

SEACON®

UNDERWATER ELECTRICAL AND FIBER OPTIC CONNECTORS



U-MATE

UNDERWATER ELECTRICAL WET-MATE CONNECTORS

SEACON
europa
LIMITED

PRODUCT NEWS

U-MATE SERIES

Although the U-MATE series is still available, we would only recommend using it for existing programs that already utilize U-MATE connectors. For all new applications we would recommend the next generation **SEA-MATE** connector range. This new connector series has many of the original features as those of the U-MATE connectors including, positive keying and proven underwater mating technology but offers greater flexibility to the customer with full oil filled capability and increased contact configurations.



U-Mate - Specification

The U-MATE series, launched in March 1995, are a metal shell derivative of the highly successful WET-CON™ range of underwater mateable connectors. The U-MATE design incorporates gold plated electrical contacts, individual contact sealing and positive keying on the metal shell.

Features:

- Underwater Mateable.
- Manufactured in the United Kingdom.
- Positive keying on metal shells.
- Proven sealing technology.
- Heavy duty Acme threads.
- Gold plated contacts to MIL-G-45204.

Materials:

- Connector shell (standard): 316L Stainless Steel. Passivated and electro-polished.
- Connector shell (options): Titanium, Aluminium Bronze, Alloy 625. Others available upon request.
- Engaging nut (standard): Aluminium Bronze.
- Engaging nut (options): Titanium, 316L Stainless Steel (coated with special anti-galling compound), Alloy 625. Others available upon request.
- Pin contact: Copper Alloy. Gold Plated per MIL-G-45204.
- Socket contact: Copper Alloy. Gold Plated per MIL-G-45204.
- Connector body (standard): Neoprene.
- Connector body (options): Nitrile, Hypalon. Others available upon request.
- Overmould (standard): Neoprene.
- Overmould (standard): Nitrile, Hypalon. Others available upon request.
- Cable (standard): Neoprene.
- Cable (options): Polyurethane, Polyethylene. Others available upon request.
- Bulkhead Tails (standard): P.T.F.E. insulated, #16 A.W.G. Silver plated, Copper wire.
- Bulkhead Tails (options): Specification 44, #16 A.W.G. Silver plated, Copper wire.

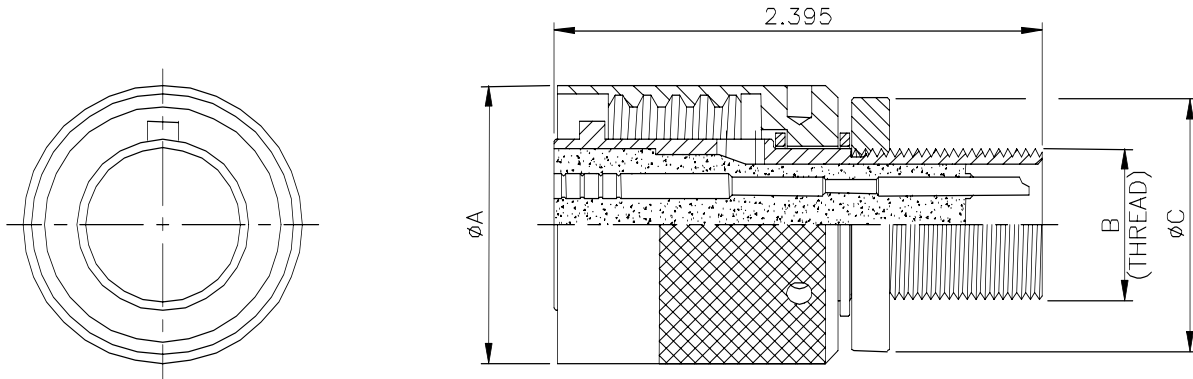
Ratings:

- Pressure (maximum): 5,000 pounds/inch² (mated or unmated).
- Voltage (standard): 600 Vdc/440 Vac.
- Current (maximum): 10 Amps.

