

NRH CONNECTOR

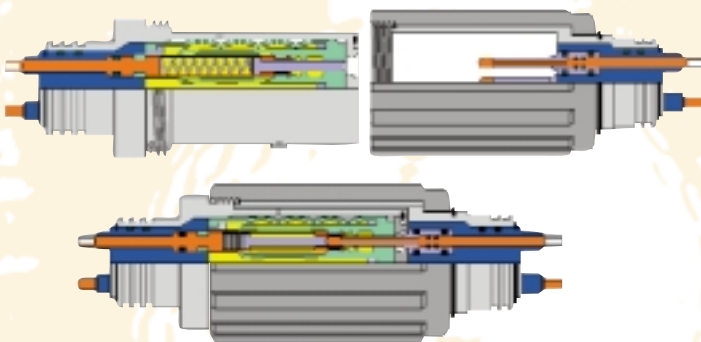
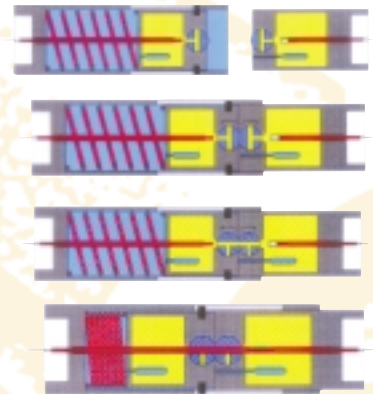
(Nautilus Rolling-seal Hybrid)



This connector has been designed to fulfill the needs of customers requiring a hybrid connector (optical and electrical circuits) with higher capacity electrical contacts. The existing hybrid connector was used as the basis of this design, with one of the two rolling seals (and its associated circuits) removed and replaced with two standard Nautilus electrical circuits.

The other rolling seal (and its associated four circuits) remain unchanged. This offers the excellent combination of two proven connector designs. Up to four optical circuits can now be combined with two electrical circuits rated at 30 Amps and 10 KV.

The rolling seal side of the connector functions by virtue of the patented seal design. The goal is to exclude water and silt from the region where the optical fibers are being brought into contact. As is shown opposite, the roller seal design provides isolation from sea water when the connectors are un-mated. 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.



The design features which make the Nautilus side of the connector so reliable include the dual independent oil reservoirs providing two completely separate barriers to the ingress of sea water. The patented design of electrical contact allows the pin to enter these reservoirs and to transfer sealing via a shuttle pin and dual wiper seal assembly.

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SPECIFICATIONS

GENERAL

Working Depth :	Full ocean depth rated, up to 10,000 psi ambient TBD differential
Mating Force :	80 lbs
Demating Force :	40 lbs
Mating Cycles :	≥100 without refurbishment
Temperature :	-10°C to +50°C
Configurations :	ROV, Stab and Diver-Mate

ELECTRICAL

Minimum Breakdown Voltage :	10 KVDC
Maximum Working Current :	30 Amps/circuit
Insulation Resistance :	>10 Gigohms Circuit-to-Circuit and Circuit-to-Ground
Contact Resistance :	<30 milliohms/contact

OPTICAL

Insertion Loss :	≤0.5 dB/contact
Return Loss :	≥ -30 dB



2000
Compass
Industrial Award
Winner



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This product is covered by one or more of the following U.S. and/or foreign patents; 4,948,377; 5,203,805; 5,171,158; 5,194,012; 1,296,783; 5,645,438; 5,685,727; 5,722,842; 5,645,442; 5,772,457; 5,738,535; 5,873,750; 6,067,395; 6,321,021; 6,315,461; 6,017,227. Other pending U.S. and foreign patents may apply.