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

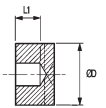
Standard bores
2mm to 30mm

Temperature range
-20˚C to +60˚C

Electrically isolating
Yes

Connection
Clamp or Set Screw

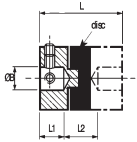
Blind hubs



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

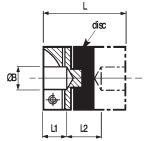
Set screw style

Clamp style



Ref. HPC232, HPC243

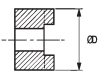
Set screw style



Ref. HPC234, HPC235, HPC245

Clamp style

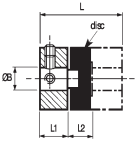
Thro' hubs



Thro' bores allow disc replacement without disturbing shaft alignment

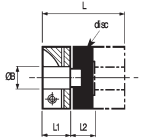
Set screw style

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 appoximately 25% that of acetal disc.

Thro' bored discs

Thro' bored discs allow shafts to near-butt, standard thro' hole diameter = **ØD** x 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.

Performance (At 20° C With Standard Acetal Disc)

Coupling Size	❶ Peak Torque (Nm)	❷ 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

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

❷ Couplings can provide up to (ØD x 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.

❸ Values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.

❹ Thro' hubs can be provided with keyways.

Standard Bores ❹ For All Types

Coupling Size \ Bore Size	ØB + 0.03 / - 0 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

Coupling Size	❸ 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.

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

Dimensions & Order Codes

PART NUMBER		Coupling Type & Size	ØD	L	⑤ L1	⑥ L2	ØB1 Max	⑧ Mi	⑧ M
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 seperately,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.

Sliding Disc (Oldham) Brass/Aluminium

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

Fasteners								
Size	❼ Torque (Nm)	Wrench (mm)	PRICE EACH 1-5	Acetal (black) Std.	PRICE EACH 1-5	Nylon 11 (Natural)	PRICE EACH 1-5
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				

❺ **Blind hubs**: Length of parallel bore +/- 0.2. Bores may terminate in 118° incl. angle.
Thro' hubs: Max permissible hub penetration.

❻ **Blind hubs**: Nominal distance between unchamfered shafts bottomed out to L1.
Thro' hubs: Nominal distance between shafts with standard (unbored) disc.

❼ Maximum recommended tightening torque.

❽ Values apply to complete couplings with max bores.

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

Materials & Finishes	
Hubs:	*Stainless Steel 303 S31 - Natural Finish*
Fasteners:	*Stainless Steel*
Discs:	*Torque disc details on page 3.27*
Temp. Range:	*-20° C to +60° C*
Max. Rotational Speed	*3000 rev/min*

Performance (At 20° C With Standard Acetal Disc)

Coupling Size	Peak Torque (Nm)	Max compensation @ 3000 r.p.m.		
		Angular deg	Radial mm	Axial +/- mm
25	4	0.5	0.2	0.1
33	9		0.2	0.15
41	17		0.25	0.15
50	30		0.25	0.12

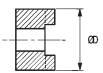
Dimensions & Order Codes

PART NUMBER		Coupling Type & Size	ØD	L	L1	L2	ØB1 Max	Mi	M
Set Screw Style	Clamp Style								
HPC850H25.--	**-**	**25**	25.4	32.4	11.6	9.2	12.0	587	76
-	**HPC852H25.--**								
HPC850H33.--	**-**	**33**	33.3	42.0	15.0	12.0	16.0	2091	165
-	**HPC852H33.--**								
HPC850H41.--	**-**	**41**	41.3	50.8	17.8	15.3	20.0	6822	305
-	**HPC852H41.--**								
HPC850H50.--	**-**	**50**	50.0	59.6	20.6	20.6	25.4	17368	510
-	**HPC852H50.--**								

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 seperately, i.e. :
HPC850H25.22 - Hub with 6mm bore
HPC850H25.35 - Hub with 12mm bore
HPC236.25 - Black Acetal Disc
To order a complete coupling you must order TWO hubs and ONE disc.

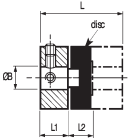
Thro' hubs



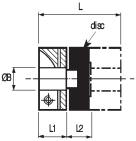
Thro' bores allow disc replacement without disturbing shaft alignment

Set screw style

Clamp style



Ref. HPC850
Set screw style



Ref. HPC852
Clamp style

Coupling Size	Torsional		Static break torque (Nm)
	Rate deg / Nm	Stiffness Nm/ Rad	
25	0.28	205	13
33	0.093	615	53
41	0.048	1200	57
50	0.042	1375	95

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

Fasteners							
Size	Torque (Nm)	A/F (mm)	PRICE EACH 1-5	Acetal (black) Std.	PRICE EACH 1-5	Nylon 11 (Natural)	PRICE EACH 1-5
M5	2.1	2.5	**£25.78**	HPC236.25	£2.80	HPC238.25	£3.46
M3	1.2	2.5	**£28.04**				
M6	3.8	3.0	**£38.63**	HPC836.33	£4.16	HPC838.33	£5.03
M4	2.9	3.0	**£40.86**				
M6	3.8	3.0	**£43.01**	HPC236.41	£5.93	HPC238.41	£7.72
M5	5.9	4.0	**£43.43**				
M8	9.0	4.0	**£52.93**	HPC236.50	£13.32	N/A	N/A
M6	9.8	5.0	**£80.86**				

Mi: Moment of inertia kgm^2 x 10^{-8}

M: Mass kg x 10^{-3}