



SEACON 55 Series Electrical Dry-Mate Connectors

55 Series Electrical Dry-Mate Connectors
Provide Durable and Lightweight
Solutions for Subsea Environments

SEACON

55 Series Electrical Dry-Mate Connector

Durable and Lightweight Connectors for Subsea Environments



KEY FEATURES

- Dry-mate connector
- 5 shell sizes
- 2 to 24 contacts
- Oil filled and ethernet options available
- Non metallic PEEK available
- High power and high voltage versions available
- 10,000 psig mated/unmated (approx. 22,500ft/7,000m)
- 600 VDC
- 5 to 18 amps (dependent on conductor and cable size and make-up)
- Typical uses: Underwater cameras, lights & Remotely Operated Vehicles (ROV)'s

The 55 Series of dry-mate connectors are available in 5 shell sizes and are manufactured from 316L Stainless Steel as standard, although other materials such as Titanium, Aluminum Bronze and Alloy 625 are also available as options.

The PEEK 55 Series connector was developed as an addition to the established 55 Series. It was designed with the purpose of meeting the ever increasing demands of material selection. The material selection was chosen to help eliminate any corrosion or delamination and weight reduction issues whilst maintaining connector performance. This connector has excellent wear and abrasion resistance and is rated to 10,000 psi (mated or unmated).

APPLICATION

- ROV
- Underwater Cameras
- Diver Communications
- Lights, pans and tilts

SPECIFICATIONS

- **Pressure:** 10,000 psi mated and un-mated.
- **Voltage:** 600 VDC/440 VAC. 3kVDC for new high power version.
- **Current Rating:** 5 to 18 amps dependant on contact and cable conductor size. 50 amps for new high power version.
- **Operating Temperature:** -4°F to 194°F (-20°C to 90°C).
- **Bulkhead Mounting Torque:**
 - 15 shell size = 125 inch/lbs.*
 - 16 shell size = 125 inch/lbs.*
 - 20 shell size = 165 inch/lbs.*
 - 24 shell size = 225 inch/lbs.*
 - 32 shell size = 325 inch/lbs.*
- **Mating Cycles:** 500.

Note:

* Torque values refers to installation into dry metal threads.

MATERIALS

- **Connector Shell:** **Standard:** 316L Stainless Steel electro polished
Optional: Titanium, Aluminium Bronze, Alloy 625 & PEEK. Others available upon request
- **Engaging Nut:** **Standard:** Neoprene
Optional: Nitrile, Chlorosulphonated Polyethylene (CSM). Others available upon request
- **Connector Body:** **Standard:** Neoprene
Optional: Nitrile, Chlorosulphonated Polyethylene (CSM). Others available upon request
- **Cable:** **Standard:** Neoprene
Optional: Polyurethane & Polyethylene. Others available upon request
- **Electrical Contacts:** Copper Alloy and gold plated per MIL-G-45204
- **Overmold (Standard):** Neoprene, Nitrile, Chlorosulphonated Polyethylene (CSM). Others available upon request
- **Bulkhead Tails:** P.T.F.E insulated #16 AWG. Others available upon request. Please contact TE Connectivity (TE)

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Ethernet

Ethernet compatible connectors in the 55 Series include the 1504 and 2004 for speeds up to 100 mbit/s compatible with Cat5 systems (cable dependant).

The 1508 and 2008 are suitable for speeds up to 1 Gbit/s compatible with Cat5e/6 and the 2013 for speeds up to 1 Gbit/s with the option to have an additional 4 power cores plus a screen, also compatible with Cat5e/6 systems (cable dependant).

Current Table

Wire Gauge	Capacity (Amps)			
	1-3 Conductors	4-6 Conductors	7-9 Conductors	10-25 Conductors
18	7	5	4	4
16	10	8	6	5
14	15	12	10	9
12	20	20	14	12
8	50	40	32	30

55 Series Connectors

Ordering Information

55XX - XXXX - XXXX

Family Designator

55 Series

Connector Type

- 01 = CCP** Cable Connector Plug
- 02 = CCR** Cable Connector Receptacle
- 06 = FCR** Flange Connector Receptacle
- 07 = BCR** Bulkhead Connector Receptacle
- A1 = CCP/AT** Cable Connector Plug/Attachable
- OF1 = CCP-OF** Cable Connector Plug Oil Filled Straight/Right Angle
- OFA1 = CCP-OF** Cable Connector Plug Oil Filled Attachable
- A2 = CCR/AT** Cable Connector Receptacle/Attachable
- R1 = CCP/RA** Cable Connector Plug/Right Angle
- R2 = CCR/RA** Cable Connector Receptacle/Right Angle

