



# High Performance Couplings

- Stainless Steel Bellows
- Nickel Bellows
- Flexible Membrane (Disc)
  - **Torsionally rigid design**
  - **No moving parts**
  - **All-metal construction**
  - **Low inertia**

The operating principles of Flex B, Flex K, Flex Ni and Flex M offer the highest performance available with flexible couplings.

With excellent kinematic properties and torsional stiffness of a very high order, they are suitable for servo drives and satisfy the criteria for highly dynamic position and velocity control systems.

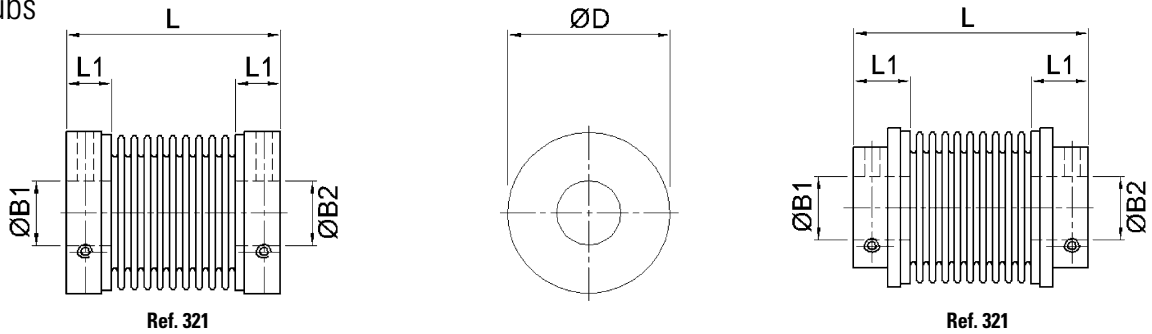
Bellows couplings have the greater torsional stiffness while Flex M have the more tolerant flexural system and feature dynamically balanced construction.



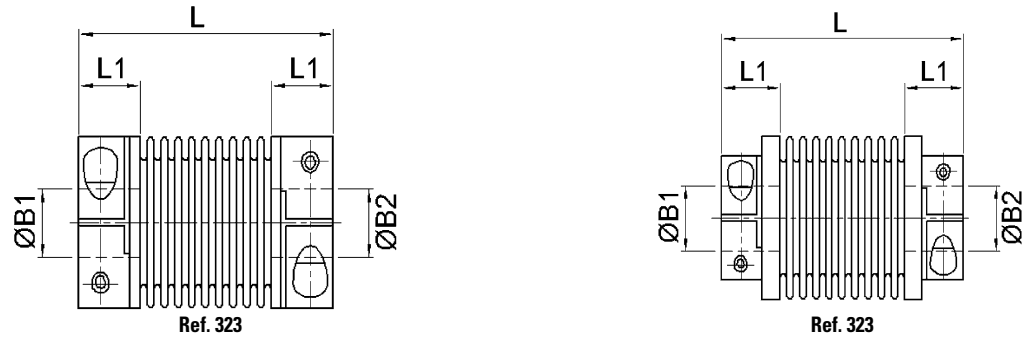
## Nickel Bellows Couplings



### Set Screw Hubs



### Clamp Hubs



The convolutions of Flex-Ni Couplings are formed by the electrolytic deposition of nickel. This produces stress-free convolutions with closely controlled wall thickness.

Nickel bellows couplings are characterized by their exceptional quality of rotational positional integrity. This is achieved through high torsional stiffness in a coupling that is still able to accommodate large amounts of lateral and angular misalignment due to low spring rates in these directions. These couplings are used primarily in instrumentation and similar sensitive applications.

