

# MORFLEX® COUPLINGS



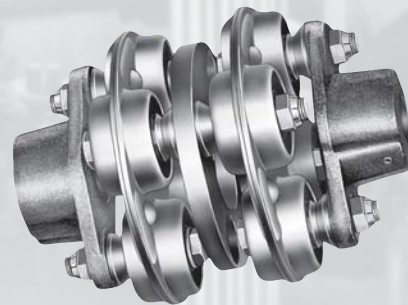
The MORFLEX® coupling should be installed where considerable dimensional misalignment may result, or is expected. It also cushions shock loads and absorbs vibration. The MORFLEX® coupling can compensate for misalignment and is torsionally flexible.

All drive and reaction forces are accommodated by displacement of the flexible Neoprene biscuits. Spring rates (lb-ft/degree) are low, which accounts for the efficient compensation of misalignment and prolonged bearing life of equipment coupled by MORFLEX®. The Center member “floats” between the two flanges, and the two sets of Neoprene biscuits share the misalignment.

Cases of extreme misalignment call for the use of the **Double MORFLEX® Series “CC”** coupling. By employing two center members, four sets of Neoprene biscuits share the misalignment. Spring rates are exceptionally low and reactions at bearings are reduced to a minimum.

**Hub and Block Assemblies** are some of the many special drive and accessories that we can manufacture. They allow for flexibility in design, and are adaptable to many special conditions and applications.

**Round steel flanges** are normally used, and a large assortment of finished bore sizes are stocked. They are available with a minimum bore from stock, and are easily rebored as required to fit the shaft. Lining up shaft centers may be better facilitated and higher operation speeds permissible with the MORFLEX® Round Flanged coupling.



# MORFLEX® Couplings

## Double or “C” Type



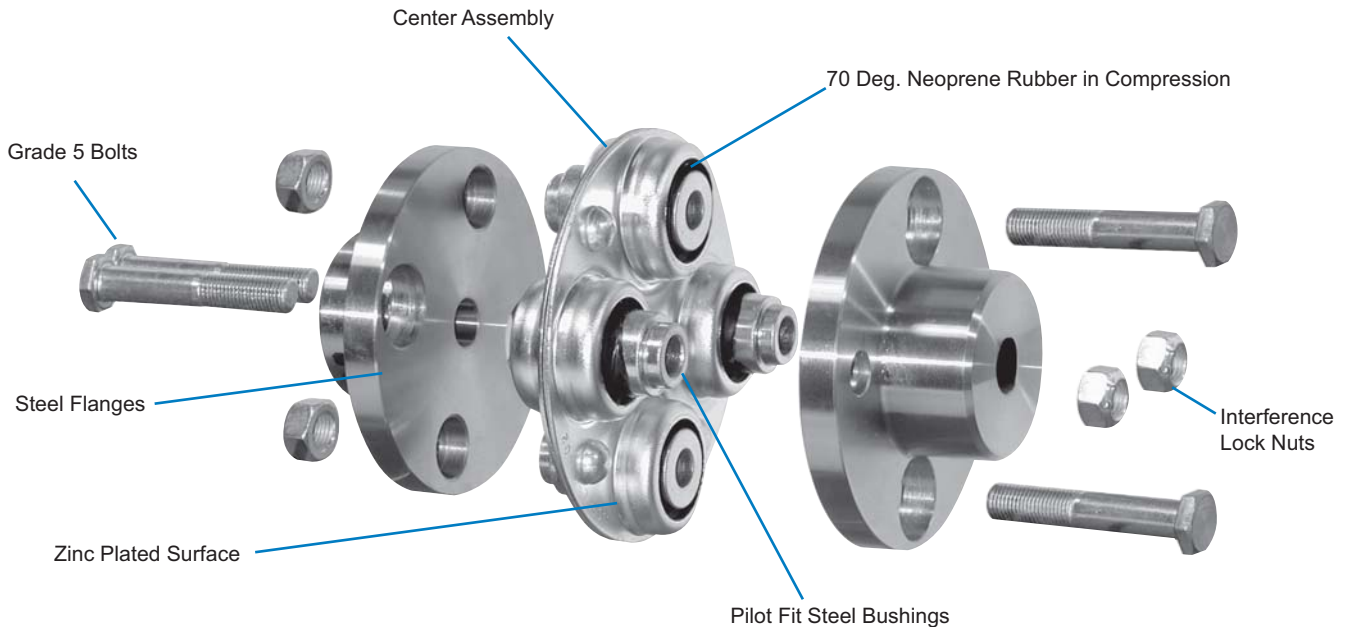
### **MORFLEX® COUPLING FEATURES**

- Maintenance-Free
- 50 Year Reliable Field History
- High Misalignment - Up to 10 Degrees
- Low Cost
- Absorbs Vibration - Thrust and Torsional
- Easy Assembly
- Resilient Design

