Flex-M

Flexible Membrane Couplings - Bolted Series

Materials & Finishes

Hubs & spacer: Al. Alloy 2014A T6
Clear anodised finish

Membranes: Spring quality stainless steel
Heat treated

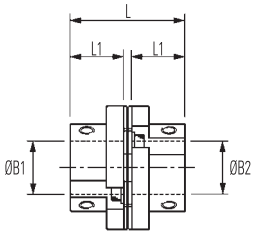
Bolt assembly: Bolt, alloy steel, black oiled finish
Bush assembly, steel, zinc plate & black chromate
Safety washer, carbon steel, black/brown oiled finish

Fasteners: Alloy steel, black oiled

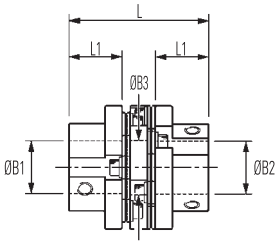
Temperature Range

-40°F to + 248°F (-40°C to +120°C)

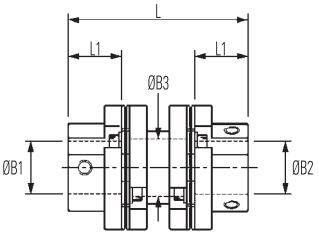
Set screw hubs



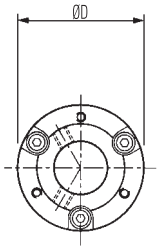
Ref. 660
for use in pairs or with floating shafts



Ref. 664
for precisely aligned shafts

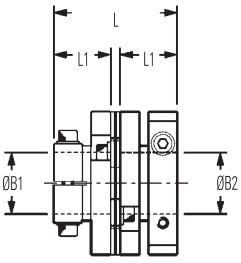


Ref. 668
for greater radial misalignment and lower bearing loads

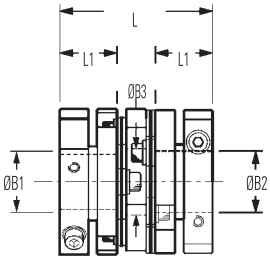


Typical

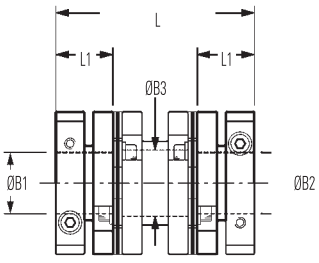
Clamp hubs



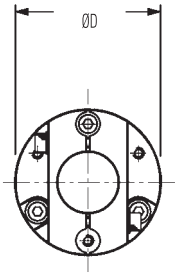
Ref. 662
for use in pairs or with floating shafts



Ref. 666
for precisely aligned shafts



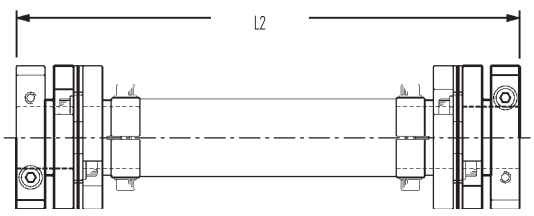
Ref. 670
for greater radial misalignment and lower bearing loads



Typical

Drive shafts

Unless specified otherwise, drive shafts are supplied with set screw hubs inboard and/or bonded to link shaft.



Drive shafts are supplied to order.

Please specify: • Coupling size • Hub style and bore diameter at each end • Keyway details • Overall length L2 • Minimum torsional stiffness, if critical • Quantity

Flexible Membrane Couplings - Rivetted Series

DIMENSIONS & ORDER CODES

Coupling Size	Set Screw Hubs	Clamp Hubs	ØD in. (mm)	L in. (mm)	① L1 in. (mm)	ØB1, ØB2 max in. (mm)	② ØB3 in. (mm)	Fasteners			④ Moment of inertia kgm2 x 10–8	④ Mass kg x 10–3
	COUPLING REF							Screw	③ Torque lb-in. (Nm)	Wrench in. (mm)		
19	460.19	–	0.76 (19.2)	0.51 (13.0)	0.22 (5.6)	.25 (6.35)	N/A	M3	8.32 (0.94)	0.06 (1.5)	30	7
	464.19	–		0.77 (19.6)			0.29 (7.3)				50	10
	468.19	–		1.07 (27.3)							60	12
	–	462.19		0.80 (20.2)	0.36 (9.2)		N/A	M2.5	11.6 (1.32)	0.08 (2)	40	9
	–	466.19		1.06 (26.8)			0.29 (7.3)				60	13
	–	470.19		1.36 (34.5)							60	14
26	460.26	–	1.00 (25.6)	0.62 (15.8)	0.27 (6.9)	0.39 (10)	N/A	M4	20.0 (2.27)	0.08 (2)	120	15
	464.26	–		0.88 (22.4)			0.43 (11.0)				160	18
	468.26	–		1.19 (30.1)							200	23
	–	462.26		0.86 (21.8)	0.40 (10.0)		N/A	M2.5	11.6 (1.32)	0.08 (2)	130	16
	–	466.26		1.12 (28.4)			0.43 (11.0)				160	20
	–	470.26		1.42 (36.1)							210	25
33	460.33	–	1.32 (33.5)	0.89 (22.5)	0.40 (10.0)	0.50 (12.7)	N/A	M5	40.8 (4.62)	0.10 (2.5)	560	37
	464.33	–		1.26 (32.1)			0.56 (14.1)				800	52
	468.33	–		1.69 (42.8)							830	55
	–	462.33		1.20 (30.5)	0.55 (14.0)		N/A	M3	21.5 (2.43)	0.10 (2.5)	520	37
	–	466.33		1.58 (40.1)			0.56 (14.1)				730	51
	–	470.33		2.00 (50.8)							760	55
41	460.41	–	1.63 (41.5)	1.10 (27.1)	0.47 (12.0)	0.63 (16)	N/A	M6	67.4 (7.61)	0.12 (3)	1540	69
	464.41	–		1.52 (38.5)			0.69 (17.5)				2250	97
	468.41	–		1.97 (50.1)							2450	107
	–	462.41		1.46 (37.1)	0.67 (17.0		N/A	M4	50.1 (5.66)	0.12 (3)	1530	72
	–	466.41		1.91 (48.5)			0.69 (17.5)				2220	100
	–	470.41		2.40 (60.1)							2370	109

