

| Sliding Disc type  | Universal/Lateral type   | Double Loop type   | Jaw Coupling  | Universal Joints & Teleshfts   | Friction Clutches   | Bevel Gearboxes   |
|--|--|--|---|--|---|---|
| <b>Oldham</b><br>Blind bored<br><br>Thru' bored<br><br>Thru' bored<br><br>Material Options:<br>Aluminium<br>Stainless Steel  | <b>Uni-Lat</b><br><br><br>   | <b>Flex-P</b><br><br><br>  | <b>Jaw coupling</b><br>   | <b>Huco-Pol</b><br>Single joints<br><br>Double joints<br><br>Teleshfts<br>   | <b>Vari-Tork, Polyclutch</b><br>Basic clutch<br><br>Basic clutch + Oldham coupling<br><br>Polyclutch<br>  | <b>L-Box</b><br><br><b>T-Box</b><br>  |
| 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. | Unique, general purpose light duty couplings with generous angular and radial misalignment compensation. Resist axial motion, can anchor unrestricted shafts and perform light push/pull duties. | Exceptional flexibility in all three directions, radial, angular and axial | High torque capacity and high speed are available from this naturally balanced coupling | Light duty plastic universal joints and extensible drive shafts (teleshfts). Low mass, corrosion resistant, ideal where conventional steel joints would be under-utilised. | Small, user-adjustable torque limiters for concentric or in-line mounting. Operate by friction using interleaved clutch plates.   | Small 90° drives encased in molded housings providing electrical isolation between shafts and mounting surface. The L-Box is rated for intermittent use, the T box for continuous. 1:1 & 2:1 ratios are available with the T-Box. |
| Where to use   |  |  |   |  |   |   |
| Stepper drives for most applications including positioning slides, pumps, actuators, etc.  | Encoder, resolver, tacho, potentiometer drives. Small positioning slides, dosing pumps, & light drives generally.  | Light power drives, pumps and small generators                             | Light power drives where misalignment is small  | Intermittent applications in business machines, instrumentation, lab equipment, analytical apparatus, etc., where steel joints would be under-utilised.                    | Friction clutches interrupt rotation when the load being transmitted reaches a pre-determined threshold. Used in all kinds of small drives to help protect personnel and equipment. | L-box offers a compact means to route drives thru' 90°. T-box offers 2 & 3 shaft configurations for multiple power offtake.   |
| Speeds   |  |  |   |  |   |   |
| Up to 3000 rpm.  | Up to 3000 rpm.  | Up to 3000 rpm.  | Up to 40,000 rpm.   | Up to 1000 rpm   | Up to 1000 rpm slipping speed   | Up to 1500 rpm for T-box  |
| Peak torque largest size   |  |  |   |  |   |   |
| 44 Nm  | 12 Nm  | 18 Nm  | 133 Nm  | 10.7 Nm  | 60 Nm   | 0.68 Nm   |
| Standard bores   |  |  |   |  |   |   |
| 2 to 30  | 3 to 22  | 3 to 16  | 3 to 16   | 3 to 20  | 6 to 32   | 4 & 5 (shafts)  |
| Temperature range  |  |  |   |  |   |   |
| -20 to +60°C   | -20 to +60°C   | -40 to +100°C  | -40 to +80°C  | -20 to +60°C   | -10 to +80°C (when operating)   | -20 to +60°C  |
| Electrically isolating   |  |  |   |  |   |   |
| Yes  | Yes  | Yes  | Yes   | Yes  | No  | See General Description above   |
| Connection   |  |  |   |  |   |   |
| Clamp or Set Screw   | Clamp or Set Screw   | Set Screw  | Clamp or Set Screw  | Set Screw, Bonding, or Cross-Pinning   | Clamp or Set Screw  | N/A   |
| <b>Page 28 - 30</b>  | <b>Page 26 - 27</b>  | <b>Page 44</b>   | <b>Page 42 - 43</b>   | <b>Page 45 - 50</b>  | <b>Page 51 - 56</b>   | <b>Page 57 - 58</b>   |

# plastic universal joints and teleshafts

- **Backlash-free up to 10<sup>8</sup> turns**
- **Low mass**
- **Low inertia**
- **Corrosion resistant**
- **Electrically isolating**
- **No maintenance**

Huco-Pol is a range of light duty, backlash-free universal joints and teleshafts manufactured of acetal and non-ferrous metals.

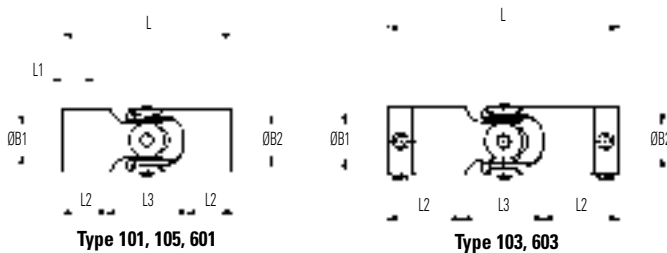
They are suitable for intermittent applications where low mass, corrosion resistance and electrical isolation are desirable.

Huco-Pol joints and teleshafts have only a fraction of the torque capability of steel joints and are not intended to substitute for these in the normal way.

Huco-Pols are used in business machines, food processing plant, laboratory equipment and electro-medical apparatus among others.

Alternative polymers are available for high temperature operation.





