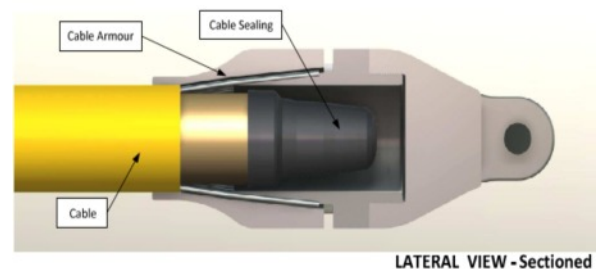
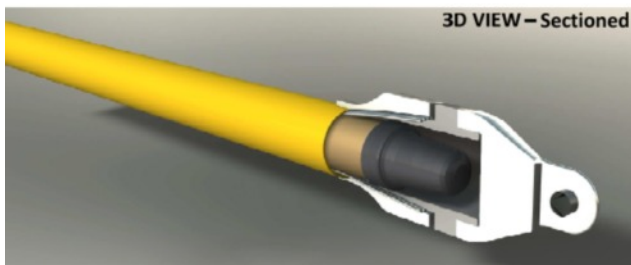


BULL-NOSE PULLING HEAD



DESCRIPTION:

Pulling head manufactured by PCS Italiana provides a strong and reliable solution for cable sealing and pulling during the delicate phases of submarine cable deployment and pulling on platform and also allows cable deployment and abandon on the seabed for a later completion of the activities.

The design considers the complete cores tightening to prevent water ingress also for long periods and can be designed re-usable to access cores for testing purposes without damaging armour clamping system.

Mechanical performance of the pulling is granted by a specific inner hang-off that delivers strong mechanical performances without affecting the power cores and/or optical fibre elements.

The pulling head is also provided with a built-in anti-torsion swivel and the main design has been tested up to 45T.

Design is compatible for power cables, optical fibre cables and composite solutions.

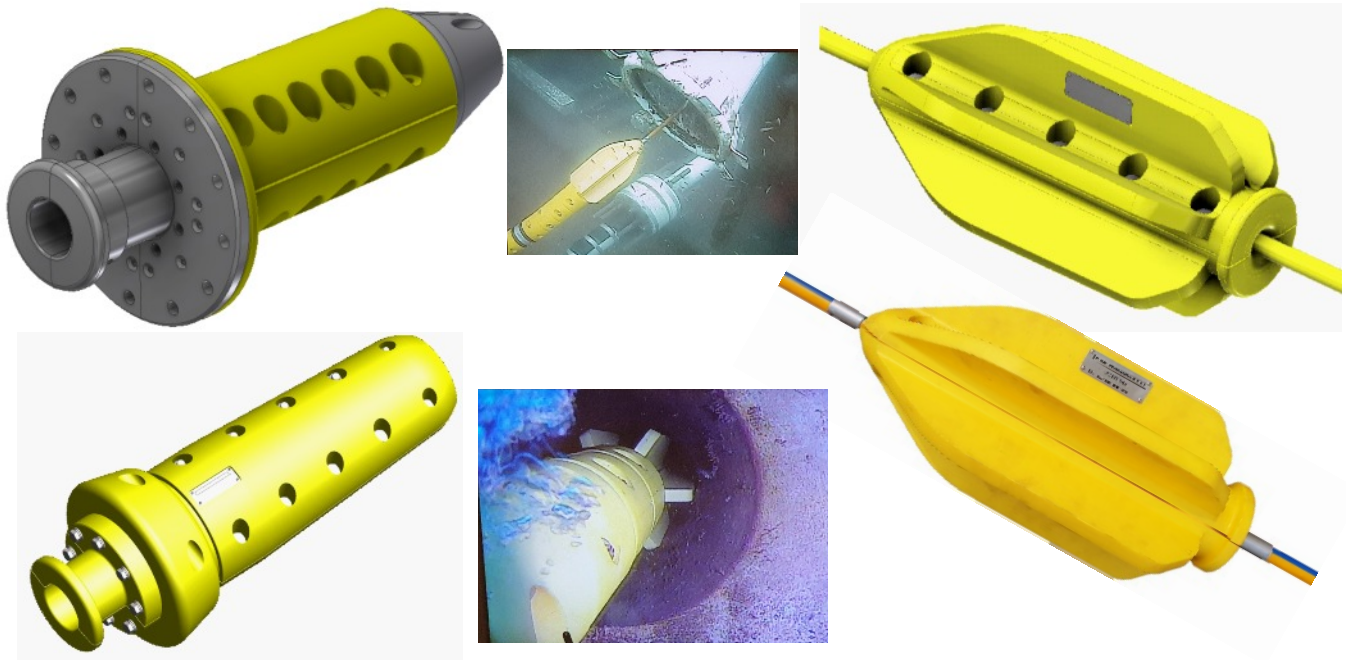
MATERIAL:

- Pulling head body : Galvanized steel or SS316L (upon request)
- Sealing elements : Sealant Resin for armour clamping, sealant mastic and heatshrink caps
- Bolts & Nuts : Steel

ENTRY DATA FOR DIMENSIONING:

- Cable details
- J-tube details
- Pulling requirements

CABLE CENTRALIZER



DESCRIPTION:

Cable Centralizer is studied by PCS Italiana to ease submarine cable insertion into I-tube or J-tube bell-mouth and avoid that any damage is affecting cable sheaths or riser walls during pull-in activities and maintain cable in a center position preventing damages after installation.

Design provides with a suitable coupling flange to accommodate PCS-Bend Restrictors thus delivering a complete protection to the cable from bell-mouth exit until Client required protection distance is reached.

Centralizer material composition avoids the risk of magnetic fields as no metallic parts are in contact between cable and riser.

Material supply foresee polyurethane or in alternative SS316L and according to requirements it can be foreseen also Superduplex.

Centralizer is designed and manufactured following "Input data from Clients" to deliver a tailored product for the specific application.

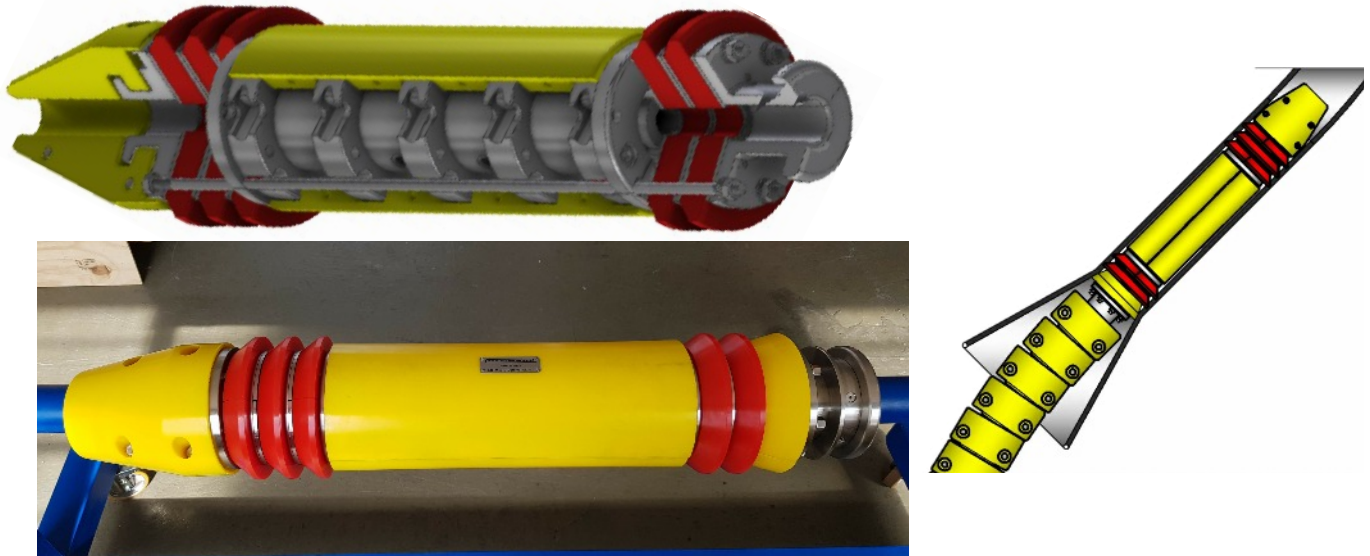
MATERIAL:

- Inner flanges and body : Polyurethane or SS316L or Superduplex upon request
- Centering elements : Soft and Hard Polyurethane
- Bolts & Nuts : AISI 316 A4 or Superduplex upon request

ENTRY DATA FOR DIMENSIONING:

- Cable details and j-tube details

J-TUBE SEAL



DESCRIPTION:

J-Tube seal manufactured by PCS Italiana is suitable for setting submarine cables in position while entering the j-tube bell-mouth and provide a safe and longlasting solution.

Sealing is granted by action on both cable sheath and on j-tube inner walls thus delivering the necessary sealing to water flow when corrosion prevention inhibitor are present into j-tube.

The basic design is suitable for cables with extruded outer sheaths as the j-tube seal will directly be in contact with the extruded sheath.

Specific design can be provided in the event cable sheath is made in PPY and according to pressure and tightening required.

It has a diverless design thus to allow assemble on vessel right before laying and avoid divers operation in water; it is also fitted with necessary coupling flange to accommodate PCS-Bend Restrictors.

Basic design for metallic parts foresee use of SS316L, upon requirement it can be proposed in Superduplex.

MATERIAL:

- Inner flanges and body : SS316L
- Sealing elements and body : Soft and Hard
Polyurethane
- Bolts & Nuts : AISI 316 A4

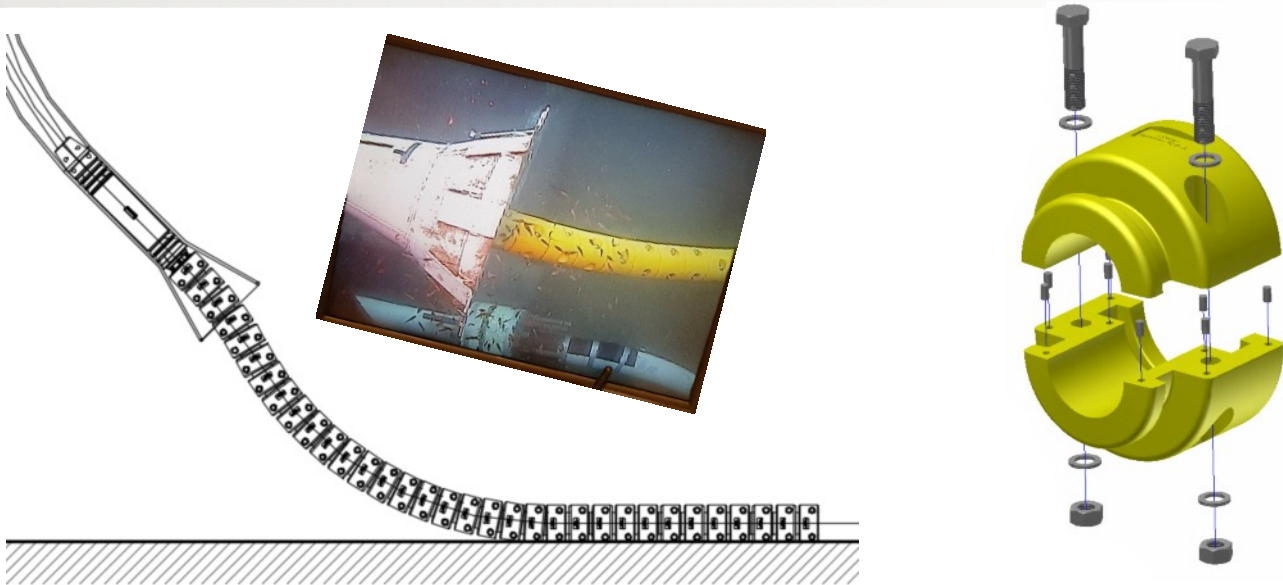
ENTRY DATA FOR DIMENSIONING:

- Cable details and j-tube details

MAIN DIMENSIONS AND DATA:

- Full length : 1319 mm
- Straight length into j-tube : 890 mm
- Body outer diameter : 220 mm
- Body inner diameter : 95.4 mm
- Seal ring diameter : 245 mm
- Weight in air (approx) : 112 Kg
- Weight in water (approx) : 79 Kg
- Maximum allowable load : 500 Kg

BEND RESTRICTOR 70-2000



DESCRIPTION:

Bend restrictors designed by PCS Italiana are suitable to deliver a cable overbending protection at exit of j-tube bell-mouth in order to avoid damage to the submarine cable.

The diverless design allows for directly assembly on cable before laying, avoiding divers operation in water; it is also fitted with necessary coupling flange to accommodate PCS-J-Tube seal or Centralizer.

Dimensioning takes into consideration: cable diameter and MBR, distance between j-tube exit and seabed.

Polyurethane material is suitable to deliver a safe protection to high mechanical bending stresses and a basic cable protection to any fallen object that may hit cable on platform vicinity.

Yellow color increase visibility into water.

Design in elements allow the possibility to properly dimensioning the necessary protection length according to specific requirements.

