OCEANEERING®

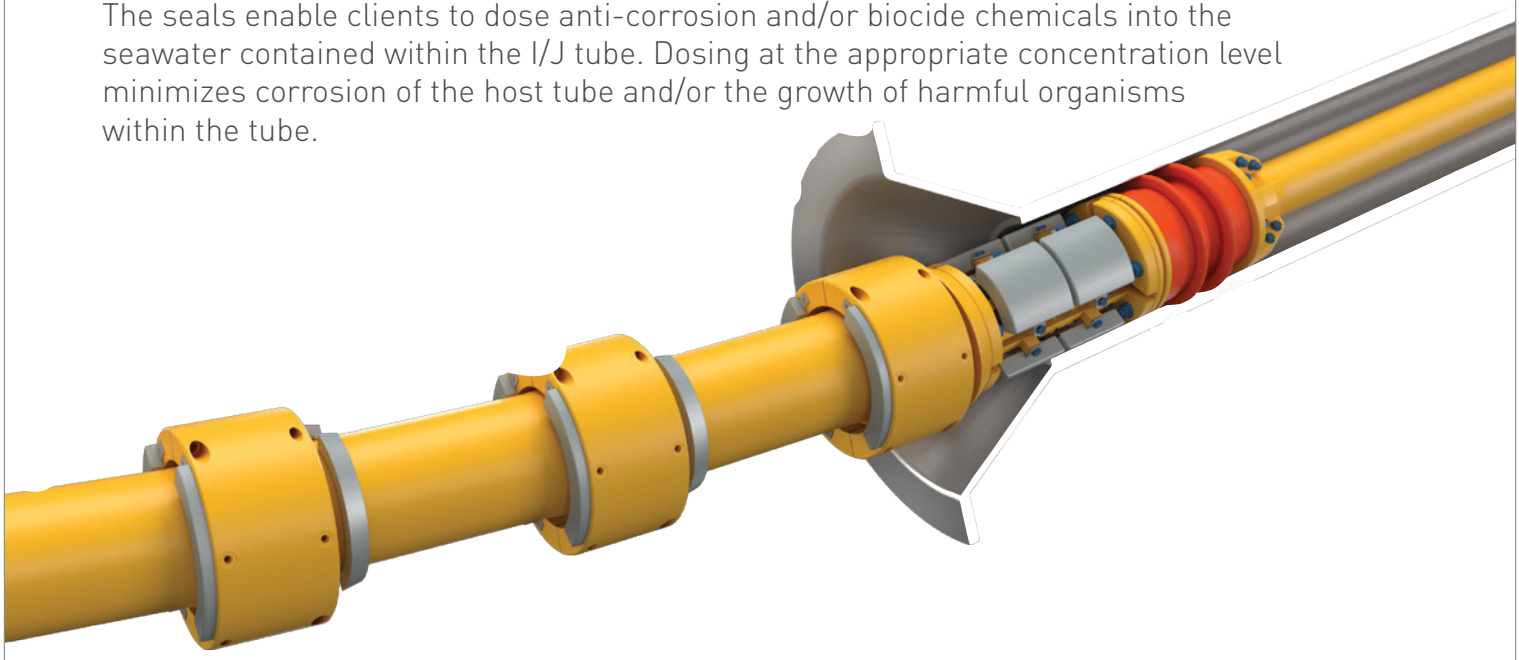
oceaneering.com

I/J Tube Seals

Protecting vital hardware

Oceaneering tube seals are suitable for use with I and J tubes and are fitted to umbilicals to protect customers' assets. We offer seals to suit all tube sizes and umbilical diameters.

The seals enable clients to dose anti-corrosion and/or biocide chemicals into the seawater contained within the I/J tube. Dosing at the appropriate concentration level minimizes corrosion of the host tube and/or the growth of harmful organisms within the tube.



FEATURES

- **Easily installed**
- **Reliable, field proven technology**
- **Customized to project specifications**

2016.04-A

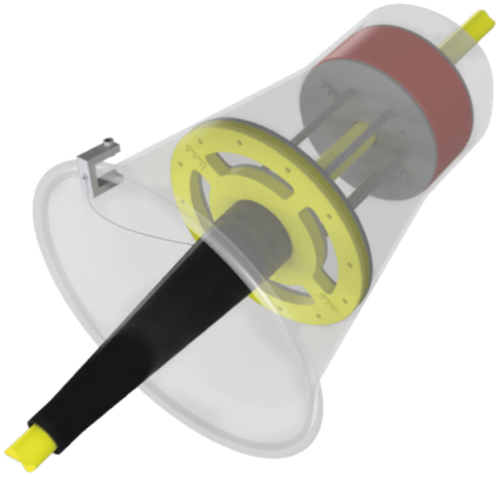
Tube Seals

In order to ensure the design's functionality, the client must:

- Verify the seal area on the I/J tube is free from marine growth and other contaminants
- Confirm the seal area is free from defects as damage could prohibit the correct installation and seal functionality
- Provide an accurate drawing of the I/J tube, including the known or agreed dimensions and tolerances for the seal interfaces

Tube seals are available in diver mate or self sealing designs. The polyurethane seal provides a barrier between the outside of the umbilical and the inside of the I or J tube. The seal facilitates the dosing of chemicals and retains the seawater and chemical mix within the tube.

The seals are typically designed and tested to seal with a pressure differential of between 1 to 5 bar across the seal.



	Diver Sealed	Self Sealing
Maximum installation water depth	656 ft / 200 m	No limit
Method of connection	Assembled by diver post umbilical installation	Assembled on to the umbilical aboard the installation vessel immediately before deployment. Seal is automatically engaged during installation and requires no further intervention.
Tooling required	Spanner to suit the bolts included in the design	Tool kit for assembly on installation vessel deck, as outlined by the assembly procedure.
Material of tube seal and fixings	Seal: polyurethane Front/rear plates: carbon steel (coated per NORSOK M501 or xylan coated) Flange centralizer: carbon steel (coated per NORSOK M501 or xylan coated) Fittings: zinc plated or xylan coated carbon steel	Seal: polyurethane Metallic components: typically xylan coated carbon steel Fittings: typically xylan coated carbon steel
Bend protection at umbilical departure points	Bend strain reliever (BSR) or bend limiters, dependent on contract requirements and as agreed with client	