11.5
14B	F	3.688	3.625	13.875	1.000	6.625	3.250	9.750	2.250	3.500	3.938	51.0	11.5
16B	J	4.750	4.500	18.875	1.188	7.250	4.750	12.625	2.750	4.250	4.500	120.0	18.0

★ Maximum bore with keyseat.  
† Approximate weight for each flange.

## QD Bushing Keyway Dimensions

Bushing	Bores	Keyset
JA	1/2 - 1	STANDARD
	11/16 - 1 1/8	1/4 × 1/16
	13/16	1/4 × 1/16
	1 1/4	NO K.S.
SH	1/2 - 1 3/8	STANDARD
	1 7/16 - 1 5/8	3/8 × 1/16
	1 11/16	NO K.S.
SD	1/2 - 1 11/16	STANDARD
	1 3/4	3/8 × 1/8
	1 13/16	1/2 × 1/8
	1 7/8 - 1 15/16	1/2 × 1/16
SK	1/2 - 2 1/8	STANDARD
	2 3/16 - 2 1/4	1/2 × 1/8
	2 5/16 - 2 1/2	5/8 × 1/16
	2 9/16 - 2 5/8	NO K.S.
SF	1/2 - 2 1/4	STANDARD
	2 5/16 - 2 1/2	5/8 × 3/16
	2 9/16 - 2 3/4	5/8 × 1/16
	2 13/16 - 2 7/8	3/4 × 1/16
E	2 15/16	3/4 × 1/16
	7/8 - 2 7/8	STANDARD
	2 13/16 - 3 1/4	3/4 × 1/8
	3 5/16 - 3 7/16	7/8 × 1/16
F	3 1/2	7/8 × 1/16
	1 - 3 5/16	STANDARD
	3 3/8 - 3 3/4	7/8 × 3/16
	3 13/16 - 3 15/16	1 × 1/8
J	4	NO K.S.
	1 1/4 - 3 3/4	STANDARD
	3 13/16 - 3 15/16	1 × 1/8
	4 - 4 1/2	1 × 1/8

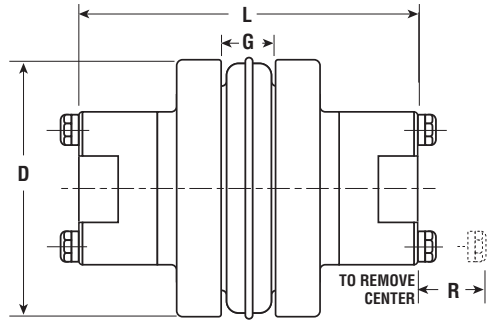


## Bushings

Martin QD bushings offer convenient mounting of the flange to the shaft securely without setscrews. They are tapered and are split through both the bushing flange and taper to provide a clamp fit, eliminating wobble, vibration, and fretting corrosion. This is the same bushing used in Martin sprockets and sheaves and is readily available.



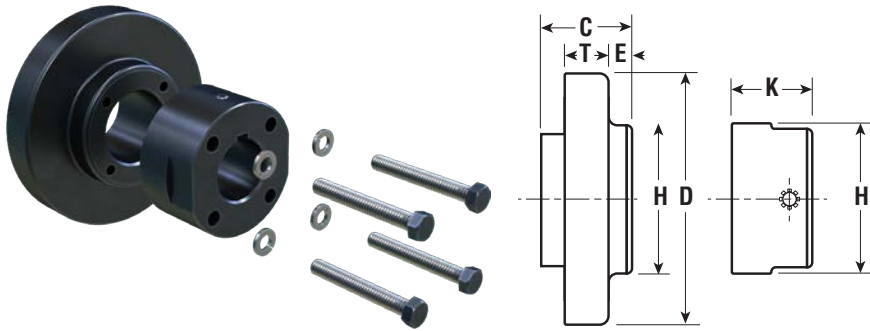
# Type SC Spacer Couplings



The dimensions for completely assembled Quadra-Flex® Type SC Spacer Couplings are shown below. See next page for dimensions of separate components.

