Dynaflex® Bushing Type Couplings

Selection Guide:
Compression bushing couplings are assembled by pressing the elastomeric bushings into sockets of a coupling flange. Once assembled, the coupling can be used two ways:

1. Parallel Arrangement
The driving shaft can be connected to all of the bushings, and the driven shaft connected to the coupling flange. This arrangement loads all bushings in **parallel** and produces maximum torque capacity and a less resilient coupling.

2. Series Arrangement
This arrangement requires an even number of bushings per flange. Mating flanges of the driving and driven shafts are attached to alternate bushings. This arrangement transmits the torque through the bushings in an N x N series arrangement, thereby making the torque capacity one-half of the parallel arrangement. The coupling is also more flexible.

When high torque and small space are the controlling factors, the **parallel arrangement** is recommended. When misalignment is the controlling factor, the bushings should be applied in **series arrangement.**

Table 1 provides selection criteria for parallel arrangement, Table 2 provides data for the series arrangement. Bushing selection is dependent upon torque requirements, angular, parallel and axial misalignments, as well as bolt circle diameter, number of bushings and bushing size. The torque values shown on the charts are nominal. The bushings are capable of withstanding higher torques due to the shock loads or other short duration surges.

Torsional Flexibility:
Bushing type couplings are relatively stiff torsionally compared to other elastomeric couplings. The torsional spring rate of a coupling assembly can be calculated by using the equation and data provided on the curves.

Example

Required torque capacity—3400 lbs.-in.

Misalignment — Angular—1.75°

Axial — 1/8 in.

Parallel — 1/32 in.

Proposed Coupling — 7 x 7 Series, J-5737-1, (N = 7)

8 in. bolt circle.

Torsional Spring Rate, $K_\theta = \frac{N}{2} R^2 K_R$

$K_\theta = \frac{7}{2} (4)^2 4000 = 224{,}000$ lbs-in./rad.

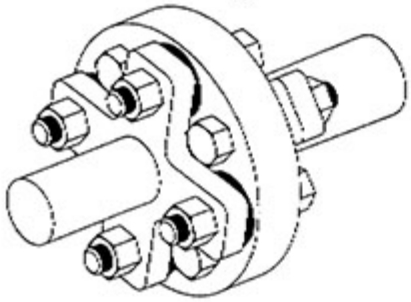
Caution: Shaft length must be considered for potential whirl problems.

Recommended Misalignment Limits

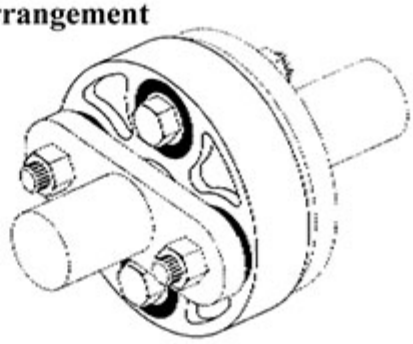
	Misalignment	Bushing Arrangement	
		Parallel	Series
Single Coupling	Angular Parallel Axial	1° 1/64 in. ± 1/16 in.	1.75° 1/32 in. ± 1/8 in.
Double Coupling	Angular Parallel Axial	2° 3/16 to 1/2 in.* ± 1/8 in.	3.5° 3/8 to 1.0 in.* ± 1/4 in.

*Dependent on shaft length (10 to 30 in.)

1. Parallel Arrangement



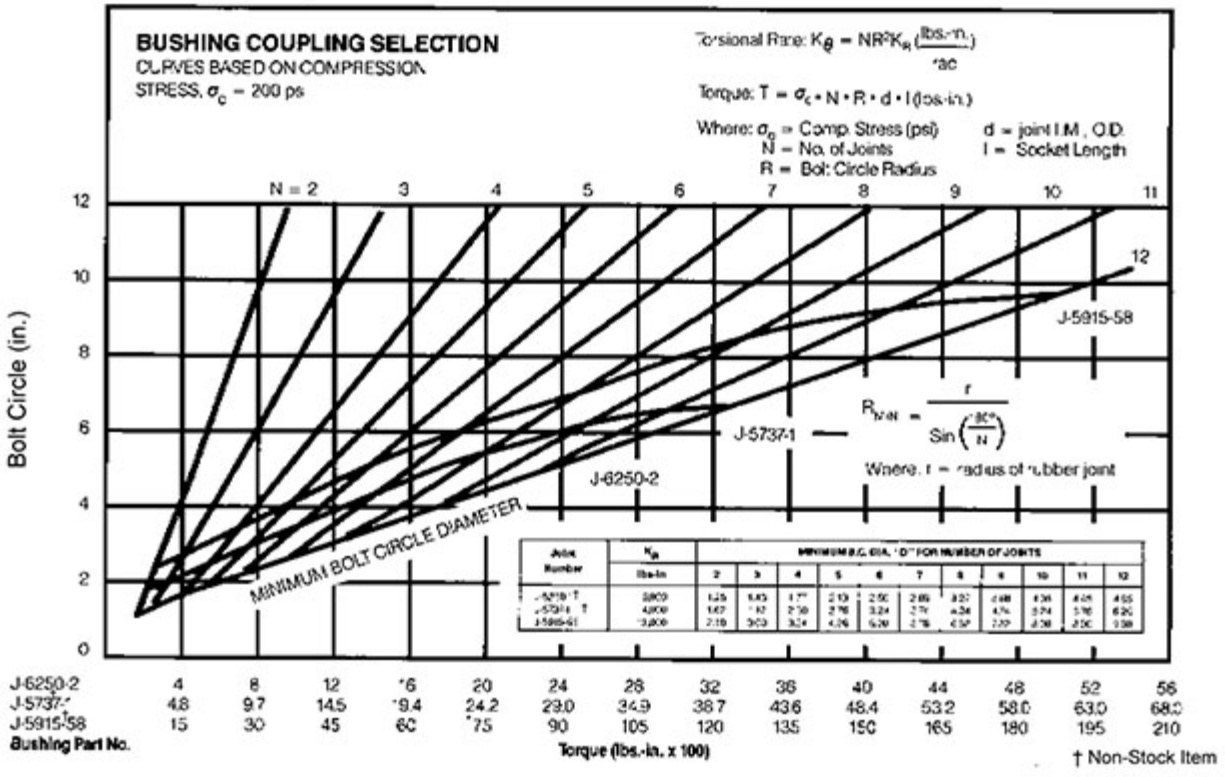
2. Series Arrangement



Dynaflex® Elastomeric Flexible Couplings

Dynaflex Bushing Type Couplings

Specifications — Parallel Arrangement: Table 1.



† Non-Stock Item

Specifications — Series Arrangement: Table 2.