

SOURIAU



U SERIES

# U Series

Marine Connectors





### Presentation

With all the benefits inherited from the marine bronze M Series but featuring 316L stainless steel shells, U series are very ruggedized connectors for the most demanding deep immersion applications. U series bring reliable watertightness from low to high pressure, are repairable and enable a high retain of the cable. U series feature a large range of shells and layouts.

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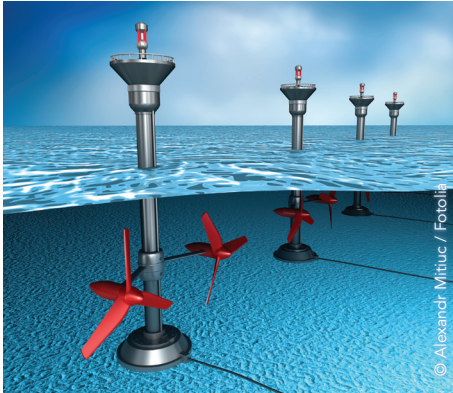
# U SERIES

U Series

# Overview

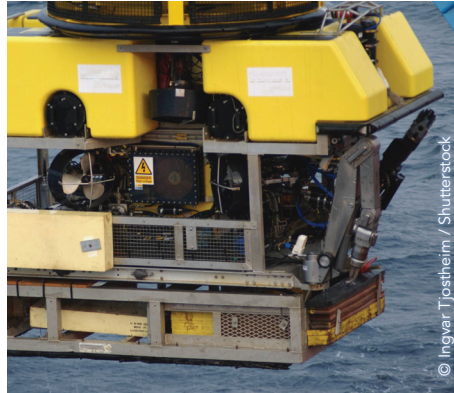
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## Typical applications



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Marine Renewable Energies



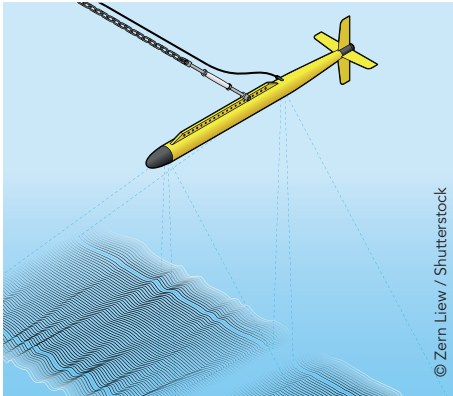
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ROVs & AUVs



© Everett Historical / Shutterstock

Submarines



© Zern Liew / Shutterstock

Instrumentation



© Denyvictor0 / Fotolia

Towed Streamers



© U.S. Army

Vessels

## Features & benefits

### ROBUST

#### Designed for Harsh Environment

316L body for the best resistance to harsh environment.  
Extreme resistance to pull-out or transverse forces, vibrations and shocks.  
Repairable connectors with removable inserts.

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### RELIABLE

#### Over 40 Years of Field Experience

Shell to shell sealing for reliability from low to high pressure.  
Stanal treatment on locking sleeve to prevent jamming risk.  
Double sealing security thanks to two O-rings in coupling interface.

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### PERFORMANCES

#### High Performance Levels

Withstanding 500 cycles mating/unmating.  
Overmolded cable termination for a watertightness up to 300 bars.  
Pressure gland cable termination for a watertightness up to 100 bars.

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### EASY COUPLING

#### Keying and Easy Coupling

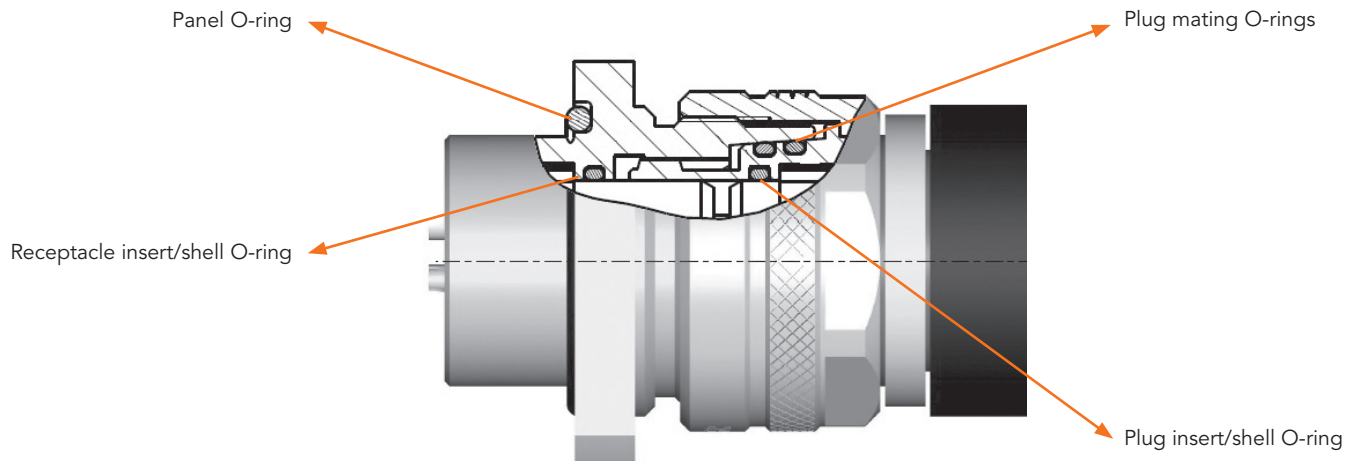
5-Key mechanical polarization.  
Scoop proof to prevent contact damage.  
Easy coupling/uncoupling operation even with high density layout.

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## Features & benefits

### Sealed and reliable connectors

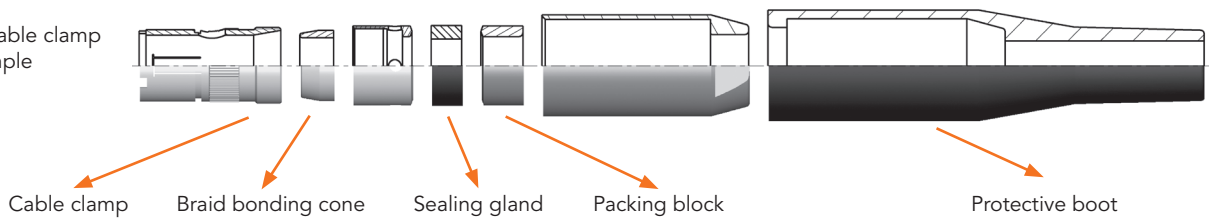
- ▶ O-ring for insert to shell sealing on both plug and receptacle
- ▶ Redundancy with 2 O-rings on plug taper seat for plug to receptacle sealing
- ▶ Conical coupling interface to reduce the stress on O-rings



### High performance sealing and mechanical retention

- ▶ **Standard watertightness: Perfect sealing on cable jacket** is achieved with the compression of a pressure gland integrated into the plug's backshell. Robust cable clamp ensures the **mechanical retention of the cable** and a removable protective boot is added on the backshell for additional sealing and cable support.

U type cable clamp set example



2 cable clamp sets are presented on page 25:

A type: Without braid termination


M type: With 360° braid termination

- ▶ **Plugs for cable overmold (SA/SB type): Increased pressure rating.** Shell shape enables excellent resin adhesion on PUR and Neoprene® (Trade mark of Dupont de Nemour) jackets.



## Features & benefits

### High grade materials for long term immersion

- ▶ Shells are manufactured from 316 L which has been specifically developed for underwater applications and is proven to be highly corrosion resistant in sea water and other fluids. This material has excellent electrical conductivity properties and is extremely robust and long lasting.
- ▶ Insulators are made of PTFE or PCTFE which features near zero absorption and excellent electrical insulating properties.
- ▶ O-rings are made from Nitrile for excellent fluid compatibility (sea water, mineral oil...) and long durability.
- ▶ Contacts are gold over nickel plated brass.
- ▶ RoHS compliant. 