### Materials & Finishes

**Hubs:** Aluminium Alloy

**Bellows:** Electrodeposited nickel

**Fasteners:** Alloy steel

### Temperature Range

-58°F to + 248°F

(-50°C to +120°C)

## Nickel Bellows Couplings

### DIMENSIONS & ORDER CODES

Size	Number of convolutions	Order Code		Dimensions						Fasteners		
		Set Screw Hub	Clamp Hub	O.D in. (mm)	O/A Length L in. (mm)	Max Shaft Depth L1 in. (mm)	Max Bores	Moment of Inertia kgm2 x 10-8	Mass kg x 10-3	Size	Torque lb-in. (Ncm)	A/F in. (mm)
7	8	321.07	-	0.25 (6.35)	0.55 (14)	0.16 (4)	3.175	1.3	1.5	M2	3.63 (41)	.035 (0.9)
12	14	321.12	-	0.47 (12)	0.91 (23)	0.24 (6)	6.35	18.5	10	M2.5	6.99 (79)	.051 (1.3)
17	14	321.17	-	0.67 (17)	1.22 (31)	0.28 (7)	10	36.2	8.5	M3	11.68 (132)	.060 (1.5)
		-	323.17	0.64 (16.3)	1.30 (33)	0.31 (8)	6.35	46.6	11.0	M2	3.10 (35)	0.60 (1.5)
25	10	321.25	-	0.98 (25)	1.30 (33)	0.28 (7)	12.7	161.0	19.5	M3	11.68 (132)	0.60 (1.5)
		-	323.25	0.98 (25)	1.46 (37)	0.35 (9)	12.7	245.0	28.5	M2.5	5.84 (66)	0.08 (2.0)
36	7	321.36	-	1.43 (36.3)	1.67 (42.3)	0.37 (9.5)	19.05	601.0	39.0	M6	45.14 (510)	0.12 (3.0)
		-	323.36	1.43 (36.3)	1.85 (46.9)	0.46 (11.8)	19.05	2960.0	85.0	M4	23.19 (262)	0.12 (3.0)
50	11	321.50	-	2.00 (51)	2.33 (59.3)	0.41 (10.5)	20	952.0	52.0	M6	76.12 (860)	0.12 (3.0)
		-	323.50	2.00 (51)	2.44 (61.9)	0.46 (11.8)	20	3560.0	105.0	M4	23.19 (262)	0.12 (3.0)

### PERFORMANCE

Size	Peak Torque lb-in. (Ncm)	Wind up Arcs/Ncm	Max misalignment compensation			Nominal Spring Rates			
			Angular Deg	Radial in. (mm)	Axial in. (mm)	Torsional (Nm/rad)	Angular (N/deg)	Radial (N/mm)	Axial (N/mm)
7	0.434 (4.9)	285	10	.007 (0.19)	.026 (0.65)	7	<0.15	6.9	3.5
12	1.15 (13)	75	15	.021 (0.54)	.068 (1.72)	27	<0.15	4.2	2.2
17	4.42 (50)	20	10	.017 (0.43)	.070 (1.78)	103	0.15	12.3	4.0
25	29.03 (328)	4.0	8	.018 (0.46)	.081 (2.07)	515	0.41	38.1	11.2
36	81.25 (918)	1.2	6	.018 (0.46)	0.13 (3.28)	1719	0.32	87.8	20.2
50	143.7 (1624)	0.6	9	.044 (1.12)	0.24 (6.1)	3438	<0.15	57.8	17.6

### AVAILABLE BORES

Sizes indicated in parenthesis are metric (mm).

Size	Ø B1, B2 H7														
	(3)	1/8"	(4)	3/16"	(5)	(6)	1/4"	(8)	3/8"	(10)	(12)	1/2"	(16)	3/4"	(20)
7	•	•	•												
12	•	•	•	•	•	•	•								
17	•	•	•	•	•	•	•	S	S	S					
25						•	•	•	•	•	•	•			
36										•	•	•	•		
50											•	•	•	•	•
Bore Ref.	14	16	18	19	20	22	24	28	31	32	35	36	42	47	48

S = Setscrew only

### IMPORTANT

Load capacity depends on application conditions:  
**see page 4** for details