

Candy Coup-Link®

- Zero-backlash, flexible-shaft couplings
- High torque, excellent response
- Accommodates misalignment and shaft endplay
- Aluminum and stainless steel options
- Inch and metric bores available from inventory



OVER 50 YEARS OF INNOVATION



Coup-Link® features a complete line of zero-backlash, flexible-shaft couplings for precise, high-speed automation applications. The product line includes Beam, Bellows, Curved Jaw, Disc, Encoder, Oldham and Rigid couplings. These precision couplings are designed for easy connectivity of shafts, servomotors, stepmotors, encoders and precision gearboxes. Properly selected, Coup-Link® accommodates misalignment and provides accurate, repeatable transmission of torque and angular position. Coup-Link® has a solution that will help you Make the Right Connection.

Beam
Couplings

| Series | CL1 | CL2 | CL7 |
|-------------------|---------------|-----------------|-------------------------|
| Torque Range (Nm) | 0.2-1.8 | 0.5-28 | 0.5-76 |
| Bore Range (mm) | 3-8 | 3-19 | 3-30 |
| Max Speed (rpm) | 10,000-13,000 | 4,500-10,000 | 2,200-30,000 |
| Mounting Options | Setscrew | Setscrew, Clamp | Setscrew, Clamp, Keyway |

Bellows
Couplings

| Series | CL6 | CL14 |
|-------------------|-----------------|------------------|
| Torque Range (Nm) | 0.8-160 | 13-240 |
| Bore Range (mm) | 4-42 | 10-38 |
| Max Speed (rpm) | 4,000-20,000 | 4,500-8,000 |
| Mounting Options | Setscrew, Clamp | Locking Assembly |

Disc
Couplings

| Series | CL3 | CL5 | CL9 | CL11 | CL15 | CL18 |
|-------------------|---------|--------|------------------|--------------|------------------|---------|
| Torque Range (Nm) | 2.8-160 | 1-510 | 55-1,000 | 25-15,800 | 50-1,520 | 1.4-510 |
| Bore Range (mm) | 6-30 | 3-45 | 11-58 | 8-115 | 14-75 | 5-45 |
| Max Speed (rpm) | 6,000 | 10,000 | 4,500 | 3,400-20,000 | 6,500-18,000 | 10,000 |
| Mounting Options | Clamp | Clamp | Locking Assembly | Keyway | Locking Assembly | Clamp |

Curved Jaw
Couplings

| Series | CL8 | CL10 | CL16 | CL17 | CL19 | CL20 |
|-------------------|-------------------------|------------------|-------------------------|-------------------------|------------------|-------------------------|
| Torque Range (Nm) | 1.1-860 | 7.4-760 | 1.1-860 | 32-860 | 2.3-150 | 1.1-860 |
| Bore Range (mm) | 2-60 | 8-60 | 3-60 | 8-60 | 5-48 | 3-60 |
| Max Speed (rpm) | 3,400-19,000 | 4,000-20,000 | 3,400-19,000 | 3,400-13,000 | 4,000-12,000 | 3,400-19,000 |
| Mounting Options | Setscrew, Clamp, Keyway | Locking Assembly | Setscrew, Clamp, Keyway | Setscrew, Clamp, Keyway | Setscrew, Keyway | Setscrew, Clamp, Keyway |

Oldham
Couplings

| Series | CL4 |
|-------------------|-----------------|
| Torque Range (Nm) | 0.7-66 |
| Bore Range (mm) | 4-25 |
| Max Speed (rpm) | 2,400-9,000 |
| Mounting Options | Setscrew, Clamp |

Encoder
Couplings

| Series | CL12-13-15 | CL12-25 | CL12-42 |
|-------------------|------------|----------|----------|
| Torque Range (Nm) | 0.6-1.6 | 1.6 | 2.6 |
| Bore Range (mm) | 4-6 | 4-10 | 6-14 |
| Max Speed (rpm) | 6,000 | 6,000 | 4,000 |
| Mounting Options | Setscrew | Setscrew | Setscrew |