### Easy wiring and installation

- ▶ Scoop proof: No risk of damaging contacts during the coupling operation when using a female plug and a male receptacle.
- ▶ Removable insulators: To allow easy wiring and replacement in case of wiring mistakes or servicing.

Receptacles



REC



RER

In-Line Receptacles



PCE



PCE (SA or SB)

Pressure Sealing Cap for Plug



BEF

overview

BER



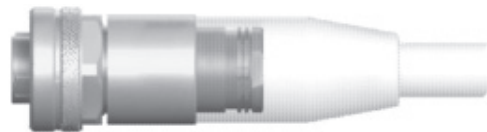
Pressure Sealing  
Cap for Receptacle

FED



Plugs

FED (SA/SB)



# U SERIES

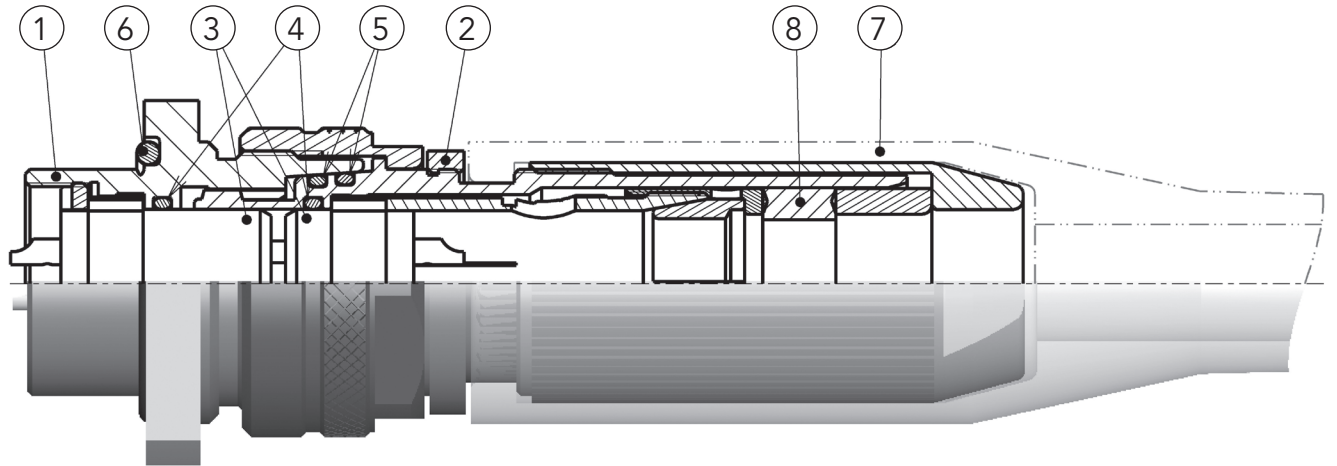
## U Series

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## Product description

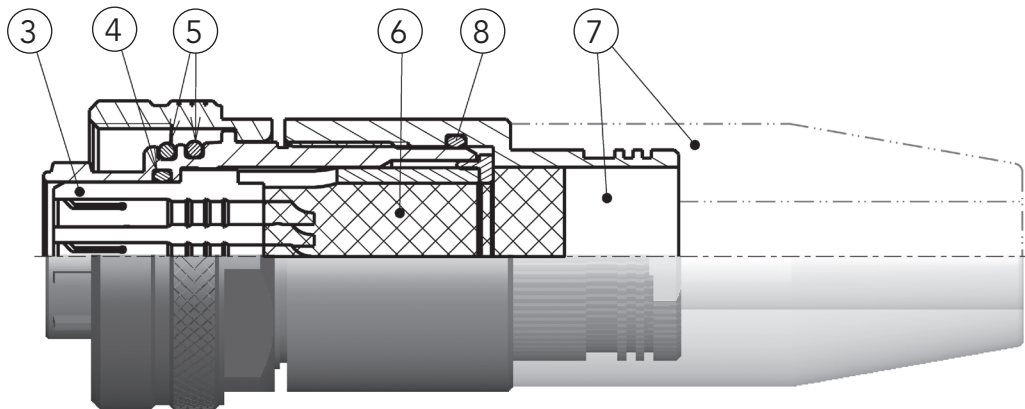
### Standard watertightness: Straight plug + Receptacle (mated)



1. Receptacle
2. Plug
3. Insert with sealed contact
4. Insert/Shell O'Ring seal

5. Plug/Receptacle taper seat with O'Ring seal
6. Panel/Receptacle O'Ring
7. Removable protective boot
8. Cable outer sheath/Plug watertightness by packing seal

### Plug for cable overmolding: FED SA and SB type



3. Insert with sealed contact
4. Insert/Shell O'Ring seal
5. Plug/Receptacle taper seat with O'Ring seal

6. Cabling place molding
7. Outer sheath cable/Plug watertightness by customer over molding
8. Backshell/Plug watertightness by O'Ring seal



## Description

- Screw coupling
- Sealing between plug and receptacles performed by 2 O-rings
- Standard watertightness: Sealing on cable achieved by packing washers
- Plugs for overmolding (SA/SB): Sealing on cable is given by overmolding

## Applications

- ROVs & AUVs
- Submarines
- Marine renewable energies
- Instrumentations

## Technical features

### Mechanical

- **Shell:**  
316L Stainless Steel
- **Insulator:**  
PTFE - Teflon® (T)  
PCTFE - Kel'f® (K)  
Other materials are available on request
- **O-rings:**  
Nitrile
- **Contacts:**  
Copper alloy over nickel gold plating
- **Endurance:**  
Endurance: 500 mating/un-mating
- **Shock:**  
Static acceleration of 120g on each axis
- **Vibrations (1 hour on each axis)**  
0.1 to 1Hz: amplitude 25mm  
1 to 5Hz: acceleration 0.1g  
5 to 22Hz: amplitude 1mm  
22 to 50Hz: acceleration 2g  
Duration: 1 hour on each axis

### Electrical

- **Insulation resistance under 500Vcc:**  
Unmated  $\geq 10^4 M\Omega$   
Mated  $\geq 5 \cdot 10^3 M\Omega$

- **Voltage rating (Vrms):**

Voltage Category	SOURIAU recommended service voltage (Vrms 50 Hz)	Dielectric withstanding voltage (Vrms 50Hz)
Service 0	350	1000
Service 1	600	1500
Service 2	1000	2300
Service 3	1500	3200
Service 4	5000	10000

- **Shielding**

Connector mated: Resistance between the receptacle plate and the plug's cable braid:  $\leq 10 \text{ m}\Omega$

- **Current rating and contact resistance:**

Shell size	Contact size	Current rating per contact (A)	Contact resistance (mΩ)
8MU 10MU 14MU 20MU 24MU	20	7	$\leq 4$
	16	14	$\leq 3$
	14	20	$\leq 2,5$
	12	26	$\leq 2$
	6	65	$\leq 1$
24MU	2	115	$\leq 0,6$
	120 MC	600	$\leq 0,03$
10MU 14MU	High voltage	14	$\leq 3$
	High voltage	20	$\leq 2,5$
10MU	Coaxial 50Ω	20	$\leq 2,5$
	Coaxial 75Ω	7	$\leq 4$
10MU	Triaxial 50Ω	7	$\leq 4$
20MU	Coaxial 50Ω		
10MU	Triaxial 75Ω	4	$\leq 5$
20MU	Coaxial 75Ω		
14MU	Coaxial 50Ω	40	$\leq 1,5$
	Triaxial 50Ω	26	$\leq 2$
	Triaxial 75Ω	14	$\leq 3$

## Environmental

- **Operating temperature range**  
-20°C to +70°C

- **Watertightness:**  
Mated

Type	Standard	SA/SB
<b>Operating pressure</b>	100 bar	300 bar
<b>Test</b>	200 bar	Pressure following customer spec.