CABLE DIAMETER RANGE AND MBR:

- up to 70 mm
- MBR 2000 mm

MATERIAL:

- Bend restrictor body : MTA31 Hard Polyurethane
- Bolts & Nuts : AISI 316 A4

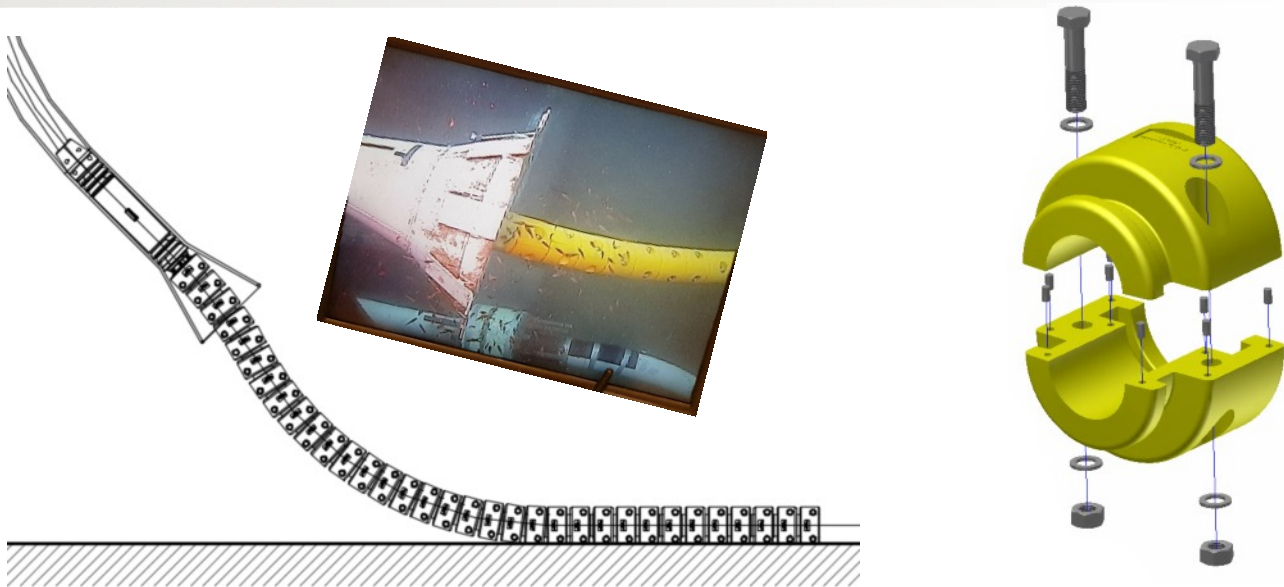
ENTRY DATA FOR DIMENSIONING:

- Cable diameter and minimum bending radius
- Installation condition and free span distance between j-tube bellmouth and seabed

SINGLE ELEMENT MAIN DIMENSIONS AND DATA:

- | | | | |
|-----------------------------------|---|------|-----|
| - Single element full length | : | 141 | mm |
| - Single element body length | : | 141 | mm |
| - Body outer diameter | : | 185 | mm |
| - Body inner diameter | : | 80 | mm |
| - Weight in air (approx) | : | 4,0 | kg |
| - Weight in water (approx) | : | 1,5 | kg |
| - Maximum bending stiffness | : | 10 | kNm |
| - Maximum axial load | : | 150 | kN |
| - Locking radius | : | 2000 | mm |
| - No. of element required for 1 m | : | 10 | off |
| - Impact protection value | : | 2 | kJ |

BEND RESTRICTOR BR-70/115-2500



DESCRIPTION:

Bend restrictors designed by PCS Italiana are suitable to deliver a cable overbending protection at exit of j-tube bell-mouth in order to avoid damage to the submarine cable.

The diverless design allows for directly assembly on cable before laying, avoiding divers operation in water; it is also fitted with necessary coupling flange to accommodate PCS-J-Tube seal or Centralizer.

Dimensioning takes into consideration: cable diameter and MBR, distance between j-tube exit and seabed.

Polyurethane material is suitable to deliver a safe protection to high mechanical bending stresses and a basic cable protection to any fallen object that may hit cable on platform vicinity.

Yellow color increase visibility into water.

Design in elements allow the possibility to properly dimensioning the necessary protection length according to specific requirements.

CABLE DIAMETER RANGE AND MBR:

- from 70 mm up to 115 mm
- MBR 2500 mm

MATERIAL:

- Bend restrictor body : MTA31 Hard Polyurethane
- Bolts & Nuts : AISI 316 A4

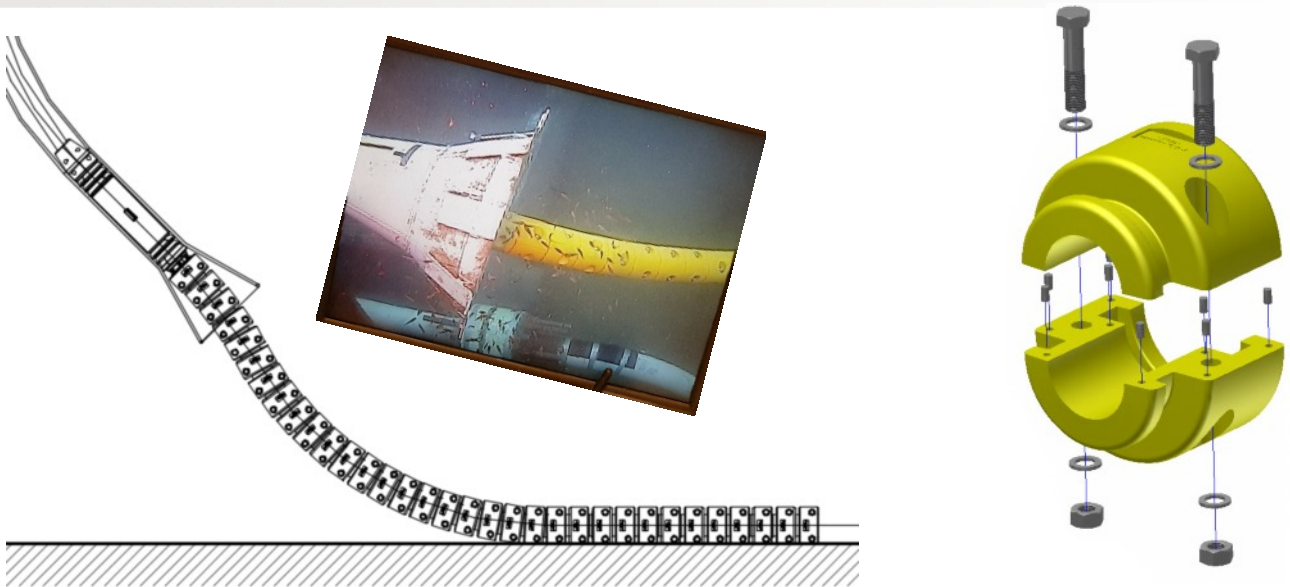
ENTRY DATA FOR DIMENSIONING:

- Cable diameter and minimum bending radius
- Installation condition and free span distance between j-tube bellmouth and seabed

SINGLE ELEMENT MAIN DIMENSIONS AND DATA:

- Single element full length : 208 mm
- Single element body length : 208 mm
- Body outer diameter : 272 mm
- Body inner diameter : 120 mm
- Weight in air (approx) : 8,5 kg
- Weight in water (approx) : 2,2 kg
- Maximum bending stiffness : 15 kNm
- Maximum axial load : 186,4 kN
- Locking radius : 2500 mm
- No. of element required for 1 m : 7 off
- Impact protection value : 2 kJ

BEND RESTRICTOR BR-110/150-4500



DESCRIPTION:

Bend restrictors designed by PCS Italiana are suitable to deliver a cable overbending protection at exit of j-tube bell-mouth in order to avoid damage to the submarine cable.

The diverless design allows for directly assembly on cable before laying, avoiding divers operation in water; it is also fitted with necessary coupling flange to accommodate PCS-J-Tube seal or Centralizer.

Dimensioning takes into consideration: cable diameter and MBR, distance between j-tube exit and seabed.

Polyurethane material is suitable to deliver a safe protection to high mechanical bending stresses and a basic cable protection to any fallen object that may hit cable on platform vicinity.

Yellow color increase visibility into water.

Design in elements allow the possibility to properly dimensioning the necessary protection length according to specific requirements.

CABLE DIAMETER RANGE AND MBR:

- from 110 mm up to 150 mm
- MBR 4500 mm

MATERIAL:

- Bend restrictor body : MTA31 Hard Polyurethane
- Bolts & Nuts : AISI 316 A4

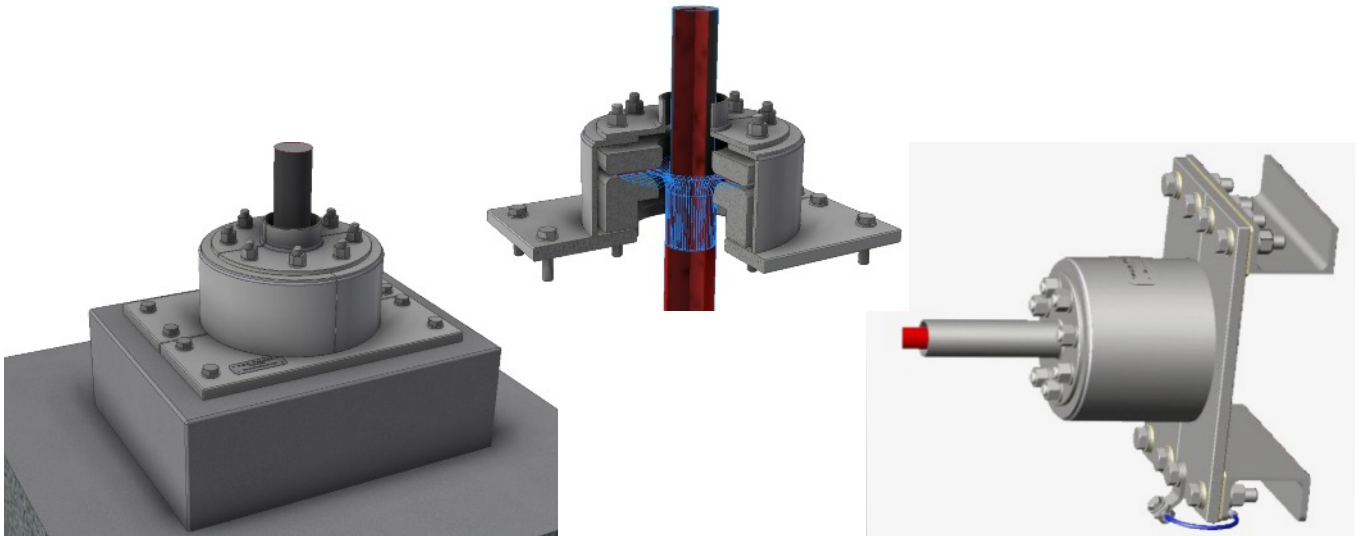
ENTRY DATA FOR DIMENSIONING:

- Cable diameter and minimum bending radius
- Installation condition and free span distance between j-tube bellmouth and seabed

SINGLE ELEMENT MAIN DIMENSIONS AND DATA:

- Single element full length : 280 mm
- Single element body length : 280 mm
- Body outer diameter : 370 mm
- Body inner diameter : 160 mm
- Weight in air (approx) : 20.8 kg
- Weight in water (approx) : 6.0 kg
- Maximum bending stiffness : 30 kNm
- Maximum axial load : 378 kN
- Locking radius : 4500 mm
- No. of element required for 1 m : 5 off
- Impact protection value : 2 kJ

CABLE HANG-OFF



DESCRIPTION:

Cable hang-off manufactured by PCS Italiana is suitable for positioning on topside riser, j-tube or i-tube as well as for joint bays at landing points to provide reliable fastening on cable armour wires and secure hanging of cable.

It is sealed by resin to avoid tampering and any possible slip of cable armour wires thus totally safe on mechanical point of view.

It can be manufactured in carbon steel, galvanized steel or in stainless steel 316L; in case of specific requirements it may also be painted upon specific procedures.

It is designed according to j-tube flange diameter for a proper matching and fastening on the existing structure/position and it can accommodate either single or double armour solution.

Dimensioning takes into consideration type of cable, armour wires diameter and pulling force capability to deliver the proper pulling resistance value.

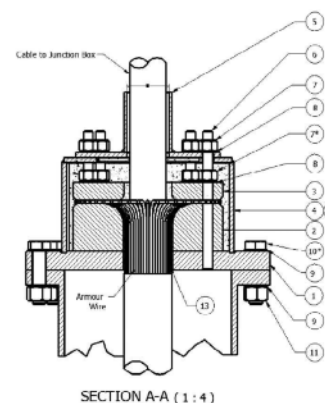
According to requirement the hang-off can be designed to accommodate two cables or provide for a corrosion inhibitor pouring hole as well as insertion of the fireproof sheath where required.

MATERIAL:

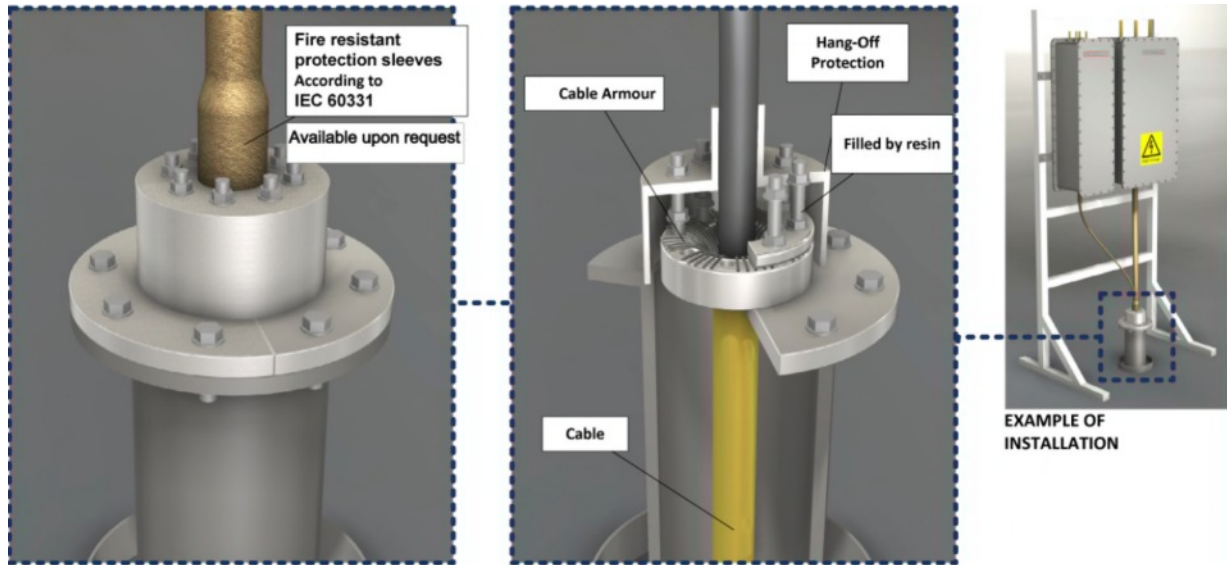
- Main Body: carbon steel or SS316L
- Bolts & Nuts: AISI A4/70

ENTRY DATA FOR DIMENSIONING:

- Cable diameter and armour pulling force
- J-tube flange diameter and type



CABLE HANG-OFF ON PLATFORM



DESCRIPTION:

Cable hang-off manufactured by PCS Italiana is suitable for positioning on topside riser, j-tube or i-tube to provide reliable fastening on cable armour wires and secure hanging of cable.

