



General Purpose Motion Control Couplings

- Sliding Disc (Oldham)
- Universal Lateral (Uni-Lat)
 - Backlash-free up to 10° turns
 - Can tolerate large misalignments
 - Slight damping characteristics
 - Flex-free mechanical action - non-progressive bearing loads
 - Non-magnetic (with special screws)
 - Electrically isolating
 - Low inertia

Uni-Lats are widely used for pulse generator drives while Oldhams are very popular for stepper driven positioning stages.

A unique property of Uni-Lats is resistance to axial motion. This makes them suitable for light push/pull duties and for anchoring axially unrestricted shafts.

Oldhams are 3-part couplings consisting of 2 hubs + 1 torque disc. The hubs determine the method of installation and shaft attachment, the discs determine the quality of motion.

The 4 hub styles and 2 disc materials that comprise the range are fully interchangeable within each of the 9 sizes available. To take advantage of this flexibility, hubs and discs are specified and supplied separately.

The discs are the sacrificial elements and are replaceable at low cost in the event of wear or breakage.



Universal / Lateral Offset Couplings



Materials & Finishes

Hub sizes 18 & 27: Brass Cu Zn 21 Si 3P (Lead Free)

Hub sizes 34, 41 & 70: Al. Alloy 2014 T6 or 6026 LF
Irridite NCP

Fasteners: Alloy steel, black oiled

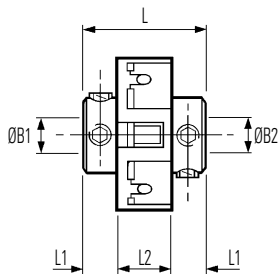
Clamp rings (sizes 18 & 27): Al. Alloy 2014 T6 or 6026 LF
Irridite NCP

Torque rings, all sizes: Acetal (black)

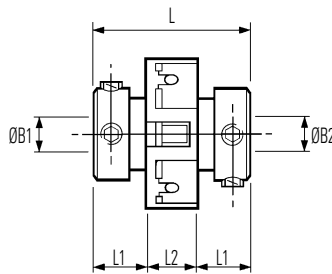
Temperature Range

-4°F to +140°F (-20°C to +60°C)

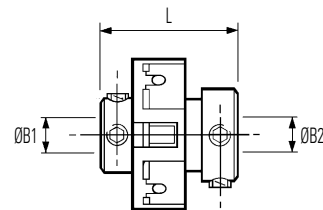
Set screw hubs



Ref. 201
Small bores



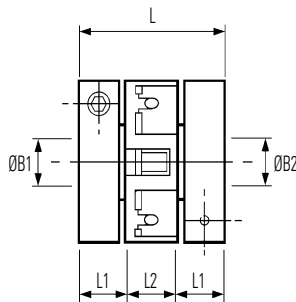
Ref. 203
Large bores



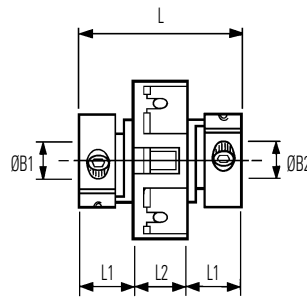
Ref. 221 (not listed in main table).
Combines large & small bores.
See explanatory note on facing page

Coupling ref. 221	
Size	L in. (mm)
18	0.66 (16.7)
27	0.88 (22.3)
34	1.10 (28.0)
41	1.31 (33.3)

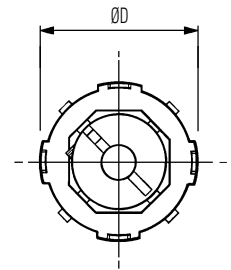
Clamp hubs



Ref. 207
Collet hub & ring clamp

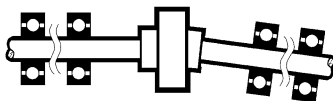


Ref. 205
Integral leaf clamp



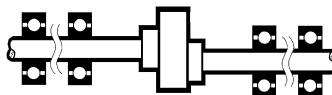
Typical

Installation



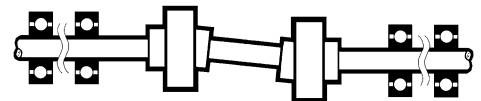
right

Up to 10° angular offset,
depending on type



right

Up to 1mm radial offset for
extreme misalignments



wrong

Standard Uni-Lats cannot be used in pairs.
Special versions are available for use in this mode.
Please enquire.