Unmated

Type	PTFE inserts	PCTFE inserts
<b>Operating pressure</b>	30 bar	60 bar
<b>Test pressure</b>	40 bar	75 bar

- **Salt spray:**
  - 10 x (24h + 24h) alternate salt spray according to EN60068-2-11
  - 500h continuous salt spray according to NFC93422
- **Fluids resistance:**
  - Oil, alcohol, petrol, diesel fuel, sea water
  - Various gases (natural, butane, propane, Freon)
  - Various acids (acetic, boric, citric)



## Ordering information

Product builder			
N°	Criteria	Choices	Pages
1	Wires gauge and current	Minimum contact size	15 and 19
2	Number of contact to connect	Contacts layout	20
3	Electrical characteristics	Layout and shell size	15
4	Cable diameters	Size checking	24
5	External pressure	Sealing type	15
6	Unmated pressure	Insert material	15
7	Cable type and construction/Braid termination	Cable clamp set	24
8	General configuration	Shell type	10 and 11

Recommendations
<p><b>Standard watertightness U Series connectors</b></p> <p>Watertightness is given by a packing-block. Watertightness performances will depend on cable quality:</p> <ul style="list-style-type: none"> <li>• Hardness (shore A hardness &gt; 70 is recommended)</li> <li>• Cylindricity and circularity</li> <li>• Roughness</li> <li>• Cable outer diameter tolerance (maximum tolerance of 1 mm on outer diameter is recommended)</li> </ul> <p>Wiring chamber potting operation is necessary for pressure higher than 30 bar. See page 33 for potting tools.</p> <p><b>Overmolded plugs</b></p> <p>Watertightness is achieved by resin overmolding. Conductor insulation and jacket material (preferably Neoprene® or Polyurethane) of specified cable determines overmold material specification. Watertightness is determined by the adhesion of the overmold material to the cable.</p>

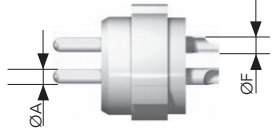
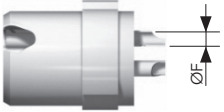


## U Series connectors part numbers

	FED	M	14MU	T	0714	A	160
<b>Shell type</b>							
FED: Straight plug							
REC: Square flange receptacle							
RER: Jam-nut receptacle							
PCE: In-line receptacle							
<b>Type of contacts</b>							
M: Pin contact							
F: Socket contacts							
<b>Shell size</b>							
8MU, 10MU, 14MU, 20MU, 24MU							
<b>Insert material</b>							
T: Teflon® (PTFE)							
K: Kel® (PCTFE)							
<b>Contact layouts</b>							
See layout tables page 20							
<b>Cable clamp code</b>							
<b>Standard watertightness:</b> (nothing for RER and REC)							
A: Without braid termination							
M: With 360° braid termination							
<b>Overmolding:</b> (nothing for RER and REC)							
SA: Without braid termination							
SB: With 360° braid termination							
<b>Maximum cable outer diameter</b> (in tenth of mm, adjusted at upper five tenth). Example: For a 9.2mm outer diameter cable, the code is 095. Nothing for SA and SB cable clamp set and RER, REC connector type.							





## Pressure sealing cap part numbers

<b>Basic Series</b>	BER	C	14MU
<b>Cap type</b>			
BER: For jam nut receptacle			
BEF: For screw mounting receptacle			
<b>Cable clamp set</b>			
C: With cord			
-: Without cord (no mention)			
<b>Shell size</b>			
8MU, 10MU, 14MU, 20MU, 24MU			

## Contacts - Size 2 to 20

Shell size	Contact size	Ø A (mm) Active contact OD	Ø F (mm) Contact Termination OD	Gauge AWG	Section (mm <sup>2</sup> )	Definition
8MU	20	1.02	0.9	26 to 22	0.14 to 0.38	Pin 
	16	1.59	1.2	24 to 20	0.21 to 0.60	
10MU 14MU 20MU 24MU	20	1.02	0.9	26 to 22	0.14 to 0.38	Socket 
	16	1.59	1.4	22 to 18	0.38 to 0.93	
	14	1.92	1.87	18 to 16	0.93 to 1.34	
	12	2.38	2.3	16 to 14	1.34 to 1.91	
	6	5	6.2	8 to 6	8.98 to 13.4	Pin 
	2	7	9	4 to 2	21.8 to 34.5	Socket 

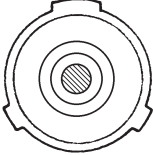
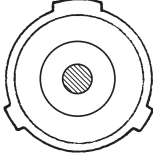
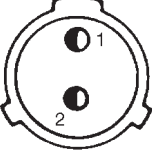


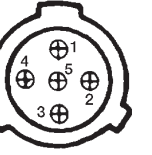
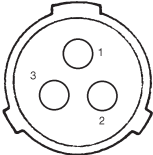


## Contacts - Coaxial, triaxial

Shell size	Contact type	Ø A (mm)	Ø F (mm)	Recommended cable (Please consult us)	Definition
10MU	Coaxial 50Ω	1.93	2.4	NFC 93550 : KX 4 – KX 15 / MIL C 17F: RG 213 U – RG 58 CU	Pin 
	Coaxial 75Ω	1.02	1.5	NFC 93550: KX 6A – KX 8 / MIL C 17F: RG 59 BU – RG 11 AU	
14MU	Coaxial 50Ω	4	3	NFC 93550 : KX 13 / MIL C 17F : RG 217U	Socket 
10MU	Triaxial 50Ω/75Ω	0.9	1.2	NFC 93550 : KX 15 / MIL C 17F : RG 58 CU	Pin 
20-24MU	Coaxial 50Ω				
20-24MU	Coaxial 75Ω	0.7	0.8	NFC 93550 : KX 6A / MIL C 17F : RG 59 BU	Socket 
14MU	Triaxial 50Ω	3	2.6	Depending on the cable clamp accessories, please consult us <sup>(1)</sup>	
	Triaxial 75Ω	1.59	1.4		









Product Details

## Contact layouts

Size 8MU		Layout caption
<b>0416</b>	<b>0720</b>	<b>Layout ID for part numbering</b>  Number of contacts #Size Voltage Service Rating
 4#16 Service 2	 7#20 Service 1	

Size 10MU					
<b>TX50*</b>	<b>1C50*</b> <b>1C75*</b>	<b>0214</b>	<b>0314</b>	<b>0416</b>	<b>0516</b>
 Triax#50Ω Service 1	 1Coax# 50Ω or 75Ω Service 1	 2#14 Service 2	 3#14 Service 2	 4#16 Service 2	 5#16 Service 1
<b>0320</b>	<b>0720</b>	<b>0920</b>			
 3#20 Service 2	 7#20 Service 1	 9#20 Service 0			

**Contact size and type**

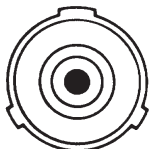
20	16	14	12	6	2	Coax.	Triax.
							