Coupling Size	Required Distance Between Shafts	Use Flange Number	Use Hub Number	Max. Bore Standard Keyway	Dimensions				Weight <sup>2</sup> (lb) •
					D	L <sup>2</sup>	G	R	
4JSC	3.500	4JSC35 <sup>1</sup>	4H	1 1/8	2.460	5.625	0.625	0.500	4.7
5SC	3.500	5SC35	5H	1 1/8	3.250	5.625	0.750	0.563	4.1
6SC	3.500	6SC35	6H	1 3/8	4.000	5.875	0.875	0.750	7.1
	4.375	6SC44	6H	1 3/8	4.000	6.750	0.875	0.750	7.9
	5.000	6SC50	6H	1 3/8	4.000	7.375	0.875	0.750	8.5
7SC	3.500	7SC35	7H	1 5/8	4.625	6.375	1.000	0.625	9.1
	4.375	7SC44	7H	1 5/8	4.625	7.250	1.000	0.625	10.1
	5.000	7SC50	7H	1 5/8	4.625	7.875	1.000	0.625	10.7
8SC	3.500	8SC35	8H	1 7/8	5.450	6.875	1.125	0.813	14.7
	3.500	8SC35-10	10H★	2 3/8	5.450	8.125	1.125	0.813	22.7
	4.375	8SC44	8H	1 7/8	5.450	7.750	1.125	0.813	16.1
	5.000	8SC50	8H	1 7/8	5.450	8.375	1.125	0.813	15.9
	5.000	8SC50-10	10H★	2 3/8	5.450	9.625	1.125	0.813	26.5
9SC	3.500	9SC35	9H★	2 1/8	6.350	7.500	1.438	0.688	22.0
	4.375	9SC44	9H★	2 1/8	6.350	8.250	1.438	0.688	23.4
	5.000	9SC50	9H★	2 1/8	6.350	8.875	1.438	0.688	24.6
	5.000	9SC50-11	11H★	2 7/8	6.350	10.375	1.438	0.813	40.2
	7.000	9SC70-11	11H★	2 7/8	6.350	12.375	1.438	0.813	48.2
	7.750	9SC78-11	11H★	2 7/8	6.350	13.125	1.438	0.813	50.8
10SC	4.750	10SC48	10H★	2 3/8	7.500	9.375	1.625	0.813	35.4
	5.000	10SC50	10H★	2 3/8	7.500	9.625	1.625	0.813	38.2
	7.000	10SC70-13	13H★	3 3/8	7.500	13.625	1.625	1.875	71.8
	7.750	10SC78-13	13H★	3 3/8	7.500	14.375	1.625	1.875	75.6
	10.000	10SC100-13	13H★	3 3/8	7.500	16.625	1.625	1.875	89.0
11SC	4.750	11SC48	11H★	2 7/8	8.625	10.625	1.875	0.813	54.5
	5.000	11SC50	11H★	2 7/8	8.625	10.375	1.875	0.813	54.8
	7.000	11SC70-14	14H	3 7/8	8.625	14.625	1.875	2.000	85.7
	7.750	11SC78-14	14H	3 7/8	8.625	15.375	1.875	2.000	90.1
	10.000	11SC100-14	14H	3 7/8	8.625	17.625	1.875	2.000	102.5
12SC	7.000	12SC70	12H★	2 7/8	10.000	12.875	2.313	1.500	87.7
	7.000	12SC70-14	14H	3 7/8	10.000	14.625	2.313	2.000	98.9
	7.750	12SC78	12H★	2 7/8	10.000	13.625	2.313	1.500	91.5
	7.750	12SC78-14	14H	3 7/8	10.000	15.375	2.313	2.000	103.3
	10.000	12SC100-14	14H	3 7/8	10.000	17.625	2.313	2.000	115.5
13SC	7.750	13SC78	13H★	3 3/8	11.750	14.375	2.688	1.875	121.8
14SC	7.750	14SC78	14H	3 7/8	13.875	15.375	3.250	2.000	179.4

★ Short (HS) hub also available.  
 • Approximate weight for completely assembled spacer coupling.  
<sup>1</sup> 4JSC35 × 1.125 has a shallow keyway.  
<sup>2</sup> L dimension and weight will change if one or two short (HS) hubs are used.  
 NOTE: Refer to page C-23 to order — specify components separately.



