A SERIES

POWERSTREAM™ ELASTOMERIC COUPLINGS

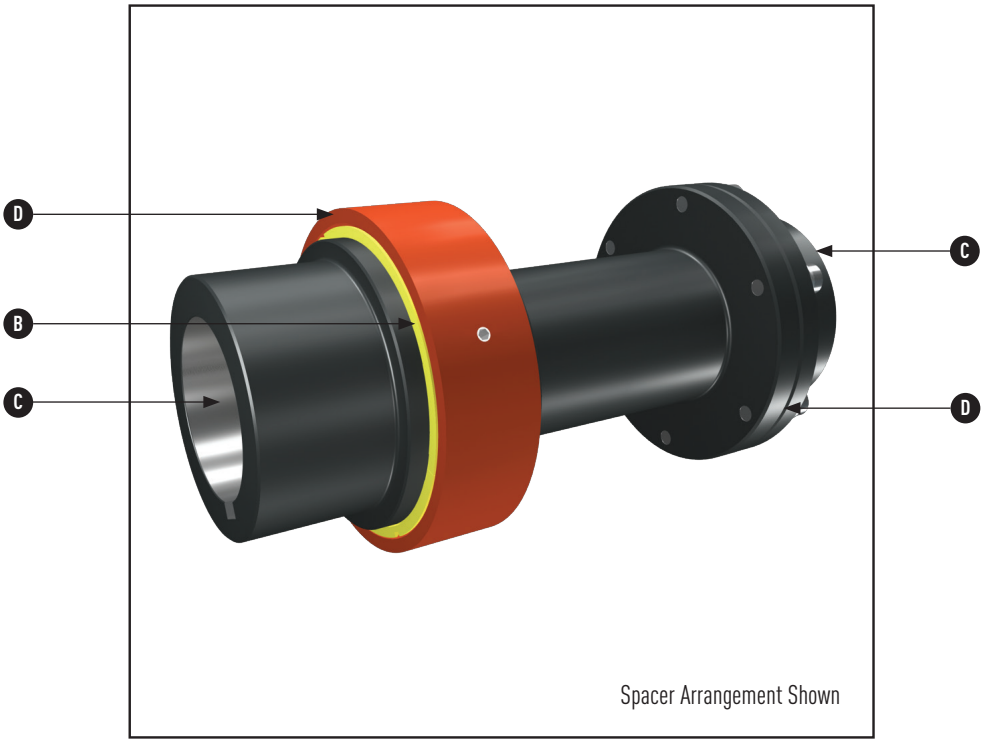
Technical Specification

A – Retaining ring with locking feature

B – Wrap-around elastomeric insert

C – Hubs (blank or bored)

D – Anti-corrosion treatment



Spacer Arrangement Shown

Product description

A Series elastomer couplings provide a solution to one of the most persistent and troublesome problems facing maintenance personnel, periodic coupling failure and the downtime and expense that goes with it. If a new insert is needed, a replacement can be installed in minutes without moving either the prime mover or the driven equipment.

The A Series is the simplest construction of all our couplings. The overall design is compact and can be supplied as a close coupled or spacer design.

Close Coupled Arrangement: Two identical hubs made of high strength steel, each with six or eight teeth, depending on size. The split insert, which is made of specially compounded Urethane, fits over the hub teeth. The retaining ring is made of steel, located with two setscrews. The close coupled arrangement requires no nuts or bolts.

Spacer Arrangement: A close coupled hub and a spacer hub, one end of the spacer piece has six or eight teeth, depending on size with the other end flanged, and are made of high strength steel. The split insert, which is made of specially compounded Urethane, fits over the hub / spacer teeth. The retaining ring is made of steel, located with two setscrews. Bolts are supplied to assemble spacer to spacer hub.