\*Please consult us for coax and triax layouts

## Contact layouts

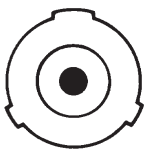
### Size 14MU

**TX50\***  
**TX75\***



1Triax#50Ω or 75Ω  
Service 2

**1CX50\***



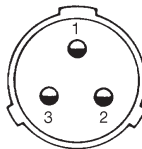
1Coax#50Ω  
Service 2

**0106**



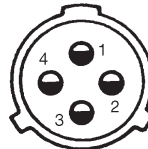
1#06  
Service 2

**0312**



3#12  
Service 2

**0412**



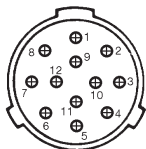
4#12  
Service 2

**0714**



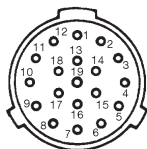
7#14  
Service 2

**1216**



12#16  
Service 2

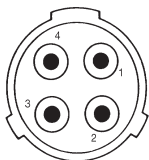
**1920**



19#20  
Service 1

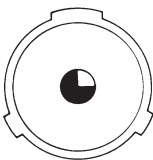
### Size 20MU

**4C50\***  
**4C75\***



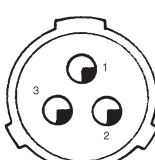
4Coax#50Ω or 75Ω  
Service 1

**0102**



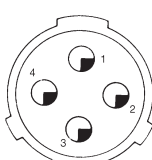
1#02  
Service 2

**0306**



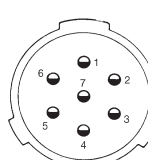
3#06  
Service 2

**0406**



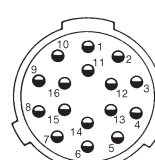
4#06  
Service 2

**0712**



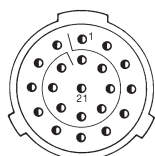
7#12  
Service 2

**1612**



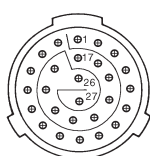
16#12  
Service 2

**2114**



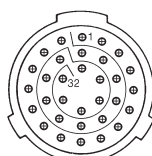
21#14  
Service 1

**2716**



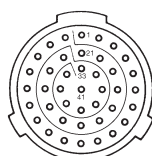
27#16  
Service 1

**3216**



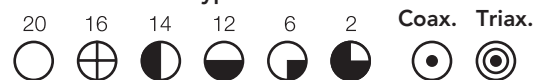
32#16  
Service 1

**4120**



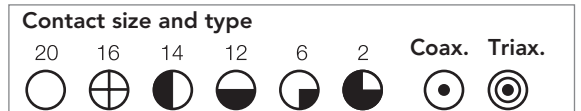
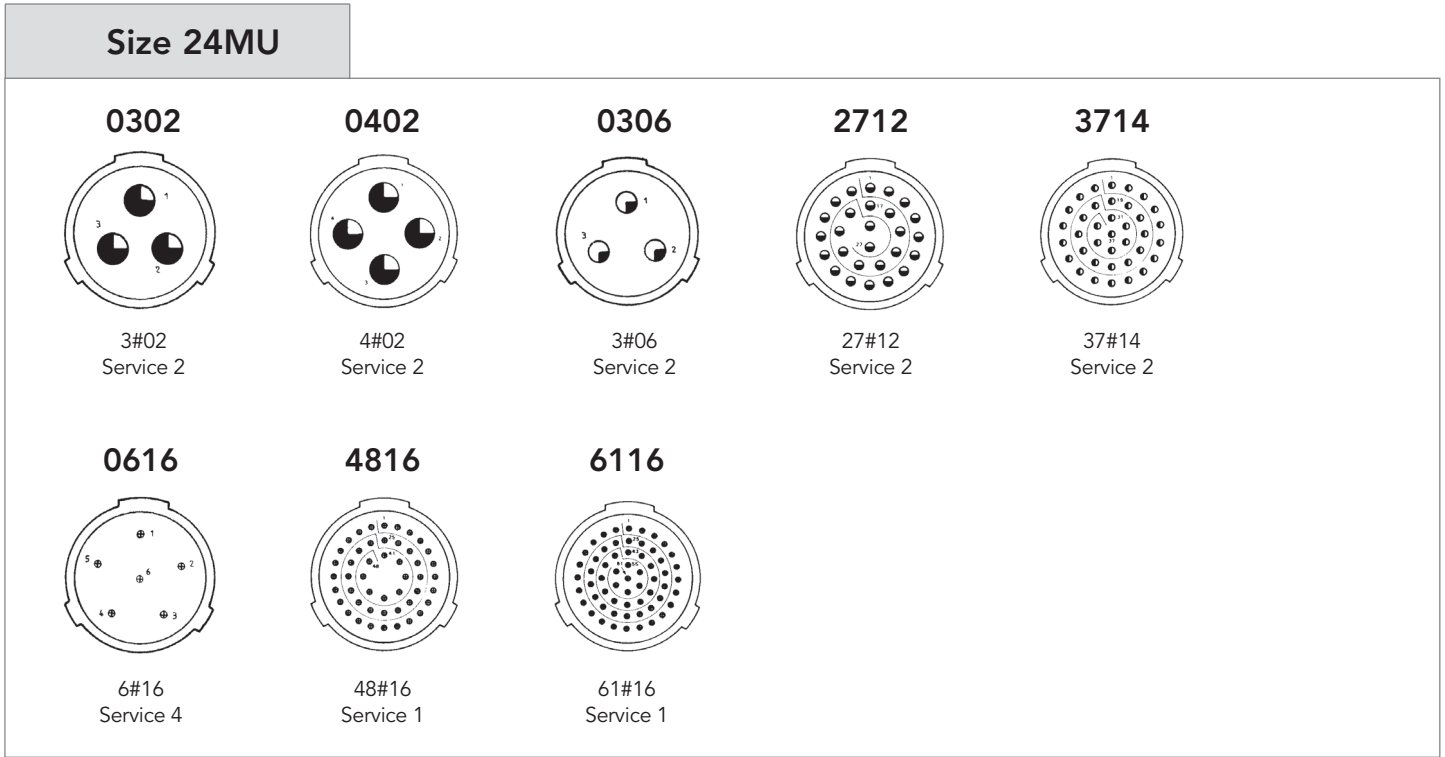
41#20  
Service 1

#### Contact size and type



\*Please consult us for coax and triax layouts

## Contact layouts



\*Please consult us for coax and triax layouts



## Cable clamp sets - Selection guide

Connectors	Cable Code	Description	Acceptable cable outer diameter				
			8MU	10MU	14MU	20MU	24MU
Single Watertightness	A	Standard cable clamp without braid termination	4-6.5	5-11	8-16	15-26	20-31
	M	Tapper cable clamp with braid termination	4-6.5	5-10.5	9-16	12-24	18-32
External overmolding	SA	Overmolding backshell without braid termination	< 6.5	< 10.5	< 16.5	< 24.5	< 32
	SB	Overmolding backshell with 360° braid termination	< 6	< 9.5	< 14.5	< 17.5	< 26.5

For coaxial, triaxial and high voltage contact layouts, please send us your cable datasheet to define the right cable clamp code



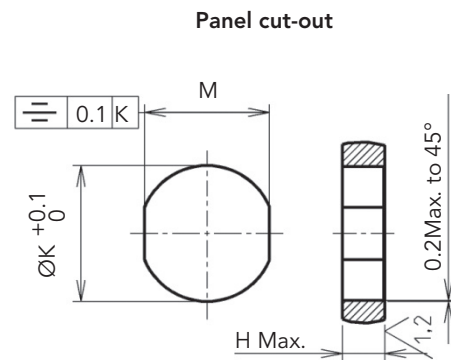
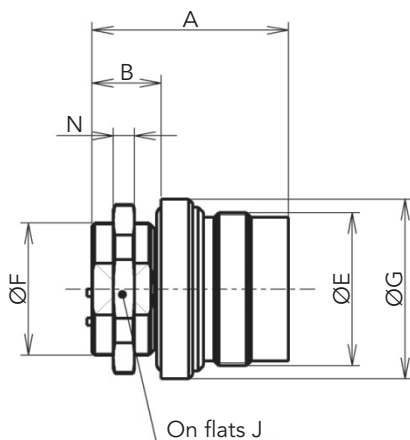
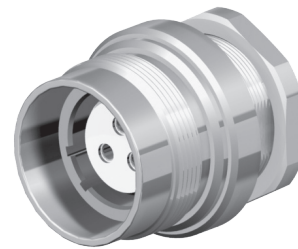
## Standard watertightness - Cable clamp kits