It is sealed by resin to avoid tampering and any possible slip of cable armour wires thus totally safe on mechanical point of view.

It can be manufactured in carbon steel, galvanized steel or in stainless steel 316L; in case of specific requirements it may also be painted upon specific procedures.

It is designed according to j-tube flange diameter for a proper matching and fastening on the existing structure/position and it can accommodate either single or double armour solution.

Dimensioning takes into consideration type of cable, armour wires diameter and pulling force capability to deliver the proper pulling resistance value.

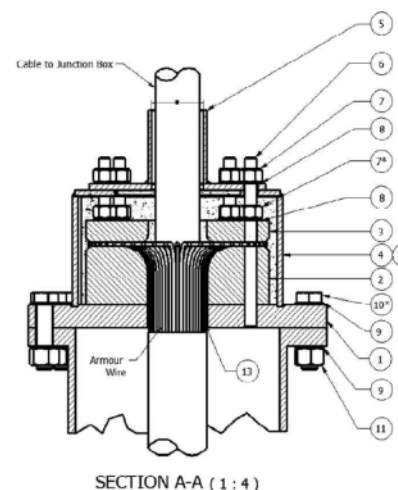
According to requirement the hang-off can be designed to accommodate two cables or provide for a corrosion inhibitor pouring hole as well as insertion of the fireproof sheath where required.

MATERIAL:

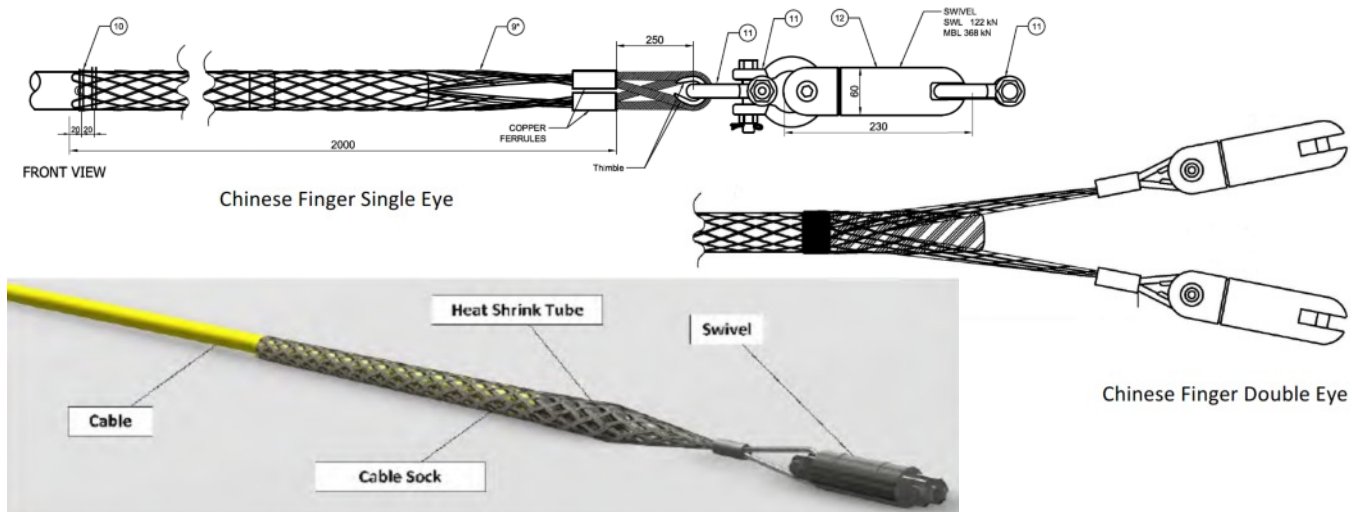
- Main Body: carbon steel or SS316L
- Bolts & Nuts: AISI A4/70

ENTRY DATA FOR DIMENSIONING:

- Cable diameter and armour pulling force
- J-tube flange diameter and type



SEALED PULLING HEAD



DESCRIPTION:

Sealed pulling head supplied by PCS Italiana is a fast and reliable solution for cable sealing and pulling through platform j-tube as the material provided for sealing and the type of socket and swivel provided, allows the execution of pull-in with safety and without applying mechanical stresses on the cable.

The sealing is dimensioned to allow cable deployment in water even for a period of three months and pulling socket can be dimensioned according to cable and customer needs in order to deliver the necessary pulling.

Antitorsion swivel is provided to avoid that cable is somehow affected by torsion forces during pull-in.

The same design is useful also for emergency abandon needs or to deploy cable in water for a later reuse; the pulling socket is available both with single eye or with double eye.

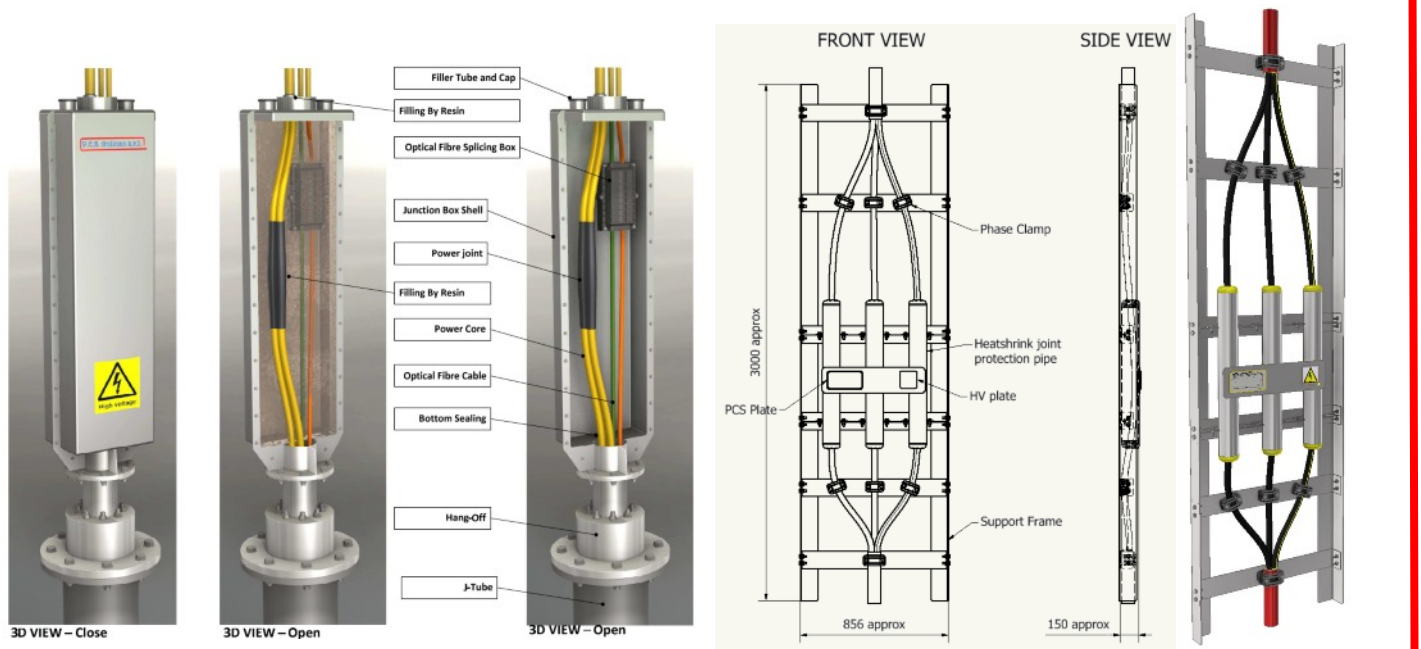
MATERIAL:

- Pulling socket hot dip galvanized steel
- Swivel and shackles: hot dip galvanized steel
- Sealing: sealing mastic and heatshrinkable sheaths

ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter
- Pulling force
- Minimum abandon time foreseen

MV TOPSIDE JUNCTION BOX



DESCRIPTION:

Topside junction boxes for MV cables are supplied by PCS Italiana for cables transition on platform and on land between submarine cable and land cable prior to relevant routing of the land portion. Solution is available for only power, fibre optic and composite cables.

Junction boxes are available in different designs and suitable for vertical or horizontal positioning:

- uncertified sealed and not re-accessible IP68 solution up to 36 kV
- uncertified sealed and re-accessible that allocate coldshrinking termination up to 36 kV
- vertical open rack settlement with heatshrink joint protected by pipes

Main junction box design is in carbon steel or alloy steel.

Painting according to Customer requirements to provide additional protection to atmosphere aggressive elements like salt or SS316L are available upon request.

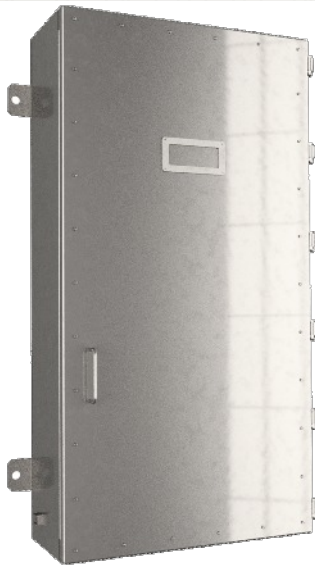
MATERIAL:

- Main Body: Carbon steel/alloy steel or SS316L according to requirements
- Bolts & Nuts: AISI A4/70
- Cable termination: heat or cold shrinkable

ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter
- Platform positioning

EE_Ex3 - EE_Ex2 Ex CERTIFIED EMPTY BOX



CERTIFIED FOR APPLICATION
IN AREAS AT
“INCREASED SAFETY”



NEMA
4.X



DESCRIPTION:

PCS Italiana provides “Ex” Certified empty boxes that can be suitable for allocation of busbar or additional connections for integration to switchgears or equipment thus providing a reliable and convenient organization into “Ex” Classified Areas.

ATEX Junction boxes are available in different designs and dimensions:

- Ex-ec type up to IP66/67-8
- Ex-eb type up to IP66/67-8

Boxes can be available in SS316L or in carbon and alloy steel (in case required, painting can be foreseen).

Certification by CESI with Certificate No. CESI 13 ATEX 056U/03 - IECEx CES 16.0002U Issue 2

Type: II 3G Ex ec IIC Gc II 3 D Ex tc IIIC Dc IP 66/67-8 Ex ec IIC Gc; Ex tc IIIC Dc

Certification by CESI with Certificate No. CESI 15 ATEX 046U/02 - IECEx CES 16.0003U Issue 2

Type: II 2G Ex eb IIC Gb II 2 D Ex tb IIIC Db IP 66/67-8 Ex eb IIC Gb; Ex tb IIIC Db

All PCS Italiana Boxes are also available in NEMA 4.X version.

LIMIT CONDITIONS FOR OPERATION:

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions for operation are:

Continuous operation temperature (COT): -from - 40° C to + 120° C

Pressure: from 80 to 110 (kPa) from 0.8 to 1.1 bar

Oxygen (O₂) in air: 21 (%) v/v

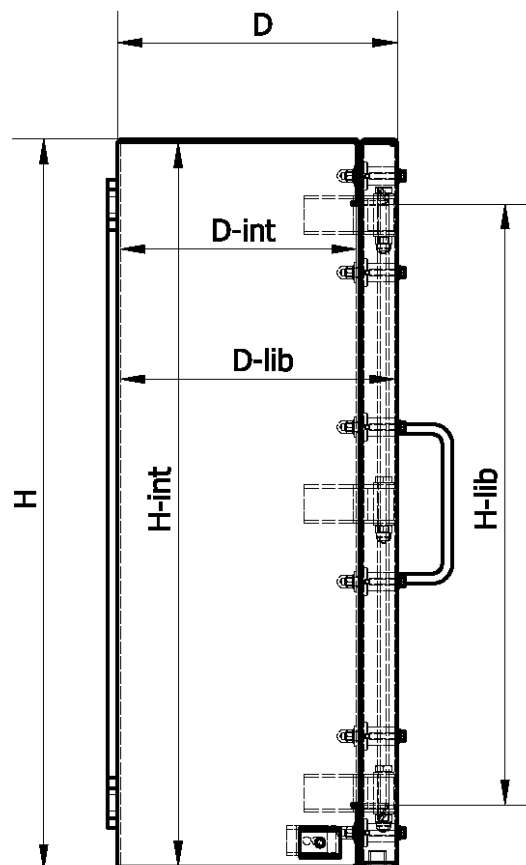
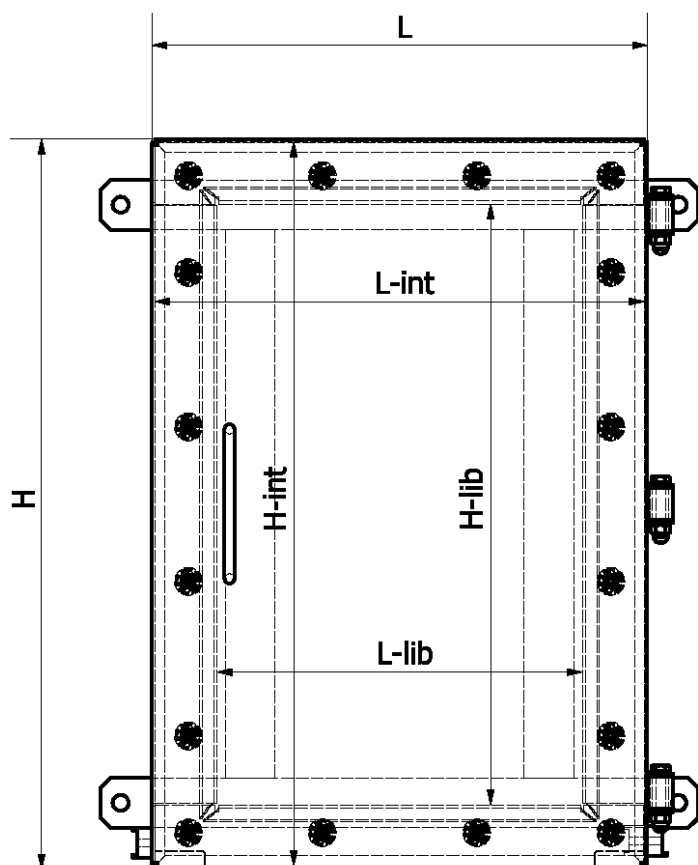
For use in unexplosive atmospheres consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from 75 (µm) to higher.