IMPORTANT

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

① Length of supported thro' bore.

② Clearance bore thro' spacer.

③ Maximum recommended tightening torque.

④ Values apply with max bores.

⑤ **Peak torque**. Select a size where Peak Torque exceeds the application torque x service factor. (***see page 4***)

⑥ Max. compensation values are mutually exclusive.

⑦ Torsional stiffness values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.
Note that in some vendors' catalogues the given torsional stiffness applies to the membrane stack only, giving rise to a greater value.

PERFORMANCE

Coupling Size	Ref.	⑤ Peak torque lb-in. (Nm)	⑦ Max compensation			⑦ Flexural stiffness			
			Angular deg	Radial in. (mm)	Axial in. (±mm)	Torsional Nm / rad	Angular N / deg	Radial N / mm	Axial N / mm
19	460 & 462	7.97 (0.9)	2	0 (0)	.004 (0.1)	220	0.4	–	< 7
	464 & 466		4	.001 (0.2)	.001 (0.2)	150	0.25	14	
	468 & 470		4	.016 (0.4)	.001 (0.2)	145	0.3	4	
26	460 & 462	20.4 (2.3)	2	0 (0)	.004 (0.1)	585	0.75	–	< 7
	464 & 466		4	.001 (0.2)	.001 (0.2)	385	0.5	37	
	468 & 470		4	.016 (0.4)	.001 (0.2)	400	0.4	7	
33	460 & 462	49.6 (5.6)	1.5	0 (0)	.004 (0.1)	1560	2	–	< 8
	464 & 466		3	.001 (0.2)	.004 (0.1)	935	1	48	
	468 & 470		3	.016 (0.4)	.001 (0.2)	980	1.2	13	
41	460 & 462	100 (11.3)	1	0 (0)	.004 (0.1)	2710	4	–	< 8
	464 & 466		2	.001 (0.2)	.001 (0.2)	1980	2	100	
	468 & 470		2	.016 (0.4)	.001 (0.2)	2020	2	25	

STANDARD BORES

Sizes indicated in parenthesis are metric (mm).

Coupling Size	ØB1, ØB2 +0.0012/ -0 (+0.03mm/-0mm)																	
	(3)	1/8"	(4)	3/16"	(5)	(6)	1/4"	(8)	(9)	3/8"	(10)	(11)	(12)	1/2"	(14)	(15)	5/8"	(16)
19	•	•	•	•	•	•	•											
26			•	•	•	•	•	•	•	•	•							
33						•	•	•	•	•	•	•	•	•				
41							•	•	•	•	•	•	•	•	•	•	•	•
Bore ref.	14	16	18	19	20	22	24	28	30	31	32	33	35	36	38	40	41	42
Corresponding bore adaptor					251		253	255			257			259				260

Diameters for which a bore adaptor is shown can be adapted to smaller shaft sizes. See page 58 for details of metallic and electrically insulating adaptors.

