Couplings

Stainless Steel Bellows

Materials & Finishes	
Hubs :	*Al. Alloy 2014T6 and Clear anodised finish*
Bellows :	*Spring quality stainless steel*
Joint assembly :	*Copper C106, heat treated Zinc plate, clear passivate*
Fasteners :	*Alloy steel, black oiled*

General description
Precision couplings with excellent kinematic properties. The 3 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
500 Nm

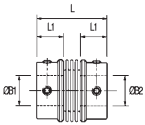
Standard bores
3mm to 20mm

Temperature range
-40˚C to +120˚C

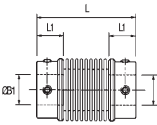
Electrically isolating
No, unless used with insulating bore adaptors.

Connection
Clamp, Set Screw or Spiggot

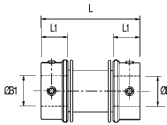
Set screw hubs



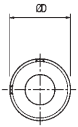
Ref. HPC530
Short type
for precisely aligned shafts



Ref. HPC532
Long type
for greater angular offsets or axial motion

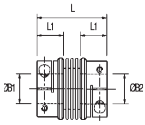


Ref. HPC534
Stretched type
for greater radial misalignment and lower bearing loads

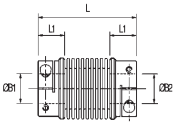


Typical

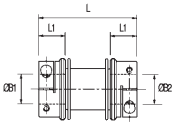
Clamp hubs



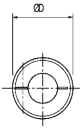
Ref. HPC536
HPC537
Short type
for precisely aligned shafts



Ref. HPC538
HPC539
Long type
for greater angular offsets or axial motion

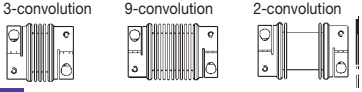


Ref. HPC540
HPC541
Stretched type
for greater radial misalignment and lower bearing loads



Typical

Comparative properties



Parameter	Short 3-convolution	Long 9-convolution	Stretched 2-convolution
Peak Torque	2	1	3
Torsional Stiffness	3	1	2
Angular Axial Compensation	2	3	1
Axial Compensation	2	3	1
Radial Compensation	1	3	2

The properties of the 3 types compared on a scale of 1 to 3. 3 = best.

Performance

PART NUMBER		Coupling Size	❶ Peak torque Nm	❷ Max compensation		
Set Screw Hubs	Clamp Hubs			Angular deg	Radial mm	Axial +/- mm
HPC530	HPC537	20	2.0	2	0.06	0.35
HPC532	HPC539		1.0	6	0.50	1.00
HPC534	HPC541		2.5	1.3	0.20	0.20
HPC530	HPC536	26	3.2	2	0.06	0.36
HPC532	HPC538		1.6	6	0.50	1.00
HPC534	HPC540		4.0	1.3	0.20	0.20
HPC530	HPC536	34	7.5	2.5	0.10	0.60
HPC532	HPC538		3.8	8	1.00	1.90
HPC534	HPC540		9.4	1.5	0.30	0.30
HPC530	HPC536	41	10.0	2.5	0.15	0.80
HPC532	HPC538		15.0	8	1.20	2.50
HPC534	HPC540		12.5	1.8	0.40	0.50

❶ **Peak torque**. Select a size where Peak Torque exceeds the application torque x service factor

❷ Max. compensation values are mutually exclusive.

❸ 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										
	3	3.175	4	4.763	5	6	6.350	8	9	9.525	10
20	●	●	●	●	●	●	●	●			
26			●	●	●	●	●	●	●	●	●
34						●	●	●	●	●	●
41							●	●	●	●	●
Bore ref.	14	16	18	19	20	22	24	28	30	31	32
Corresponding bore adaptor					251		253	255			257

PART NUMBER		Coupling Size	❸ Flexural stiffness			
Set Screw Hubs	Clamp Hubs		Torsional Nm/rad	Angular N/deg	Radial N/mm	Axial N/mm
HPC530	HPC537	20	315	1.03	115	17.7
HPC532	HPC539		170	0.33	6.7	7.8
HPC534	HPC541		225	0.33	8.2	7.1
HPC530	HPC536	26	755	1.27	238	5.7
HPC532	HPC538		380	0.39	8.2	3.3
HPC534	HPC540		615	1.52	14.6	6.4
HPC530	HPC536	34	1740	1.34	227	6.6
HPC532	HPC538		915	0.62	12.7	3.8
HPC534	HPC540		1455	1.98	23.2	27.9
HPC530	HPC536	41	2880	1.58	144	13.1
HPC532	HPC538		1310	0.52	9.3	3.8
HPC534	HPC540		2245	2.30	19.2	7.2