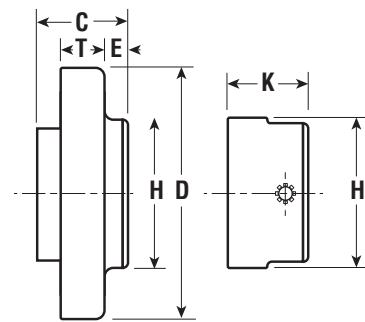
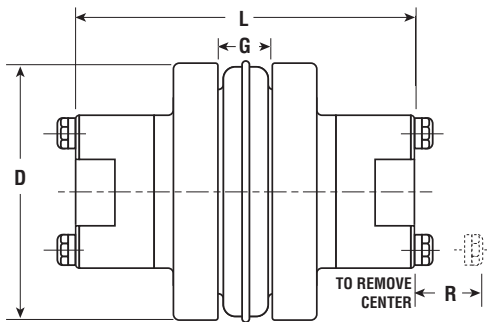
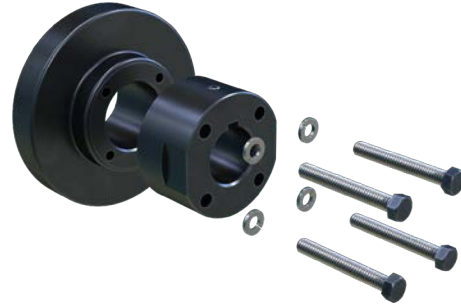
## Type SC Flanges and Hubs

Tables below provide dimensional information for Quadra-Flex® Flanges and Hubs used for Spacer Couplings. Assembled dimensions are listed on opposite page. Any of the sleeves shown on page C-14 can be used.

Coupling Size	Flange Number	For Distance Between Shafts ★	For Hubs	Dimensions					Weight (lb) •
				D	E	H	C	T	
4JSC	4JSC35	3.500	4H	2.460	0.438	2.000	0.875	0.438	1.2
5SC	5SC35	3.500	5H	3.250	0.797	2.000	1.688	0.594	1.2
6SC	6SC35	3.500	6H	4.000	0.594	2.500	1.625	0.697	2.0
	6SC44	4.375	6H	4.000	0.344	2.500	2.063	0.697	2.4
	6SC50	5.000	6H	4.000	1.344	2.500	2.375	0.697	2.7
7SC	7SC35	3.500	7H	4.625	0.469	2.813	1.625	0.758	2.3
	7SC44	4.375	7H	4.625	0.879	2.813	2.063	0.758	2.8
	7SC50	5.000	7H	4.625	0.531	2.813	2.375	0.758	3.1
8SC	8SC35	3.500	8H	5.450	0.281	3.250	1.625	0.879	3.5
	8SC35-10	3.500	10H-10HS	5.450	0.281	4.375	1.625	0.879	3.4
	8SC44	4.375	8H	5.450	0.697	3.540	2.063	0.879	4.2
	8SC50	5.000	8H	5.450	0.344	3.250	2.375	0.879	4.6
	8SC50-10	5.000	10H-10HS	5.450	0.344	4.375	2.375	0.879	5.3
9SC	9SC35	3.500	9H-9HS	6.350	0.063	3.625	1.688	0.344	5.1
	9SC44	4.375	9H-9HS	6.350	0.438	3.625	2.063	0.344	5.8
	9SC50	5.000	9H-9HS	6.350	0.750	3.625	2.375	0.344	6.4
	9SC50-11	5.000	11H-11HS	6.350	0.750	5.250	2.375	0.344	6.9
	9SC70-11	7.000	11H-11HS	6.350	1.750	5.250	3.375	0.344	10.9
	9SC78-11	7.750	11H-11HS	6.350	2.125	5.250	3.750	0.344	12.1
10SC	10SC48	4.750	10H-10HS	7.500	0.344	4.375	2.250	0.531	9.8
	10SC50	5.000	10H-10HS	7.500	0.469	4.375	2.375	0.531	10.1
	10SC70-13	7.000	13H-13HS	7.500	1.469	6.125	3.375	0.531	14.5
	10SC78-13	7.750	13H-13HS	7.500	1.818	6.125	3.750	0.531	16.3
	10SC100-13	10.000	13H-13HS	7.500	2.939	6.125	4.875	0.531	22.5
11SC	11SC48	4.750	11H-11HS	8.625	0.031	5.250	1.500	1.500	12.5
	11SC50	5.000	11H11HS	8.625	0.063	5.250	1.563	1.500	12.7
	11SC70-14	7.000	14H	8.625	0.688	6.500	2.563	1.500	16.1
	11SC78-14	7.750	14H	8.625	1.438	6.500	2.938	1.500	18.3
	11SC100-14	10.000	14H	8.625	2.563	6.500	4.063	1.500	24.5
12SC	12SC70	7.000	12H-12HS	10.000	0.636	5.750	2.469	1.688	23.2
	12SC70-14	7.000	14H	10.000	0.636	6.500	2.469	1.688	21.2
	12SC78	7.750	12H-12HS	10.000	0.344	5.750	2.818	1.688	25.1
	12SC78-14	7.750	14H	10.000	0.344	6.500	2.818	1.688	23.4
	12SC100-14	10.000	14H	10.000	0.758	6.500	3.939	1.688	29.5
13SC	13SC78	7.750	13H-13HS	11.750	0.563	6.125	3.250	1.939	38.4
14SC	14SC78	7.750	14H	13.875	0.031	6.500	2.697	2.250	55.0