Handling:

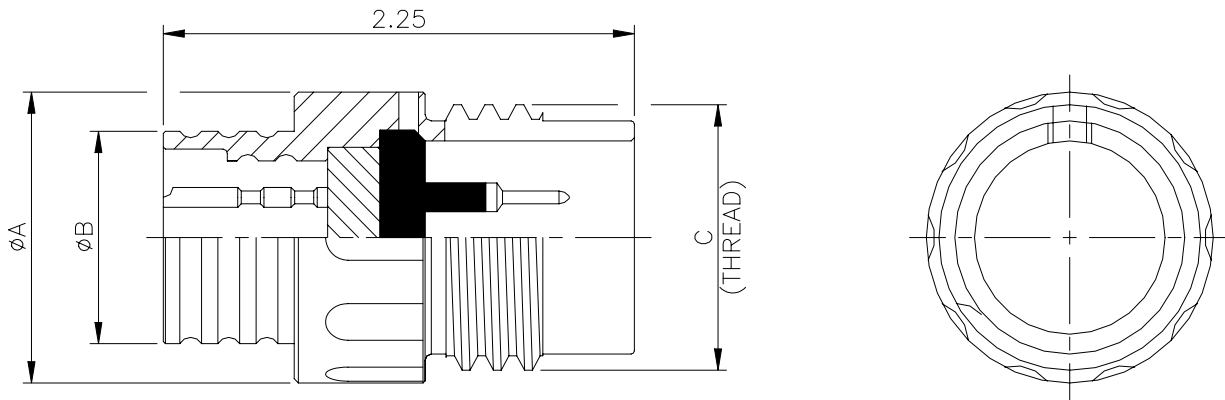
- Ensure the bulkhead interface is machined in accordance with the manufacturer recommendations and free from contaminants prior to fitting of the connector.
- Ensure the plug and receptacle connectors are free from contaminants prior to fitting.
- Apply a thin film of silicone compound (e.g. DC-4) to the bulkhead receptacle connector 'o' seal prior to fitting.
- Apply a thin film of silicone compound (e.g. DC-4) to the plug connector face seal prior to assembly with the receptacle connector.

Attachable Connector Details



Cable Connector Plug - Attachable
(CCP / AT)

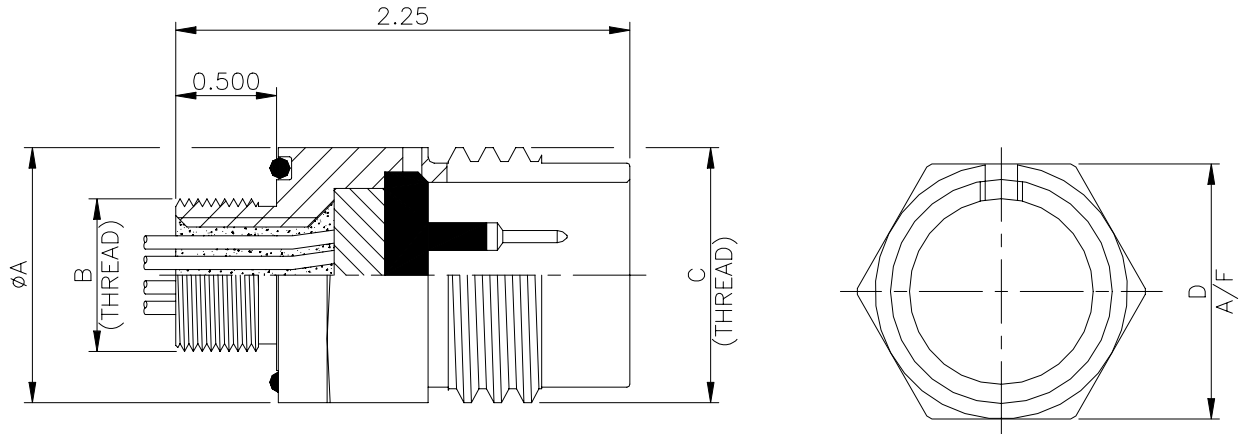
SHELL SIZE	ϕA	B	ϕC
UMG	1.12	5/8-18 UBF-2A LH	1.00
UMK	1.37	3/4-16 UNF-2A LH	1.25
UML	1.65	1-20 UNEF-2A LH	1.50