Rigid
Couplings

| Series | CL13 |
|-------------------|-----------------|
| Torque Range (Nm) | 0.3-4 |
| Bore Range (mm) | 3-16 |
| Max Speed (rpm) | 10,000-23,000 |
| Mounting Options | Setscrew, Clamp |

COUPLING SELECTION TABLE

| Type | Zero Backlash | Torque | rpm | Inertia | Torsional Stiffness | Misalignment | | | Electrically Isolated | Cost |
|---------------------------------|---------------|--------|-----|---------|---------------------|--------------|---------|---------------|-----------------------|------|
| | | | | | | Parallel | Angular | Shaft Endplay | | |
| Beam, Aluminum, Spiral | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Beam, Stainless Steel, Spiral | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Beam, Aluminum, Parallel | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Beam, Stainless Steel, Parallel | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Bellows, Stainless Steel | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Curved Jaw, Aluminum | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Disc, Single, Aluminum | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Disc, Single, Steel | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Disc, Double, Aluminum | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Disc, Double, Steel | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Encoder, Composite | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Oldham, Aluminum | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Rigid, Aluminum | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Rigid, Stainless Steel | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Low = ● Moderate = ● High = ● Yes = ● No = ●



Beam Coupling A single-piece aluminum or stainless steel element with spiral or parallel cuts designed to handle misalignment while transmitting torque in a low-inertia design. Beam couplings are commonly used in low torque applications that do not require high torsional stiffness or excessive operating speeds.



Bellows Coupling A three-piece design consisting of two aluminum hubs and a thin stainless steel bellows. Bellows couplings accommodate misalignment and feature a low-inertia, torsionally-stiff design that is capable of transmitting a moderate amount of torque.



Curved Jaw Coupling Composed of two metallic hubs with an elastomer insert commonly referred to as a "spider." The spider material is designed to dampen vibration and to provide electrical isolation. Curved jaw couplings accommodate misalignment and provide an economical solution for motion applications that are continuous or light to moderate in cycle duty.



Disc Coupling Composed of two aluminum or steel hubs and stainless steel plate springs or disc packs. Disc couplings are available in single disc and double disc assemblies using one or two plate springs. The plate springs transmit torque while accommodating misalignment. Disc couplings are commonly used for servo applications that require low-inertia, high torsional stiffness, and repeatable bi-directional characteristics.



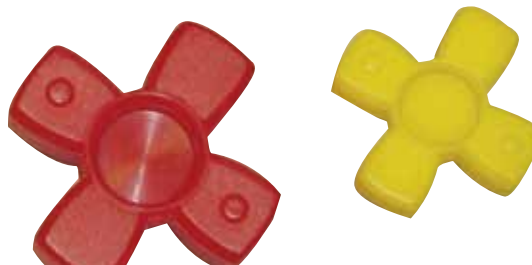
Encoder Coupling Two designs, one manufactured from fiberglass, the other consists of two aluminum hubs with an elastomer insert. Encoder couplings connect feedback devices to the load or process; they are not designed to be torque-transmitting. These couplings protect the feedback device or encoder from misalignment while also providing electrical isolation.



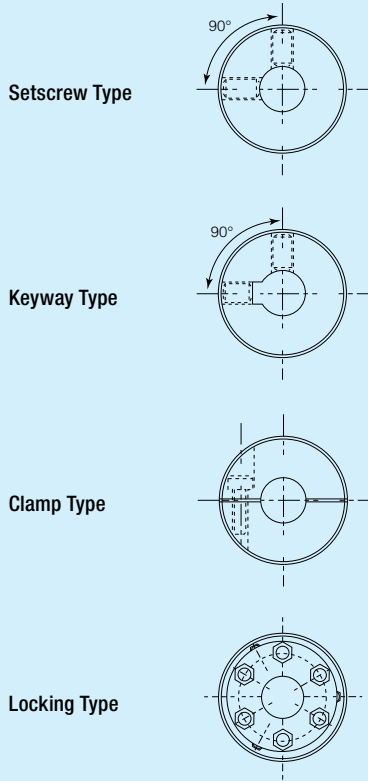
Oldham Coupling Three-piece design composed of two metallic hubs and a center disc made of thermoplastic elastomer. The disc is press-fitted to eliminate backlash and may also serve as a mechanical fuse. The disc slides to accommodate a fair amount of parallel misalignment. Oldham couplings also provide electrical isolation and offer an economical solution for a number of motion applications.