### **Index:**

	Page
Coupling Comments .....	63 - 64
MORFLEX® Principle .....	65
Stock Couplings.....	66
Double or “C” Type .....	67
Custom Drives .....	68

*The No Maintenance, Easy Assembly, Resilient Coupling  
with High Angular Misalignment up to 10 degrees*



## ***50 years of Reliable Field History***

The MORFLEX® coupling, a proven winner, can compensate for high angular misalignment and is torsionally flexible. Misalignment working angles range from 1.5 to 10 degrees, making the MORFLEX® a unique resilient coupling.

The MORFLEX® Center Assembly with specially developed neoprene biscuits is responsible for the flexibility of the coupling. Preloading the biscuits in assembly permits them to allow considerable deflection, even with light loads. It also cushions shock loads and absorbs vibration. The Center Assembly design prolongs bearing life of equipment and is failsafe in operation.

The MORFLEX® Coupling also has a Universal Driveshaft Series for greater shaft separations with a slipjoint construction, allowing universal action to accommodate angular or parallel misalignment. The shaft members are full spline connections, and slide freely under load.

Applications for the MORFLEX® coupling are abundant, from Small Engines to Fire Truck Pumps, including:

- Commercial Lawn and Garden Equipment
- Hydraulic Pumps & Compressors
- HVAC Units
- PTO Units
- Diesel Engine Drives
- Marine Drives

The coupling is available:

- Sizes 252 through 1202.
- Ranging from 2" to 12" in diameter.
- Off-the-shelf bore range from 1/2" to 2 7/8" with standard keyways and setscrews.

MORFLEX® is **competitively** priced to the OEM

Market competing against the TB WOOD'S\* SURE-FLEXZ\*, REXNORD\* OMEGA\* and DODGE\* PARA-FLEX\* couplings. See the OEM Price List and Interchange Guide.

Maximum 3.50" bore capacity.

- Torque capacity up to 13,300 lb-in.
- Custom bores available in 24 hours or less.