Cable Connector Receptacle - Attachable
(CCR / AT)

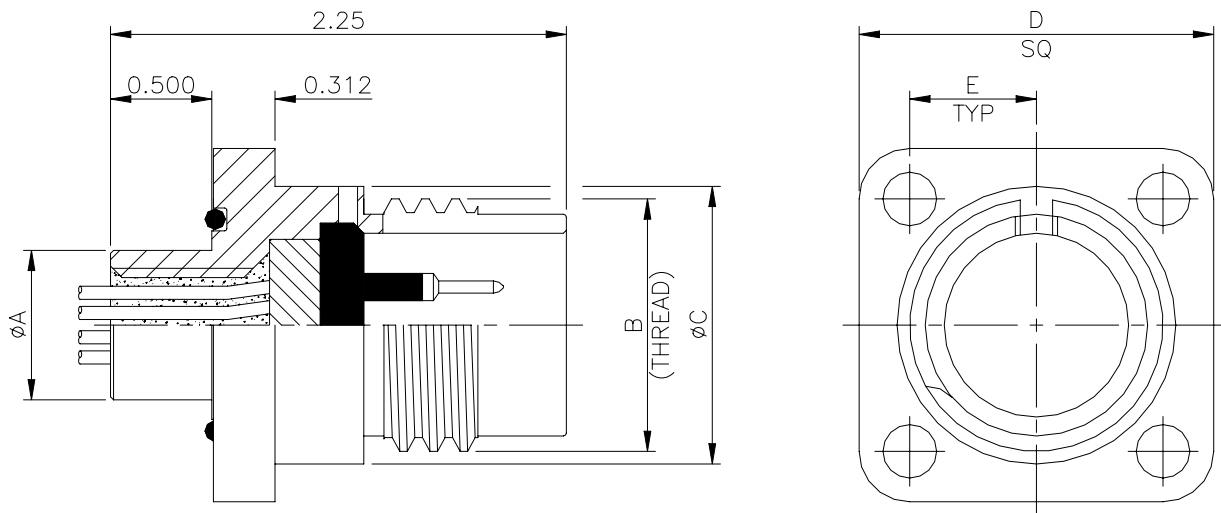
SHELL SIZE	ϕA	ϕB	C
UMG	1.00	0.85	1-10 ACME-2G
UMK	1.25	1.00	1 1/4-10 ACME-2G
UML	1.50	1.25	1 1/2-10 ACME-2G MODIFIED

Bulkhead Connector Details



Bulkhead Connector Receptacle
(BCR)

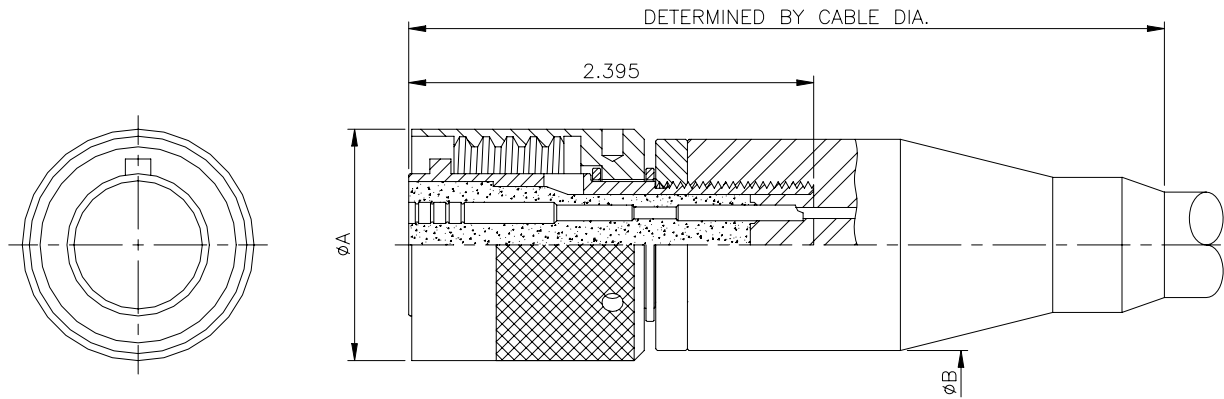
SHELL SIZE	ϕA	B	C	D
UMG	1.00	5/8-18 UNF-2A	1-10 ACME-2G	1.00
UMK	1.25	3/4-16 UNF-2A	1 1/4-10 ACME-2G	1.25
UML	1.50	1-14 UNS-2A	1 1/2-10 ACME-2G MODIFIED	1.50