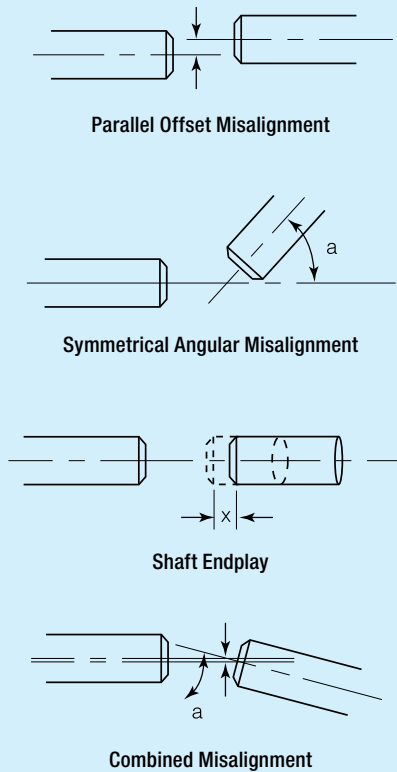
Rigid Coupling While not in the flexible-shaft coupling family, these one-piece aluminum and stainless steel couplings feature low inertias for high-response motion applications. Due to its simple design, a rigid coupling provides a low-cost solution for applications where misalignment is not present.



Shaft Connecting Configurations



Misalignment



STANDARD BORE SIZES WITH KEYWAY AND SETSCREW

| SI Bore Range (in) | Key (in) | Setscrew |
|--------------------|----------|----------|
| 5/16-7/16 | 3/32 | #10-32 |
| 1/2-9/16 | 1/8 | #10-32 |
| 5/8-7/8 | 3/16 | 1/4-20 |
| 15/16-1-1/4 | 1/4 | 5/16-18 |
| 1-5/16-1-3/8 | 5/16 | 3/8-16 |
| 1-7/16-1-3/4 | 3/8 | 3/8-16 |
| 1-13/16-2-1/4 | 1/2 | 3/8-16 |
| 2-5/16-2-1/2 | 5/8 | 3/8-16 |

| Metric Bore Range (mm) | Key (mm) | Setscrew |
|------------------------|----------|----------|
| 6-8 | 2 | M2 |
| 8-10 | 3 | M3 |
| 10-12 | 4 | M4 |
| 12-17 | 5 | M5 |
| 17-22 | 6 | M6 |
| 22-30 | 8 | M8 |
| 30-38 | 10 | M10 |
| 38-44 | 12 | M12 |
| 44-50 | 14 | M12 |
| 50-58 | 16 | M12 |
| 58-65 | 18 | M12 |
| 65-75 | 20 | M12 |

Shaft Connecting Configurations

Setscrew Type: Units are bored with two setscrews placed at 90 degrees. This low-cost type features the most conventional attachment. The setscrews, however, may cause damage to the shaft making the coupling difficult to remove.

Clamp Type: Units feature a split collar design that is tightened with socket head cap screws providing a concentric grip. Attachment and removal are easy and will not cause shaft damage.

Keyway Type: Like the setscrew type, this configuration features the most conventional attachment and is used for transmitting high torque. A keyway is provided in each bore with one setscrew over key and one at 90 degrees.

Locking Type: Frictional shaft-hub locking design tightened by screws on the face of each hub. Design is self-contained for easy mounting, adjustment, and shaft release. Strong concentric grip transmits high torque.

