

# Couplings

## Flexible Membrane - Bolted Series



### Materials & Finishes

**Hubs & spacer :** *Al. Alloy 2014 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*

### General description

Precision couplings with excellent kinematic properties. Dynamically balanced construction.

Single-stage versions make up into 'whirl' free Cardans. The 2-stage versions offer short envelopes and low bearing loads respectively.

### Where to use

High-end servo drives, pulse generators, scanners, positioning slides, high speed dynamometers, unsupported drive shafts, etc.

### Speeds

Up to 5000 rpm in standard form.

Up to 30000 rpm in balanced form.

### Peak torque largest size

100 Nm

### Standard bores

3mm to 28mm

### Temperature range

-40 °C to +120 °C

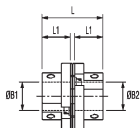
### Electrically isolating

No, unless used with insulating bore adaptors.

### Connection

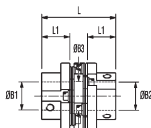
Clamp or Set Screw

### Set screw hubs



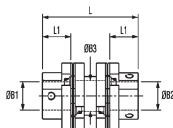
Ref. HPC660

For use in pairs or with floating shafts



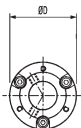
Ref. HPC664

For precisely aligned shafts



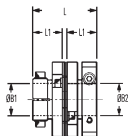
Ref. HPC668

For greater radial misalignment and lower bearing loads



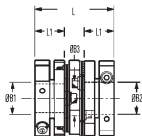
Typical

### Clamp hubs



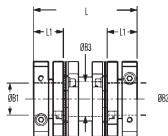
Ref. HPC662

For use in pairs or with floating shafts



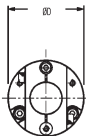
Ref. HPC666

For precisely aligned shafts



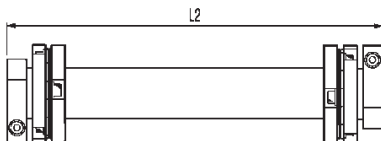
Ref. HPC670

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

# Couplings

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### Performance

PART NUMBER		Coupling Size	① Peak torque Nm	② Max compensation		
Set Screw Hubs	Clamp Hubs			Angular deg	Radial mm	Axial +/- mm
HPC660	HPC662	41	11.3	1	0	0.1
HPC664	HPC666			2	0.2	0.2
HPC668	HPC670			2	0.4	0.2
HPC660	HPC662	52	30	1	0	0.1
HPC664	HPC666			2	0.2	0.2
HPC668	HPC670			2	0.4	0.2
HPC660	HPC662	66	60	1	0	0.1
HPC664	HPC666			2	0.2	0.2
HPC668	HPC670			2	0.4	0.2

- ① **Peak torque.** Select a size where Peak Torque exceeds the application torque x service factor
- ② Max. compensation values are mutually exclusive.
- ③ Torsional stiffness values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.

### Standard Bores

Bore Size Coupling Size	ØB1, ØB2 + 0.03 / - 0 mm									
	6.350	8	9	9.525	10	11	12	12.700	14	15
41	●	●	●	●	●	●	●	●	●	●
52		●	●	●	●	●	●	●	●	●
66							●	●	●	●
<i>Bore ref.</i>	24	28	30	31	32	33	35	36	38	40
<b>Corresponding bore adaptor</b>	253	255			257			259		

Diameters for which a bore adaptor is shown can be adapted to smaller shaft sizes.