★ Flanges can be mixed to form different Between-Shaft Dimensions. See chart on page 23.  
 • Approximate weight for each flange.

# SC Spacer Hub Bores



Coupling Size	Hub Number	Max. Bore	Stock Bore							Dimensions			Weight <sup>2</sup> (lb) •		
			Plain Bore	Bore with Standard Keyway and Setscrew						K	H	Cap Screws Furnished			
4JSC	4H	1.125	—	0.625	0.875	1.000	1.125★				1.625	2.000	4 — 10 × 2	1.1	
5SC	5H	1.125	0.500	0.625	0.750	0.875	1.000	1.125			0.406	2.000	4 — 10 × 1 1/2	0.7	
6SC	6H	1.375	0.625	0.750	0.875	1.000	1.125	1.250	1.375		0.531	2.500	4 — 1/4 × 1 3/4	1.3	
7SC	7H	1.625	0.625	0.875	1.000	1.125	1.375	1.500	1.625		1.469	2.813	4 — 1/4 × 1 7/8	1.9	
8SC	8H	1.875	0.750	0.875	1.000	1.125	1.375	1.500	1.625	1.750	1.875	1.697	3.250	4 — 5/16 × 2 1/4	3.2
9SC	9H	2.125	0.875	1.000	1.125	1.375	1.500	1.625	1.750	1.875	2.125	1.939	3.625	4 — 3/8 × 2 3/4	4.4
	9HS	1.500	—	1.125								1.531	3.625	4 — 3/8 × 2 1/4	3.7
10SC	10H	2.375	1.125	1.625	1.875	2.125	2.375					2.344	4.375	4 — 7/16 × 3	7.3
	10HS	1.625	—	1.125								1.636	4.375	4 — 7/16 × 2 1/2	5.5
11SC	11H	2.875	1.125	1.875	2.125	2.375	2.875					2.697	5.250	4 — 1/2 × 3 1/2	12.2
	11HS	1.875	—	1.125	1.625							1.879	5.250	4 — 1/2 × 2 3/4	9.3
12SC	12H	2.875	1.875	1.875	2.125	2.375	2.875					2.939	5.750	4 — 5/8 × 4	16.6
	12HS	2.500	—	2.375								2.531	5.750	4 — 5/8 × 3 1/2	14.1
13SC	13H	3.375	—	2.375	2.875	3.375						3.344	6.125	4 — 5/8 × 4 3/4	19.9
	13HS	2.500	—	2.125	2.375							2.469	6.125	4 — 5/8 × 3 1/2	16.0
14SC	14H	3.875	—	2.375	2.875	3.375	3.875					3.818	6.500	4 — 5/8 × 5	24.2

