FO242

Fiber optic rotary joint

Description

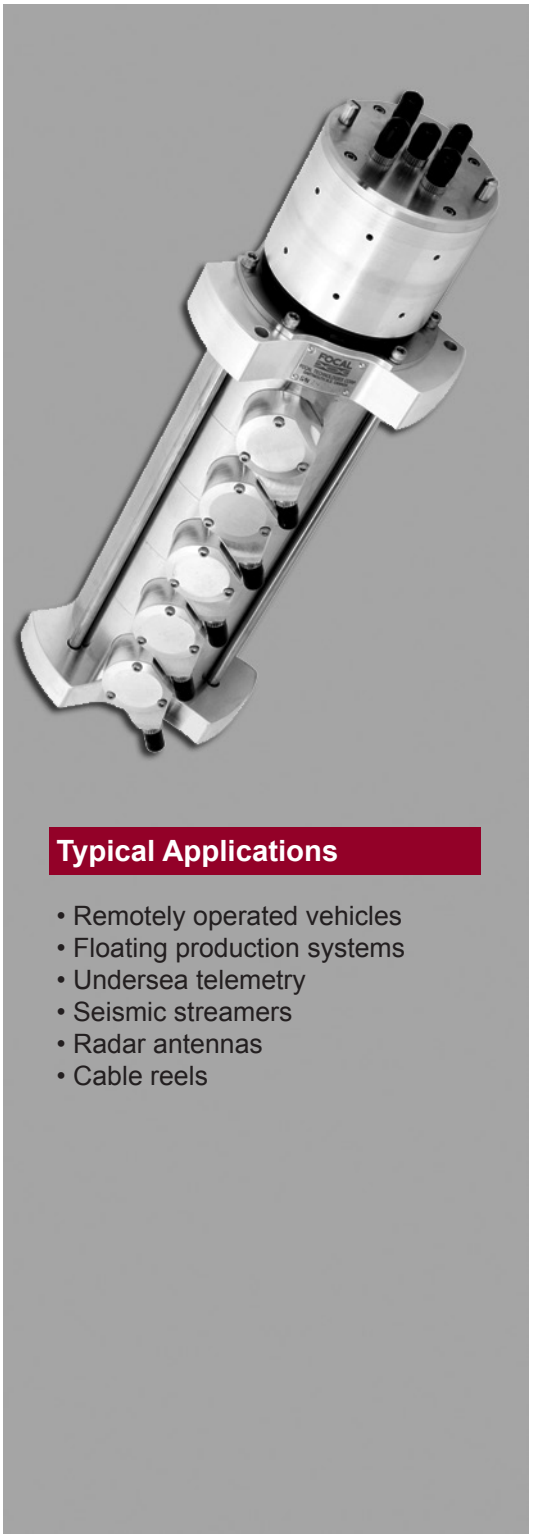
The FO242 is a multi-pass, singlemode fiber optic rotary joint (FORJ). It is passive and bidirectional, and allows the transfer of optical signals across a rotational interface on 2 to 6 separate singlemode optical fibers.

The FO242 can be combined with our electrical and / or fluid slip rings giving a single, compact package for optical signals, electrical power and fluid transfer.

Other options include fluid-filling for pressure compensation permitting operation at any ocean depth, and the combination of the FO190 to include up to 19 multimode passes.

Features

- 2 to 6 singlemode channels
- Can be combined with our electrical slips, fluid unions and the FO190 multimode fiber optic rotary joint
- Alternative drive coupling arrangements are available (consult factory for specification details)
- Tested to 10,000 psi (69,000 kPa) when fluid-filled
- Stainless steel and aluminum construction
- Connectorized interfaces, for easy fiber cable replacement
- Rugged design
  - MIL-STD-167-1 ship vibration
  - MIL-STD-810D functional shock (40 g)



