

Solutions from Ruland: Beam Couplings for Medical Applications



Multiple beam couplings have excellent overall performance characteristics and can easily accommodate shaft misalignment.

Ruland beam couplings utilize two sets of overlapping spiral cuts to increase torque capabilities and torsional rigidity when compared to the commodity style single beam coupling. Separating the spiral cuts into two sets gives the coupling better parallel misalignment capabilities while easily accommodating angular, complex, and axial misalignment. Zero backlash beam couplings are ideally suited for test and measurement, robotics, imaging, patient positioning, liquid chromatography, and lab analysis equipment which require accuracy of motion.

Ruland beam couplings are available with four or six beams in inch, metric, and inch to metric bore combinations ranging from 3/32" (2mm) to 3/4" (20mm). Four beam couplings are more flexible with lower bearing loads while six beam couplings feature a larger body size with shorter spiral cuts to provide increased torque capability, repeatability, and torsional stiffness. Multiple beam couplings are available in aluminum for additional flexibility and low inertia or stainless steel for higher torque and increased corrosion resistance. Special dimensions, spiral cut patterns, finishes, and materials are available by request.

Beam couplings are part of Ruland's complete zero backlash coupling line which includes: rigid, beam, bellows, disc, jaw, and oldham types. All Ruland couplings are manufactured in our Marlborough, Massachusetts factory and are RoHS2 and REACH compliant.

Ruland beam couplings are zero backlash, have high torsional stiffness and accommodate misalignment making them well suited for encoder, tachometer, and light duty power transmission applications commonly found in medical equipment. They are designed to ensure low bearing loads and balancing for reduced vibration at higher speeds.



Beam couplings are available in clamp and set screw styles with bore sizes from 3/32" (2mm) to 3/4" (20mm).

Why Ruland Beam Couplings?

- Zero backlash for accuracy of motion
- Accommodate all types of misalignment
- Balanced for higher speeds and reduced vibration
- Special designs & materials available on request
- RoHS2 and REACH compliant
- Carefully made in our Marlborough, Massachusetts 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