Design features

- Easy to install
- Urethane insert is resistant to most chemicals and oils
- Standard insert: -40°C to 80°C / -40°F to 180°F
- High temperature inserts: up to 150°C / 300°F
- No lubrication or maintenance
- Can rotate hubs independently for motor test
- No metal-to-metal contact
- Large bore and torque capacity
- Horizontal and vertical operations, in either direction, using standard inserts and retaining rings
- High misalignment capability
- Hubs can be supplied either finish machined or with blank bores
- Ideally suited for a vast range of applications in a wide variety of industries
- The spacer arrangement meets ANSI requirements

A SERIES

POWERSTREAM™ ELASTOMERIC COUPLINGS

Technical Specification

Close coupled dimensions (mm)

Coupling Size	A	B	C (1)		D	E (3)	F (4)
			Rect. Key			DBSE	
	mm	mm	mm	mm (2)	mm	mm	mm
A00C	63	52	38	23	28	16.5	1.5
A01C	80	65	44	37	35	21.7	1.5
A02C	107	76	57	46	43	31.7	1.5
A03C	139	103	80	53	56	42	3
A04C	177	130	101	75	71	52	3
A05C	225	154	115	98	92	60.2	3
A06C	265	186	142	119	110	68.4	3
A07C	306	222	170	146	130	76.4	3
A08C	363	263	197	172	152	86.4	3

Spacer dimensions (mm)

Coupling Size	A	B	C Max (1)		D	E				G	H	J	K
			Rect. Key			DBSE (3)			Min (4)				
	mm	mm	mm	mm (2)	mm	mm	mm	mm	mm	mm	mm	mm	mm
A01S	80	65	44	37	35	100	140	180	46.1	45	48	69	105
A02S	107	76	57	46	43	100	140	180	58.9	55	68	90	130
A03S	139	103	80	53	56	100 (4)	140	180	79.1	62	82	112	152
A04S	177	130	101	75	71	100 (4)	140	180	95.4	70	96	131	179
A05S	225	154	115	98	92		140	180	105.5	95	131	181	222
A06S	265	186	142	119	110		140 (4)	180	120.6	115	165	223	272

Technical data (metric)

Coupling Size	Standard Insert		High Torque Insert		Speed	Mass (5)		Misalignment		
	Rating	Max Continuous Torque	Rating	Max Continuous Torque		Close Coupled	Spacer	Axial	Parallel	Angular
	kW/1000rpm	Nm	kW/1000rpm	Nm	rpm	kg		mm	mm	Degree
A00C	6	57	8	78	9600	1.1		0.5	0.5	2
A01C/S	11	107	15	142	7800	2.1	3.9	1.0	1.0	2
A02C/S	30	285	40	377	5900	4	7.8	1.0	1.0	2
A03C/S	60	569	78	740	4400	9.2	14.7	1.5	1.0	2
A04C/S	120	1140	160	1540	3600	19	25.2	1.5	1.5	1.3
A05C/S	300	2875	400	3800	3600	36.1	51.8	2.0	1.5	1.3
A06C/S	480	4600	650	6200	2200	60.7	90.1	2.0	1.5	1.3
A07C	960	9200	1160	11100	1900	99.8		2.0	1.5	1
A08C	1800	17200	2200	21000	1600	167.4		2.0	1.5	1

Notes:

1 Maximum bore based on standard ISO key dimensions.

2 Maximum bore for shafts extending under the close coupled teeth.

3 Preferred standard Distance Between Shaft Ends (DBSE).

4 Dependant on shaft size – Please refer to Kselect or John Crane.

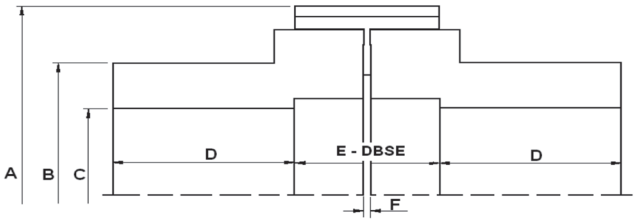
5 Mass at minimum DBSE with unbored hubs.

