

Couplings

Nickel Bellows



Materials & Finishes

Hubs : Aluminium Alloy

Bellows : Electrodeposited nickel

Fasteners : Alloy steel

General description

Precision couplings with excellent kinematic properties. The 2 types offer differing combinations of stiffness, radial compensation and axial motion.

Where to use

High-end servo drives, pulse generators, scanners, positioning slides, metering valves, etc.

Speeds

Up to 5000 rpm in standard form.

Peak torque largest size

12.5 Nm

Standard bores

3mm to 20mm

Temperature range

-40 °C to +120 °C

Electrically isolating

No, unless used with insulating bore adaptors.

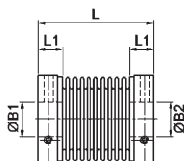
Connection

Clamp or Set Screw

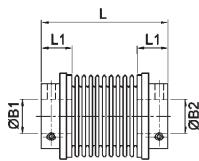
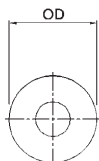
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Set screw hubs

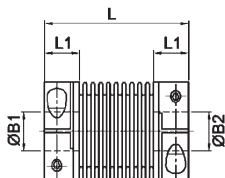


Ref. HPC321

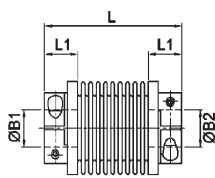


Ref. HPC321

Clamp hubs



Ref. HPC323



Ref. HPC323

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

Nickel bellows couplings are characterised by their 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.

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Dimensions & Order Codes

PART NUMBER		Coupling Size	Number of convolutions	Dimensions		
Set Screw Hubs	Clamp Hub			O.D	O/A Length L	Max Shaft Depth L1
HPC321.07.----	-	7	8	6.35	14	4
HPC321.12.----	-	12	14	12	23	6
HPC321.17.----	-	17	14	17	27	7
-	HPC323.17.----			16.3	29	8
HPC321.25.----	-	25	10	25	33	7
-	HPC323.25.----			25	37	9
HPC321.36.----	-	36	7	36.3	42.3	9.5
-	HPC323.36.----			36.3	46.9	11.8
HPC321.50.----	-	50	11	51	59.3	10.5
-	HPC323.50.----			51	61.9	11.8

Performance

Size	Peak Torque (Ncm)	Wind up Arcs/Ncm	Max misalignment compensation		
			Angular Deg	Radial mm	Axial mm
7	4.9	285	10	0.19	0.65
12	13	75	15	0.54	1.72
17	50	20	10	0.43	1.78
25	328	4.0	8	0.46	2.07
36	918	1.2	6	0.46	3.28
50	1624	0.6	9	1.12	6.1

Available Bores

Coupling Size	Bore Size	ØB1, B2 H8							
		3	3.175	4	4.763	5	6	6.350	8
7		●	●	●					
12		●	●	●	●	●	●	●	
17		●	●	●	●	●	●	●	S
25							●	●	●
36									
50									
Bore ref.		14	16	18	19	20	22	24	28

S= Setscrew only

3.10



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DISCOUNTS		1 - 19	20-39	40-59	60-99	100 +		
		List Price	-15%	-20%	-25%	-30%		
PART NUMBER		Dimensions			Fasteners			PRICE EACH 1-19
Set Screw Hubs	Clamp Hubs	Max Bores	Mi	M	Size	Torque (Ncm)	A/F (mm)	
HPC321.07.----	-	3.175	1.3	1.5	M2	41	0.9	£106.32
HPC321.12.----	-	6.35	18.5	10	M2.5	79	1.3	£98.78
HPC321.17.----	-	10	36.2	8.5	M3	132	1.5	£108.73
-	HPC323.17.----	6.35	46.6	11.0	M2	35	1.5	£131.21
HPC321.25.----	-	12.7	161.0	19.5	M3	132	1.5	£122.24
-	HPC323.25.----	12.7	245.0	28.5	M2.5	66	2.0	£147.52
HPC321.36.----	-	19.05	601.0	39.0	M6	510	3.0	£164.67
-	HPC323.36.----	19.05	2960.0	85.0	M4	262	3.0	£187.43
HPC321.50.----	-	20	952.0	52.0	M6	860	3.0	£393.91
-	HPC323.50.----	20	3560.0	105.0	M4	262	3.0	£459.94

Size	Nominal Spring Rates			
	Torsional (Nm/rad)	Angular (N/deg)	Radial (N/mm)	Axial (N/mm)
7	7	<0.15	6.9	3.5
12	27	<0.15	4.2	2.2
17	103	0.15	12.3	4.0
25	515	0.41	38.1	11.2
36	1719	0.32	87.8	20.2
50	3438	<0.15	57.8	17.6

Order codes: Please combine the coupling part number in the above table with the bore reference in the available bores table. Please identify both bores to complete the part number eg:

HPC321.07.14 16

Part Number ØB1 ØB2

Coupling Size	Bore Size	ØB1, B2 H8						
		9.525	10	12	12.700	16	19.050	20
7								
12								
17		S	S					
25		•	•	•	•			
36			•	•	•	•		
50				•	•	•	•	•
	Bore ref.	31	32	35	36	42	47	48

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

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