MATERIAL:

- *Main Body: Carbon steel/alloy steel or SS316L - outer finishing with “shot peening” process to avoid painting*
- *Bolts & Nuts: AISI A4/70*

EE_Ex3 - EE_Ex2 CERTIFIED EMPTY BOX

TABLE OF DIMENSIONS AND TYPES



CERTIFIED FOR
INCREASED SAFETY
APPLICATION AREAS

All dimensions and types are available for both Zone 1 (Cat. 2) and Zone 2 (Cat. 3) application.

Additional types and sizes may be provided upon request.

EE_Ex3 - EE_Ex2 CERTIFIED EMPTY BOX

ID	NAME	PESO IP66 [kg]	PESO IP67/68 [kg]	H	L	D	H-int	L-int	D-int	H-lib	L-lib	D-lib
0	EE-S00-Ex	24	25	356	356	195	350	350	148	226	226	189
1	EE-S01-Ex	29	30	506	356	195	500	350	148	376	226	189
2	EE-S02-Ex	33	34	506	356	285	500	350	238	376	226	279
3	EE-S03-Ex	44	45	706	506	195	700	500	148	576	376	189
4	EE-S04-Ex	49	50	706	506	285	700	500	238	576	376	279
5	EE-S05-Ex	55	56	706	506	395	700	500	348	576	376	389
6	EE-S06-Ex	54	55	706	706	195	700	700	148	576	576	189
7	EE-S07-Ex	60	61	706	706	285	700	700	238	576	576	279
8	EE-S08-Ex	67	68	706	706	395	700	700	348	576	576	389
9	EE-S09-Ex	70	71	1206	356	395	1200	350	348	1076	226	389
10	EE-S10-Ex	77	78	1206	356	495	1200	350	448	1076	226	489
11	EE-S11-Ex	91	92	1206	606	395	1200	600	348	1076	476	389
12	EE-S12-Ex	100	102	1206	606	495	1200	600	448	1076	476	489
13	EE-S13-Ex	124	126	1206	1006	395	1200	1000	348	1076	876	389
14	EE-S14-Ex	78	80	1406	356	395	1400	350	348	1276	226	389
15	EE-S15-Ex	87	89	1406	356	495	1400	350	448	1276	226	489
16	EE-S16-Ex	102	104	1406	606	395	1400	600	348	1276	476	389
17	EE-S17-Ex	111	113	1406	606	495	1400	600	448	1276	476	489
18	EE-S18-Ex	88	90	1606	356	395	1600	350	348	1476	226	389
19	EE-S19-Ex	97	99	1606	356	495	1600	350	448	1476	226	489
20	EE-S20-Ex	113	115	1606	606	395	1600	600	348	1476	476	389
21	EE-S21-Ex	124	126	1606	606	495	1600	600	448	1476	476	489
22	EE-S22-Ex	134	136	1606	806	395	1600	800	348	1476	676	389
23	EE-S23-Ex	145	147	1606	806	495	1600	800	448	1476	676	489
24	EE-S24-Ex	175	177	1606	1206	395	1600	1200	348	1476	1076	389
25	EE-S25-Ex	111	113	2106	356	395	2100	350	348	1976	226	389
26	EE-S26-Ex	123	125	2106	356	495	2100	350	448	1976	226	489
27	EE-S27-Ex	143	145	2106	606	395	2100	600	348	1976	476	389
28	EE-S28-Ex	156	158	2106	606	495	2100	600	448	1976	476	489
29	EE-S29-Ex	168	170	2106	806	395	2100	800	348	1976	676	389
30	EE-S30-Ex	182	184	2106	806	495	2100	800	448	1976	676	489
31	EE-S31-Ex	223	225	2106	1006	595	2100	1000	548	1976	876	589
32	EE-S32-Ex	238	240	2106	1006	695	2100	1000	648	1976	876	689
33	EE-S33-Ex	235	237	2106	1206	495	2100	1200	448	1976	1076	489
34	EE-S34-Ex	126	128	2456	356	395	2450	350	348	2326	226	389
35	EE-S35-Ex	140	142	2456	356	495	2450	350	448	2326	226	489
36	EE-S36-Ex	191	193	2456	806	395	2450	800	348	2326	676	389
37	EE-S37-Ex	207	209	2456	806	495	2450	800	448	2326	676	489
38	EE-S38-Ex	252	254	2456	1006	595	2450	1000	548	2326	876	589
39	EE-S39-Ex	269	271	2456	1006	695	2450	1000	648	2326	876	689
40	EE-S40-Ex	266	268	2456	1206	495	2450	1200	448	2326	1076	489

MV POWER JUNCTION BOX



CERTIFIED FOR APPLICATION
IN AREAS AT
“INCREASED SAFETY”



**NEMA
4.X**

DESCRIPTION:

MV power junction boxes are supplied by PCS Italiana for cables transition between submarine cable and topside/land cable prior to relevant routing to the switchboard and are available in different designs:

- Ex-ec type up to IP66 and IP67/8 and up to 15 kV (+/- 10%) and 600 A with maximum cable size of 300mm²
- Ex-eb type up to IP66 and IP67/8 and up to 10 kV (+/- 10%) and 600 A with maximum cable size of 300mm²

Boxes can be available in SS316L or in carbon and alloy steel (painting can be available upon request).

All terminations, earthing, glands and breather relevant to the supply are comprised

Certification by CESI with Certificate No. CESI 13 ATEX 057/04 - IECEx CES 18.0014 - Issue 4

II 3G Ex ec IIC T6...T4 Gc; II 3D Ex tc IIIC T80°C... T93°C Dc - Ex ec IIC T6..T4 Gc; Ex tc IIIC T80°C..T93°C Dc

Certification by CESI with Certificate No. CESI 15 ATEX 062/03 - IECEx CES 18.0015 - Issue 4

II 2G Ex eb IIC T6...T4 Gb; II 2D Ex tb IIIC T80°C... T93°C Db - Ex eb IIC T6..T4 Gb; Ex tb IIIC T80°C.. T93°C Db

All PCS Italiana JB are also available in NEMA 4.X version

LIMIT CONDITIONS FOR OPERATION:

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions for operation are:

Ambient Temperature: -from - 20° C to + 60° C

Pressure: from 80 to 110 (kPa) from 0.8 to 1.1 bar

Oxygen (O₂) in air: 21 (%) v/v

For use in unexplosive atmospheres consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from 75 (µm) to higher.

MATERIAL:

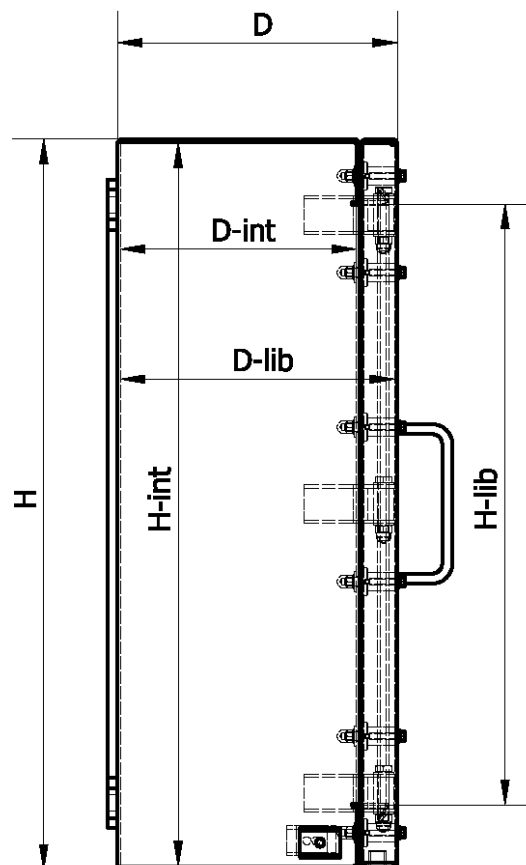
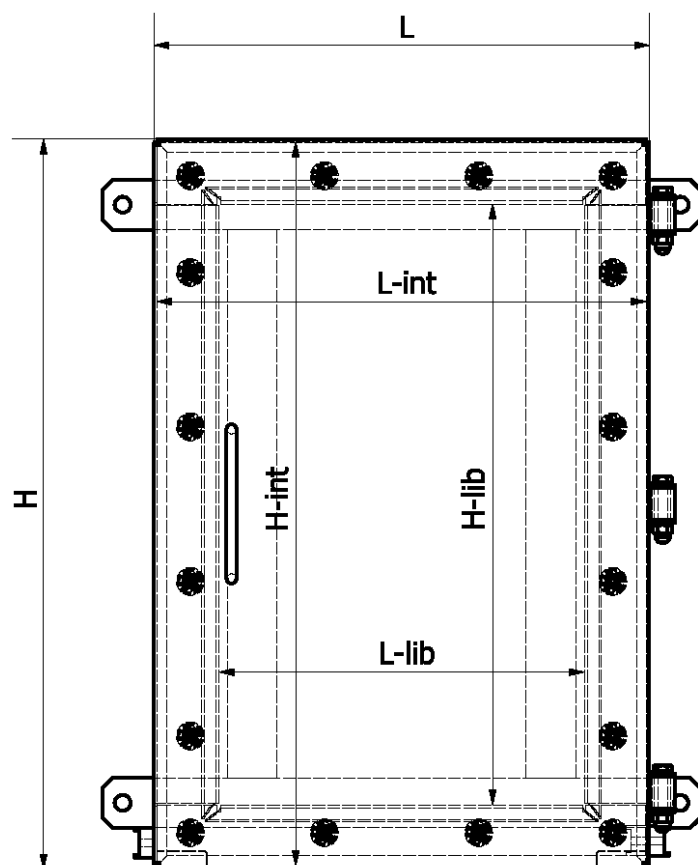
- *Main Body: Carbon steel/alloy steel or SS316L
outer finishing with “shot peening” process to avoid painting*
- *Bolts & Nuts: AISI A4/70*
- *Inner termination: Nexans*

ENTRY DATA FOR DIMENSIONING:

- *Cable type and diameter*
- *Platform positioning*

POWER JUNCTION BOX

TABLE OF DIMENSIONS AND TYPES



CERTIFIED FOR
INCREASED SAFETY
APPLICATION AREAS

All dimensions and types are available for both Zone 1 (Cat. 2) and Zone 2 (Cat. 3) application.

Additional types and sizes may be provided upon request.