A SERIES

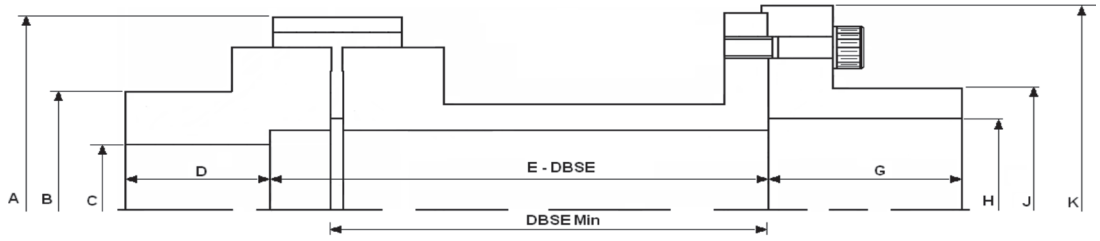
POWERSTREAM™ ELASTOMERIC COUPLINGS

Technical Specification

Close coupled arrangement



Spacer arrangement



Selection procedure (metric)

1 – Select appropriate load factor from table SF1.

2 – Select appropriate service factor from table SF2.

3 – Calculate coupling rating from:

$$R = \frac{kW \times 1000 \times SF2}{N}$$

Where: kW = Driver rated Power (kW)
N = speed (rpm)

4 – Select a coupling with the same or higher rating.

5 – Confirm that the hub bore capacity is suitable.

6 – Confirm that the peak torque capability is suitable for the application.

7 – Check speed capability.

8 – Specify DBSE.

9 – Ensure that the ambient temperature is between -40°C to 80°C (180°F) for standard inserts and 150°C (300°F) for high temperature.

Selection procedure (imperial)

1 – Select appropriate load factor from table SF1.

2 – Select appropriate service factor from table SF2.

3 – Calculate coupling rating from:

$$R = \frac{HP \times 100 \times SF2}{N}$$

Where: HP = Driver rated Power (horsepower)
N = speed (rpm)

4 – Select a coupling with the same or higher rating.

5 – Confirm that the hub bore capacity is suitable.

6 – Confirm that the peak torque capability is suitable for the application.

7 – Check speed capability.

8 – Specify DBSE.

9 – Ensure that the ambient temperature is between -40°C to 80°C (180°F) for standard inserts and 150°C (300°F) for high temperature.

Kselect is an internet-based selection program for A Series. This selection program provides all necessary technical data including inertias and torsional stiffness.

Visit www.johncrane.com.

A SERIES

POWERSTREAM™ ELASTOMERIC COUPLINGS

Technical Specification

Close coupled dimensions (inches)

Coupling Size	A	B	C (1)		D	E (3)	F (4)
			Square Key			DBSE	
	in	in	in	in (2)	in	in	in
A00C	2.48	2.04	1.44	0.938	1.12	0.65	0.06
A01C	3.15	2.55	1.81	1.38	1.38	0.86	0.06
A02C	4.21	3	2.15	1.69	1.69	1.25	0.06
A03C	5.47	4.05	2.94	1.88	2.19	1.66	0.12
A04C	6.97	5.1	3.75	2.69	2.81	2.05	0.12
A05C	8.86	6.07	4.5	3.44	3.62	2.37	0.12
A06C	10.4	7.31	5.38	4.25	4.31	2.69	0.12
A07C	12	8.75	6.38	5.13	5.12	3	0.12
A08C	14.3	10.4	7.5	6.13	6	3.4	0.12

Spacer dimensions (inches)

Coupling Size	A	B	C Max (1)		D	E			G	H	J	K
			Square Key			DBSE (3)		Min (4)				
	in	in	in	in (2)	in	in	in	in	in	in	in	in
A01S	3.15	2.55	1.81	1.38	1.38	3.5	5	1.82	1.77	1.88	2.72	4.13
A02S	4.21	3	2.15	1.69	1.69	3.5	5	2.32	2.17	2.63	3.54	5.12
A03S	5.47	4.05	2.94	1.88	2.19	3.5 (4)	5	3.12	2.44	3.19	4.41	5.98
A04S	6.97	5.1	3.75	2.69	2.81		5	3.76	2.76	3.75	5.16	7.05
A05S	8.86	6.07	4.50	3.44	3.62		5 (4)	4.16	3.74	5.13	7.13	8.74
A06S	10.4	7.31	5.38	4.25	4.31		5 (4)	4.75	4.53	6.44	8.78	10.71