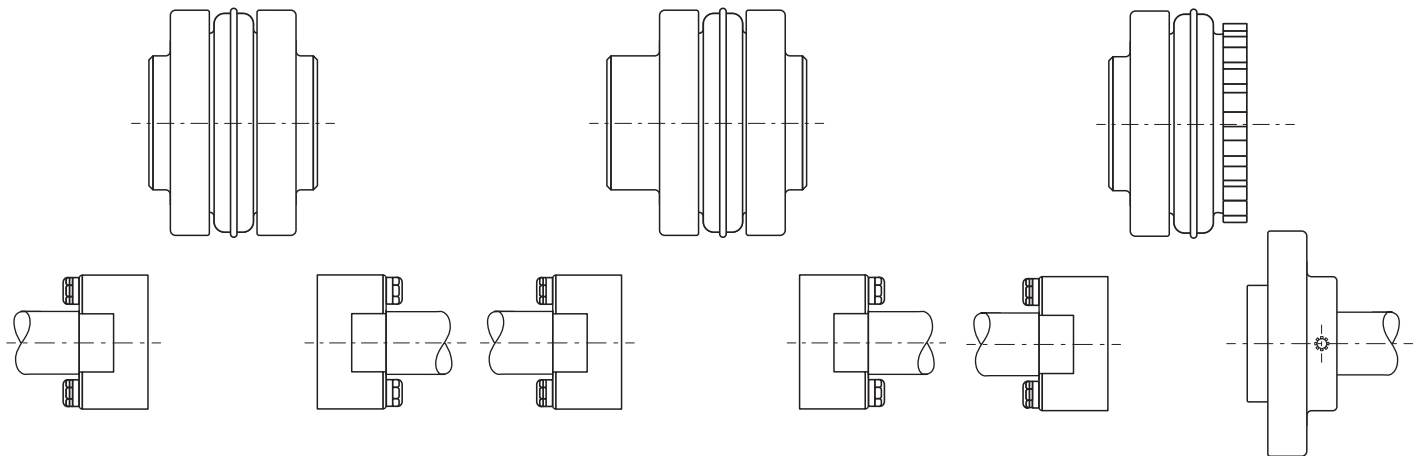
★ 4JSC × 1.125 has a shallow keyseat.

• Approximate weight for each hub.

## Type B Bushed Quadra-Flex®

Spacer couplings are available with the most popular between shaft dimensions. Spacings other than standard can be achieved by mixing flanges.

The standard column provides spacings using identical flanges; the combination column provides spacings with mixed flanges; the column headed semi-spacer uses one flange that is not made for spacer coupling and therefore does not have a detachable hub.



**Standard**

**Combination**

**Semi-Spacer**

Spacing	Use Flanges ★
3.500	2 - ( ) SC35
4.375	2 - ( ) SC44
5.000	2 - ( ) SC50
7.000	2 - ( ) SC70
7.750	2 - ( ) SC78
10.000	2 - ( ) SC100

Spacing	Use Flanges ★
3.938	SC35 and SC44
4.250	SC35 and SC50
4.688	SC44 and SC50
5.250	SC35 and SC70
5.625	SC35 and SC78
5.688	SC44 and SC70
6.000	SC50 and SC70
6.063	SC44 and SC78
6.375	SC50 and SC78
6.750	SC35 and SC100 ★★
7.188	SC44 and SC100 ★★
7.375	SC70 and SC78
7.500	SC50 and SC100
8.500	SC70 and SC100
8.875	SC78 and SC100

Spacing	Use Flanges ★
1.875	S and SC35
2.313	S and SC44
2.625	S and SC50
3.625	S and SC70
4.000	S and SC78
5.125	S and SC100

★ Check individual coupling size for flange  
 ★★ Non-Stock  
 Note: Other combinations available – consult factory

# Installation Instructions



Martin Quadra-Flex® flanges (hubs) and elastomeric elements (sleeves) come in a wide range of sizes and types. First, determine the size and type of coupling components required. Remove all components from their boxes and loosely assemble the coupling. Do not install the wire ring on the two piece sleeves at this time. Check maximum RPM values in table against operating speeds.

Martin EM sleeves are rated the same as other EPDM and Neoprene sleeves, and may be used interchangeably; however, Hytrel sleeves are rated at different values and may not be interchanged with Martin EM sleeves, or the EPDM and Neoprene sleeves. Check horsepower and torque ratings when selecting Hytrel sleeves.