NEMA MOTOR FRAME @ 1750 RPM	H.P.	Shaft Dia. (in.)	KOP-FLEX® BRAND MORFLEX®		KOP-FLEX® BRAND Drop Out		TB WOOD'S* SURE-FLEX		FALK* T31		REX* OMEGA*		DODGE* PARA-FLEX	
			Size	Max. Bore (in.)	Size	Max. Bore (in.)	Size	Max. Bore (in.)	Size	Max. Bore (in.)	Size	Max. Bore (in.)	Size	Max. Bore (in.)
143T	1/2	7/8	252	7/8	20	1 3/8	4JSC	1 1/8	20TD31	1 1/8	ES2	1.13	PS50	1 1/4
143T	3/4	7/8	252	7/8	20	1 3/8	4JSC	1 1/8	20TD31	1 1/8	ES2	1.13	PS50	1 1/4
143T	1	7/8	252	7/8	20	1 3/8	4JSC	1 1/8	20TD31	1 1/8	ES2	1.13	PS50	1 1/4
145T	1 1/2	7/8	252	7/8	20	1 3/8	4JSC	1 1/8	20TD31	1 1/8	ES2	1.13	PS50	1 1/4
145T	2	7/8	252	7/8	20	1 3/8	4JSC	1 1/8	20TD31	1 1/8	ES2	1.13	PS50	1 1/4
182T	3	1 1/8	352	1 1/8	20	1 3/8	5SC	1 1/8	20TD31	1 1/8	ES2	1.13	PS50	1 1/4
184T	5	1 1/8	352	1 1/8	20	1 3/8	5SC	1 1/8	20TD31	1 1/8	ES2	1.13	PS60	1 5/8
213T	7 1/2	1 3/8	402	1 3/8	30	1 5/8	6SC	1 3/8	20T31	1 3/8	ES3	1.38	PS60	1 5/8
215T	10	1 3/8	402	1 3/8	30	1 5/8	6SC	1 3/8	30T31	1 5/8	ES3	1.38	PS60	1 5/8
254T	15	1 5/8	502	1 5/8	40	1 3/4	7SC	1 5/8	30T31	1 5/8	ES4	1.6	PS60	1 5/8
256T	20	1 5/8	502	1 5/8	40	1 3/4	7SC	1 5/8	30T31	1 5/8	ES5	1.88	PS70	2
284T	25	1 7/8	602	1 7/8	50	2 3/8	8SC	1 7/8	40T31	2 1/8	ES5	1.88	PS70	2
286T	30	1 7/8	602	1 7/8	50	2 3/8	8SC	1 7/8	40T31	2 1/8	ES5	1.88	PS80	2 1/2
324T	40	2 1/8	702	2 1/4	60	2 5/8	9SC	2 1/8	50T31	2 3/8	ES10	2.13	PS80	2 1/2
326T	50	2 1/8	702	2 1/4	60	2 5/8	9SC	2 1/8	50T31	2 3/8	ES20	2.38	PS80	2 1/2
364T	60	2 3/8	802	2 5/8	70	3	10SC	2 3/8	60T31	2 7/8	ES20	2.38	PS80	2 1/2
365T	75	2 3/8	802	2 5/8	70	3	10SC	2 3/8	60T31	2 7/8	ES30	2.88	PS120	3
404T	100	2 7/8	902	2 7/8	70	3	11SC	2 7/8	70T31	3 1/8	ES30	2.88	PS120	3
405T	125	2 7/8	902	2 7/8	70	3	11SC	2 7/8	70T31	3 1/8	ES40	3.38	PS120	3
444T	150	3 3/8	1002	3 3/8	80	3 7/8	13SC	3 3/8	80T31	3 1/2	ES40	3.38	PS120	3
445T	200	3 3/8	1002	3 3/8	80	3 7/8	13SC	3 3/8	80T31	3 1/2	ES50	3.38	PS120	3
445TS	250	2 3/8	1202	3 7/8	90	4 1/2	13SC	3 3/8	80T31	3 1/2	ES60	4	PS120	3
447TS	300	2 3/8	1202	3 7/8	90	4 1/2	13SC	3 3/8	90T31	4	ES60	4	PS140	3 1/2

**For any assistance call customer service or engineering at 410-768-2000 or email our coupling specialists at [couplingengineering@Regalbeloit.com](mailto:couplingengineering@Regalbeloit.com).**

\* The following are believed to be the trademarks and/or trade names of their respective owners, and are not owned or controlled by Regal Power Transmission Solutions. Dodge and Para-Flex: Reliance Electric Company; Falk, Omega, Rex and Rexnord: Rexnord Industries LLC; Sure-Flex and TB Wood's: TB Woods Enterprises Inc.

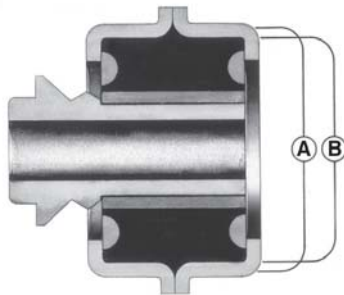
## THE MORFLEX® PRINCIPLE

Specially developed, resilient, non-cold-flow neoprene biscuits are responsible for the flexibility of the MORFLEX® coupling. Relative movement between shafts is confined to the controlled displacement of the neoprene. Preloading the biscuits in assembly permits them to allow considerable deflection, even with light load. The shape of the neoprene biscuit has been carefully designed for uniform stress and deflection—an important operational advantage and one which contributes greatly to the life of the coupling. MORFLEX® couplings can be used in ambient temperatures ranging from 0°F to 200°F.

**Fig. 1 — Preloading of the neoprene trunnion block**

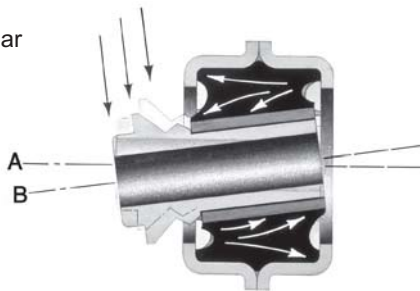
**A** Diameter of biscuit in free state.