<b>BA</b>	Insulating ring	<b>JPE</b>	Rubber washer	<b>EEN</b>	Spacer nut	<b>DOS</b>	Outer sleeve
<b>CPI</b>	Collet clamp	<b>MDP</b>	Protective boot	<b>ESC</b>	Cabling spacer	<b>RGA</b>	Packing washer
<b>CSC</b>	Shielding taper	<b>PSC</b>	Cable collet	<b>RGR</b>	Packing block	<b>SCA</b>	Half collar (+ screws)

Cable clamp code	Grounding	Size	
A	No	8MU	
		10MU 14MU 20MU	
		24MU	
M	Yes	9MU	
		10MU	
		14MU	
		20MU	
		24MU	

## Shell dimensions

### RER - Jam-nut receptacle, watertight mounting

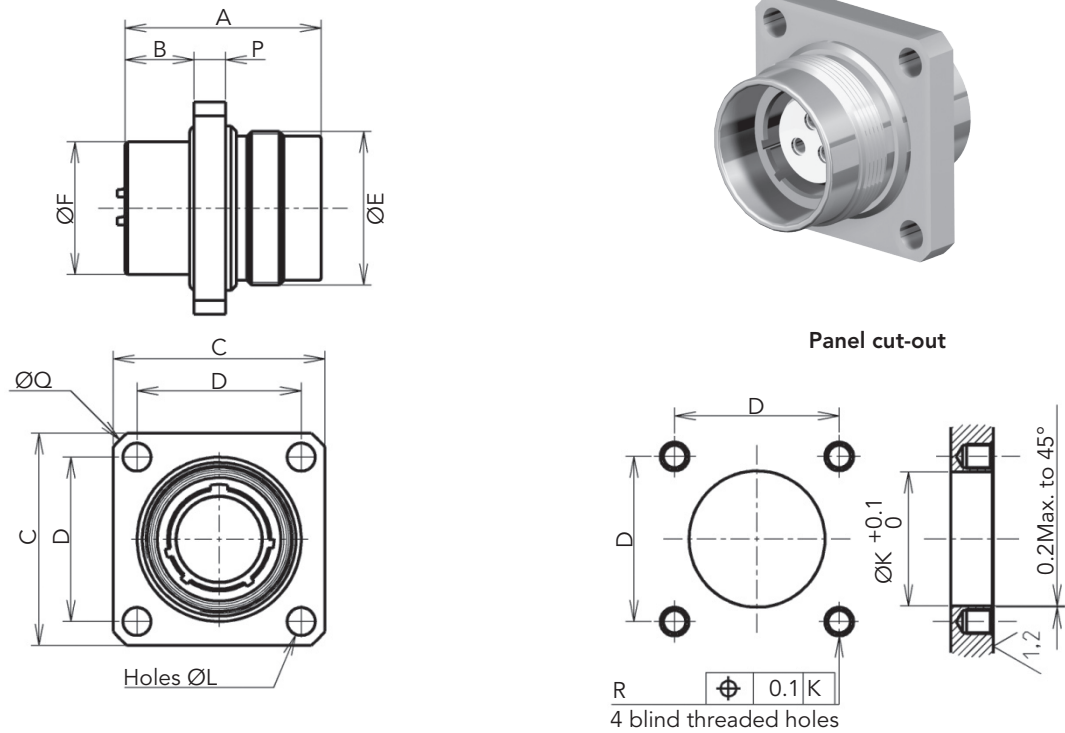


Shell size	8MU	10MU	14MU	20MU	24MU
A	23	37	37	49.5	58
B	8.5	14	13	17	20
Ø E	M17 x 1	Ø 21.2x2	Ø 29.2x2	Ø 41.2x2	Ø 56x2
Ø F	M14 x 0.75	M18 x 0.75	M25 x 0.75	M36 x 1	M46 x 1.5
Ø G	20	25	34	46	64
H Max.	5	10	9	12	14
On flats J	17	22	30	41	56
Ø K	14.2	18.2	25.2	36.2	46.2
M	13.2	16.2	23.2	33.2	42.2
N	3	4	4	5	6

Note: All dimensions are in millimeters (mm)

## Shell dimensions

### REC - Square flange receptacle, watertight mounting



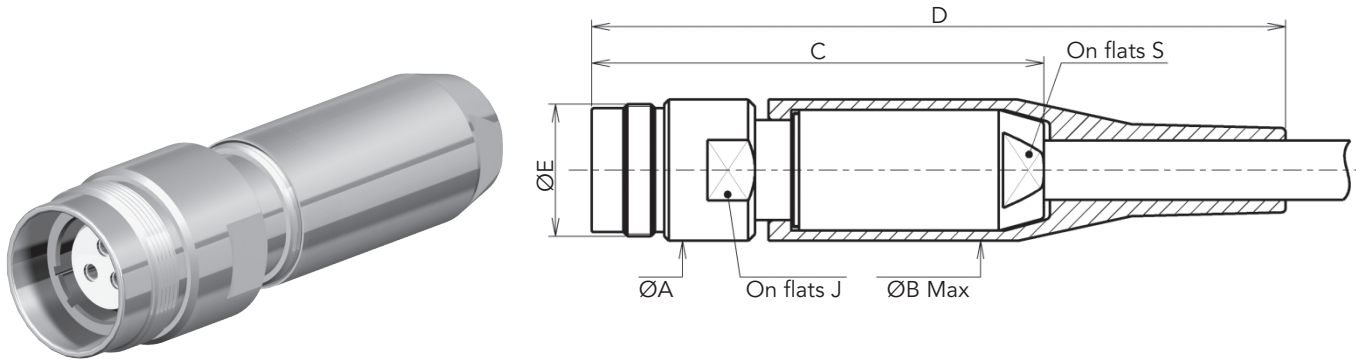
Shell size	8MU	10MU	14MU	20MU	24MU
A	23	37	37	49.5	58
B	4	14	13	17	20
C	23	32	40	52	76
D	17.5	24	31	42	60
Ø E	M17 x 1	Ø 21.2 x 2	Ø 29.2 x 2	Ø 41.2 x 2	Ø 56 x 2
Ø F	14	18	25	36	46
Ø K	14.2	18.2	25.2	36.2	46.2
Ø L	3.2	4.3	5.3	6.3	8.5
P	3	5	6	8	9
Ø Q Max.	31.5	42.5	53.5	69.5	100.5
R	M3	M4	M5	M6	M8

Note: All dimensions are in millimeters (mm)

