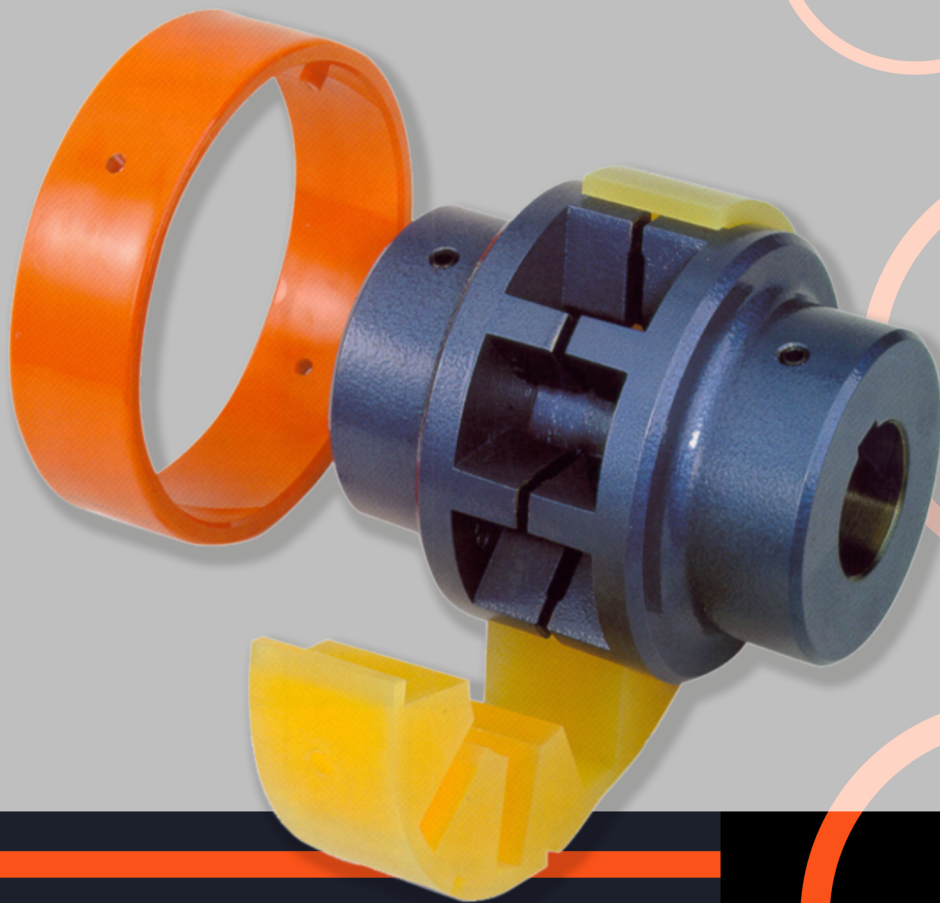
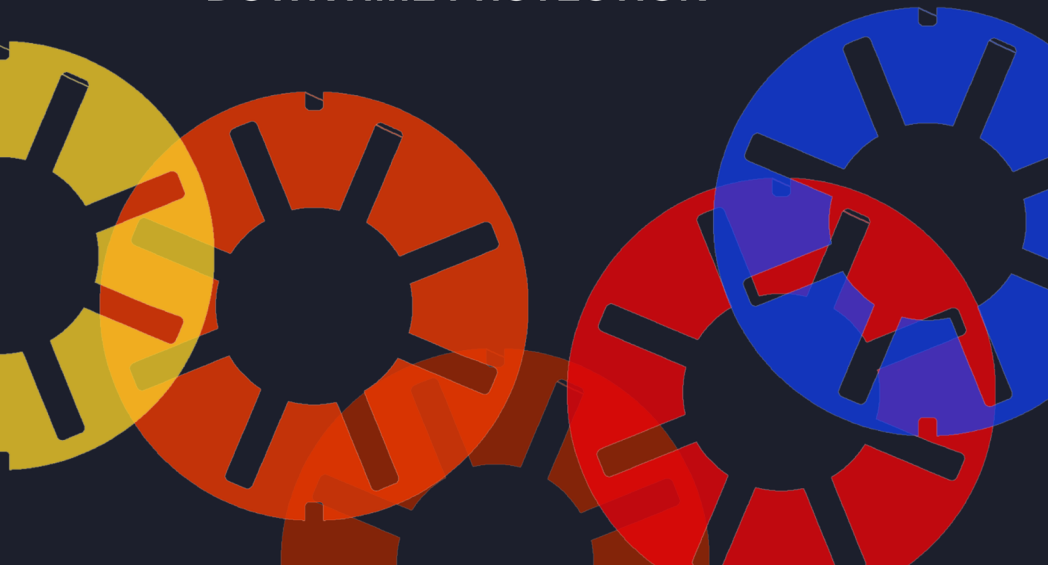