**B** Diameter of biscuit after insertion into the housing showing the biscuit in a preloaded condition. This preloaded condition and the special shape of the biscuit accommodated any movement through the controlled internal displacement of the neoprene.



**Fig. 3 — Angular deflection**

**A** Centerline of biscuit before angular deflection.

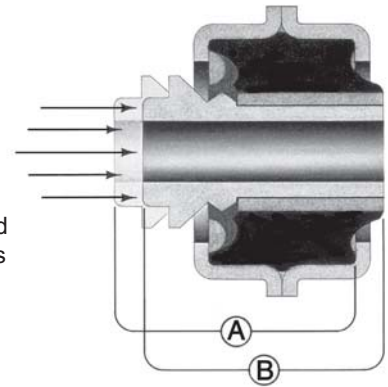


**B** Displacement of the neoprene, as indicated by arrows, compensates for angular misalignment of the connected shafts.

**Fig. 2 — Axial displacement resulting from thrust loads**

**A** Position of biscuit prior to imposition of thrust load.

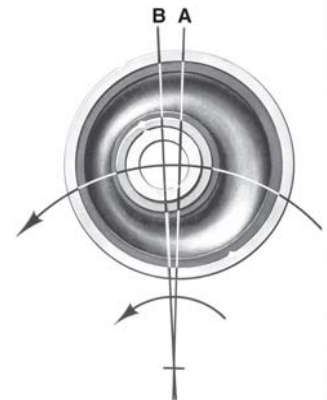
**B** Position of biscuit after thrust load has been imposed. The flow of the neoprene permits controlled end float. Thrust loading is transmitted smoothly and uniformly.



**Fig. 4 — Torsional deflection resulting from torque loads and torsional vibration**

**A** Centerline of biscuit before application of horizontal load.

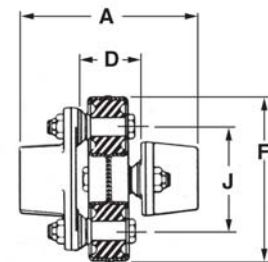
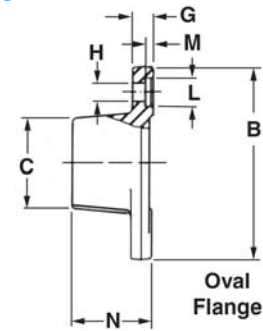
**B** Imposition of a torque load increases pressure in the direction of the load, and reduces pressure in the opposite direction. Because of the initial preloaded condition, the neoprene biscuit is still under compression throughout its volume even at maximum torque load.




**Round Flange**

**Oval Flange**

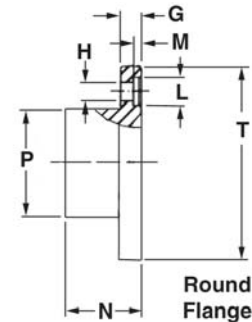
Catalog No.	Capacity		Max. RPM	Working Angle	Parallel Misalign. (in.)	Stock Min. Plain Bores (in.)	Maximum Bore w/Std. KW (in.)		Approx. Weight of Coupling (in.)
	HP per 100 RPM	Torque lb. ft.					w/SS Over KW	w/SS at 180°	
252-O	.25	13	6500	1.5°	.010	3/8	9/16	3/4	3/4
302-O	.38	20	6000	2°	.010	3/8	11/16	7/8	1 1/4
352-O	.60	32	5500	3°	.015	3/8	7/8	1	2
402-R	1.00	53	5500	4°	.015	1/2	1	1 1/4	4
502-R	1.60	84	5300	5°	.020	1/2	1 1/4	1 1/2	7
602-R	3.25	171	5000	5°	.030	3/4	1 5/8	1 3/4	12
702-R	5.40	284	4600	5°	.035	7/8	1 3/4	2 1/8	20
802-R	7.40	389	4400	5°	.040	1	2 1/4	2 1/2	30
902-R	10.00	525	4200	4°	.040	1	2 3/8	2 3/4	48
1002-R	13.80	725	4000	4°	.045	1 1/4	2 3/4	3 1/4	67



