

# Couplings

## Sliding Disc (Oldham) Brass/Aluminium



### Materials & Finishes

Hub sizes 06 to 13: Brass BS 2874 CZ121

Hub sizes 19 to 57: Al. Alloy 2014A T6

Fasteners: Alloy steel, black oiled

Blind & blank hubs: Irridite NCP finish

Thro' hubs: Clear anodised finish

Torque discs  
Types HPC236 - Acetal (black)  
Types HPC238 - Nylon 11 (natural)

### General description

General purpose, robust, easy to use 3-part couplings with replaceable wear elements. Generous radial compensation and pull-apart / re-engage facility for blind assemblies.

### Where to use

Stepper drives for most applications including positioning slides, pumps, actuators, etc.

### Speeds

Up to 3000 rpm.

### Peak torque largest size

44 Nm

### Standard bores

2mm to 30mm

### Temperature range

-20 °C to +60 °C

### Electrically isolating

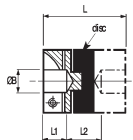
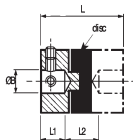
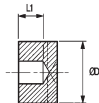
Yes

### Connection

Clamp or Set Screw

## Sliding Disc (Oldham) Brass/Aluminium

### Blind hubs



Controlled bore depth L1 provides a register when pre-assembling hubs to shafts

Set screw style

Clamp style

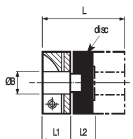
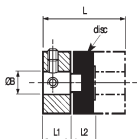
Ref. HPC232,  
HPC243

Set screw style

Ref. HPC234,  
HPC235, HPC245

Clamp style

### Thro' hubs



Thro' bores allow disc replacement without disturbing shaft alignment

Set screw style

Clamp style

Ref. HPC450,  
HPC454

Set screw style

Ref. HPC452,  
HPC453, HPC456

Clamp style

### Standard discs (larger sizes are webbed)

Acetal - High torsional stiffness, good bearing properties, long backlash-free life.



Nylon 11 - Resilient, isolates noise & vibration. Performance approximately 25% that of acetal disc.

### Thro' bored discs

Thro' bored discs allow shafts to near-butt, standard thro' hole diameter =  $\text{ØD} \times 0.5$ . To order, add suffix 'T' to order code, eg., **HPC236.25T**.



Other thro' hole diameters are manufactured to order. Specify the disc ref. and thro' hole diameter. This should equal the larger shaft diameter + 2 x max radial error.

Note that thro' bored discs reduce torsional stiffness.

Please contact our sales department for a quotation.



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Performance (At 20° C With Standard Acetal Disc)

Coupling Size	① Peak Torque (Nm)	② Max compensation @ 3000 r.p.m.		
		Angular deg	Radial mm	Axial +/-mm
06	0.06	0.5	0.1	0.05
09	0.21		0.1	0.05
13	0.5		0.1	0.05
19	1.7		0.2	0.1
25	4		0.2	0.1
33	9		0.2	0.15
41	17		0.25	0.15
50	30		0.25	0.2
57	44		0.25	0.2

- ① **Peak torque.** Select a size where Peak Torque exceeds the application torque x service factor.
- ② Couplings can provide up to ( $\text{ØD} \times 0.1$ ) radial compensation in extreme cases. Observe given values for maximum backlash-free life. Axial compensation is set on installation. Electrical isolation between shafts > 3kV.
- ③ Values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.
- ④ Thro' hubs can be provided with keyways.

### Standard Bores <sup>④</sup> For All Types

Coupling Size	Bore Size $\text{ØB} + 0.03 / - 0 \text{ mm}$											
	2	3	3.175	4	4.763	5	6	6.350	8	9.525	10	12
06	●	●	●									
09		●	●	●	●	●						
13		●	●	●	●	●	●	●				
19				●	●	●	●	●	●			
25							●	●	●	●	●	●
33									●	●	●	●
41										●	●	●
50										●	●	●
57												●
Bore ref.	11	14	16	18	19	20	22	24	28	31	32	35

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Coupling Size	③ Torsional		Static break torque Nm
	Rate deg / Nm	Stiffness Nm/ Rad	
06	5.7	10	0.7
09	1.9	30	2
13	0.88	65	4
19	0.50	115	8
25	0.28	205	13
33	0.093	615	53
41	0.048	1200	57
50	0.042	1375	95
57	0.022	2610	150

NB. Size 33 available in both 'standard' and 'long' versions.

