

Solutions from Ruland: Disc Couplings for Semiconductor and Solar Equipment



Ruland disc couplings are an ideal fit for highly accurate positioning systems where precise control of motion and flexibility are required.

Disc couplings are comprised of two anodized aluminum hubs for low inertia and multiple flat stainless steel disc springs that allow for a substantial amount of shaft misalignment while remaining rigid under torsional loads. Ruland carefully fastens the discs to the hubs to ensure a secure fit that does not allow for any backlash or play. The disc springs are very thin allowing them to bend easily under all types of misalignment with relatively low bearing loads.

Ruland disc couplings have a balanced design for reduced vibration benefiting solar and semiconductor equipment which often position items that are highly sensitive to minor vibrations. The balanced design also allows for higher speed capabilities of up to 10,000 RPM. Single disc styles are well suited for applications where compact installation is required. Double disc styles have a center spacer to increase misalignment capabilities. The center spacer is available in anodized aluminum for general purpose use or insulating acetal for electrical isolation. Parallel misalignment is accommodated by the double disc style or by essentially using two single disc couplings in tandem.

Ruland manufactures disc couplings with or without keyways in inch, metric and inch to metric bore combinations ranging from 1/8" to 1 1/4" (3mm to 32mm). All hardware is metric and tests beyond industry standards for maximum torque capabilities. Stainless steel hubs and spacers and custom designs are available by special request.

Semiconductor and solar equipment such as wafer handlers, bonders, and screen printers often require rapid movements over short increments to precisely position wafers, chips, or panels. Disc couplings from Ruland are torsionally stiff, operate with zero-backlash, and have a balanced design making them an excellent choice for these highly accurate systems with speeds of up to 10,000 RPM.



Disc couplings are available in single or double disc style with bore sizes ranging from 1/8" to 1 1/4" (3mm to 32mm).

Why Ruland Disc Couplings?

- Balanced design for reduced vibration and higher speed capacities
- Zero-backlash with anodized aluminum hubs for low inertia
- Single disc style for compact installations and double disc style for higher misalignment capabilities
- RoHS2 and REACH compliant
- Carefully made in our Marlborough, MA factory and available for immediate delivery

Shaft Collar

Superior fit, finish, and holding power
Precise face/bore perpendicularity for proper alignment
Steel, aluminum, plastic, 303 & 316 stainless steel



Quick Clamping Shaft Collar

Designed for quick set up and easy repositioning
Innovative clamp design requires no tools
Light weight anodized aluminum



Rigid Coupling

Nypatch® anti-vibration hardware
Precision honed bores for proper fit and alignment
1 and 2 piece styles with or without keyway



Bellows Coupling

Zero-backlash, aluminum hubs for low inertia
Stainless steel bellows for high torsional stiffness
Balanced design for speeds up to 10,000 RPM



Beam Coupling

Zero-backlash, suitable for all types of misalignment
Multiple beams for improved torsional rigidity and torque
Available in aluminum and stainless steel



Oldham Coupling

Zero-backlash, low bearing loads, low inertia
Good overall performance, electrically isolating
High parallel misalignment capability



Jaw Coupling

Zero-backlash, dampens impulse loads
Elastomer element in choice of 3 durometers
Easily combine inch to metric and keyed to keyless



Disc Coupling

Zero-backlash, high torsional stiffness
Single disc style for compact installations
Double disc style for high misalignment