## SINGLE JOINTS - DIMENSIONS & ORDER CODES

| Size | Hub Ref             |                       | Dimensions |      |      |      |      |            |   |                            | Fasteners |             |          |
|------|---------------------|-----------------------|------------|------|------|------|------|------------|---|----------------------------|-----------|-------------|----------|
|      | ① Brass Cross-piece | ② Plastic Cross-piece | OD         | L    | L1   | L2   | L3   | B1, B2 Max | Moment of inertia kgm <sup>2</sup> x 10 <sup>-8</sup> | Mass kg x 10 <sup>-3</sup> | Size      | Torque (Nm) | A/F (mm) |
| 06   | 101.06              | -                     | 7.1        | 19.1 | 3.3  | 5.3  | 8.6  | 4.76       | 0.3   | 0.7                        | -         | -           | -        |
|      | -                   | 601.06                |            |      |      |      |      |            | 0.2   | 0.4                        |           |             |          |
|      | 103.06              | -                     |            | 27.2 | -    | 9.3  |      | 3.18       | 1.1   | 3.1                        | M3        | 0.94        | 1.5      |
|      | -                   | 603.06                |            |      |      |      |      |            | 1.0   | 2.8                        |           |             |          |
| 09   | 101.09              | -                     | 11.1       | 28.5 | 4.3  | 8.6  | 11.4 | 6.35       | 4.0   | 2.7                        | -         | -           | -        |
|      | -                   | 601.09                |            |      |      |      |      |            | 4.0   | 1.5                        |           |             |          |
|      | 103.09              | -                     |            | 37.6 | -    | 13.1 |      | 5.0        | 13.5  | 9.3                        | M3        | 0.94        | 1.5      |
|      | -                   | 603.09                |            |      |      |      |      |            | 12.6  | 8.1                        |           |             |          |
| 13   | 101.13              | -                     | 14.3       | 35.6 | 5.6  | 10.4 | 14.8 | 8.0        | 14.3  | 5.7                        | -         | -           | -        |
|      | -                   | 601.13                |            |      |      |      |      |            | 11.9  | 3.6                        |           |             |          |
|      | 103.13              | -                     |            | 46.2 | -    | 15.7 |      | 6.35       | 44.6  | 17.7                       | M3        | 0.94        | 1.5      |
|      | -                   | 603.13                |            |      |      |      |      |            | 38.0  | 15.6                       |           |             |          |
| 16   | 101.16              | -                     | 17.5       | 53.3 | 8.9  | 15.2 | 23.0 | 11.0       | 32.3  | 12.2                       | -         | -           | -        |
|      | -                   | 601.16                |            |      |      |      |      |            | 18.3  | 5.0                        |           |             |          |
|      | 103.16              | -                     |            | 67.6 | -    | 22.3 |      | 10.0       | 136   | 35.0                       | M4        | 2.27        | 2.0      |
|      | -                   | 603.16                |            |      |      |      |      |            | 122   | 31.4                       |           |             |          |
| 20   | 105.20              | -                     | 23.0       | 62.0 | 8.0  | 17.0 | 28.0 | 12.7       | 147   | 25.7                       | -         | -           | -        |
| 25   | 105.25              | -                     | 28.5       | 74.0 | 10.0 | 20.0 | 34.0 | 14         | 463   | 56                         | -         | -           | -        |
| 32   | 105.32              | -                     | 36.5       | 86.0 | 10.0 | 21.0 | 44.0 | 20         | 1339  | 103                        | -         | -           | -        |

## SINGLE JOINTS - PERFORMANCE (at 20°C)

| Size | Brass Cross-piece 101, 103, 105 |                        |                       |                            | Plastic Cross-piece 601, 603 |                        |                       |                            | Max angular compensation @ 1000 rev/min | Max axial loading N |
|------|---------------------------------|------------------------|-----------------------|----------------------------|------------------------------|------------------------|-----------------------|----------------------------|---|---------------------|
|      | Peak Torque Nm                  | Static Break Torque Nm | Torsional Rate deg/Nm | Torsional Stiffness Nm/Rad | Peak Torque Nm               | Static Break Torque Nm | Torsional Rate deg/Nm | Torsional Stiffness Nm/Rad |   |                     |
| 06   | 0.11                            | 0.45                   | 19.7                  | 2.9                        | 0.09                         | 0.3                    | 22                    | 2.6                        | 45                                      | 18                  |
| 09   | 0.36                            | 1.9                    | 6.8                   | 8.4                        | 0.6                          | 1.5                    | 6.8                   | 8.4                        | 45                                      | 38                  |
| 13   | 0.85                            | 4.5                    | 3.2                   | 18                         | 0.7                          | 2.5                    | 3.6                   | 16.0                       | 45                                      | 67                  |
| 16   | 1.6                             | 6.8                    | 1.7                   | 34                         | 1.0                          | 5.0                    | 2.8                   | 20.0                       | 45                                      | 98                  |
| 20   | 2.8                             | 17                     | 0.94                  | 61                         | -                            | -                      | -                     | -                          | 40                                      | 138                 |
| 25   | 5.6                             | 34                     | 0.51                  | 112                        | -                            | -                      | -                     | -                          | 40                                      | 222                 |
| 32   | 10.7                            | 72                     | 0.25                  | 229                        | -                            | -                      | -                     | -                          | 40                                      | 334                 |

FOR STANDARD BORES SEE FACING PAGE

### Materials & Finishes

- Bodies:** Acetal
- Cross-pieces:** Brass BS 2874 CZ121, CZ122 (101, 103, 109, 111)  
Nylon Glass filled (601, 603, 609, 611)
- Bore Inserts:** Brass BS 2874 CZ121 (103, 111, 603, 611)  
Al. Alloy 2014A T6 (105)
- Fasteners:** Alloy steel, black oiled

### Operating Temperature Range

- 20°C to +60°C

### Maximum Rotational Speed

1000 rev/min