Flanged Connector Receptacle
(FCR)

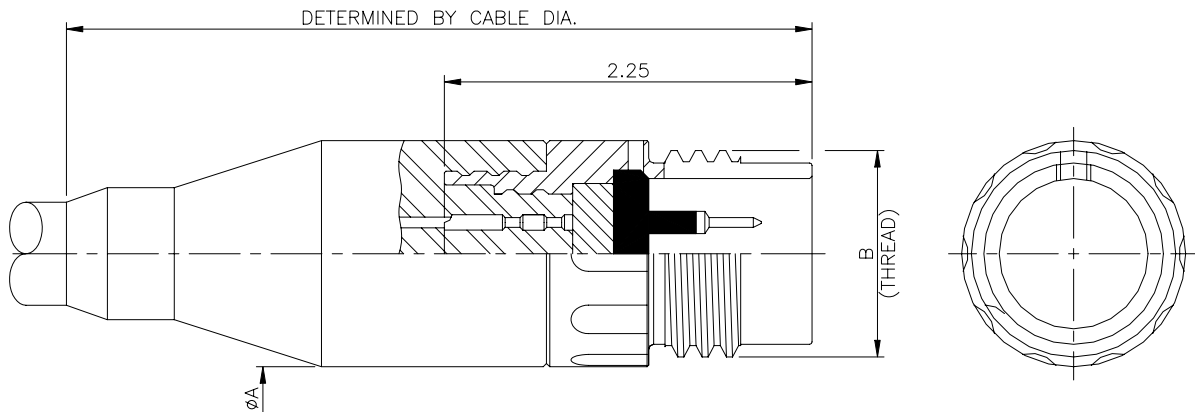
SHELL SIZE	ϕA	B	ϕC	D	E
UMG	0.625	1-10 ACME-2G	1.12	1.50	0.50
UMK	0.74	1 1/4-10 ACME-2G	1.37	1.75	0.625
UML	1.00	1 1/2-10 ACME-2G MODIFIED	1.62	2.00	0.75

Cable Connector Details



Cable Connector Plug
(CCP)