Misalignment

Flexible couplings transmit torque and rotational angle while absorbing misalignment. When misalignment exceeds allowable values, vibration may result or the life of the coupling may be adversely affected. Adjust alignment accordingly.

There are three types of shaft misalignment: angular misalignment, parallel misalignment, and shaft endplay. Adjust alignment to below allowable values for listed specification table of each product.

The maximum misalignment listed in this catalog is the allowable value when only one type of misalignment exists. In the case of two or more misalignments, reduce allowable values by 1/2 of the maximum misalignment listed in the specification tables.

Misalignments are sometimes caused not only by equipment assembly, but also by vibration, heat expansion, and wear of bearings during operation. Therefore it is recommended to adjust shaft misalignments to below 1/3 of maximum values.

Conversion Formulas

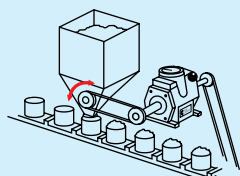
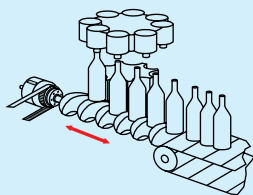
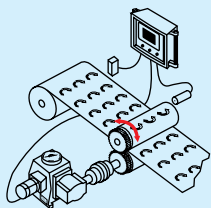
25.4 mm = 1 inch
 1 Nm = 8.85 lb-in
 1 gram = .0022 lbs

Warning

- For safe operation, couplings and other parts must be secure and protected by covers
- Disconnect electrical power to machine during installation and service
- Do not touch the product during operation, or immediately after use; allow heat to dissipate
- Do not exceed the rated maximum torque, misalignment factor or rpm specifications
- For fastening, do not use screws other than those provided by Candy Mfg. Co.
- Do not disassemble and rebuild product
- Use a torque wrench to secure setscrews and cap screws
- Apply adhesive to the screws for heavy load and cycle duty applications
- Failure to comply may lead to physical damage or injury
- All dimensions and specifications are subject to change without notice

Customers all over the world are using Candy's innovative motion control products to make on-the-fly rotary position and timing adjustments for a wide variety of manufacturing applications. Candy's precision differential gearboxes, servo reducers and zero-backlash couplings play a critical role in process optimization.

Candy Mfg. Co. has a 50-year tradition of engineering excellence – instilled from the beginning by founder Bob Hendershot and continuing through the current day. Candy offers the highest quality automation products and adds value to its clients through innovation, supported by professional application engineering and excellent customer service.



Candy Accu-Gear®

Precision planetary gearboxes, servo reducers and spiral bevel right-angle gearboxes

- In-line and right-angle gearboxes
- Ratios from 1:1 up to 500:1
- Multiple shaft configurations available
- Low backlash, quiet and durable precision gearing
- Drop-in sizes for leading manufacturers



Harmonic Differential

Shaft-mounted differential gearbox features compact, high-torque design

- 1:1 shaft-mounted phase transmission
- Precise rotary position and speed trimming control
- Low backlash design, optimal accuracy and performance



Candy Differential

Foot-mounted differential gearbox featuring a modular design for ultimate flexibility

- 1:1 counter-rotating differential gearbox
- Infinite, bi-directional rotary position control
- Right-angle and shaft-reversing gearboxes available



Dynamic Differential

1:1 phase shifting differential for precise rotary motion control



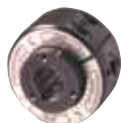
Candy Positioner

1:1 phase transmission with same shaft rotation, provides 400° of precise rotary adjustment



Phase Variator

1:1 phase transmission provides full 0-360° range of position control



Candy Phasing Hub

Static phase adjusting coupling with bi-directional adjustment



Candy Timing Hub

Static phase adjusting coupling for 360° of positioning of rotating machine components



Candy Switch

Cam switch providing 0-360° of dwell and timing adjustment for electrical and electronic circuits

