



Rolling-Seal Connector

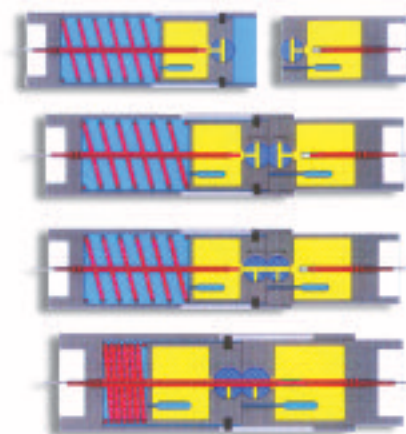
**Standard Wet-Mate Optical & Hybrid Connector
Up to 8-Circuits: ROV, Stab & Diver-Mate**

ODI's Rolling-Seal is a fully wet-mateable, multi-channel, optical/hybrid connector. First introduced in 1996, the Rolling-Seal was the world's first commercially available multi-channel, wet-mate, optical connector. Since that ground-breaking milestone, the connector has been utilized in over 100 projects ranging from littoral to the abyssal ocean floor as deep as 6000m (>19,000ft).

The connector is fully qualified to the latest industry standards and customer specifications including: optical & electrical performance, helium leak, mechanical shock & vibration, thermal cycling & shock, turbid hyperbaric mate/demate and misaligned mateability. Optical harnesses using ODI oil-filled hose have also been qualified to these standards & specifications.

The connector functions by virtue of the patented rolling seal design. The goal is to exclude water and silt from the region where the optical fibers are being brought into contact. The roller seal design provides isolation from seawater when the connectors are unmated. Any silt between the connector halves becomes trapped when the halves are first brought together and then is moved to one side as the seals rotate, to provide a clear oil-filled path for the optical pin to move into the receptacle and complete the mate. Any of the circuits may be specified for single-mode fiber, multi-mode fiber or electrical circuits.

Since 1996, over 2,400 Rolling-Seal connectors have been delivered, accumulating more than 75 million service hours with reliability greater than 99.9%.



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Specifications

GENERAL

Material:	Titanium is preferred shell material
Design Life:	25 Years
Max Operational Pressure:	Full Ocean Depth (Contact ODI for differential pressure applications) Fully qualified for 3,000m use
Mate Cycles:	>100 without refurbishment
Mating Force:	<80 lbs per circuit
Demating Force:	<40 lbs
Operational Temperature:	-2°C to +50°C
Storage Temperature:	-25°C to +60°C
Configurations:	ROV, Stab & Diver-Mate (Plug only as Bulkhead Mount)
ROV Handle Type:	Flexible Paddle as Standard

OPTICAL & ELECTRICAL

Number of Circuits:	8 max, optical or electrical
Insertion Loss: 1310/1550 nm	<0.5 dB
Mated back reflection: 1310/1550 nm	<-30 dB
Max Operational Current:	7 Amps
Max Operational AC Voltage:	700 VAC Phase-to-Ground (mated)
Max Operational DC Voltage:	1000 VDC mated
Insulation Resistance:	>10 G Ω @ 1000 VDC
Contact Resistance:	<10 m Ω