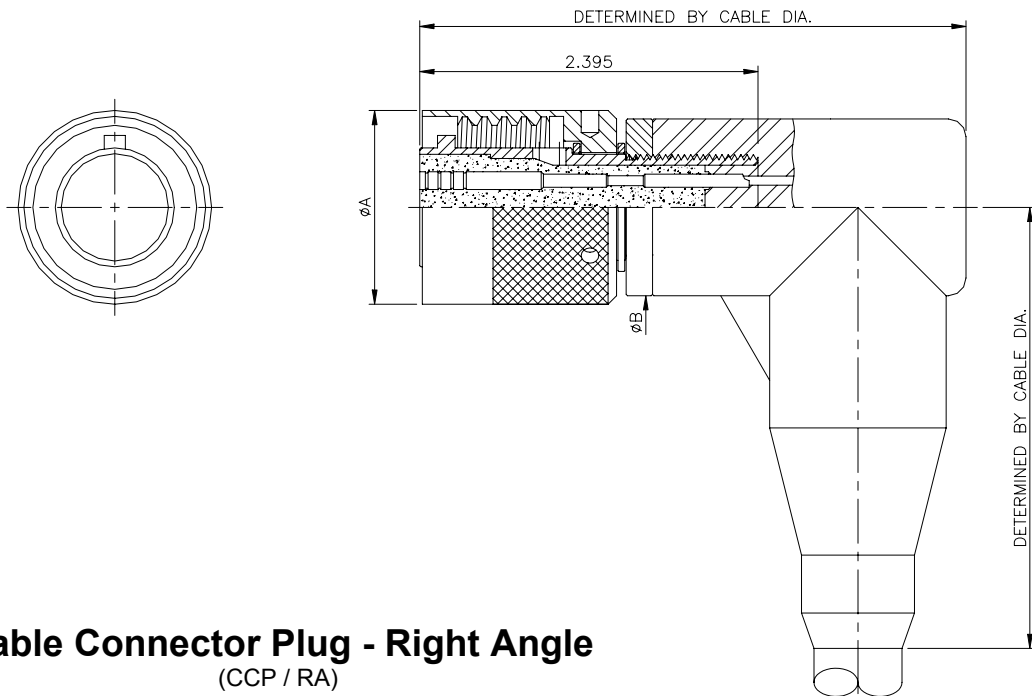
SHELL SIZE	ϕA	ϕB
UMG	1.12	1.00
UMK	1.37	1.25
UML	1.62	1.50



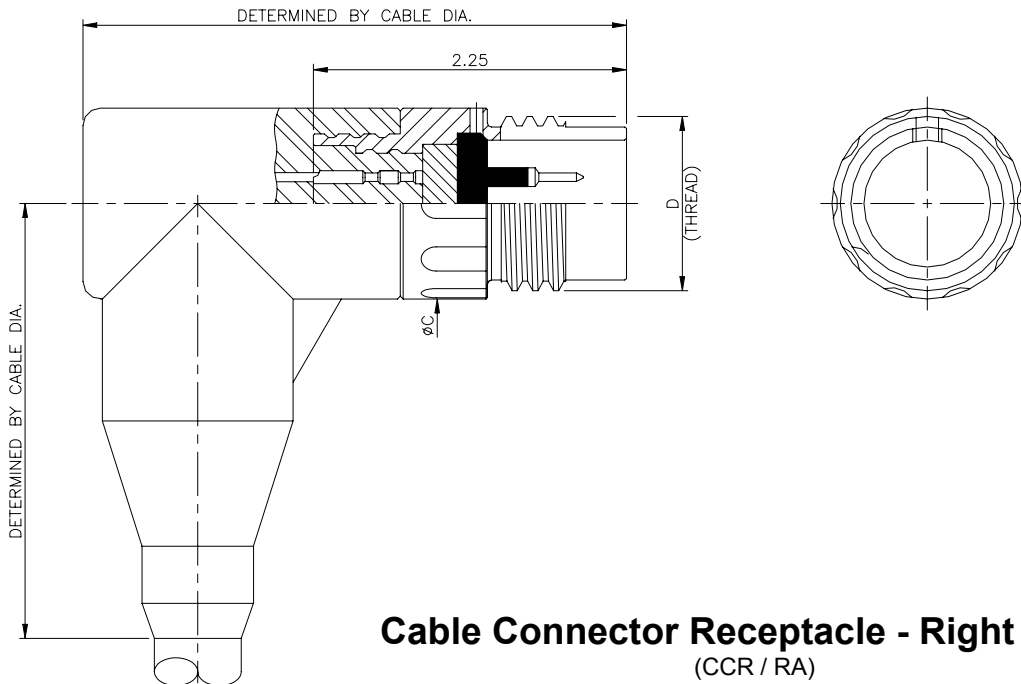
Cable Connector Receptacle
(CCR)