Flexible Membrane Couplings - Bolted Series

DIMENSIONS & ORDER CODES

Coupling Size	Set Screw Hubs	Clamp Hubs	ØD in. (mm)	L in. (mm)	L1 ① in. (mm)	ØB1, ØB2 max in. (mm)	② ØB3 in. (mm)	Fasteners			④ Moment of inertia	④ Mass
								Screw	③ Torque lb.-in. (Nm)	Wrench in. (mm)	kgm2 x 10–8	kg x 10–3
	COUPLING REF											
41	660.41	–	1.63 (41.5)	1.45 (36.9)	0.67 (17.1)	0.63 (16)	N/A	M6	67.3 (7.60)	0.12 (3)	1160	63
	664.41	–		1.89 (47.9)			0.66 (16.8)				1680	90
	668.41	–		2.35 (59.7)			0.69 (17.5)				1790	101
	–	662.41		1.45 (36.9)			N/A	M4	50.1 (5.66)	0.12 (3)	1400	74
	–	666.41		1.89 (47.9)			0.66 (16.8)				2010	101
	–	670.41		2.35 (59.7)			0.69 (17.5)				2250	112
52	660.52	–	2.05 (52.0)	1.74 (44.2)	0.79 (20.0)	0.79 (20)	N/A	M6	0.86 (7.60)	0.12 (3)	3740	124
	664.52	–		2.17 (55.0)			0.87 (22.0)				5490	168
	668.52	–		2.85 (72.4)							6840	208
	–	662.52		1.97 (50.0)	0.90 (22.9)		N/A	M5	101 (11.4)	0.16 (4)	5660	164
	–	666.52		2.39 (60.8)			0.87 (22.0)				7470	208
	–	670.52		3.07 (78.1)							8870	247
66	660.66	–	2.60 (66.0)	2.38 (60.4)	1.10 (28.0)	1.10 (28)	N/A	M8	162 (18.3)	0.16 (4)	13370	272
	664.66	–		2.90 (73.6)			1.13 (28.7)				18040	360
	668.66	–		3.73 (94.7)			1.19 (30.2)				23400	447
	–	662.66		2.22 (56.4)	1.02 (26.0)		N/A	M5	101 (11.4)	0.16 (4)	14200	269
	–	666.66		2.74 (69.6)			1.13 (28.7)				19300	357
	–	670.66		3.57 (90.7)			1.19 (30.2)				24320	444
76	–	662.76	2.99 (76.0)	3.20 (81.2)	1.50 (38.0)	1.50 (38)	N/A	M8	354 (40.0)	0.24 (6)	45658	529
	–	670.76		4.98 (126.4)			1.54 (39)				69823	804

PERFORMANCE

Coupling Size	Ref.	⑤ Peak torque lb.-in. (Nm)	⑥ Max compensation			⑦ Flexural stiffness			
			Angular deg	Radial in. (mm)	Axial in. (± mm)	Torsional Nm / rad x 103	Angular N / deg	Radial N / mm	Axial N / mm
41	660 & 662	0.44 (11.3)	1	0 (0)	.004 (0.1)	4.0	3.7	–	< 8
	664 & 666		2	.001 (0.2)	.001 (0.2)	2.8	1.6	97	
	668 & 670		2	.016 (0.4)	.001 (0.2)	2.6	1.6	23	
52	660 & 662	1.18 (30)	1	0 (0)	.004 (0.1)	7.5	10.0	–	< 9
	664 & 666		2	.001 (0.2)	.001 (0.2)	4.8	5.0	313	
	668 & 670		2	.016 (0.4)	.001 (0.2)	4.8	5.0	57	
66	660 & 662	2.36 (60)	1	0 (0)	.004 (0.1)	19.0	84.0	–	< 9
	664 & 666		2	.001 (0.2)	.001 (0.2)	12.0	23.0	379	
	668 & 670		2	.016 (0.4)	.001 (0.2)	12.0	23.0	93	
76	662	3.94 (100)	0.5	0 (0)	.004 (0.1)	45.7	-	178	< 9
	670		1	.016 (0.4)	.001 (0.2)	31	134	110	

IMPORTANT

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

① Length of supported thro' bore.

② Clearance bore thro' spacer.

③ Maximum recommended tightening torque.

④ Values apply with max bores.

⑤ **Peak torque**. Select a size where Peak Torque exceeds the application torque x service factor. (***see page 4***)

⑥ Max. compensation values are mutually exclusive.

⑦ Torsional stiffness values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.
Note that in some vendors' catalogues the given torsional stiffness applies to the membrane stack only, giving rise to a greater value.

Note that the drawings on the facing page represent Size 66 & 76 which employ 6-bolt membrane Sizes 41 & 52 employ 4-bolts

STANDARD BORES[8]

Sizes indicated in parenthesis are metric (mm).

Coupling Size	ØB1, ØB2 +0.0012/ -0 (+0.03mm/-0mm)																			
	1/4"	(8)	(9)	3/8"	(10)	(11)	(12)	1/2"	(14)	(15)	5/8"	(16)	(18)	(19)	3/4"	(20)	(24)	(25)	1"	(28)
41	•	•	•	•	•	•	•	•	•	•	•	•								
52		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
66							•	•	•	•	•	•	•	•	•	•	•	•	•	•
76	MANUFACTURED TO ORDER ONLY. PLEASE ENQUIRE																			
Bore ref.	24	28	30	31	32	33	35	36	38	40	41	42	45	46	47	48	51	52	53	54
Corresponding bore adaptor	253	255			257			259				260				261			262	263

Diameters for which a bore adaptor is shown can be adapted to smaller shaft sizes.
See *page 58* for details of metallic and electrically insulating adaptors.