Catalog No.	Stock Finished Bores marked "X"																			
	1/2	5/8	3/4	7/8	1	1 1/8	1 3/16	1 1/4	1 3/8	1 7/16	1 1/2	1 5/8	1 3/4	1 7/8	1 15/16	2	2 1/8	2 3/8	2 5/8	2 7/8
252-O	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302-O	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
352-O	-	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
402-R	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
502-R	-	-	-	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-
602-R	-	-	-	-	-	X	-	X	X	X	X	-	-	-	-	-	-	-	-	-
702-R	-	-	-	-	-	-	X	X	X	X	X	X	X	X	-	-	-	-	-	-
802-R	-	-	-	-	-	-	-	-	-	-	X	X	X	-	X	X	-	-	-	-
902-R	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	X	X	X	X	-
1002-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X

**Dimensions (in.)**

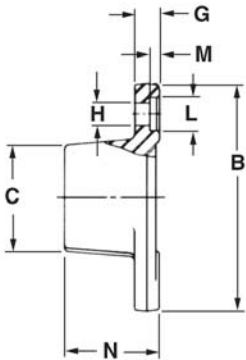
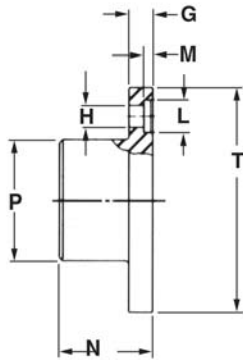
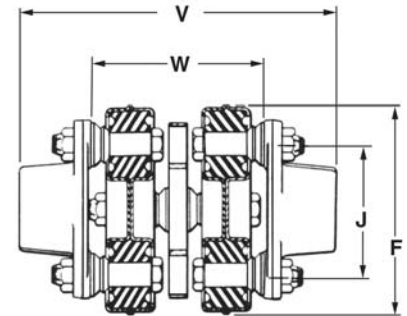
Size	A	B	C	D	F	G	H	J	L		M	N	P	T	
									Min.	Max.				Min.	Max.
252	2 1/4	2 1/4	15/16	3/4	2 5/8	5/32	1/4	1 5/8	-	-	-	3/4	-	-	-
302	2 3/4	2 9/16	1 3/16	1	3 1/8	3/16	1/4	1 15/16	-	-	-	7/8	-	-	-
352	3 1/8	3	1 3/8	1 1/8	3 5/8	1/4	5/16	2 1/4	-	-	-	1	-	-	-
402	4 1/8	3 5/8	1 1/2	1 5/8	4 1/8	3/8	2 5/64	2 9/16	.625	.627	7/32	1 1/4	1 3/4	3.563	3.573
502	4 7/8	4 3/8	1 7/8	1 7/8	5 1/16	3/8	2 9/64	3 3/16	.750	.752	3/16	1 1/2	2 1/4	4.190	4.200
602	6 3/8	5 1/4	2 5/16	2 1/4	6 1/16	1/2	3 3/64	3 13/16	.750	.752	3/16	2 1/16	2 3/4	5.063	5.073
702	7 5/16	5 7/8	2 3/4	2 7/16	7	5/8	3 7/64	4 5/16	.875	.877	3/16	2 7/16	3 1/8	5.813	5.823
802	8 1/4	6 5/8	3 3/16	2 11/16	8	5/8	3 7/64	4 15/16	.875	.877	3/16	2 25/32	3 3/4	6.563	6.573
902	9 3/4	7 5/8	3 1/2	3	9	3/4	2 1/32	5 9/16	1.125	1.127	7/32	3 3/8	4 1/4	7.563	7.573
1002	11	8 1/2	3 7/8	3 1/8	10	15/16	2 5/32	6 3/16	1.250	1.252	7/32	3 15/16	4 3/4	8.438	8.448



STANDARD BORE TOLERANCES		
Nominal Diameter		
Over	Thru	Tolerance
-	3"	+ .002 - .000
3"	4"	+ .003 - .000
4"	5"	+ .004 - .000

