HydraX™ High-Pressure Joint Enclosure

- High pressure resistance for deep burial or subsea applications
- Superior mechanical impact protection
- Long-term corrosion resistance
- Reliable sealing performance in harsh environments
- Compatibility with super armored and steel wire armored cable constructions

Design Refernce

ITU-T G.803/805
ITU-T G.841/842
ITU-T G.871/872
ITU-T G.7041
ITU-T G.8251
ITU-T G.8264

Application

Harsh Enviroement

Working Condition

Operation Temperature
-20℃ ~ +60℃

Compliance

ITU-T
IEEE Std802.3/1Q

General Description

The HydraX™ series high-pressure joint enclosure is specifically engineered for integration with **HERMESYS Heavy Duty Armor Explosion-Proof Fiber Optic Cables**, providing superior mechanical protection and long-term environmental reliability in extreme operating conditions.

Designed to withstand high hydrostatic pressure, mechanical impact, and corrosive environments, this enclosure ensures secure fiber splicing and joint protection in subsea, underground, offshore, petrochemical, mining, and hazardous industrial installations. The robust multi-layer sealing system, combined with heavy-duty metal reinforcement components, guarantees excellent water-blocking performance and resistance to vibration, compression, and tensile stress.

When deployed with HERMESYS Heavy Duty Armor cables, the joint enclosure maintains full system integrity, preserving the cable's explosion-proof characteristics and mechanical strength. Its streamlined structure allows for direct burial, duct installation, or subsea deployment, while maintaining consistent optical performance and low attenuation.

Hermesys

Specification

Item	Unit	Spec
Weight	kg	35
length	mm	1800
Outer Diameter	mm	ф118.5
Maximum Transmission Capacity	Core	96
Fusion Loss	dB	≤0.07
Tensile Strength	≥ Cable breaking tensile load 90%	
Minimum Bending Radius	m	1.5
Service Life	25 ears	

Structure

Closure Composition

1) Outer protection components and the connection components.
2) Inner sealing unit.

Outer protection components and the connection components

Below picture shows the structure of outer protection components and the connection components, consisting of the following main components:

1. Outer protection component: made of stainless steel, the main body is 422mm long and the diameter is about 118.5mm, which is located on the outer surface of the product, playing the role of pressure resistance and shock absorption protection, while ensuring that the mechanical strength of the product meets the requirements.

2. Cable-end component: including the inner armor crimping structure and outer armor crimping structure. The inner armor crimping structure is located on both sides of the inner sealing unit, and is used to connect and crimp the inner armor wires of both sides of the splice cable. The outer armor crimp structure is located on both sides of the inner armor crimp structure and is used to connect and crimp the outer armor wire of both sides of the splice cable.

3. Buffer component： located on both sides of the outer armor crimp structure and is used to protect the tail cable to prevent excessive bending of the submarine cable under the action of external forces.

Inner sealing unit

The main components of the internal unit of the submarine quick splice closure are shown below

Internal sealing units: including coiled fiber structure and sealing structure, located in the middle of the product, coiled fiber structure is used to achieve the coiling and splicing of optical fiber, sealing structure through heat-shrinkable tubing to achieve sealing.

1) Fiber tray: for fusion splicing and distribution of optical fibers.
2) End caps and pressure cartridges: to protect and support the fiber tray.
3) Thermoplastic sleeves: sealing and insulating the internal unit.

Storage Requirement

The storage and transport environment should meet the following requirements:

1) Ambient temperature: -20~70 ºC
2) Ambient humidity: 35% to 85% (relative humidity)
3) Avoid exposure to direct sunlight
4) Avoid active gas
5) Keep the acceleration of vibration within 15G

Note: Not recommend to stored for a long time in 0 ºC