

# SEACON

## SEACON ADVANCED PRODUCTS, LLC PRODUCT DATASHEET

### OPTICAL FIBER MANAGEMENT SYSTEMS



*Optical Fiber Jumper System*

#### DESCRIPTION

In underwater operations, optical fiber connections provide the communications path between underwater equipment, facilitate inter-connection of expansion and allow in-situ diagnostics. They require specifically designed underwater connectors capable of repeated connection and disconnection at ocean depths where this equipment is located.

Optical fiber is fragile and requires proper handling and protection from deployment and the effects of temperature and pressure in underwater environments. Flexible oil-filled hose conduits allow the installation and feed-through of optical fibers between underwater connectors whilst protecting them within the oil-filled conduit. Optical fibers can be individual, bundles and/or ribbons. The hose conduit, by design, is flexible to accommodate handling on the surface and underwater by divers or Remotely Operated Vehicles (ROV's), or Autonomous Underwater Vehicles (AUV's). This flexibility allows the hose to be stored, installed, coiled or uncoiled.

Additionally, the optical fibers require protection from the forces associated with the handling and operation of underwater connectors and consequent movement of the hose conduit, combined with exposure to extreme environmental conditions. This requires special management of the optical fibers within the hose.

#### QUALITY

- SEACON Advanced Products, LLC operate a Quality Management System certified to ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007.





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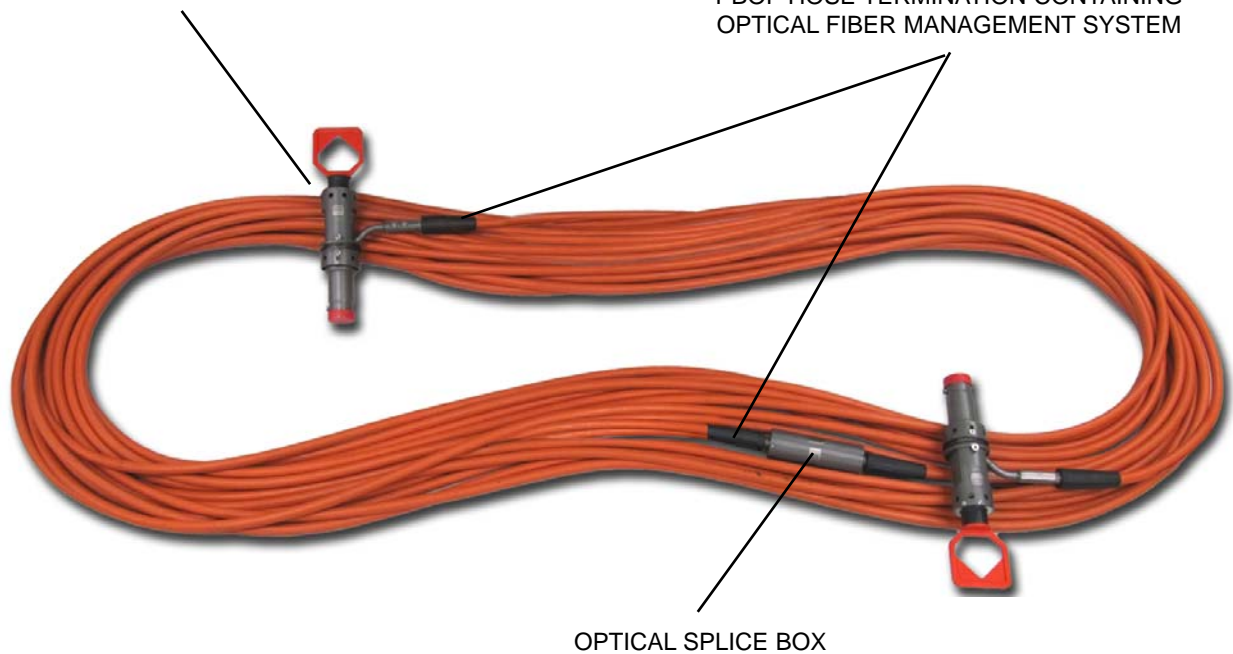
### KEY FEATURES

The management of the optical fibers within the hose conduit is a requirement for the following reasons:

- SEACON has developed a proprietary modular optical fiber management design that allows interfacing to a variety of connectors, splice boxes and subsea umbilical termination assemblies.
- Optical fibers are fixed at each end of the hose conduit to allow connection to the underwater connectors or penetrators.
- Optical fiber over-length is required to cater for flexible hose stretch.
- Optical fibers move within the hose during movement of the hose, especially during coiling and uncoiling of the hose, hose stretch at extremes of thermal and hyperbaric environmental conditions and during unwanted snagging of the hose during operations.

HYDRALIGHT OPTICAL  
WET-MATE CONNECTOR

PBOF HOSE TERMINATION CONTAINING  
OPTICAL FIBER MANAGEMENT SYSTEM



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