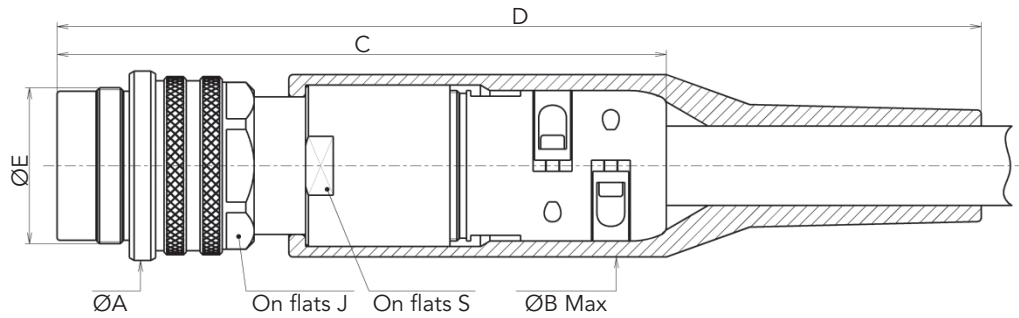
## Shell dimensions

### PCE - In-line receptacle

Shell size: 9MU - 10MU - 14MU - 20MU



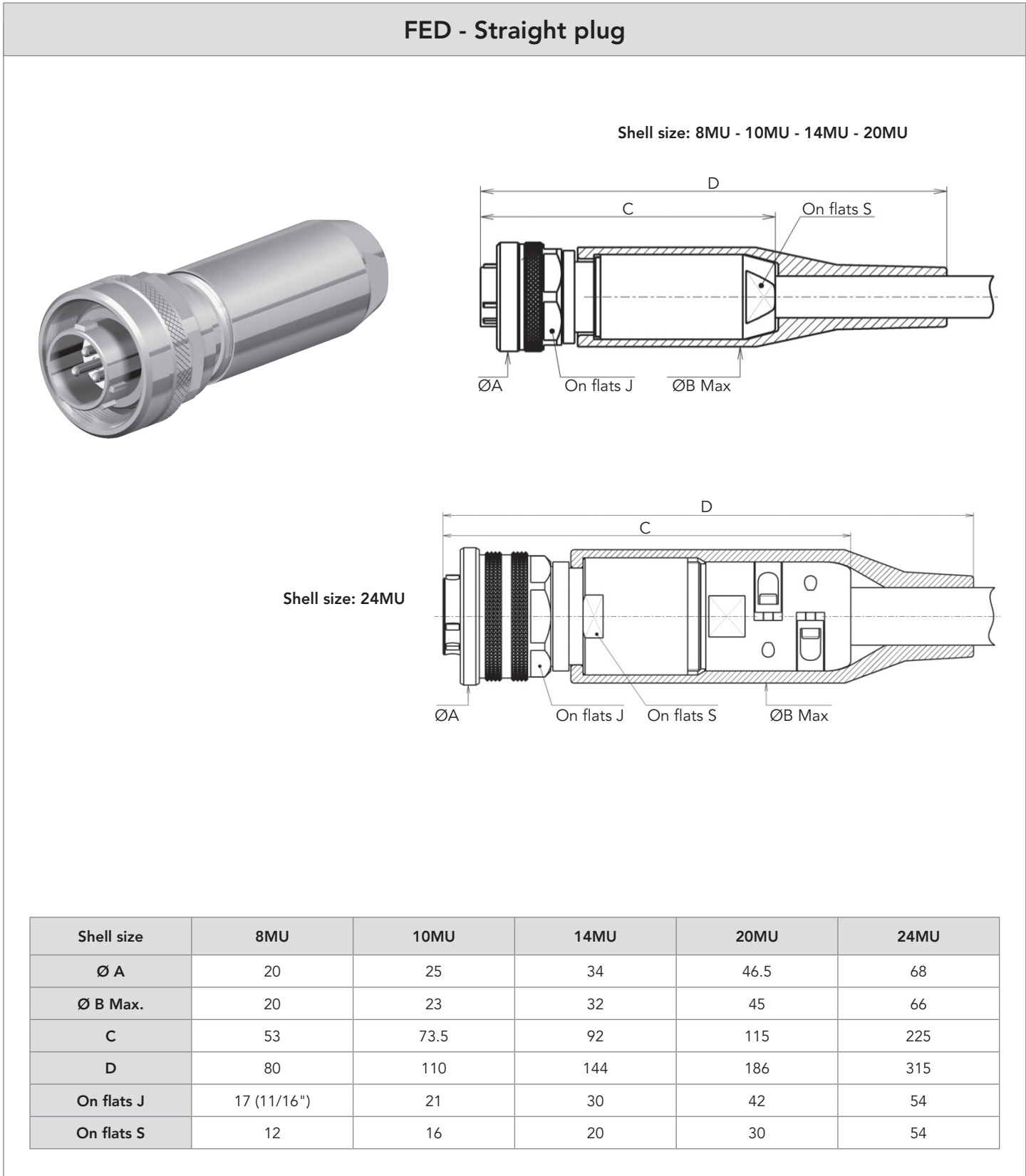
Shell size: 24MU



Shell size	8MU	10MU	14MU	20MU	24MU
Ø A	19	23	31	43	68
Ø B Max.	20	23	32	45	66
C	57.5	83.5	92	115	225
D	80	120	153	198	335
Ø E	M17x1	Ø 21.2x2	Ø 29.2x2	Ø 41.2x2	Ø 56x2
On flats J	17	20	28	38	54
On flats S	12	16	20	30	54

Note: All dimensions are in millimeters (mm)

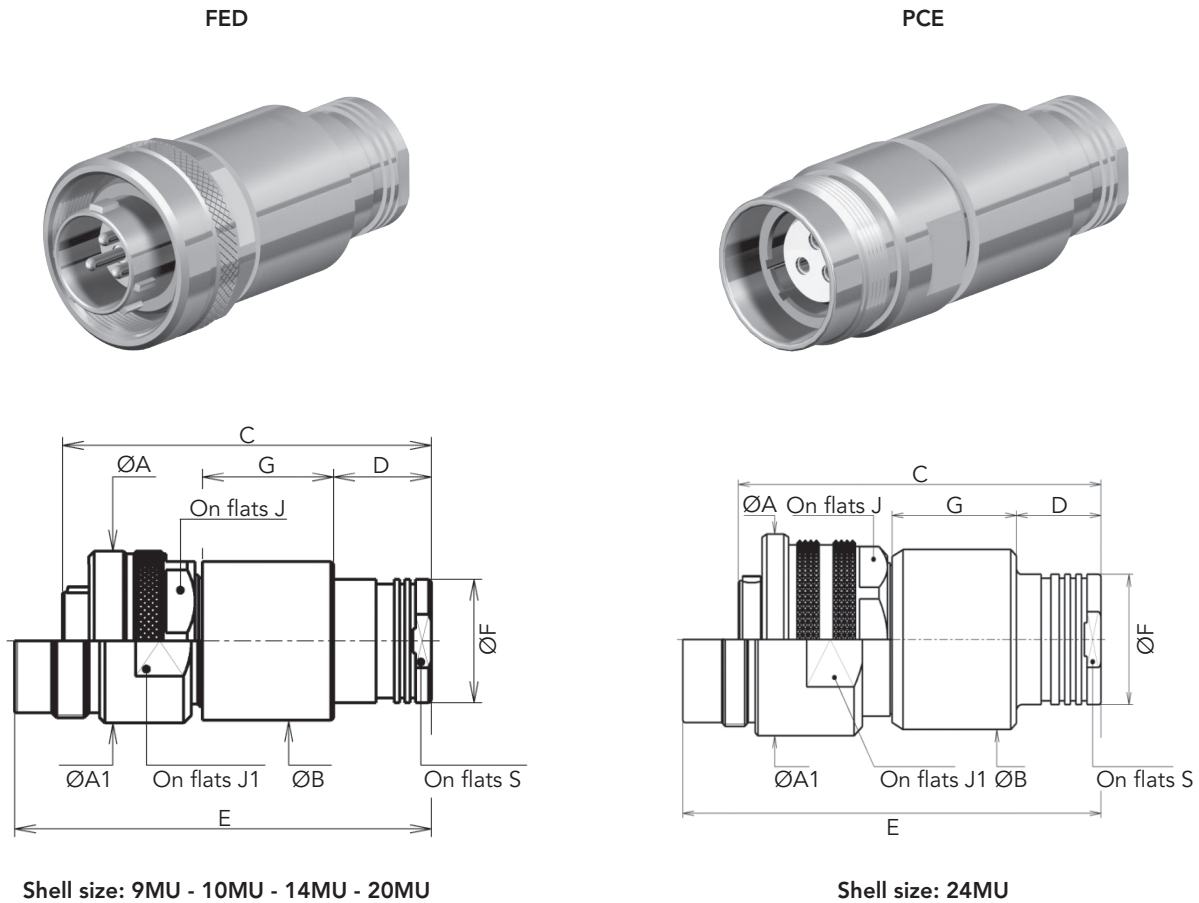
## Shell dimensions



Note: All dimensions are in millimeters (mm)