Technical data (imperial)

Coupling Size	Standard Insert		High Torque Insert		Speed	Mass (5)		Misalignment		
	Rating	Max Continuous Torque	Rating	Max Continuous Torque		Close Coupled	Spacer	Axial	Parallel	Angular
	hp/100 rpm	lb - in	hp/100 rpm	lb - in	rpm	lb		in	in	Degree
A00C	0.8	504	1.1	690	9600	2.4		0.02	0.02	2
A01C/S	1.5	945	2	1260	7800	4.6	8.6	0.04	0.04	2
A02C/S	4	2525	5	3340	5900	8.8	17.2	0.04	0.04	2
A03C/S	8	5040	10	6550	4400	20.2	32.3	0.06	0.04	2
A04C/S	16	10080	22	13680	3600	41.8	55.4	0.06	0.06	1.3
A05C/S	40	25460	53	33400	3600	79.4	114	0.08	0.06	1.3
A06C/S	65	40700	88	55300	2200	133.5	198.2	0.08	0.06	1.3
A07C	129	81300	156	98300	1900	219.6		0.08	0.06	1
A08C	242	152500	294	185300	1600	368.3		0.08	0.06	1

Notes:

1 Maximum bores shown are based on AGMA square key dimensions.

2 Maximum bore for shafts extending under the close coupled teeth.

3 Preferred standard DBSE.

4 Dependant on shaft size – Please refer to Kselect or John Crane.

5 Mass at minimum DBSE with unbored hubs.

A SERIES

POWERSTREAM™ ELASTOMERIC COUPLINGS

Technical Specification

Load factor SF1

AGITATORS
- Pure liquids ..... U
- Liquids & Solids ..... A
- Liquid – Variable Density ..... A

BLOWERS
- Centrifugal ..... U
- Lobe ..... A
- Vane ..... U

CLAY & STONE WORKING MACHINERY ..... H

COMPRESSORS
- Centrifugal ..... U
- Lobe ..... A
- Reciprocating-Multi-Cylinder ..... H

CONVEYORS – Light Duty Uniformly Fed
- Apron, Bucket, Chain, Flight, Screw ..... U
- Assembly Belt ..... U
- Oven ..... A

CONVEYORS – Heavy Duty Not Uniformly Fed
- Apron, Bucket, Chain, Flight, Oven ..... A
- Assembly Belt ..... U
- Reciprocating, Shaker ..... H

CRANES AND HOISTS (Note)
- Main Hoists, Reversing ..... H
- Skip Hoists, Trolley & Bridge Drives ..... A
- Slope ..... A

CRUSHERS
- Ore Stone ..... H

ELEVATORS (Note)
- Bucket ..... A
- Centrifugal & Gravity Discharge ..... U
- Escalators ..... U
- Freight ..... H

FANS
- Centrifugal ..... U
- Cooling Towers ..... A
- Forcing Drafts ..... A
- Induced Draft without Damper Control ..... H

FEEDERS
- Apron, Belt, Disc, Screw ..... U
- Reciprocating ..... H

HAMMER MILLS ..... A

LUMBER INDUSTRY
- Barkers – Drum Type ..... H
- Edger Feed ..... H
- Live Rolls ..... H
- Log Haul – Incline ..... H
- Log Haul – Well Type ..... H
- Off Bearing Rolls ..... H
- Planer Feed Chains ..... A
- Planer Floor Chains ..... A
- Planer Tilting Hoist ..... A
- Slab Conveyor ..... U
- Sorting Table ..... U
- Trimmer Feed ..... A