# Couplings

## Flexible Membrane - Bolted Series

Couplings Flexible Membrane

PART NUMBER		Coupling Size	Flexural stiffness			
Set Screw Hubs	Clamp Hubs		Torsional Nm/rad	Angular N/deg	Radial N/mm	Axial N/mm
HPC660	HPC662	41	4000	3.7	-	< 8
HPC664	HPC666		2800	1.6	97	
HPC668	HPC670		2600	1.6	23	
HPC660	HPC662	52	7500	10.0	-	< 9
HPC664	HPC666		4800	5.0	313	
HPC668	HPC670		4800	5.0	57	
HPC660	HPC662	66	19000	84.0	-	< 9
HPC664	HPC666		12000	23.0	379	
HPC668	HPC670		12000	23.0	93	

Coupling Size	Bore Size	ØB1, ØB2 + 0.03 / - 0 mm									
		15.875	16	18	19	19.050	20	24	25	25.400	28
41		●	●								
52		●	●	●	●	●	●				
66		●	●	●	●	●	●	●	●	●	●
<i>Bore ref.</i>		41	42	45	46	47	48	51	52	53	54
Corresponding bore adaptor			260				261			262	263



# Couplings

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### Dimensions & Order Codes

Couplings Flexible Membrane

PART NUMBER		Coupling Size	ØD	L	④ L1	ØB1, ØB2 max	⑤ ØB3
Set Screw Hubs	Clamp Hubs						
HPC660.41.----	-	41	41.5	36.9	17.1	16	N/A
HPC664.41.----	-			47.9			16.8
HPC668.41.----	-			59.7			17.5
-	HPC662.41.----			36.9			N/A
-	HPC666.41.----			47.9			16.8
-	HPC670.41.----			59.7			17.5
HPC660.52.----	-			52			52.0
HPC664.52.----	-	55.0	22.0				
HPC668.52.----	-	72.4	N/A				
-	HPC662.52.----	50.0	22.9		22.0		
-	HPC666.52.----	60.8					
-	HPC670.52.----	78.1					
HPC660.66.----	-	66	66.0		60.4	28.0	
HPC664.66.----	-			73.6	28.7		
HPC668.66.----	-			94.7	30.2		
-	HPC662.66.----			56.4	26.0	N/A	
-	HPC666.66.----			69.6		28.7	
-	HPC670.66.----			90.7		30.2	

**Order codes:** Please combine the coupling part number in the above table with the bore reference in the standard bores table (see pages 3.20 & 3.21).

Please identify both bores to complete the part number eg. HPC660.41. 24 42

Part Number ØB1 ØB2

## Flexible Membrane - Bolted Series

DISCOUNTS		1 - 19	20-39	40-59	60-99	100 +	
		List Price	-15%	-20%	-25%	-30%	
PART NUMBER		Fasteners			⑦	⑦	PRICE EACH 1-19
Set Screw Hubs	Clamp Hubs	Screw	⑥ Torque Nm	Wrench mm	Mi	M	
HPC660.41.----	-	M6	7.60	3	1160	63	£108.25
HPC664.41.----	-				1680	90	£163.65
HPC668.41.----	-				1790	101	£172.70
-	HPC662.41.----	M4	5.66	3	1400	74	£138.20
-	HPC666.41.----				2010	101	£193.74
-	HPC670.41.----				2250	112	£202.79
HPC660.52.----	-	M6	7.60	3	3740	124	£223.76
HPC664.52.----	-				5490	168	£289.86
HPC668.52.----	-				6840	208	£301.60
-	HPC662.52.----	M5	11.4	4	5660	164	£232.09
-	HPC666.52.----				7470	208	£298.05
-	HPC670.52.----				8870	247	£309.83
HPC660.66.----	-	M8	18.3	4	13370	272	£279.23
HPC664.66.----	-				18040	360	£376.95
HPC668.66.----	-				23400	447	£428.87
-	HPC662.66.----	M5	11.4	4	14200	269	£356.97
-	HPC666.66.----				19300	357	£454.69
-	HPC670.66.----				24320	444	£506.61

- ④ Length of support thro' bore.
- ⑤ Clearance bore thro' spacer.
- ⑥ Maximum recommended tightening torque.
- ⑦ Values apply with max bores.

*Mi: Moment of inertia  $\text{kgm}^2 \times 10^{-8}$*

*M: Mass  $\text{kg} \times 10^{-3}$*