## Shell dimensions

### FED Plug and PCE in-line receptacles for cable overmolding - SA and SB versions



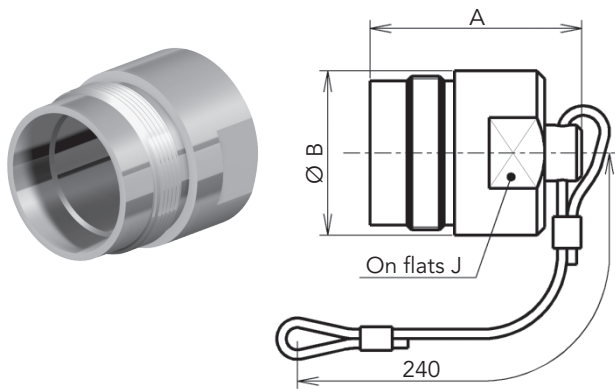
Shell size	8MU	10MU	14MU	20MU	24MU
Ø A / Ø A1	20/19	25/23	34/31	46.5/43	68/62
Ø B	17.5	22	30	42	58
C	45	63	73	88	132
D	15.5	15.5	18.5	20.5	30.5
E	49	73	83	100	151
Ø F	14	17.5	23.5	32	42
G	10.5	20	24.5	29	44.5
On flats J / On flats J1	17 / (11/16")	21/20	30/28	42/38	54/54
On flats S	12	15	21	29	38

Note: All dimensions are in millimeters (mm)

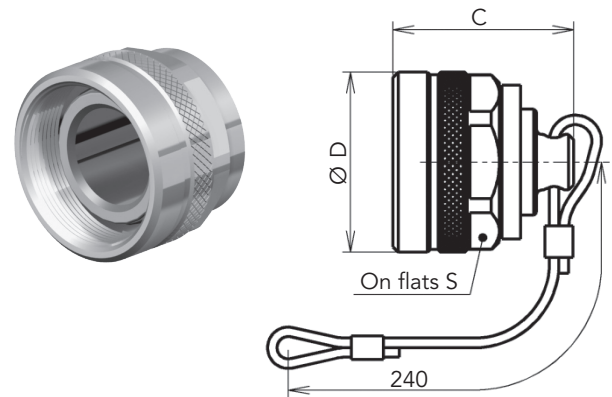
## Shell dimensions

### Pressure sealing caps

BEF - Cap for plug



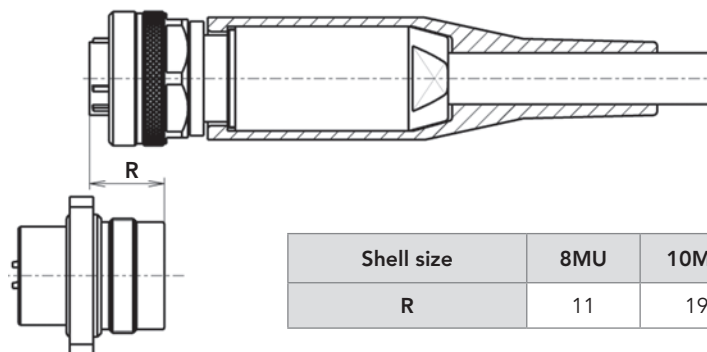
BER - Cap for receptacle



Shell size	8MU	10MU	14MU	20MU	24MU
Ø A	29	43	43	58.5	71
Ø B	19	24.5	34	46.5	64
C	27	34	34	48	69
Ø D	20	25	34	46,5	68
On flats J	17	20	28	38	54
On flats S	17,46(11/16")	21	30	42	54

### Mated/Unmated connectors

R = Mated shells overlap



Shell size	8MU	10MU	14MU	20MU	24MU
R	11	19	19	25	32

Note: All dimensions are in millimeters (mm)

## Insert + Contacts sub assemblies part numbers

Insert + Contacts Sub Assembly	BIS	14MU	T	04 12	M
Shell size: 8MU, 10MU, 14MU, 20MU, 24MU					
Insert material T: Teflon® (PTFE) K: Kel-F® (PCTFE)					
Contact layouts See layout tables					
Type of contacts M: Pin contacts F: Socket contacts					

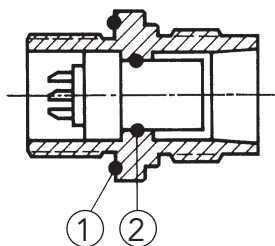
## Cable clamp kits part numbers

Kit type: See page 25 RAE: Full cable clamp kit RAER: Cable clamp kit sub assembly	RAE	14MU	A	100
Shell size: 8MU, 10MU, 14MU, 20MU, 24MU				
Cable clamp Code Standard watertightness: (nothing for RER, REC) A: Without braid termination M: With 360° braid termination				
Maximum cable outer diameter (in tenth of mm, adjusted at upper five tenth). Example: For a 9.2mm outer diameter cable, the code is 095. Cable code for coaxial, tri-axial, high voltage & double watertightness (consult us for coding)				

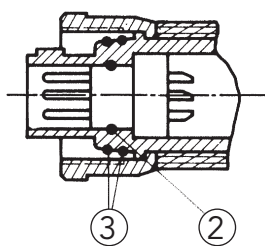
## O-ring part numbers

O-ring Type	8MU	10MU	14MU	20MU	24MU
① Panel O-ring (for REC-RER)	09-01 Ø1.6 x 15.1	10-01 Ø1.78 x 18.77	14-01 Ø2.5 x 26	20-01 Ø2.62 x 37.77	24-01 Ø3.53 x 47.22
② Insulator/Shell O-ring	09-02 Ø1.6 x 8.1	10-02 Ø1.78 x 8.73	14-02 Ø1.9 x 16	20-02 Ø2 x 24	24-02 Ø2 x 28
③ Taper seat O-ring	09-03 Ø1.6 x 9.1	10-03 Ø1.78 x 12.42	14-03 Ø1.78 x 20.35	20-03 Ø2 x 30	24-03 Ø2.62 x 40.95

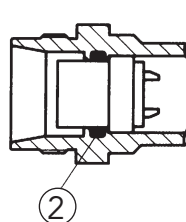
REC-RER Receptacles



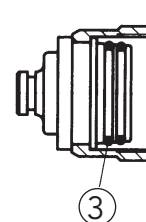
FED Plug



PCE Cable connecting plug



BER Cap

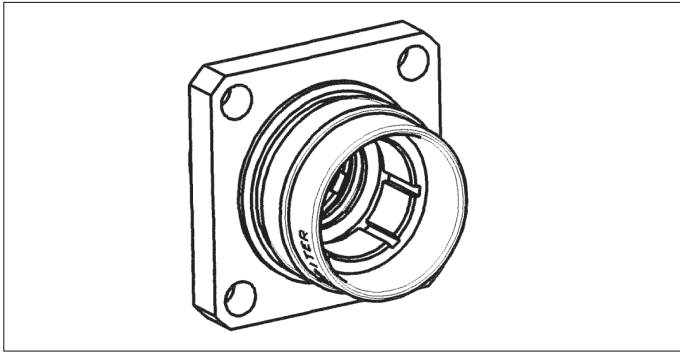




## Tools

### Plug wiring tools

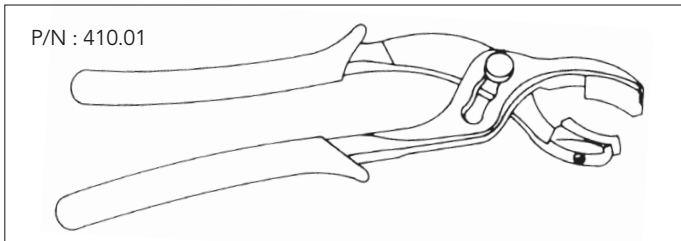
These tools are used to maintain correctly plugs during the final operation of wiring: tightening the tightening sleeve