# FLEX COUPLINGS

## ELASTIC STYLE



DOWNTIME PROTECTION

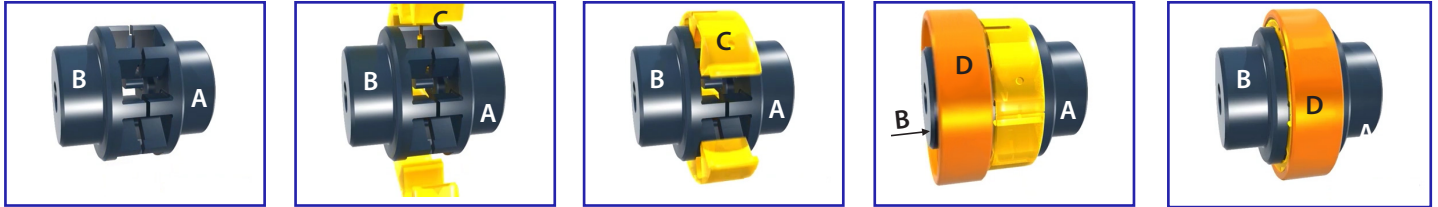


CARLSON-DIMOND & WRIGHT, INC.

# CDWdrives Flex Couplings

## Protect your equipment from costly downtime!

Now there's a solution to one of the most costly and troublesome problems facing maintenance personnel – coupling failure and the expensive downtime associated with fixing it. CDWdrives offers maintenance-free elastomeric coupling solutions.



### Assembly & Disassembly

Assembly is simple and doesn't require nuts and bolts or special tools. A Samiflex Coupling has only four parts - two cast iron or steel hubs (A and B), one precision cast polyurethane insert (C), and one retaining ring from either polyamide or steel (D). Align hubs (A and B) on the shafts. Insert the elastic insert (C) into the parallel slots formed between hubs (A and B). Slide a polyamide or steel retaining ring (item D) over the insert securing both insert and ring between the hubs. Retaining rings with locking screws are provided as standard.

One significant benefit to using a Samiflex coupling is that once the hubs (A and B) are installed and aligned on the shafts, you will never have to move them again to replace an insert. Inserts are removed and replaced quickly and easily without the need to undo screws, bolts, or other fasteners by simply removing the retaining ring (D).

### Advantages

- The coupling insert is removable without moving either driving or driven equipment.
- Change out of coupling insert is faster than any other coupling.
- No lubrication or maintenance is required over the life of the insert.
- You can rotate the hubs independently during a motor test.
- No metal-to-metal contact.
- Large bore to torque capacity.
- Vertical operation is possible with standard coupling.
- Retaining rings are provided with locking screws as standard.
- The standard insert can handle an extensive temperature range from -40 to 80°C (-40 to 180°F).
- High-temperature inserts are available up to 150°C (300°F).
- Polyurethane insert is very resistant to chemical attack.
- Polyurethane insert hardness options are available to optimize torque capacity and damping.



Retaining Rings

### Samiflex Elastomeric Insert

The insert is manufactured using a unique polyurethane blend in three compounds and three hardness ratings, allowing the insert to meet or exceed your application requirements. The standard (Yellow) elastic insert is supplied at 95 shore A.

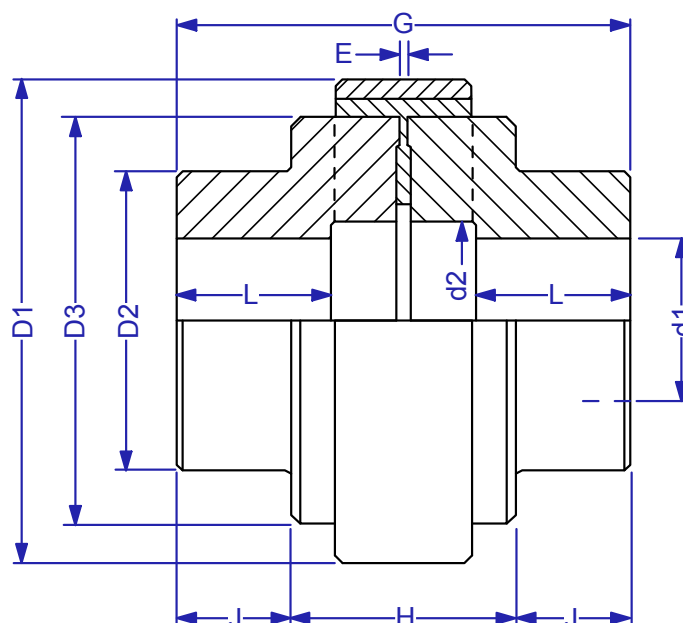
The standard (Yellow) insert has a hardness rating of 95 Shore A.