TABLE OF DIMENSIONS AND TYPES

ID	CAT	Type	CODE	Voltage	Empty Box code	Weight IP66 [kg]	Weight IP67/68 [kg]	H [mm]	L [mm]	D [mm]
11	CAT 2	Type - A	PJB-S11-A-Y-Ex2	Up to 10 kV	EE-S11-Ex2	134	135	1206	606	395
		Type - B	PJB-S11-B-Y-Ex2							
	CAT 3	Type - A	PJB-S11-A-Y-Ex3	Up to 15 kV	EE-S11-Ex3					
		Type - B	PJB-S11-B-Y-Ex3							
12	CAT 2	Type - A	PJB-S12-A-Y-Ex2	Up to 10 kV	EE-S12-Ex2	143	145	1206	606	495
		Type - B	PJB-S12-B-Y-Ex2							
	CAT 3	Type - A	PJB-S12-A-Y-Ex3	Up to 15 kV	EE-S12-Ex3					
		Type - B	PJB-S12-B-Y-Ex3							
16	CAT 2	Type - A	PJB-S16-A-Y-Ex2	Up to 10 kV	EE-S16-Ex2	145	147	1406	606	395
		Type - B	PJB-S16-B-Y-Ex2							
	CAT 3	Type - A	PJB-S16-A-Y-Ex3	Up to 15 kV	EE-S16-Ex3					
		Type - B	PJB-S16-B-Y-Ex3							
17	CAT 2	Type - A	PJB-S17-A-Y-Ex2	Up to 10 kV	EE-S17-Ex2	154	156	1406	606	495
		Type - B	PJB-S17-B-Y-Ex2							
	CAT 3	Type - A	PJB-S17-A-Y-Ex3	Up to 15 kV	EE-S17-Ex3					
		Type - B	PJB-S17-B-Y-Ex3							
20	CAT 2	Type - A	PJB-S20-A-Y-Ex2	Up to 10 kV	EE-S20-Ex2	156	158	1606	606	395
		Type - B	PJB-S20-B-Y-Ex2							
	CAT 3	Type - A	PJB-S20-A-Y-Ex3	Up to 15 kV	EE-S20-Ex3					
		Type - B	PJB-S20-B-Y-Ex3							
21	CAT 2	Type - A	PJB-S21-A-Y-Ex2	Up to 10 kV	EE-S21-Ex2	167	169	1606	606	495
		Type - B	PJB-S21-B-Y-Ex2							
	CAT 3	Type - A	PJB-S21-A-Y-Ex3	Up to 15 kV	EE-S21-Ex3					
		Type - B	PJB-S21-B-Y-Ex3							
22	CAT 2	Type - A	PJB-S22-A-X-Ex2	Up to 10 kV	EE-S22-Ex2	177	179	1606	806	395
		Type - B	PJB-S22-B-X-Ex2							
	CAT 3	Type - A	PJB-S22-A-X-Ex3	Up to 15 kV	EE-S22-Ex3					
		Type - B	PJB-S22-B-X-Ex3							
23	CAT 2	Type - A	PJB-S23-A-X-Ex2	Up to 10 kV	EE-S23-Ex2	188	190	1606	806	495
		Type - B	PJB-S23-B-X-Ex2							
	CAT 3	Type - A	PJB-S23-A-X-Ex3	Up to 15 kV	EE-S23-Ex3					
		Type - B	PJB-S23-B-X-Ex3							
27	CAT 2	Type - A	PJB-S27-A-Y-Ex2	Up to 10 kV	EE-S27-Ex2	186	188	2106	606	395
		Type - B	PJB-S27-B-Y-Ex2							
	CAT 3	Type - A	PJB-S27-A-Y-Ex3	Up to 15 kV	EE-S27-Ex3					
		Type - B	PJB-S27-B-Y-Ex3							
28	CAT 2	Type - A	PJB-S28-A-Y-Ex2	Up to 10 kV	EE-S28-Ex2	199	201	2106	606	495
		Type - B	PJB-S28-B-Y-Ex2							
	CAT 3	Type - A	PJB-S28-A-Y-Ex3	Up to 15 kV	EE-S28-Ex3					
		Type - B	PJB-S28-B-Y-Ex3							
29	CAT 2	Type - A	PJB-S29-A-X-Ex2	Up to 10 kV	EE-S29-Ex2	211	213	2106	806	395
		Type - B	PJB-S29-B-X-Ex2							
	CAT 3	Type - A	PJB-S29-A-X-Ex3	Up to 15 kV	EE-S29-Ex3					
		Type - B	PJB-S29-B-X-Ex3							
30	CAT 2	Type - A	PJB-S30-A-X-Ex2	Up to 10 kV	EE-S30-Ex2	225	227	2106	806	495
		Type - B	PJB-S30-B-X-Ex2							
	CAT 3	Type - A	PJB-S30-A-X-Ex3	Up to 15 kV	EE-S30-Ex3					
		Type - B	PJB-S30-B-X-Ex3							
36	CAT 2	Type - A	PJB-S36-A-X-Ex2	Up to 10 kV	EE-S36-Ex2	234	236	2456	806	395
		Type - B	PJB-S36-B-X-Ex2							
	CAT 3	Type - A	PJB-S36-A-X-Ex3	Up to 15 kV	EE-S36-Ex3					
		Type - B	PJB-S36-B-X-Ex3							
37	CAT 2	Type - A	PJB-S37-A-X-Ex2	Up to 10 kV	EE-S37-Ex2	250	252	2456	806	495
		Type - B	PJB-S37-B-X-Ex2							
	CAT 3	Type - A	PJB-S37-A-X-Ex3	Up to 15 kV	EE-S37-Ex3					
		Type - B	PJB-S37-B-X-Ex3							

OPTICAL FIBRE SPLITTER BOX



CERTIFIED FOR APPLICATION
IN AREAS AT
"INCREASED SAFETY"



NEMA
4.X

DESCRIPTION:

Splitter boxes for optical fibre cables are supplied by PCS Italiana for cables transition between submarine cable and topside/land cable prior to relevant routing to the patch panel.

FOC splitter boxes are available in different designs and materials (SS316L or in carbon and alloy steel); painting may be available upon specific requirement

- Ex-Op type up to IP66 or IP67/8 for optical fibre splicing up to 288 fibres

All terminations, earthing, glands and breather relevant to the supply are comprised

Certification by CESI with Certificate No. CESI 13 ATEX 058/02 - IECEx CES 18.0017X Issue 1

II 3G Ex ec op pr IIC T6 Gc; II 3 D Ex tc IIIC T 60° C Dc - Ex ec op pr IIC T6 Gc; Ex tc IIIC T60°C Dc

Certification by CESI with Certificate No. CESI 16 ATEX 004/01 - IECEx CES 18.0018X Issue 1

Type: II 2G Ex-eb op pr IIC T6 Gb; II 2D Ex tb IIIC T 60° Db - Ex eb op pr IIC T6 Gb; Ex tb IIIC T60°C Db

All PCS Italiana JB are also available in NEMA 4.X version.

LIMIT CONDITIONS FOR OPERATION:

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions for operation are:

Continuous operation temperature (COT): -from 40° C to + 60° C

Pressure: from 80 to 110 (kPa) from 0.8 to 1.1 bar

Oxygen (O₂) in air: 21 (%) v/v

For use in unexplosive atmospheres consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from 75 (µm) to higher.

MATERIAL:

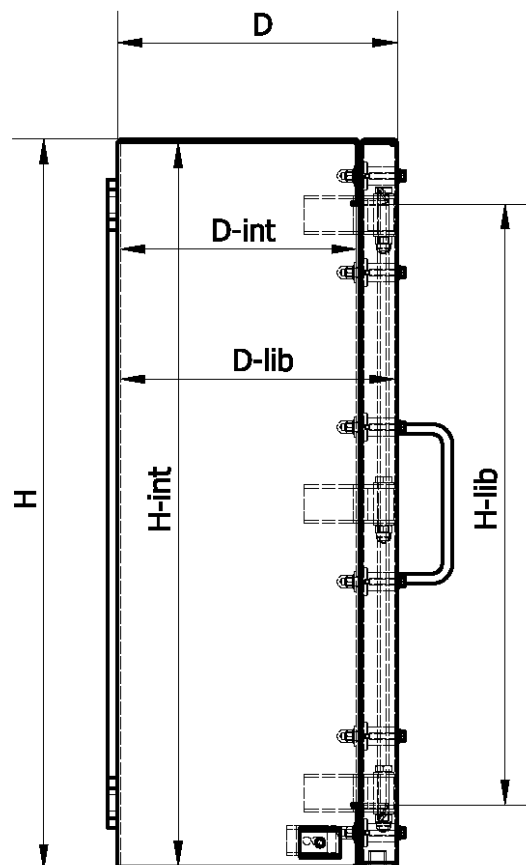
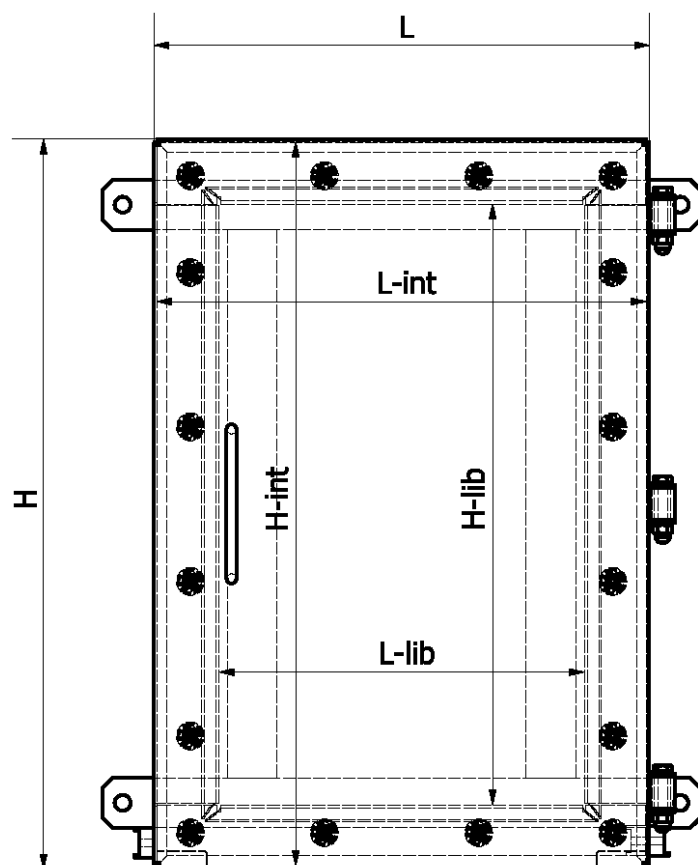
- *Main Body: Carbon steel/alloy steel or SS316L*
outer finishing with "shot peening" process to avoid painting
- *Bolts & Nuts: AISI A4/70*
- *Inner splicing box: Polypropilene*

ENTRY DATA FOR DIMENSIONING:

- *Cable type and diameter*
- *Platform positioning*

FIBRE OPTIC SPLITTER BOX

TABLE OF DIMENSIONS AND TYPES



CERTIFIED FOR
INCREASED SAFETY
APPLICATION AREAS

All dimensions and types are available for both Zone 1 (Cat. 2) and Zone 2 (Cat. 3) application.

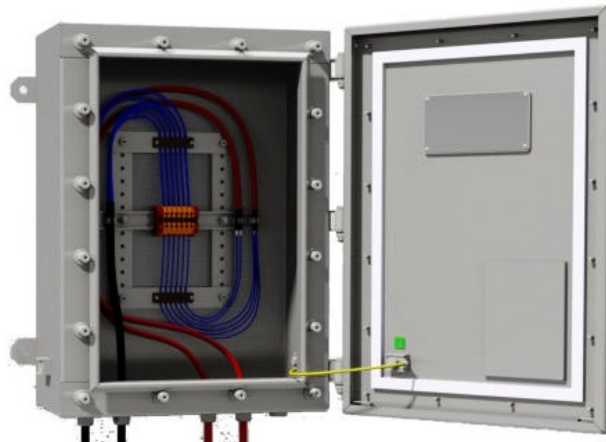
Additional types and sizes may be provided upon request.