Catalog No.	Capacity		Max. RPM	Working Angle	Used in Double Morflex Couplings, "CC" 2 single centers, spacer plate and required hardware Assembly Weight (lbs.)	Stock Min. Plain Bores (in.)	Maximum Bores (in.)		Approx. Weight (lbs.)
	HP per 100 RPM	Torque lb. ft.					w/SS over KW	w/SS at 180°	
252CC	.25	13	6500	3°	3/4	3/8	9/16	3/4	1 1/8
302CC	.38	20	6000	4°	1 1/4	3/8	11/16	7/8	1 7/8
352CC	.60	32	5500	6°	2	3/8	7/8	1	3
402CC	1.00	53	5000	8°	3 1/4	1/2	15/16	1 1/4	4 7/8
502CC	1.60	84	4800	10°	5	1/2	1 1/4	1 1/2	7 7/8
602CC	3.25	171	4500	10°	8 1/4	3/4	1 1/2	1 3/4	15 1/4
702CC	5.40	284	4200	10°	15 1/2	7/8	1 3/4	2 1/8	25 1/2
802CC	7.40	389	4000	10°	20 1/4	1	2	2 1/2	36
902CC	10.00	525	3800	10°	30	1	2 1/4	2 3/4	51 1/2
1002CC	13.80	725	3400	10°	35 1/2	1 1/4	2 3/4	3 1/4	64 1/2

Catalog No.	Stock Bores w/Std. Keyway and Setscrew marked "x"																			
	1/2	5/8	3/4	7/8	1	1 1/8	1 3/16	1 1/4	1 3/8	1 7/16	1 1/2	1 5/8	1 3/4	1 7/8	1 15/16	2	2 1/8	2 3/8	2 5/8	2 7/8
252CC	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302CC	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
352CC	-	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
402CC	-	-	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-
502CC	-	-	-	x	x	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-
602CC	-	-	-	-	x	-	x	x	x	x	x	x	-	-	-	-	-	-	-	-
702CC	-	-	-	-	-	-	x	x	x	x	x	x	x	x	x	-	-	-	-	-
802CC	-	-	-	-	-	-	-	-	-	-	-	x	x	x	-	x	x	-	-	-
902CC	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	x	x	x	x	-
1002CC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	x


**Oval Flange**

**Round Flange**

**Double or "CC" Type Couplings**
**Dimensions (in.)**

Catalog No.	B	C	F	G	H	J	L		M	N	P	T		V	W
							Min.	Max.				Min.	Max.		
* 252CC	2 1/4	15/16	2 5/8	5/32	1/4	1 5/8	-	-	-	3/4	-	-	-	3 1/4	1 3/4
* 302CC	2 9/16	1 3/16	3 1/8	3/16	1/4	1 15/16	-	-	-	7/8	-	-	-	3 15/16	2 3/16
* 352CC	3	1 3/8	3 5/8	1/4	5/16	2 1/4	-	-	-	1	-	-	-	4 1/2	2 1/2
** 402CC	3 5/8	1 1/2	4 1/8	3/8	2 5/64	2 9/16	.625	.627	7/32	1 1/4	1 3/4	3.563	3.573	6 1/8	3 5/8
** 502CC	4 3/8	1 7/8	5 1/16	3/8	2 9/64	3 3/16	.750	.752	3/16	1 1/2	2 1/4	4.100	4.200	7 1/8	4 1/8
** 602CC	5 1/4	2 5/16	6 1/16	1/2	3 3/64	3 3/16	.750	.752	3/16	2 1/16	2 3/4	5.063	5.073	9 1/8	5
** 702CC	5 7/8	2 3/4	7	5/8	3 7/64	4 5/16	.875	.877	3/16	2 7/16	3 1/8	5.813	5.823	10 1/4	5 3/8
** 802CC	6 5/8	3 3/16	8	5/8	3 7/64	4 15/16	.875	.877	3/16	2 25/32	3 3/4	6.563	6.573	11 7/16	5 7/8
** 902CC	7 5/8	3 1/2	9	3/4	2 1/32	5 9/16	1.125	1.127	7/32	3 3/8	4 1/4	7.563	7.573	13 3/8	6 5/8
** 1002CC	8 1/2	3 7/8	10	15/16	2 5/32	6 3/16	1.250	1.252	7/32	3 15/16	4 3/4	8.438	8.448	14 3/4	6 7/8

\* Oval Flanges Supplied.

\*\* Round Flanges Supplied.

## MORFLEX® DRIVE SHAFTS

### MORFLEX® Coupling Universal Driveshaft Series T

These driveshafts provide full universal action for applications requiring a cushion drive between units of remote or angular location. This combination has the structural advantages of the double MORFLEX® Coupling, plus additional capacity for offset and parallel misalignment, which is directly proportional to the length of the floating shaft. Another distinct advantage over conventional driveshafts is that MORFLEX® Coupling Driveshafts do not require maintenance or lubrication. They are commonly used with gas or diesel power plants where they contribute greatly toward smooth, quiet operation and long life.