METAL MILLS
- Draw Bench – Carriage ..... H
- Draw Bench – Main Drive ..... H
- Forming Machines ..... H
- Slitters ..... H
- Table Conveyors
  - Non-Reversing ..... H
  - Reversing ..... H
- Wire Drawing & Flattening Machine ..... A
- Wire Winding Machine ..... A

METAL ROLLING MILLS
- Coilers, Hot Mill ..... A
- Coilers, Cold Mill ..... U
- Cold Mills ..... A
- Cooling Beds ..... A
- Door Openers ..... A
- Draw Benches ..... H
- Edger Drives ..... A
- Feed Rolls, Reversing Mills ..... H
- Furnace Pushers ..... A
- Hot Mills ..... H
- Ingot Cars ..... A
- Kick-outs ..... A
- Manipulators ..... H
- Merchant Mills ..... H
- Pusher Rams ..... A
- Reel Drives ..... A
- Reel Drums ..... A
- Reelers ..... H
- Rod and Bar Mills ..... H
- Roughing Mill Delivery Table ..... H
- Runout Tables ..... A
- Saws, Hot and Cold ..... A
- Screwdown Drives ..... H
- Slitters ..... H
- Slab Mills ..... H
- Soaking Pit Cover Drives ..... H
- Straighteners ..... A
- Tables, Transfer & Runout ..... A
- Thrust Block ..... H
- Traction Drive ..... H
- Tube Conveyor Rolls ..... A
- Wire Drawing ..... A

MIXERS
- Concrete ..... A
- Drum Type ..... A

PAPER MILLS
- Barker, Auxillliaries, Hydraulic ..... H
- Barker, Mechanical ..... H
- Barking Drum Spur Gear Only ..... H
- Beater & Pulper ..... A
- Bleacher ..... U
- Calenders ..... H
- Chippers ..... A
- Coaters ..... U
- Couch Roll ..... A
- Cutters, Platers ..... H
- Cylinders ..... A
- Disc Refiners ..... A
- Dryers ..... A
- Felt Stretcher ..... U
- Felt Whipper ..... H
- Line Shaft ..... U
- Log Haul ..... H
- Pulp Grinder ..... A
- Press Roll ..... H
- Reel ..... A
- Stock Chests ..... A
- Suction Roll ..... A
- Washers & Thickeners ..... A
- Winders ..... A

PUMPS
- Centrifugal ..... U
- Reciprocating Single Acting 1 or 2 Cylinders ..... H
- Double Acting ..... H
- Rotary, Gear, Lobe, Vane ..... A

ROTARY MILLS
- BallH
- Dryers & Coolers ..... H
- Hammer ..... H
- Kilns ..... H
- Pebble & Rod ..... H
- PugH
- Tumbling Barrels ..... H

RUBBER INDUSTRY
- Mixed – Banbury ..... H
- Rubber Calendar ..... H
- Rubber Mill (2 or more) ..... H
- Sheeter ..... H
- Tire Building Machines ..... H
- Tire & Tube Press Openers ..... U
- Tubers & Strainers ..... H

SEWAGE DISPOSAL EQUIPMENT
- Bar Screens ..... U
- Chemical Feeders ..... U
- Dewatering Screens ..... U
- Grit Collectors ..... U
- Scum Breakers ..... U
- Slow or Rapid Mixers ..... U
- Sludge Collectors ..... U
- Thickeners ..... U
- Vacuum Filters ..... U

Service factor SF2

PRIME MOVER	LOAD FACTOR FOR DRIVEN MACHINE		
	U	A	H
ELECTRIC, HYDRAULIC MOTORS & TURBINES	1.00	1.25	1.75
PISTON ENGINES: 4 CYLINDERS & ABOVE	1.50	1.75	2.25
PISTON ENGINES: 1 – 3 CYLINDERS	2.00	2.25	2.75

Note: If the coupling is subject to more than 25 starts per hour, add 0.75 to SF2