FIBRE OPTIC SPLITTER BOX

TABLE OF DIMENSIONS AND TYPES

ID	CAT	Type	CODE	n. of FO	Empty Box code	Weight IP66 [kg]	Weight IP67/68 [kg]	H [mm]	L [mm]	D [mm]
1	CAT 2	Type - A	OFJB-S01-A-Ex2	Up to 72 Fibre	EE-S01-Ex2	42	43	506	356	195
		Type - B	OFJB-S01-B-Ex2							
	CAT 3	Type - A	OFJB-S01-A-Ex3	Up to 72 Fibre	EE-S01-Ex3					
		Type - B	OFJB-S01-B-Ex3							
2	CAT 2	Type - A	OFJB-S02-A-Ex2	Up to 96 Fibre	EE-S02-Ex2	46	47	506	356	285
		Type - B	OFJB-S02-B-Ex2							
	CAT 3	Type - A	OFJB-S02-A-Ex3	Up to 96 Fibre	EE-S02-Ex3					
		Type - B	OFJB-S02-B-Ex3							
3	CAT 2	Type - A	OFJB-S03-A-Ex2	Up to 72 Fibre	EE-S03-Ex2	57	58	706	506	195
		Type - B	OFJB-S03-B-Ex2							
	CAT 3	Type - A	OFJB-S03-A-Ex3	Up to 72 Fibre	EE-S03-Ex3					
		Type - B	OFJB-S03-B-Ex3							
4	CAT 2	Type - A	OFJB-S04-A-Ex2	Up to 96 Fibre	EE-S04-Ex2	62	63	706	506	285
		Type - B	OFJB-S04-B-Ex2	Up to 48 Fibre						
	CAT 3	Type - A	OFJB-S04-A-Ex3	Up to 96 Fibre	EE-S04-Ex3					
		Type - B	OFJB-S04-B-Ex3	Up to 48 Fibre						
5	CAT 2	Type - A	OFJB-S05-A-Ex2	Up to 144 Fibre	EE-S05-Ex2	68	69	706	506	395
		Type - B	OFJB-S05-B-Ex2	Up to 48 Fibre						
	CAT 3	Type - A	OFJB-S05-A-Ex3	Up to 144 Fibre	EE-S05-Ex3					
		Type - B	OFJB-S05-B-Ex3	Up to 48 Fibre						
6	CAT 2	Type - A	OFJB-S06-A-Ex2	Up to 144 Fibre	EE-S06-Ex2	67	68	706	706	195
		Type - B	OFJB-S06-B-Ex2							
	CAT 3	Type - A	OFJB-S06-A-Ex3	Up to 144 Fibre	EE-S06-Ex3					
		Type - B	OFJB-S06-B-Ex3							
7	CAT 2	Type - A	OFJB-S07-A-Ex2	Up to 192 Fibre	EE-S07-Ex2	73	74	706	706	285
		Type - B	OFJB-S07-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S07-A-Ex3	Up to 192 Fibre	EE-S07-Ex3					
		Type - B	OFJB-S07-B-Ex3	Up to 96 Fibre						
8	CAT 2	Type - A	OFJB-S08-A-Ex2	Up to 288 Fibre	EE-S08-Ex2	80	81	706	706	395
		Type - B	OFJB-S08-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S08-A-Ex3	Up to 288 Fibre	EE-S08-Ex3					
		Type - B	OFJB-S08-B-Ex3	Up to 96 Fibre						
9	CAT 2	Type - A	OFJB-S09-A-Ex2	Up to 288 Fibre	EE-S09-Ex2	83	84	1206	356	395
		Type - B	OFJB-S09-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S09-A-Ex3	Up to 288 Fibre	EE-S09-Ex3					
		Type - B	OFJB-S09-B-Ex3	Up to 96 Fibre						
10	CAT 2	Type - A	OFJB-S10-A-Ex2	Up to 288 Fibre	EE-S10-Ex2	90	91	1206	356	495
		Type - B	OFJB-S10-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S10-A-Ex3	Up to 288 Fibre	EE-S10-Ex3					
		Type - B	OFJB-S10-B-Ex3	Up to 96 Fibre						
14	CAT 2	Type - A	OFJB-S14-A-Ex2	Up to 288 Fibre	EE-S14-Ex2	91	93	1406	356	395
		Type - B	OFJB-S14-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S14-A-Ex3	Up to 288 Fibre	EE-S14-Ex3					
		Type - B	OFJB-S14-B-Ex3	Up to 96 Fibre						
15	CAT 2	Type - A	OFJB-S15-A-Ex2	Up to 288 Fibre	EE-S15-Ex2	100	102	1406	356	495
		Type - B	OFJB-S15-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S15-A-Ex3	Up to 288 Fibre	EE-S15-Ex3					
		Type - B	OFJB-S15-B-Ex3	Up to 96 Fibre						
18	CAT 2	Type - A	OFJB-S18-A-Ex2	Up to 288 Fibre	EE-S18-Ex2	101	103	1606	356	395
		Type - B	OFJB-S18-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S18-A-Ex3	Up to 288 Fibre	EE-S18-Ex3					
		Type - B	OFJB-S18-B-Ex3	Up to 96 Fibre						
19	CAT 2	Type - A	OFJB-S19-A-Ex2	Up to 288 Fibre	EE-S19-Ex2	110	112	1606	356	495
		Type - B	OFJB-S19-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S19-A-Ex3	Up to 288 Fibre	EE-S19-Ex3					
		Type - B	OFJB-S19-B-Ex3	Up to 96 Fibre						
25	CAT 2	Type - A	OFJB-S25-A-Ex2	Up to 288 Fibre	EE-S25-Ex2	124	126	2106	356	395
		Type - B	OFJB-S25-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S25-A-Ex3	Up to 288 Fibre	EE-S25-Ex3					
		Type - B	OFJB-S25-B-Ex3	Up to 96 Fibre						
26	CAT 2	Type - A	OFJB-S26-A-Ex2	Up to 288 Fibre	EE-S26-Ex2	136	138	2106	356	495
		Type - B	OFJB-S26-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S26-A-Ex3	Up to 288 Fibre	EE-S26-Ex3					
		Type - B	OFJB-S26-B-Ex3	Up to 96 Fibre						
34	CAT 2	Type - A	OFJB-S34-A-Ex2	Up to 288 Fibre	EE-S34-Ex2	139	141	2456	356	395
		Type - B	OFJB-S34-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S34-A-Ex3	Up to 288 Fibre	EE-S34-Ex3					
		Type - B	OFJB-S34-B-Ex3	Up to 96 Fibre						
35	CAT 2	Type - A	OFJB-S35-A-Ex2	Up to 288 Fibre	EE-S35-Ex2	153	155	2456	356	495
		Type - B	OFJB-S35-B-Ex2	Up to 92 Fibre						
	CAT 3	Type - A	OFJB-S35-A-Ex3	Up to 288 Fibre	EE-S35-Ex3					
		Type - B	OFJB-S35-B-Ex3	Up to 96 Fibre						

CONTROL JUNCTION BOX



CERTIFIED FOR APPLICATION
IN AREAS AT
“INCREASED SAFETY”



**NEMA
4.X**

DESCRIPTION:

Control Cable Junction Box provides IP 66 waterproof cable entry for LV topside connection when composite submarine cables includes also the LV part and Clients requires for a segregated entry of the control cable from the main power cable.

The CJB is fully provided with inner connectors and earthing to deliver a completed solution with protection grade up to IP66 according to ATEX, IECEx and NEMA 4.X Standards.

Upgrading to IP 67/68 may be carried out upon request.

Certification by CESI with Certificate No. CESI 16 ATEX 032 - IECEx CES 20.0006

II 3G Ex ec IIC T6...T4 Gc; II 3D Ex tc IIIC T80...T90°C Dc - Ex ec IIC T6...T4 Gc; Ex tc IIIC T48°C...T75°C Dc

Certification by CESI with Certificate No. CESI 16 ATEX 033 - IECEx CES 20.0007

II 2G Ex eb IIC T6...T4 Gb; II 2D Ex tb IIIC T80...90°C Db - Ex eb IIC T6...T4 Gb Ex tb IIIC T48°C...T75°C Db

LIMIT CONDITIONS FOR OPERATION:

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions for operation are:

Continuous operation temperature (COT): -from - 40° C to + 60° C

Pressure: from 80 to 110 (kPa) from 0.8 to 1.1 bar

Oxygen (O₂) in air: 21 (%) v/v

For use in unexplosive atmospheres consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from 75 (µm) to higher.

MATERIAL:

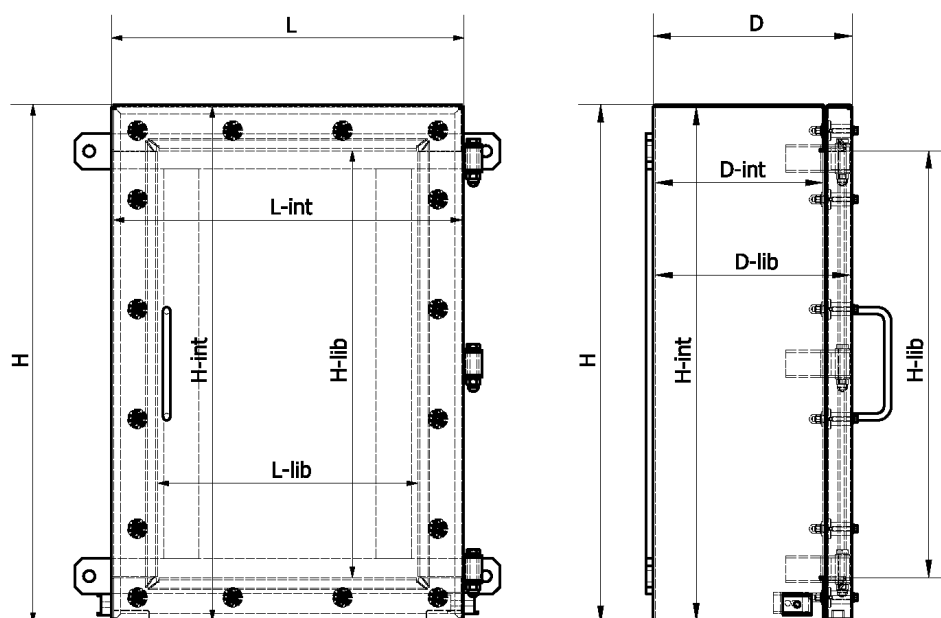
- *Main Body: SS316L or Carbon steel/alloy steel according to requirements (optional painting may be available upon request)*
- *Bolts & Nuts: AISI A4/70*

ENTRY DATA FOR DIMENSIONING:

- *Cable datasheet with relevant dimension*
- *Platform positioning and support detail*

CONTROL JUNCTION BOX

TABLE OF DIMENSIONS AND TYPES



NEMA
4.X



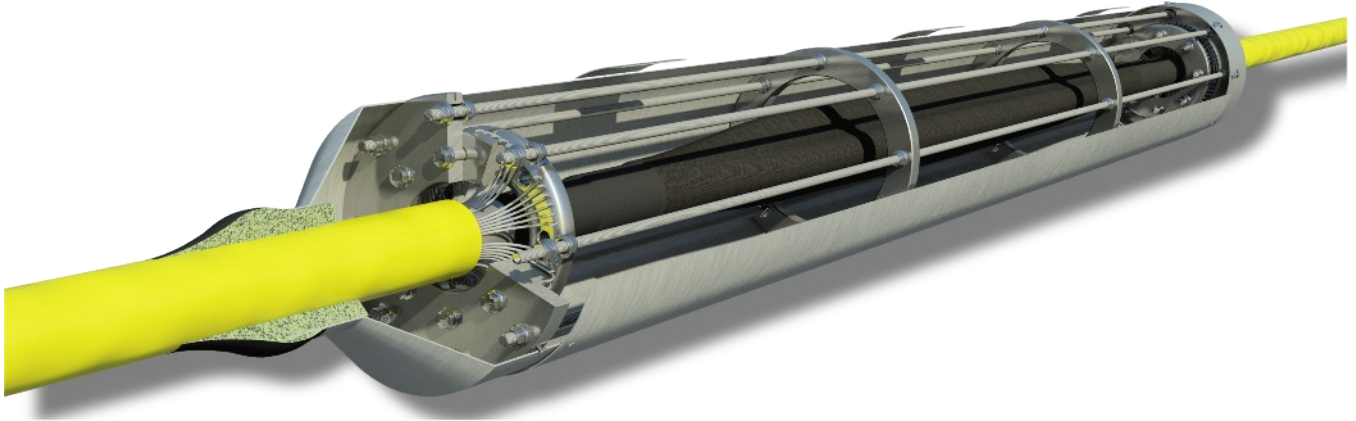
CERTIFIED FOR
APPLICATION IN
AREAS WHERE
INCREASED SAFETY
IS REQUIRED

ID	CAT	Type	CODE	Empty Box code	Weight IP66 [kg]	Weight IP67/68 [kg]	H [mm]	L [mm]	D [mm]
2	CAT 2	Type - A	CJB-S02-A-Ex2	EE-S02-Ex2	42	43	506	356	285
	CAT 3	Type - A	CJB-S02-A-Ex3	EE-S02-Ex3					
4	CAT 2	Type - A	CJB-S04-A-Ex2	EE-S04-Ex2	58	59	706	506	285
	CAT 3	Type - A	CJB-S04-A-Ex3	EE-S04-Ex3					

All dimensions and types are available for both Zone 1 (Cat. 2) and Zone 2 (Cat. 3) application.

Additional types and sizes may be provided upon request.

SUBMARINE JOINT FOR POWER AND COMPOSITE CABLES



DESCRIPTION:

Submarine joint proposed by PCS Italiana provide a quick and reliable jointing for submarine cables and also provide a safe and reliable mechanical tensioning and pulling of the submarine cable armour to respond at the mechanical stresses to be considered during deployment stage.

The “universal” design provides a unique solution applicable up to 36 kV with all sizes up to 300 mm² and it is designed to include also control elements and/or optical fibre joint to comply with composite cables solution.

Fibre jointing is made by fusion splicing to avoid losses in fibre signal and joint chamber will be completely sealed after jointing to prevent any water ingress.

The joint has been developed and tested in cooperation with Nexans to an independent laboratory for a pressure equal to application up to 150 m depth.

MATERIAL:

- Body and shell : Galvanized carbon steel
- Sealing : Resin
- Power joint : Nexans
- Optic Joint Slot : Nylon or polyurethane

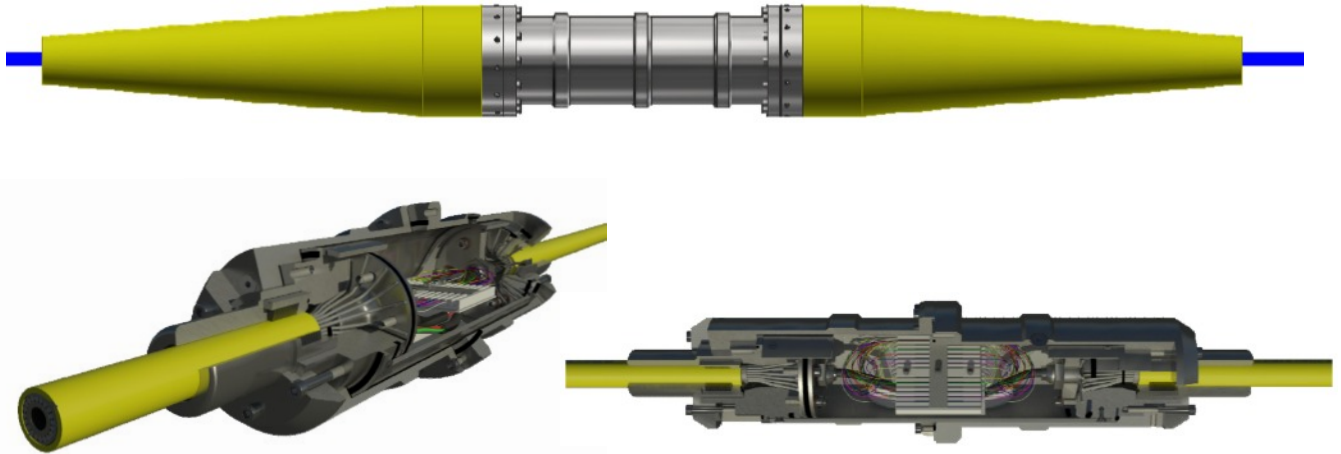
ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter
- Pulling force
- Water depth

MAIN DIMENSIONS:

- Length : 2000 mm
- Diameter : 312 mm
- Weight : 150 Kg

SUBMARINE FIBRE OPTIC JOINT



DESCRIPTION:

Submarine fibre optic joint proposed by PCS Italiana provide a quick and reliable jointing for submarine fibre optic cables and also provide a safe and reliable mechanical tensioning and pulling of the submarine cable armour in order to respond at the mechanical stresses to be considered during deployment stage.

The solution has been studied for cables up to 96 fibres and can be easily re-sized to allocate larger solutions.

Joint is provided of suitable bend stiffeners to prevent extra bending of cable during deployments operations.

Fibre jointing is made by fusion splicing to avoid losses in fibre signal and the joint chamber will be completely sealed after jointing to prevent any water ingress.