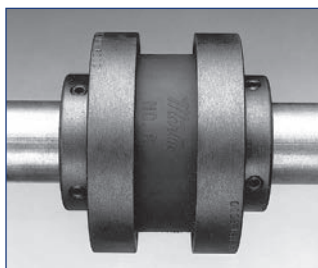
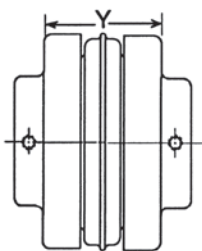


**Step 1.** Make sure the motor driving the part or components is locked out electrically in such a manner that it cannot be started by anyone, however remote from the area. The same type of lockout procedure applies to any other driving device which may be used. Failure to follow these instructions may result in personal injury or property damage.

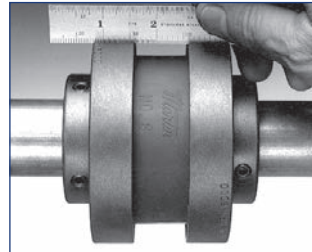
**Step 2.** Prepare shafts for coupling installation. Inspect all coupling components and remove any protective coating or lubricants from bores, mating surfaces, and fasteners.

**Step 3.** Slide one coupling flange onto each prepared shaft using key stock where required. With the QD Type B flange, it may be necessary to expand the QD bushing bore for ease of installation.

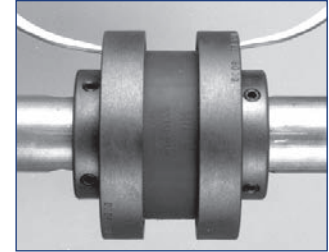
**Step 4.** Position the flange on the shafts to achieve the approximate Y dimension (distance between flanges) shown in table. It is best to have equal shaft length into each flange. Tighten one flange in position, and slide the other flange sufficient distance back to install sleeve. Do not install wire ring on two piece sleeve in its final position at this time, but allow it to hang loosely in groove next to teeth.



**Step 5.** Slide loose flange on the shaft until the sleeve has seated completely in teeth of both flanges. Refer to Y dimension although not a critical dimension. Secure the flange to shaft and torque set screws and cap screws to correct torque values.



Parallel



Angular

**Step 6.** Check parallel alignment by placing a straight edge across the two coupling flanges and measure the maximum offset at several points around the periphery of coupling. Do not rotate coupling when taking these measurements. Refer to table for maximum allowed offset of parallel alignment. Realign the coupling if necessary.

**Step 7.** Check angular alignment with a micrometer, vernier, or caliper. Take measurement from outside to outside of flanges at several points around the periphery of coupling. Do not rotate coupling when taking these measurements. Determine the difference between maximum and minimum dimensions and check to make sure they do not exceed the angular figure on the table. If a correction is necessary, recheck parallel alignment.

## Maximum RPM and Allowable Misalignment (Dimensions in Inches)

Sleeve Size	Max. RPM	Types JEM, EM, E and N			★ Type H and HS		
		Parallel	Angular	Y	Parallel	Angular	Y
3	9200	0.010	0.035	1.188	—	—	—
4	7600	0.010	0.043	1.500	—	—	—
5	7600	0.015	0.056	1.938	—	—	—
6	6000	0.015	0.070	2.438†	0.010	0.016	2.500
7	5250	0.020	0.081	2.563	0.012	0.020	2.625
8	4500	0.020	0.094	2.938	0.015	0.025	3.000
9	3750	0.025	0.109	3.500	0.017	0.028	3.563
10	3600	0.025	0.128	4.053	0.020	0.032	4.125
11	3600	0.032	0.151	4.875	0.022	0.037	4.938
12	2800	0.032	0.175	5.688	0.025	0.042	5.750
13	2400	0.040	0.195	6.688	0.030	0.050	6.688
14	2200	0.045	0.242	7.750	0.035	0.060	7.813
16	1500	0.062	0.330	10.250	—	—	—

NOTE: Values shown above may apply if the actual torque transmitted is more than .25 the coupling rating. For lesser torque, reduce the above values by .5.

★ Type H and HS sleeves should not be used as direct replacements for JEM or EM sleeves.  
† Value when using 6J flanges is 2.125.

**Step 8.** If the coupling employs the two-piece sleeve with wire ring, install ring in center groove of sleeve.

Note: Some force may be required to seat the ring in groove.

**Step 9.** Install protective guards and/or shields per OSHA and any other additional local or state safety codes as required.

**Warning: Coupling sleeves may be forced from coupling when subjected to a severe shock load or abuse.**