A SERIES

POWERSTREAM™ ELASTOMERIC COUPLINGS

Technical Specification

Easy to install

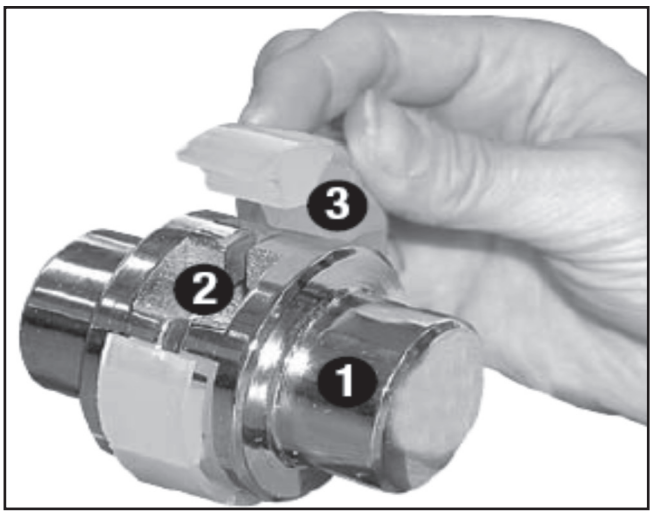
After hubs (1) and (2) and retaining ring (4) are installed on the shaft, the teeth are aligned parallel to each other, spaced apart according to Table 1 below.

Once installed, the hubs never need to be moved again. The Urethane insert (3) can then be installed in the slots formed by the parallel teeth.

When the insert is in position, align the pin in the retaining ring with the slot in the insert, slide the retaining ring (4) onto the Urethane insert and tighten the setscrews into the counter-bores in the insert. Centrifugal force will expand the elastic insert to fit tightly to the inside of the retaining ring, improving system integrity.

To disassemble, loosen the setscrews in the retaining ring and remove the ring. The insert can then be quickly and easily removed and replaced. No special tools are needed.

The assembly and disassembly of the spacer arrangement follow the same procedure with the additional process of securing the spacer to the spacer hub with bolts. The tightening torques for each size are shown in Table 2.



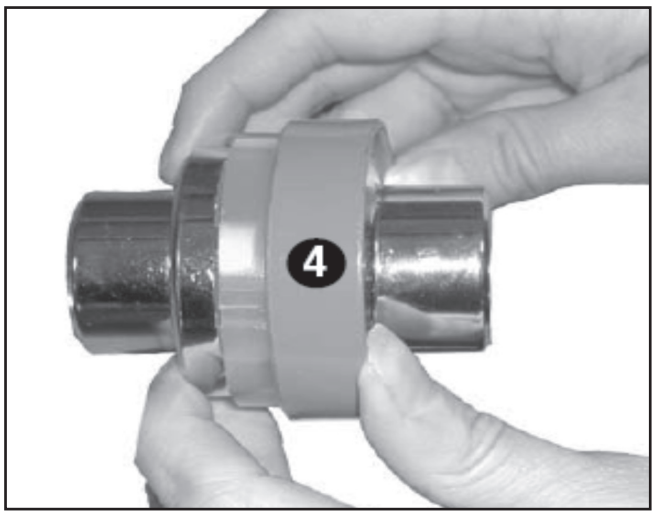


Table 1

Coupling Size	Gap Between Teeth
A00#–A02#	1.5mm / 0.06in
A03#–A08#	3mm / 0.12in

Table 2

Size	Tightening Torque	
	Nm	lb in
A10S	19	170
A20S	19	170
A30S	54	480
A40S	100	880
A50S	100	880
A60S	230	2000

North America
United States of America
Tel: 1-847-967-2400

Europe
United Kingdom
Tel: 44-1753-224000

Latin America
Brazil
Tel: 55-11-3371-2500

Middle East & Africa
United Arab Emirates
Tel: 971-481-27800

Asia Pacific
Singapore
Tel: 65-6518-1800