The joint has been tested in cooperation with Tratos Cavi to an independent laboratory for a pressure of 200 bar equal to application up to 2000 m depth.

MATERIAL:

- Main Body: SS316L
- Optic Joint Slot: Nylon or polyurethane

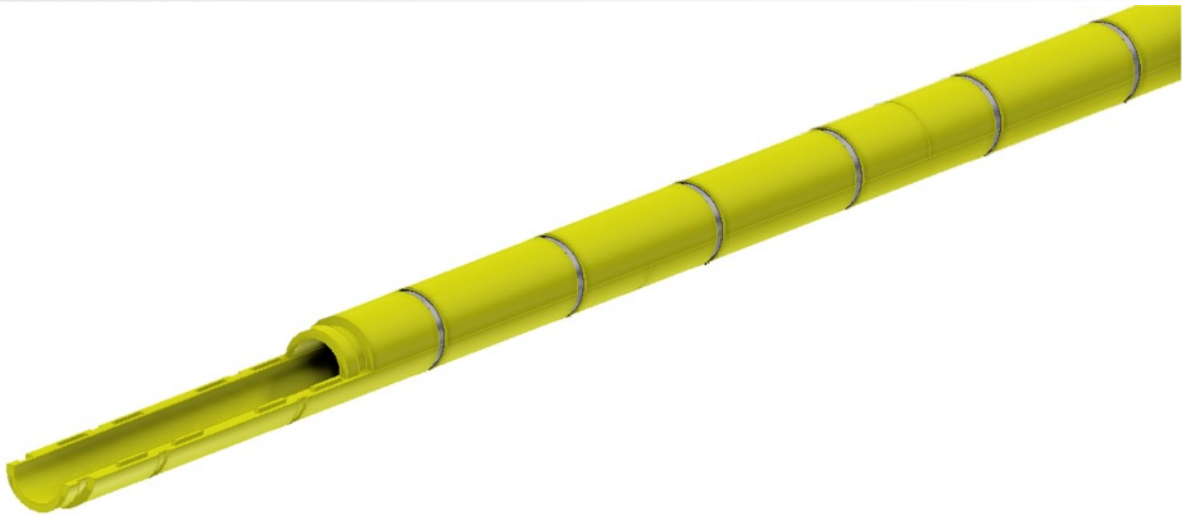
MAIN DIMENSIONS:

- Length: 500 mm (jointing portion)
- Length: 2050 mm (including bend stiffeners)
- Diameter: 170 mm

ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter
- Pulling force
- Water depth

PCS-DUCT - BALLASTING SYSTEM



DESCRIPTION:

Following the “Pcs-Duct” philosophy, an additional design is available which adds ballasting properties to cable protection capabilities for application on light submarine cables or where a specific ballasting requisition is made.

This solution complies with protection and ballasting needs with application of pcs-duct protection material over an iron cast shell duly dimensioned according to cable requirements.

Material type and thickness is studied to allow hit absorption so that a low residual mechanical stress is transmitted onto cable.

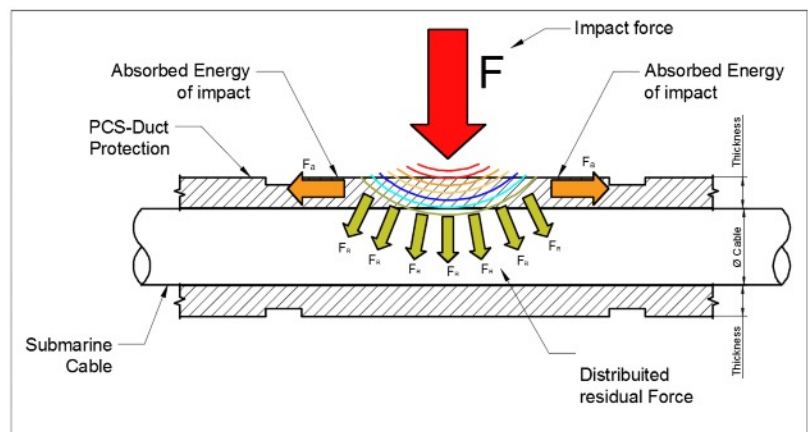
Manufacturing is tailored according to “Input data from Clients” and ballasting can go from 5 to 30 Kg/m.

MATERIAL:

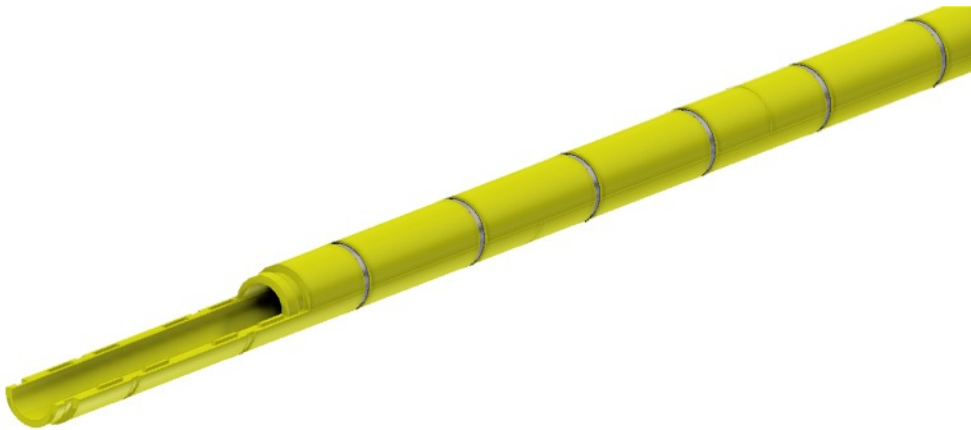
- Main Body : Polyurethane and iron cast inserts
- Fasteners : SS316L or Titanium

INPUT DATA FROM CLIENTS:

- Cable diameter
- Protection length required



PCS-DUCT - CABLE PROTECTION



DESCRIPTION:

Pcs-Duct are engineered and manufactured by PCS Italiana Group for protection of submarine cables.

Normally in submarine connections, especially in the O&G, cables approach to platform is to be protected from the risk of falling objects that may hit and damage the cables.

For this reason we have studied and propose for installation our duct protective system that is simply installable directly onto cables during laying just before deployment.

In this way, installation time can be reduced and impact protection performances are maximized.

Material type and thickness is studied to allow hit absorption so that a low residual mechanical stress is transmitted onto cable.

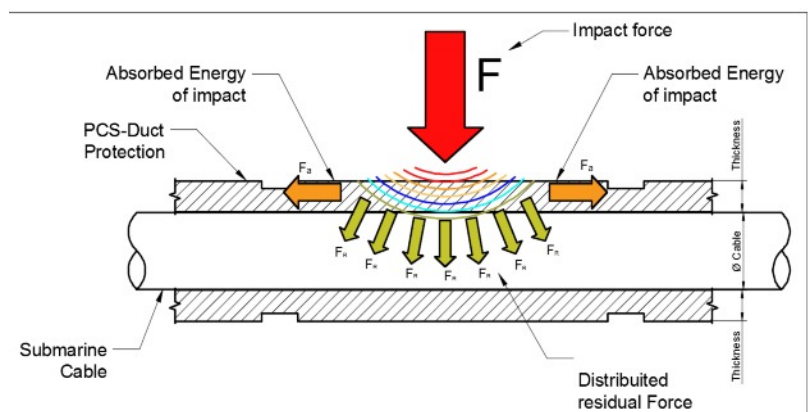
Material flexibility and performance allow a safe and reliable installation compared to other solutions like Neoprene sheets without need of special tools and largely reducing the installation timings. Manufacturing is tailored according to "Input data from Clients".

MATERIAL:

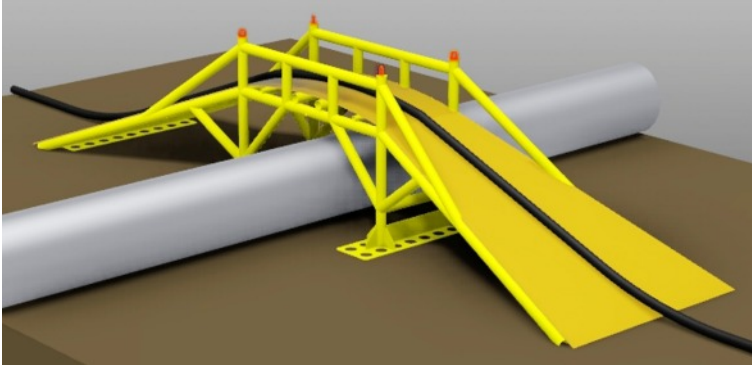
- Main Body: Polyurethane
- Fasteners: SS316L
Titanium (upon request)

INPUT DATA FROM CLIENTS:

- Cable diameter
- Protection length required
- Value of impact energy to be absorbed



CABLE CROSSING BRIDGES - DIVERLESS



DESCRIPTION:

For the purpose of cables installation, PCS Italiana Group has studied a specific crossing structure suitable for pipes and submarine crossings.

The structure is designed and manufactured fully on-shore according to details of pipe/cable to be crossed and will be installed directly on the location without need for diving support.

Design allow a suitable clearance between top of pipe/cable and cable to be laid.

Structure is provided with anti-corrosion sacrificial anodes and allows setting of cable protection means.

Structure is designed upon "Input data from Clients" and therefore available for different crossing solution.



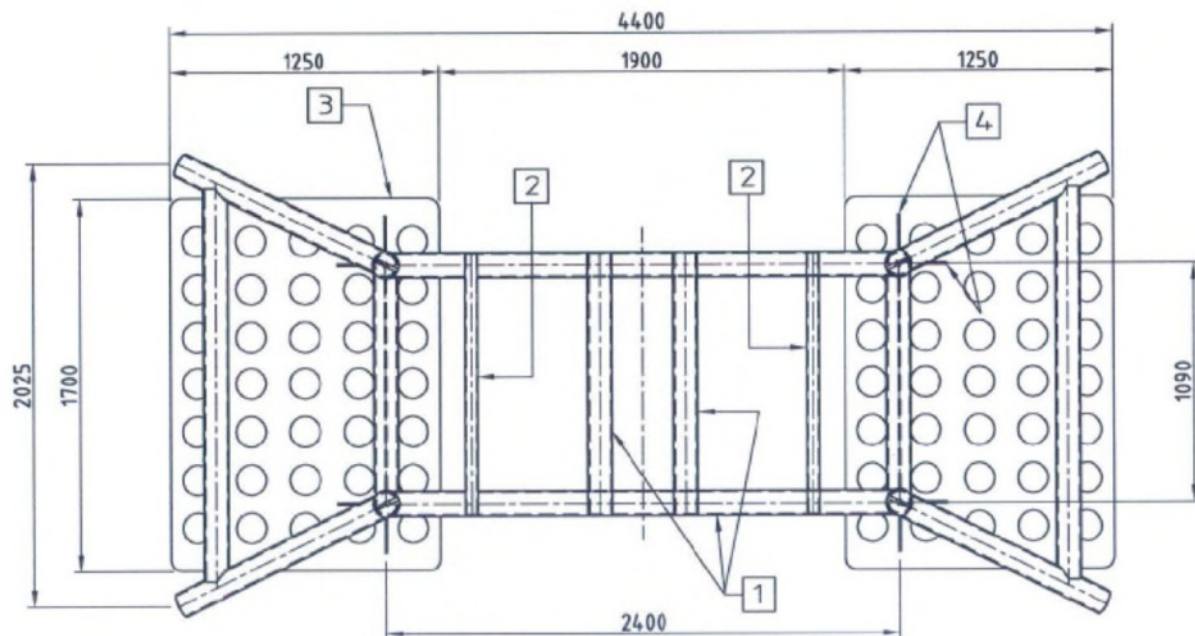
MATERIAL:

- Galvanized steel painted with cathodic protection

INPUT DATA FROM CLIENTS:

- Pipe/cable diameter
- Free span between pipe and cable required
- Seabed condition

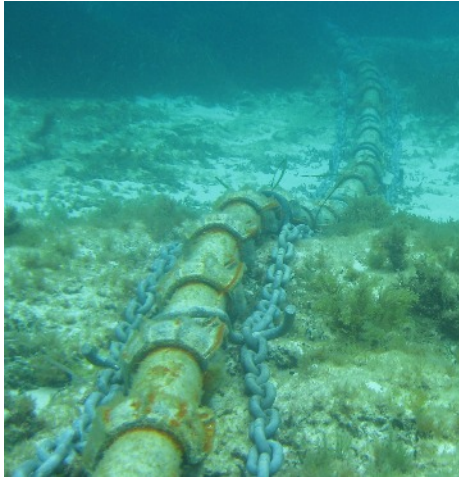
CABLE CROSSING BRIDGES - DIVERLESS



SECTION A-A

BILL OF MATERIAL							
S/N	PART NAME	DESCRIPTION	GRADE	SIZE	QTY	UNIT WT. (Kgs.)	TOTAL WEIGHT (Kgs.)
1	MAIN FRAME	4" PIPE SCH. 40	API 5L GR.B	28.15 MTR.	1	16.07	452.37
2	SUPPORT	2" PIPE SCH. 40	API 5L GR.B	2.41 MTR.	1	5.44	13.11
3	BASE PLATE	6MM THK. PLATE	S275	1250x1700	4	7.85	200.18
4	SUPPORT	8MM THK. PLATE	S275	200x168	12	7.85	25.32
5	SUPPORT	8MM THK. PLATE	S275	200x976	2	7.85	24.52
6	4.75T PADEYE	20MM THK. PLATE	S355	130x103	4	7.85	8.40
7	PADEYE BASE PLATE	12MM THK. PLATE	S275	126x126	4	7.85	6.00
						TOTAL	729.90

ARTICULATED PROTECTION SHELL



DESCRIPTION:

Articulated protection shells are designed and supplied by PCS Italiana to provide additional protection to submarine cables in areas where major risk may arise.