Universal / Lateral Offset Couplings

DIMENSIONS & ORDER CODES

Coupling Size	Set Screw Hubs	Clamp Hubs	ØD in. (mm)	L in. (mm)	① L1 in. (mm)	② L2 in. (mm)	ØB1, ØB2 max in. (mm)	Fasteners			④ Moment of inertia kgm ² x 10 ⁻⁸	④ Mass kg x 10 ⁻³
								Screw	③ Torque lb.-in. (Nm)	Wrench in. (mm)		
COUPLING REF												
18	201.18	—	.71 (18.0)	.56 (14.2)	.18 (4.6)	0.20 (5.1)	0.20 (5)	M3	8.3 (0.9)	0.06 (1.5)	20	7
	203.18	—	.75 (19.1)	.28 (7.0)	0.20 (5.1)	0.25 (6.35)	M2.5	11.6 (1.3)	0.08 (2.0)	55	11	
	—	207.18 ± 218	0.75 (19.1)	—	—	—	—	—	—	—	—	—
27	201.27	—	1.10 (28.0)	.75 (19.1)	0.24 (6.1)	0.27 (6.9)	0.31 (8)	M3	8.3 (0.9)	0.06 (1.5)	91	16
	203.27	—	1.0 (25.4)	0.37 (9.3)	0.27 (6.9)	0.39 (10)	M3	21.5 (2.4)	0.10 (2.5)	220	26	
	—	207.27 ± 218	—	—	—	—	—	—	—	—	—	—
34	201.34	—	1.33 (33.7)	.99 (25.2)	0.32 (8.1)	0.35 (8.9)	0.38 (10)	M4	20.1 (2.2)	.08 (2.0)	165	17
	203.34	—	1.21 (30.7)	0.43 (10.9)	0.35 (8.9)	0.5 (12.7)	M2.5	11.6 (1.3)	0.10 (2.5)	183	20	
	—	205.34	—	—	—	—	—	—	—	—	—	—
41	201.41	—	1.63 (41.4)	1.12 (28.4)	0.34 (8.6)	0.44 (11.2)	0.5 (12.7)	M4	20.1 (2.2)	0.08 (2.0)	476	30
	203.41	—	1.5 (38.1)	0.53 (13.5)	0.44 (11.2)	0.63 (16)	M5	40.9 (4.6)	0.10 (2.5)	550	40	
	—	205.41	—	—	—	—	—	—	—	—	—	—
70	203.70	—	1.14 (69.0)	2.91 (74.0)	1.12 (28.5)	0.67 (17.0)	0.87 (22)	M6	67 (7.6)	0.12 (3.0)	7315	189
	—	205.70	—	—	—	—	0.87 (22)	M6	170 (19.3)	0.20 (5.0)	7315	189

- ① Length of supported thro' bore. Shafts must not penetrate beyond L1 when in operation.
- ② Nominal distance between shafts inserted to L1.
- ③ Maximum recommended tightening torque.
- ④ Values apply with max bores.
- ⑤ *Peak torque*. Select a size where Peak Torque exceeds the application torque x service factor. (**see page 4**)
- ⑥ Couplings can provide up to 1mm radial and 10° angular compensation (5° for ref. 207) when required. Observe given values for maximum backlash-free life. Electrical isolation between shafts > 3kV for all models when offset ≤5°.
- ⑦ Values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.

‡ Ref. 207 only. Insert both bore codes in place of ‡.

PERFORMANCE AT 20°C

Coupling Size	⑤ Peak torque lb.-in. (Nm)	⑥ Max compensation @ 3000 rpm		⑦ Torsional		Axial		Static break torque lb.-in. (Nm)
		Angular deg	Radial in. (mm)	Rate deg / Nm	Stiffness Nm / rad	Max loading ±N	Stiffness N / mm	
18	2.66 (0.3)	2	.008 (0.2)	2.3	25	19	155	7.97 (0.9)
27	15.1 (1.7)		.008 (0.2)	0.6	92	31	350	44.3 (5.0)
34	22.1 (2.5)		.010 (0.25)	0.4	146	34	300	66.4 (7.5)
41	31.0 (3.5)		.010 (0.25)	0.19	299	39	250	92.9 (10.5)
70	106 (12.0)		.010 (0.25)	0.19	1300	75	540	602 (68)

Coupling ref. 221

By specifying ref. 221 (not listed in tables, see diagram previous page) you can combine the bores coded for ref. 201 with those coded for ref. 203,

eg., 221.27.2432 specifies Size 27 with Ø6.35 x 10 bores.

IMPORTANT

Load capacity depends on application conditions: **see page 4** for details

STANDARD BORES

Sizes indicated in parenthesis are metric (mm).

Coupling		ØB1, ØB2 +0.0012/ -0 (+0.03mm/-0mm)																			
size	ref.	(3)	1/8"	(4)	3/16"	(5)	(6)	1/4"	5/16"	(8)	3/8"	(10)	(12)	1/2"	(14)	5/8"	(16)	(18)	(19)	3/4"	(20)
18	201.18	•	•	•	•	•															
	203.18						•	•													
	207.18	•	•	•	•	•	•	•													
27	201.27	•	•	•	•	•	•	•	•												
	203.27						•	•		•	•										
	207.27					•	•	•		•	•										
34	201.34						•	•		•	•										
	203.34												•	•							
	205.34						•	•	•	•	•										
41	201.41						•	•		•	•			•	•						
	203.41															•	•	•			
	205.41																				
70	203.70													•	•	•	•	•	•	•	•
	205.70													•	•	•	•	•	•	•	•
Bore ref.		14	16	18	19	20	22	24	27	28	31	32	35	36	38	41	42	45	46	47	48
Corresponding bore adaptor						251		253		254* 255		257		259			260				261

Diameters for which a bore adaptor is shown can be adapted to smaller shaft sizes. See page 58 for details.

*Note that adaptor 254 is dedicated to coupling ref. 201.27. Use adaptor 255 for all other 8mm diameters.