Bore Size / Coupling Size	ØB1, ØB2 + 0.03 / - 0 mm										
	11	12	12.700	14	15	15.875	16	18	19	19.050	20
20											
26	●	●									
34	●	●	●	●	●	●	●				
41	●	●	●	●	●	●	●	●	●	●	●
Bore ref.	33	35	36	38	40	41	42	45	46	47	48
Corresponding bore adaptor			259				260				261

Dimensions & Order Codes

PART NUMBER		Coupling Size	ØD	L ±1.0	④ L1	ØB1, ØB2 max
Set Screw Hubs	Clamp Hubs					
HPC530.20.----	-	20	20.0	31.0	11.0	8
HPC532.20.----	-			45.2		
HPC534.20.----	-			43.6		
-	HPC537.20.----			31.0		
-	HPC539.20.----			45.2		
-	HPC541.20.----			43.6		
HPC530.26.----	-	26	26.0	37.5	14.0	12
HPC532.26.----	-			54.3		
HPC534.26.----	-			53.2		
-	HPC536.26.----			37.5		
-	HPC538.26.----			54.3		
-	HPC540.26.----			53.2		
HPC530.34.----	-	34	34.0	40.0	14.0	16
HPC532.34.----	-			57.0		
HPC534.34.----	-			56.6		
-	HPC536.34.----			40.0		
-	HPC538.34.----			57.0		
-	HPC540.34.----			56.6		
HPC530.41.----	-	41	41.0	49.7	18.0	20
HPC532.41.----	-			71.4		
HPC534.41.----	-			70.7		
-	HPC536.41.----			49.7		
-	HPC538.41.----			71.4		
-	HPC540.41.----			70.7		

Order codes: Please combine the coupling part number in the above table with the bore reference in the standard bores table (see pages 3.4 & 3.5).
Please identify both bores to complete the part number eg. HPC530. 20. 14 28

Part Number ØB1 ØB2

https://amironic.co.il/

DISCOUNTS	1 - 19	20-39	40-59	60-99	100 +
	List Price	-15%	-20%	-25%	-30%

PART NUMBER		Fasteners			⑥	⑥	PRICE
Set Screw Hubs	Clamp Hubs	Screw	⑤ Torque Nm	Wrench mm	Mi	M	EACH 1-19
HPC530.20.----	-	M4	2.27	2	90	18	£63.42
HPC532.20.----	-				100	19	£66.79
HPC534.20.----	-				90	18	£64.05
-	HPC537.20.----	4-40	2.33	2	90	16	£65.65
-	HPC539.20.----				100	18	£69.06
-	HPC541.20.----				90	17	£66.30
HPC530.26.----	-	M5	4.62	2.5	350	35	£70.38
HPC532.26.----	-				400	39	£76.95
HPC534.26.----	-				370	34	£72.19
-	HPC536.26.----	M3	2.43	2.5	330	34	£71.13
-	HPC538.26.----				380	38	£77.69
-	HPC540.26.----				350	33	£72.94
HPC530.34.----	-	M5	4.62	2.5	975	58	£75.40
HPC532.34.----	-				1128	65	£84.51
HPC534.34.----	-				988	59	£78.94
-	HPC536.34.----	M3	2.43	2.5	925	56	£76.30
-	HPC538.34.----				1078	63	£85.39
-	HPC540.34.----				938	57	£79.90
HPC530.41.----	-	M6	7.61	3	2490	102	£83.28
HPC532.41.----	-				2740	110	£95.25
HPC534.41.----	-				2477	102	£88.71
-	HPC536.41.----	M4	5.66	3	2390	99	£82.54
-	HPC538.41.----				2660	107	£94.54
-	HPC540.41.----				2377	99	£87.97

④ Length of support thro' bore. Shafts can near-butt.
⑤ Maximum recommended tightening torque.
⑥ Values apply with max bores.

Mi: Moment of inertia kgm^2 x 10^{-8}
M: Mass kg x 10^{-3}

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

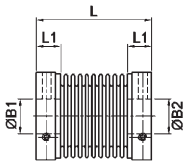
Standard bores
3mm to 20mm

Temperature range
-40˚C to +120˚C

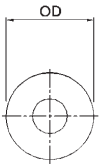
Electrically isolating
No, unless used with insulating bore adaptors.

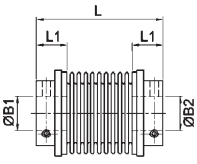
Connection
Clamp or Set Screw

Set screw hubs



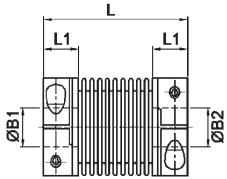
Ref. HPC321



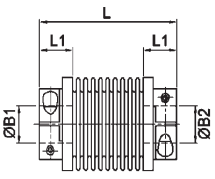


Ref. HPC321

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.

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

Bore Size / Coupling 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

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 kgm² x 10⁻⁸ *M: Mass kg x 10⁻³*