Plug Size	Tool P/N
8MU	MA1W6020C5
10MU	MA2W6011C5
14MU	MA3W6011C5
20MU	MA4W6011C5
24MU	MA5W6011C5

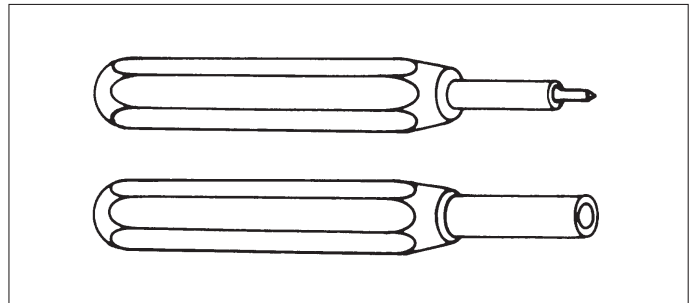
### Plastic jaw plier

This tool is used for holding the cable clamp while tightening the sleeve



### Contact assembling tools

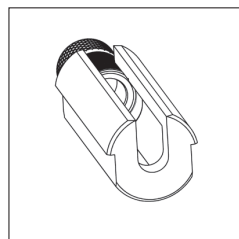
The removable contacts are held in the insert by a special nut, which can be screwed or unscrewed, using the tools below



Contact type	Tool P/N
Male size 6	OUT.BMV.20M.16MC
Female size 6	OUT.BFV.20M.16MC
Male size 2	OUT.BMV.20M.35MC
Female size 2	OUT.BFV.20M.35MC
10MU triaxial 50 Ω - 75 Ω 24/20MU coaxial 50 Ω - 75 Ω Male and female	OUT.MC.04

### Potting tool

Used to fill with resin cabling spacers



Size	Tool P/N
10MU	OUT330 10M
14MU	OUT330 14M
20MU	OUT330 20M
24MU	MA5W4001A9

The wiring and installation instruction for U Series connectors can be provided upon request.

# U SERIES

U Series

# Other Series

■ Bronze Shell - M Series.....	36
■ Shallow Water IMmersion - SWIM Series .....	36
■ Brass Shell - TP Series.....	37
■ Wet/Underwater mateable - 8810 Series .....	37

## Other Series

### M Series

**Dry mateable connectors for deep immersion.**  
See specific catalog available online.

**High sealing performances:**  
· Down to 3000 meters depth

**Large range:**  
· 5 shell sizes  
· Receptacles, cable receptacles, plugs and feedthroughs.  
· Signal, power, high voltage, coax and triax contacts

**Robust:**  
· High corrosion resistant marine bronze shells  
· Robust screw coupling mechanism

RoHS compliant



### SWIM Series

Shallow Water IMmersion

**The cost effective and reliable solution for shallow water immersion in high performance thermoplastic construction.**

**High sealing performances:**  
· Down to 300 meters depth

**Large range:**  
· 2 sizes: 10PL and 14PL  
· Receptacles, plugs and caps  
· Signal, power and coax

RoHS compliant



## Other Series

### TP Series

**Economic connectors similar to M Series with nickel plated brass shells and PA6/6 molded inserts. See specific catalog available online.**

**Sealed:**

- . Down to 300 meters depth

**Large range:**

- . 4 shell sizes: 8TP, 10TP, 14TP and 20TP
- . Receptacles, cable receptacles, plugs and feedthroughs.
- . Signal, power, high voltage, coax and triax contacts

**Economic underwater solution**

RoHS compliant 



### 8810 Series

**Wet/underwater mateable connectors for deep immersion. See specific catalog available online.**

**High pressure withstand:**

- . Down to 3000 meters depth

**Robust:**

- . Marine bronze shells
- . Robust screw coupling mechanism

RoHS compliant 

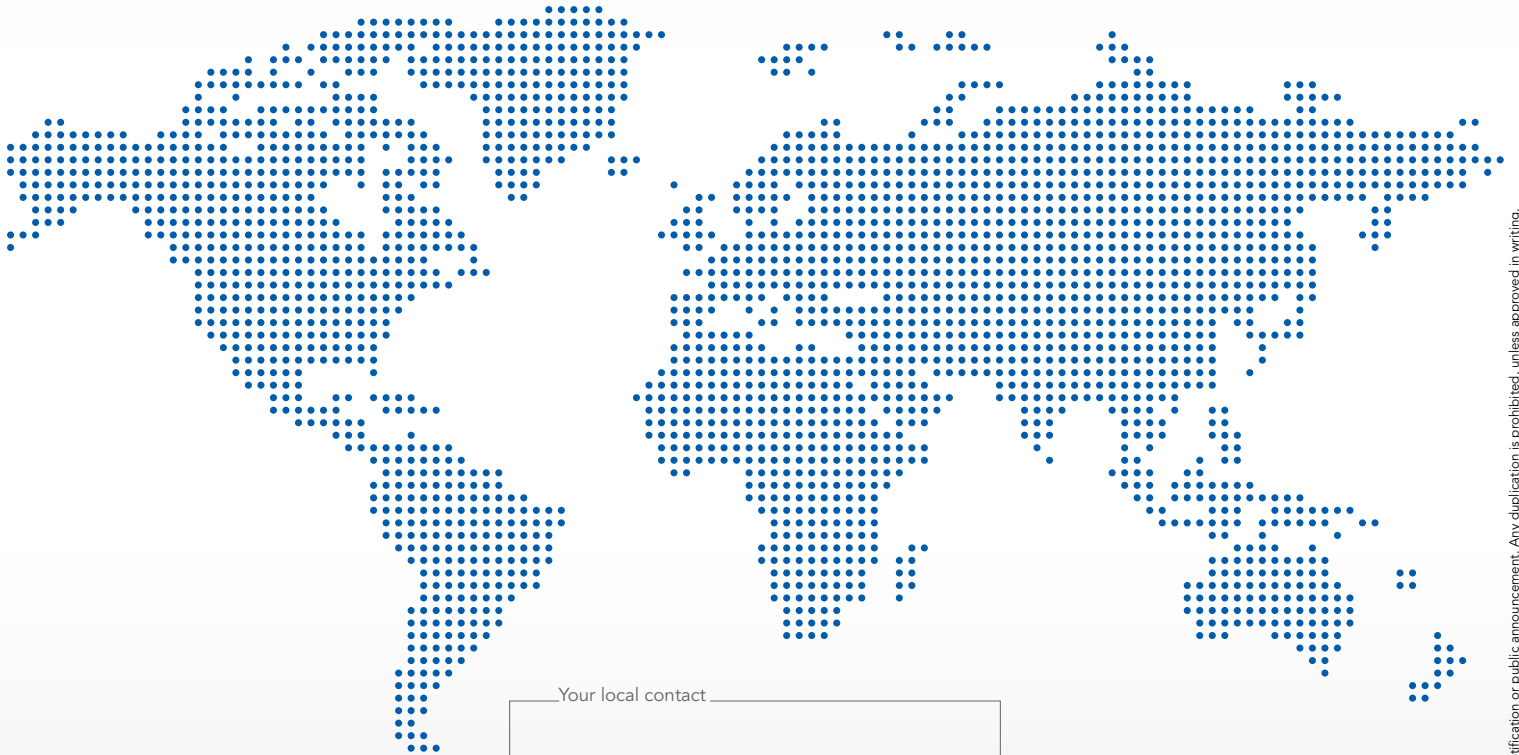


## Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



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