Material composition is Iron Cast that grants additional stability due to weight and a-magnetic features thus reducing issues even for power cables application.

Iron cast is less aggressive for marine environment and allow use also in restricted areas.

Articulated protection shells have been used in many application for natural environment parks where it is necessary not to damage the seabed with cables running within the protective shells.

MATERIAL:

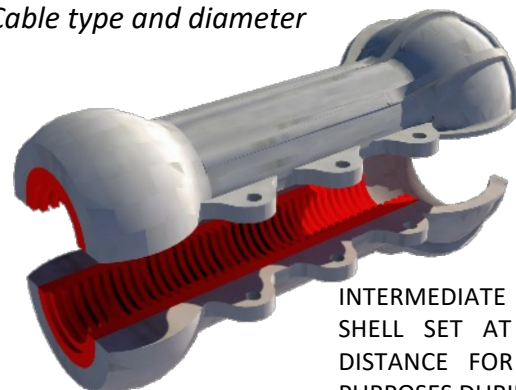
- Main Body: Iron Cast
- Bolts & Nuts: AISI A4/70
- Internal stopping shell: Hard polyurethane

TECHNICAL DETAILS:

- Inner diameter : 40 mm
- Length: 400 mm
- Weight: up to 20 kg/m according to thickness

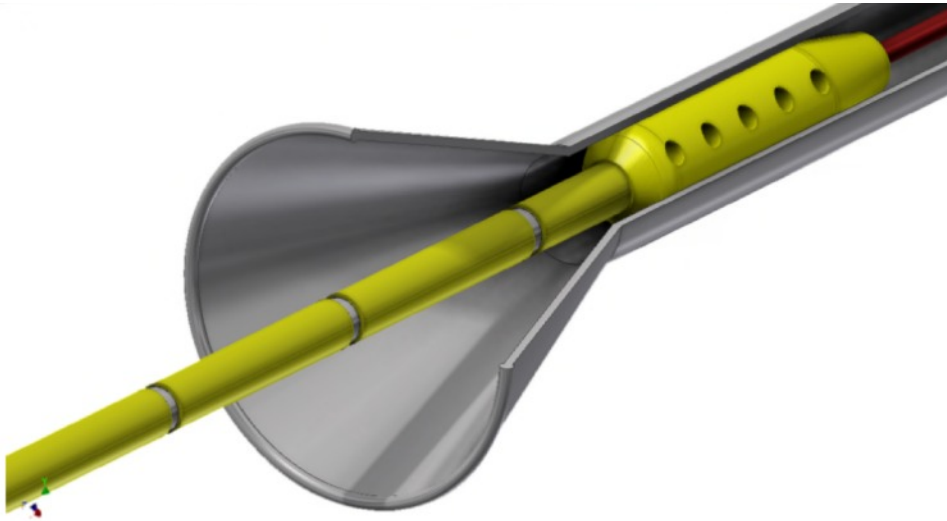
ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter



INTERMEDIATE STOPPING SHELL SET AT A DEFINED DISTANCE FOR ANTI-SLOPE PURPOSES DURING LAYING

J-TUBE CENTRALIZER WITH PCS-DUCT



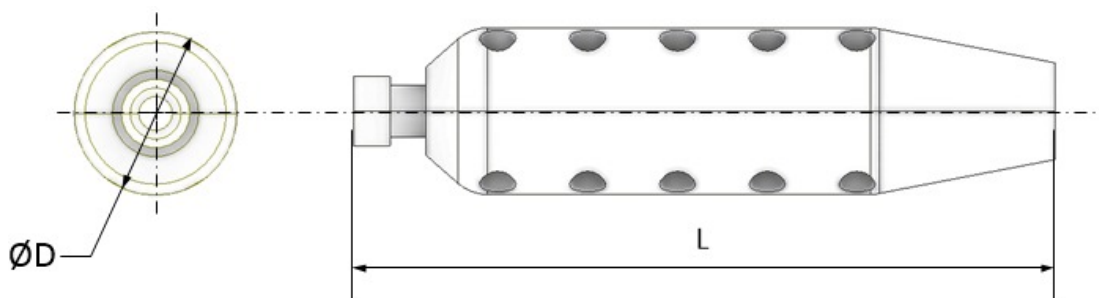
DESCRIPTION:

J-Tube Centralizer is studied by PCS Italiana Group to ease submarine cable insertion into j-tube bell-mouth and avoid that any damage is affecting cable sheaths or j-tube walls during the pull-in activities.

Application of the centralizer is studied to avoid use of divers thus reducing installation costs and risks and design provide a suitable positioning for Pcs-Duct so to deliver a complete protection to the cable from the exit of j-tube until the protective location required by Clients.

Centralizer material composition avoids the risk of magnetic fields as no metallic parts are in contact between cable and j-tube.

Centralizer is designed and manufactured following "Input data from Clients" to deliver a tailored product for the specific application.



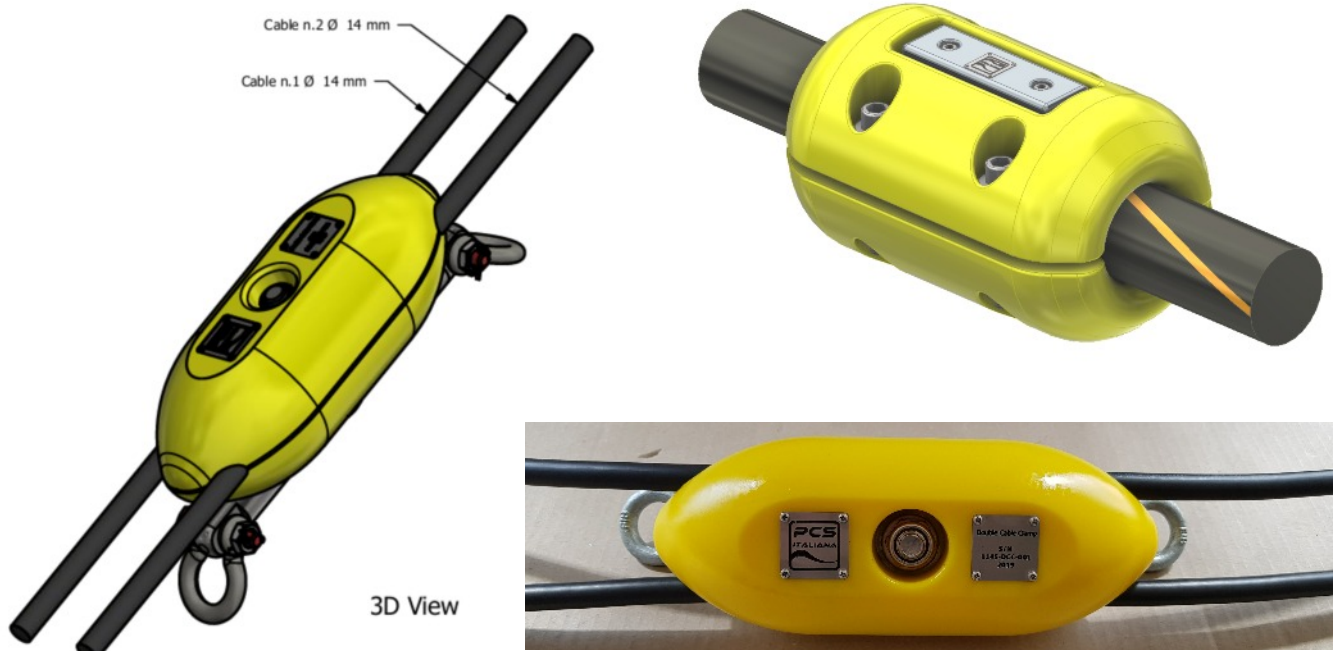
MATERIAL:

- Main Body: Polyurethane
- Bolts & Nuts: AISI A4/70

INPUT DATA FROM CLIENTS:

- Cable diameter
- J-Tube drawing

BALLASTING CLAMPS



DESCRIPTION:

PCS Italiana provides specific Ballasting Clamps to be applied onto submarine cables to grant the necessary ballasting according to specific requirements.

Solution is considering installation of the ballasting clamp on the vessel thus avoiding need of diving assistance

The design and ballasting volume is defined according to specific calculation for ballasting on cables to comply with requirement for small and large cables..

Design is compatible for power cables, optical fibre cables and composite solutions.

Dimensioning takes into consideration: type of cable, diameter and ballasting requirements.

MATERIAL:

- Main body : Carbon Steel / SS316L
- Internal : Polyurethane in contact with cable
- Bolts & Nuts : AISI 316 A4

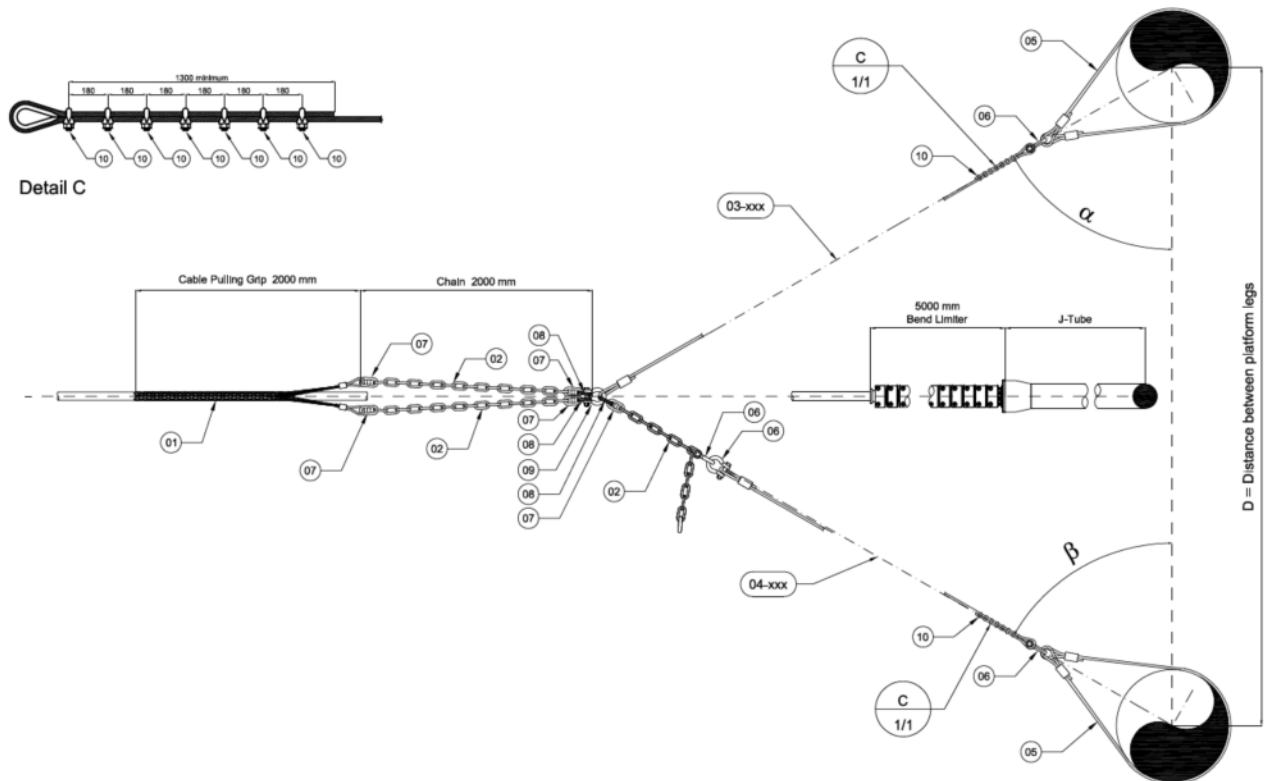
ENTRY DATA FOR DIMENSIONING:

- Cable details and required additional weight

WEIGHT/DIMENSIONS OF SINGLE CLAMP:

- weight and dimension of single clamp will be engineered according to client requirement and cable characteristic

CABLE TIE-BACK SYSTEM



DESCRIPTION:

Cable tie-back system proposed by PCS Italiana is designed to provide suitable cable tie-back on platform legs to reduce risk of cable mechanical stresses.

The system is composed by cable pulling socket, wire ropes and chains with relevant marter links and shackles properly diemnsioned according to pulling values and lengths as per Customer requirement.

All material used for the system is in hot dip galvanized steel and any eventual modfciation to the material shall be suitably agreed with Customers according to any specific requirement.

Also this system is designed and manufactured following "Input data from Clients" to deliver a tailored product for the specific application.

MATERIAL:

- Galvanized steel

INPUT DATA FROM CLIENTS:

- Cable diameter
- Safe Working Load and Safety factor
- Length

FIREPROOF SLEEVES and COVERS



DESCRIPTION:

PCS Italiana provides specific Fireproof sleeves for very high temperature, with following characteristics:

- continuous working temperature from -60°C to +260°C
- peaks at 30 min at 800°C - 15 min at 1100°C - 1 min at 1500°C
- good resistance to: presence of flames, projection of metals or melting glass, occasional very high temperature, projection of vapor
- excellent flexibility at low temperatures
- slight swelling can be caused by hydrocarbons
- good resistance to UV
- asbestos free
- fireproof
- watertight

Available in several inner diameters from 8 mm up to 102 mm for larger sizes it may be available also in the form of cover sheet with velcro closure.

STANDARDS:

- Compliant with directive RoHS 2002/95/CE
- F1 and F2 according to the standards NF F 16-101/16-102 and STM S-001
- NF EN 60695-2-10 (05-2001)
- NF EN 60695-2-11 (07-2001)
- NF EN 60684-1 (10-2003)

- NF EN 60684-2 (01-1998) modified by NF EN 60684-2/A1 (12/2003), NF EN 60684-2/A2 (05-2006)
- NF EN (CEI) 60684-3 sheets 400 to 402 (02-2003)