SHELL SIZE	ϕA	B
UMG	1.00	1-10 ACME-2G
UMK	1.25	1 1/4-10 ACME-2G
UML	1.50	1 1/2-10 ACME-2G MODIFIED

Right Angle Connector Details



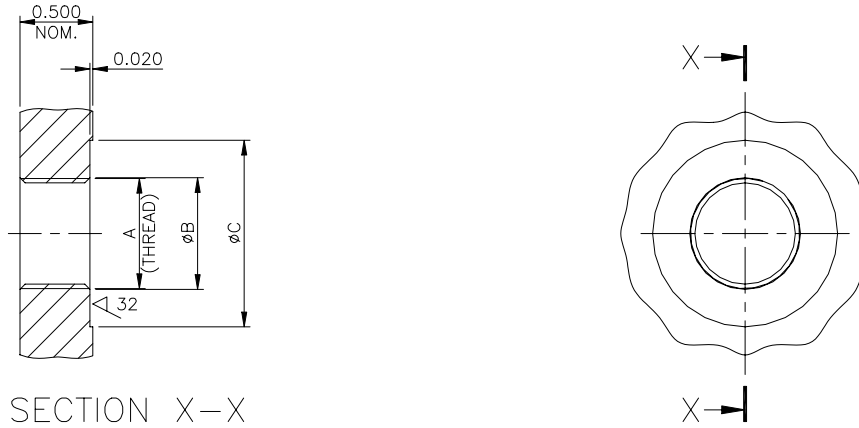
Cable Connector Plug - Right Angle
(CCP / RA)



Cable Connector Receptacle - Right Angle
(CCR / RA)

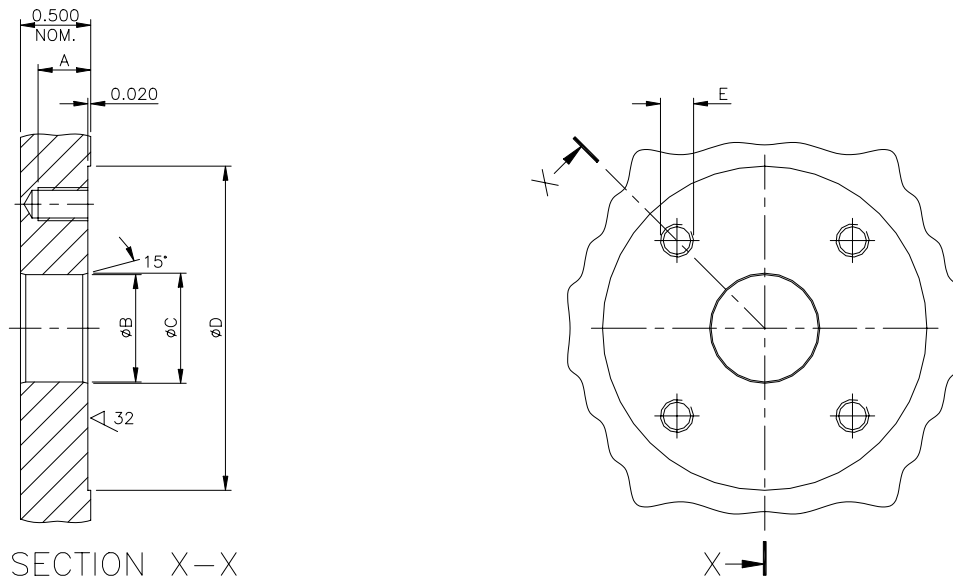
SHELL SIZE	Ø A	Ø B	Ø C	D
UMG	1.12	1.00	1.00	1-10 ACME-2G
UMK	1.37	1.25	1.25	1 1/4-10 ACME-2G
UML	1.62	1.50	1.50	1 1/2-10 ACME-2G MODIFIED

Interface Details



Bulkhead Connector Interface
(BCR)

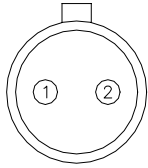
SHELL SIZE	A	Ø B	Ø C
UMG	5/8-18 UNF-2A	0.645	1.02
UMK	3/4-16 UNF-2A	0.77	1.27
UML	1-14 UNS-2A	1.02	1.52



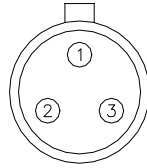
Panel Mount Connector Interface
(FCR)