Couplings Sliding Disc (Oldham)

Coupling Size	Bore Size											
	ØB + 0.03 / - 0 mm											
	12.7	14	15	15.875	16	18	19	19.05	20	24	25	30
06												
09												
13												
19												
25												
33	●	●	●	●	●							
41	●	●	●	●	●	●	●	●	●			
50	●	●	●	●	●	●	●	●	●	●	●	
57	●	●	●	●	●	●	●	●	●	●	●	●
Bore ref.	36	38	40	41	42	45	46	47	48	51	52	56



# Couplings

## Sliding Disc (Oldham) Brass/Aluminium

### Dimensions & Order Codes

Couplings Sliding Disc (Oldham)

PART NUMBER		Coupling Type & Size	ØD	L	5	6	ØB1 Max	8	8
Set Screw Style	Clamp Style								
HPC232.06.--	-	06	6.4	12.7	3.8	5.1	3.18	6	2.5
HPC232.09.--	-	09	9.5	12.7	3.8	5.1	5	18	4
HPC232.13.--	-	13	12.7	15.9	4.3	7.3	6.35	26	11
HPC232.19.--	-	19	19.1	22.0	6.3	9.4	8	67	12
-	HPC234.19.--								
HPC232.25.--	-	25	25.4	28.4	8.6	11.2	12	252	31
-	HPC234.25.--								
HPC232.33.--	-	33	33.3	42.0	13.0	16.0	16	1074	72
-	HPC234.33.--								
HPC243.33.--	-		33.3	48.0	13.0	22.0	16	1278	86
-	HPC245.33.--								
HPC232.41.--	-	41	41.3	50.8	16.7	17.4	20	3327	148
-	HPC234.41.--								
HPC450H19.--	-	19	19.1	26.0	9.4	7.2	8	59	13
-	HPC453H19.--								
HPC450H25.--	-	25	25.4	32.4	11.6	9.2	12	252	31
-	HPC452H25.--								
HPC450H33.--	-	33	33.3	42.0	15.0	12.0	16	1080	67
-	HPC452H33.--								
HPC454H33.--	-		33.3	48.0	15.0	18.0	16	1133	74
-	HPC456H33.--								
HPC450H41.--	-	41	41.3	50.8	17.8	15.3	20	3177	142
-	HPC452H41.--								
HPC450H50.--	-	50	50.0	59.6	20.6	18.4	25.4	7550	208
-	HPC452H50.--								
HPC450H57.--	-	57	57.1	78.0	28.4	21.2	30	12410	361
-	HPC452H57.--								

**Order codes:** Please combine the coupling part number in the above table with the bore reference in the standard bores table (see pages 3.32 & 3.33).

Please note that the hubs and discs are sold separately, i.e:

HPC232.06.11 - Hub with 2mm bore

HPC232.06.16 - Hub with 3.175mm bore

HPC236.06 - Black Acetal Disc

To order a complete coupling you must order TWO hubs and ONE disc.

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### DISCOUNTS

1 - 5	6-19	20-39	40-59	60-99	100 +
List Price	-12%	-25%	-33%	-37%	-42%

Fasteners			PRICE EACH 1-5	Acetal (black) Std.	PRICE EACH 1-5	Nylon 11 (Natural)	PRICE EACH 1-5
Size	<sup>7</sup> Torque (Nm)	Wrench (mm)					
M3	0.94	1.5	£9.01	HPC236.06	£1.45	HPC238.06	£1.60
M3	0.94	1.5	£7.84	HPC236.09	£1.45	HPC238.09	£1.60
M3	0.94	1.5	£8.86	HPC236.13	£1.09	HPC238.13	£1.47
M3	0.94	1.5	£8.86	HPC236.19	£1.35	HPC238.19	£2.47
4-40	2.33	2.0	£10.21				
M4	2.27	2.0	£12.91	HPC236.25	£2.80	HPC238.25	£3.46
M3	2.43	2.5	£14.17				
M5	4.62	1.5	£15.53	HPC836.33	£4.16	HPC838.33	£5.03
M4	2.33	2.0	£19.33				
M4	2.27	3.0	£19.33	HPC236.33	£4.16	HPC238.33	£5.03
M4	5.66	2.5	£20.81				
M5	4.62	2.5	£20.96	HPC236.41	£5.93	HPC238.41	£7.72
M4	5.66	3.0	£22.43				
M5	4.62	2.5	£11.79	HPC236.19	£1.35	HPC238.19	£2.47
4-40	2.33	2.0	£12.78				
M5	4.62	2.5	£16.13	HPC236.25	£2.80	HPC238.25	£3.46
M3	2.43	2.5	£17.75				
M6	7.61	3.0	£24.16	HPC836.33	£4.16	HPC838.33	£5.03
M4	5.66	3.0	£26.03				
M6	7.61	3.0	£24.16	HPC236.33	£4.16	HPC238.33	£5.03
M4	5.66	3.0	£26.03				
M6	7.61	3.0	£27.23	HPC236.41	£5.93	HPC238.41	£7.72
M4	5.66	3.0	£26.03				
M8	18.36	4.0	£52.93	HPC236.50	£13.32	-	-
M5	11.40	4.0	£55.76				
M8	18.36	4.0	£59.47	HPC236.57	£19.87	-	-
M6	19.34	5.0	£61.64				

- ⑤ **Blind hubs:** Length of parallel bore +/- 0.2. Bores may terminate in 118° incl. angle.  
**Thro' hubs:** Max permissible hub penetration.
- ⑥ **Blind hubs:** Nominal distance between unchamfered shafts bottomed out to L1.  
**Thro' hubs:** Nominal distance between shafts with standard (unbored) disc.
- ⑦ Maximum recommended tightening torque.
- ⑧ Values apply to complete couplings with max bores.

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

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