High performance inserts type HD (brown) and HDT (red) enable torque ratings to be increased by 40%.

Contact CDWdrives for assistance with sizing and selection.



Color Coded Elastic Inserts				
Type	Code	Hardness	Color	Temp Rating
Standard	STD	80 Shore A	Blue	-40 / 180° F
		95 Shore A	Yellow	
High Temp	HT	95 Shore A	Orange	-40 / 300° F
High Performance	HD	97 Shore A	Brown	-40 / 180° F
	HDT	97 Shore A	Red	-40 / 300° F



## Technical Details and Dimensions

Coupling Type		A00	A0	A1	A2	A3B	A4B	A45	A5B	A55	A6	A7	A8	A9	A10	A11
Style STD Insert	Maximum HP per 100 RPM	0.34	0.80	1.5	4.0	8.0	16.0	28.3	40.4	52.5	64.6	129	242	403	646	786
	Max Cont. Torque in-lb	214	504	945	2,532	5,040	10,080	17,830	25,452	33,075	40,700	81,145	152,460	253,890	406,980	495,180
Style HD Insert	Maximum HP per 100 RPM	----	----	2.0	5.3	10.4	21.7	36.6	53.0	68.6	87.7	156	294	468	755	1056
	Max Cont. Torque in-lb	----	----	1,260	3,340	6,550	13,670	23,060	33,390	43,220	55,250	98,280	185,220	294,840	475,650	665,280
Technical Data	Max. Speed - Unbalanced	9100	8200	7250	5440	4200	3275	2800	2600	2350	2200	1900	1600	1350	1100	1100
	Max. Speed - Balanced	10000	9000	8000	6500	4800	3600	3100	2900	2600	2500	2200	1850	1600	1250	1250
	Moment of Inertia (lb-in <sup>2</sup> )	N/A	N/A	4.1	17.1	41	171	350	530	940	1,494	2,820	7,946	16,918	41,013	54,684
Displacement Values	Weight (lb)	0.7	1.8	3.7	8.6	15	29	42	57	79	110	154	309	474	772	903
	Axial Tolerance (in)	+0.012	+0.012	+0.02	+0.02	+0.03	+0.03	+0.04	+0.04	+0.04	+0.04	+0.04	+0.06	+0.06	+0.08	+0.08
	Radial / Parallel (in)	0.02	0.02	0.04	0.04	0.04	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.078	0.078	0.078
	Angular Tolerance	2°	2°	2°	2°	2°	1.3°	1.3°	1.3°	1.3°	1.3°	1°	1°	1°	1°	1°

Coupling Type		A00	A0	A1	A2	A3B	A4B	A45	A5B	A55	A6	A7	A8	A9	A10	A11
Dimensions (inches)	Max. Bore d1	7/8	1-3/8	1-5/8	2-1/8	2-3/4	3-3/4	3-1/4	4-1/2	4	4-1/2	5-1/2	6-1/8	7-1/2	9	9
	Pilot Bore	0.16	0.31	0.55	0.67	0.75	0.94	0.98	1.14	1.18	1.54	1.89	2.48	2.87	3.78	3.78
	D1	1.73	2.56	3.27	4.37	5.67	7.17	7.95	8.86	9.84	10.43	12.05	14.29	16.73	20.59	19.80
	D2	1.38	2.05	2.56	3.15	4.13	5.31	4.92	6.30	6.10	7.09	8.07	9.53	11.02	12.99	13.78
	D3	1.38	2.05	2.56	3.39	4.57	5.91	6.69	7.48	8.46	9.17	10.51	12.83	15.16	19.02	18.03
	d2	0.87	1.26	1.54	1.77	2.05	2.76	3.54	3.50	4.53	4.41	5.31	6.18	7.40	8.58	8.50
	G	2.01	2.87	3.58	5.00	6.14	7.09	7.80	8.50	9.69	10.24	12.20	15.04	16.54	18.98	20.16
	L	0.75	1.10	1.34	1.85	2.20	2.48	2.76	3.03	3.54	3.74	4.57	5.79	6.38	7.40	7.48
	Standard "DBSE"	0.51	0.67	0.91	1.30	1.73	2.13	2.28	2.44	2.60	2.76	3.07	3.46	3.74	4.17	5.20
	Dist. Between Hubs "E"	0.06	0.06	0.06	0.10	0.10	0.14	0.14	0.14	.014	0.14	0.16	0.20	.020	0.24	0.24
	H	----	----	----	2.17	2.56	3.35	3.66	3.98	4.29	4.69	5.28	6.06	6.38	7.56	8.50
	J	----	----	----	1.42	1.77	1.85	2.05	2.24	2.68	2.76	3.46	4.49	5.08	5.71	5.83