SHELL SIZE	A	Ø B	Ø C	Ø D	E
UMG	0.315	0.650	0.670	1.95	M5 x 0.8 6H
UMK	0.375	0.765	0.785	2.31	M6 x 1 6H
UML	0.375	1.025	1.045	2.66	M6 x 1 6H

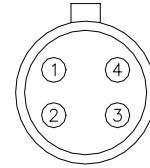
Contact Configuration Details



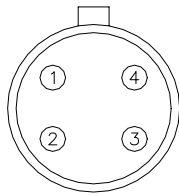
UMG-02



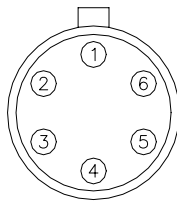
UMG-03



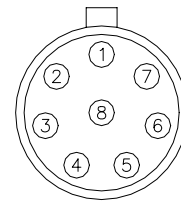
UMG-04



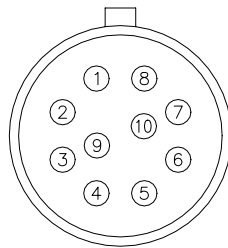
UMK-04



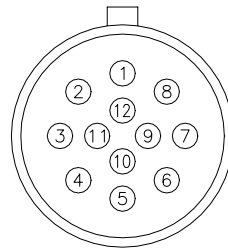
UMK-06



UMK-08



UML-10



UML-12

View On Plug Connector Front Face



How To Order

FORMAT:

UMW - XX - YYY / YY - ZZZZ

PART NUMBER EXPLANATION:

UM = Series:	Underwater Mateable
W = Shell Size:	G, K & L sizes are available.
XX = Number of Contacts:	02, 03, 04 (UMG). 04, 06, 08 (UMK). 10, 12 (UML).
YYY / YY = Shell style:	CCP (Cable Connector Plug). CCP / AT (Cable Connector Plug - AT tachable). CCP / RA (Cable Connector Plug – Right Angle). CCR (Cable Connector Receptacle). CCR / AT (Cable Connector Receptacle - AT tachable). CCR / RA (Cable Connector Receptacle – Right Angle). FCR (Flanged Connector Receptacle). BCR (Bulkhead Connector Receptacle).
ZZZZ = Length of cable attached:	0001 = 1 metres 0002 = 2 metres etc.

TYPICAL PART NUMBER:

Part Number = **UMK - 06 - CCR / RA - 0002**

This part number is for: **K** shell size, **6** contacts, **Cable Connector Receptacle - Right Angle** with **2** metre tail.

HANDLING PROCEDURES AND SPECIAL CAPABILITIES



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Even though these procedures appear simple, only qualified technicians should perform the installation and maintenance.

INSTALLATION PROCEDURES

- Ensure the bulkhead interface is machined in accordance with the manufacturer's recommendations and free from contaminants prior to fitting of the connector.
- Ensure the plug and receptacle connectors are free from contaminants prior to fitting.
- Apply a thin film of silicone compound (e.g. DC-4) to the bulkhead receptacle connector 'o' seal prior to fitting.
- Apply a thin film of silicone compound (e.g. DC-4) to the plug front face seal prior to assembly with the receptacle connector.

CARE AND MAINTENANCE

Once mated, the **U-MATE** connector requires no maintenance. When stored, the connector should be protected with suitable dust caps.

CABLE AND CONTINUITY PRESERVATION

Avoid sharp bends in cables. Cables subjected to vibration or exposed to seawater drag should be adequately clamped to prevent conductor fatigue infringing cable minimum bend radius and ultimate failure.

SPECIAL ASSEMBLIES

SEACON (europe) Ltd maintains all facilities necessary to furnish complete underwater and environmental electrical connector/cable systems, including Research & Development, Engineering, Manufacturing, Quality Control and Pressure Testing. As well as supplying our standard 'off-the-shelf' items, we have the capability to design and manufacture **SPECIAL CUSTOMISED CONNECTORS AND CABLE ASSEMBLIES** to suit your individual needs.

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