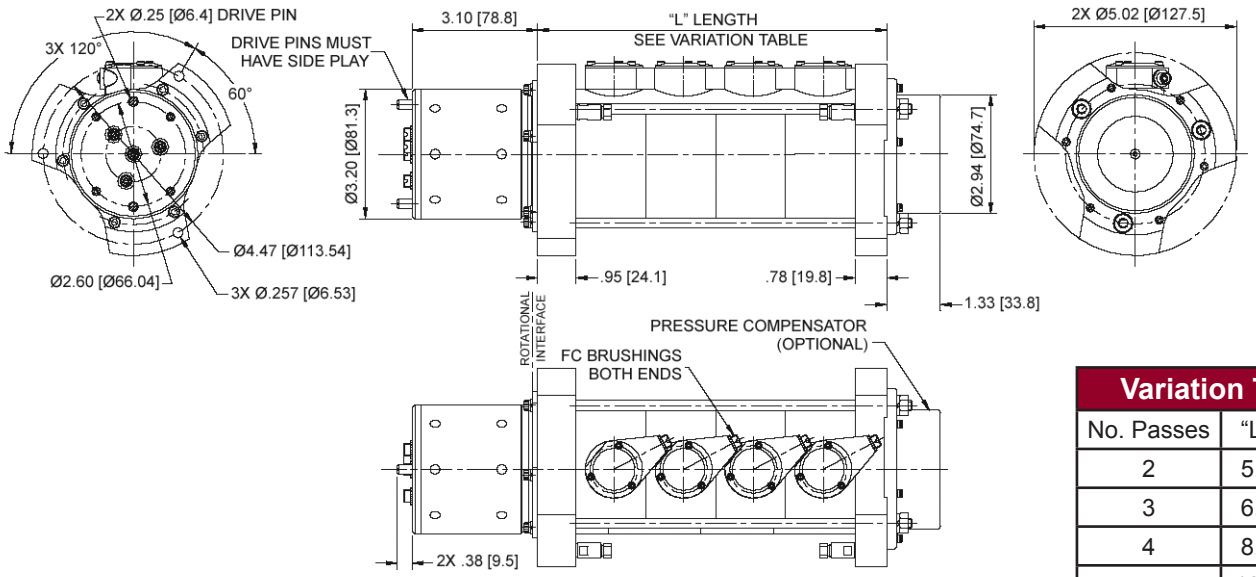
Typical Applications

- Remotely operated vehicles
- Floating production systems
- Undersea telemetry
- Seismic streamers
- Radar antennas
- Cable reels

FO242 Specifications											
Fiber Size (Microns)	9 / 125 SMF-28										
Insertion Loss (dB)	Channel	2-pass		3-pass		4-pass		5-pass		6-pass	
		Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.
	1	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
	2	2.5	4.0	2.5	4.0	2.5	4.0	2.5	4.0	2.5	4.0
	3			2.5	4.5	3.5	5.0	3.5	5.0	3.5	5.0
	4					4.0	5.5	5.0	6.5	5.0	6.5
	5							5.5	6.5	6.0	6.5
	6									6.5	7.5
Rotation Variation	Typical < 0.5 dB					Maximum < 1.5 dB					
Back Reflection*	Typical 22 dB					18 dB Minimum					
Wavelengths	1310 / 1550 nm. Consult factory for other wavelengths such as CWDM (18 wavelengths from 1271 nm to 1611 nm in 20 nm increments).										
Rotational Speeds	To 100 rpm dry and 60 rpm fluid filled. Higher rotational speeds should be discussed with the factory.										
Temperature	-40 to +60 deg C standard. Consult factory for extended range.										
Dispersion	< 50 fs / nm (calculated)										
Exterior Surfaces	Stainless steel and aluminum										
Vibration	Tested to MIL-STD-167-1 (ships)										
Shock	Tested to MIL-STD-810E										
Connectors	FC / PC connector bushings standard (ST connector bushings optional)										
Pressure	Up to 10000 psi (69,000 kPa) for fluid filled version										
Pigtail Length	As required										

**Lower back reflection available, consult factory.*

FO242 Dimensions



Variation Table	
No. Passes	"L" Length
2	5.19 (132)
3	6.91 (176)
4	8.64 (220)
5	10.37 (263)
6	12.10 (307)

Dimensions in inches [millimeters]