1. Standard (STD) inserts will be supplied as standard unless specified. High torque inserts (HD) are available upon request.
2. Maximum speeds are based on cast iron hubs; higher speeds can be attained using ductile iron or steel hubs - consult CDWdrives engineering.
3. Distance between shaft ends (DBSE) is based on the shafts mating flush with the end of the hub face. Shorter or longer shaft separations may be obtained by overhanging the shaft or hub.
4. Weights and inertias are based on solid hubs.
5. Max bore for steel hubs - A45 = 4; A55 = 4-3/4; A6 = 5; A7 = 6

# CDWdrives Flex Couplings

## Coupling Selection

### Method

Data required for coupling selection:

- Application details (for service factor)
- Horsepower and RPM of the driver
- Shaft details of the driving and driven equipment

1. Determine the service factor (SF) from the application and classification list below
2. Calculate the maximum HP/100 RPM rating:  
$$\text{HP/100 rpm} = (\text{HP} \times 100 \times \text{SF}) / \text{RPM}$$
  
Select the coupling which has a higher max rating
3. Compare the maximum RPM capacity & bore requirements to the catalog limits for the coupling selected

### Example

Driver: water turbine (100 HP at 1800 rpm)  
Driven equipment: screw compressor  
Turbine bore: 2.38"    Compressor bore: 2.00"







Distance between shaft ends (DBSE): 5"

Service factor for the water turbine & screw compressor: SF=2

$$\text{HP/100 RPM} = (100 \text{ HP} \times 100 \times 2) / 1800$$
  
$$\text{HP/100 RPM} = 11.1$$

Coupling selection based on max rating: A4B  
Coupling bore capacity: 2-7/8"  
The maximum speed for A4B is 3275 RPM unbalanced

DBSE for A4B is 5"  
A4B is acceptable in this application

Service Factors (SF)				
Load Characteristics	Electric Motor, Steam Turbine, Gas Turbine	Steam Engine, Water Turbine, 8 Cyl. Rec. Engine	6 Cyl. Recep. Engine	4 Cyl. Recep. Engine
 <b>Constant Torque</b> - centrifugal pumps, compressors & blowers, light duty agitators and fans.	1.0	1.5	2.0	2.5
 <b>Slight Fluctuations</b> - slurry pumps, screw compressors, lobe and vane blowers.	1.5	2.0	2.5	3.0
 <b>Moderate Fluctuations and/or Slight Shock Loads</b> double acting pumps, recip. comp.	2.0	2.5	3.0	3.5
 <b>Large Fluctuations and/or Moderate Shock Loads</b> 1 or 2 cylinder recip. pumps.	2.5	3.0	3.5	4.0
 <b>Shock Loads or Light Torque Reversals</b> slitters, rod mill, hot mill	3.0	3.5	4.0	Consult Factory
 <b>Heavy Shock Loads or Large Torque Reversals</b> feed rolls, reversing mills	Consult Factory	Consult Factory	Consult Factory	Consult Factory

1. Use a minimum service factor of 1.25 when driving through a gearbox or using a direct on-line electric motor.
2. Consult CDWdrives when using a reciprocating engine with fewer than 4 cylinders.
3. Service Factors provided are for reference only. Customer experience may dictate the selection of different service factors.



CARLSON-DIMOND & WRIGHT, INC.

25201 Terra Industrial Drive, Suite B,  
Chesterfield, MI 48051

Ph: 586.949.5474  
Fax: 586.949.4041

sales@cdwdrives.com  
www.cdwdrives.com  
www.cdwcouplings.com



Your Authorized CDWdrives Distributor:

CDWdrives FC012022

In accordance with CDWdrives established policy of continuous product improvement, the specifications and technical data contained in this document are subject to change without prior notice. Rotating equipment must be provided with suitable guarding, or injury may result.