Shell Size

- 15**
- 16**
- 20**
- 24**
- 32**

Number of Contacts

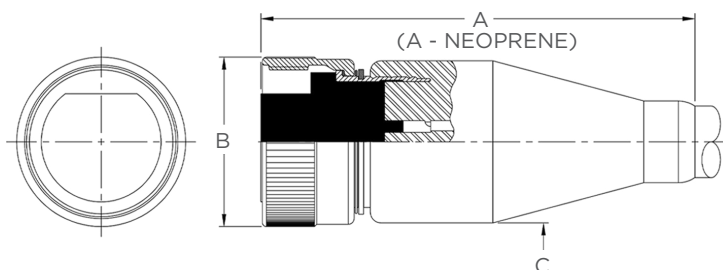
Cable Length

(i.e. 0001 = 1 foot, 0002 = 2 feet etc.)



5501-CCP

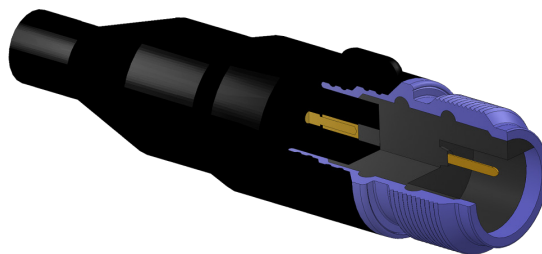
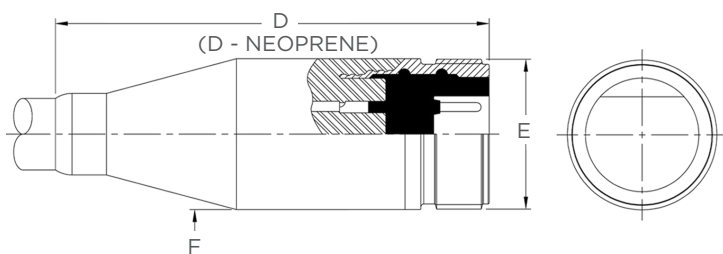
Cable Connector Plug



Shell Size	A (In)	A Neoprene (In)	B Ø (In)	C Ø (In)	Part Number
15	3.67	2.56	1.07	1.00	5501-15XX-XXXX
16	3.67	2.56	1.17	1.125	5501-16XX-XXXX
20	4.75	3.90	1.45	1.38	5501-20XX-XXXX
24	5.38	3.76	1.70	1.64	5501-24XX-XXXX
32	7.12	7.12	2.23	1.98	5501-32XX-XXXX

5502-CCR

Cable Connector Receptacle

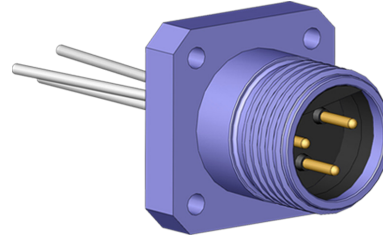
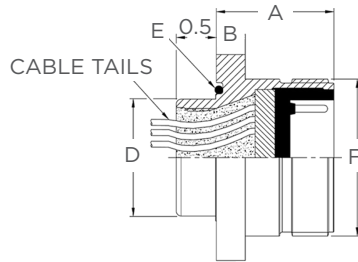
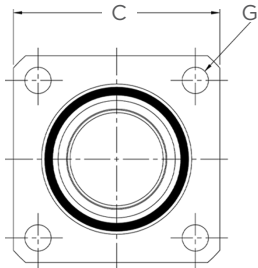


Shell Size	D (In)	D Neoprene (In)	E Thread	F Ø (In)	Part Number
15	3.37	2.62	15/16-20 UNEF	1.00	5502-15XX-XXXX
16	T.B.A.	T.B.A.	T.B.A.	T.B.A.	5502-16XX-XXXX
20	4.95	4.10	1 1/4-9 STUB ACME	1.38	5502-20XX-XXXX
24	5.58	3.96	1 1/2-9 STUB ACME	1.64	5502-24XX-XXXX
32	7.12	7.32	2-9 STUB ACME	1.98	5502-32XX-XXXX



5506-FCR

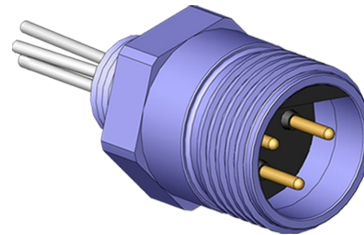
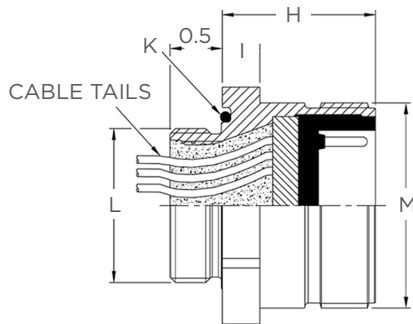
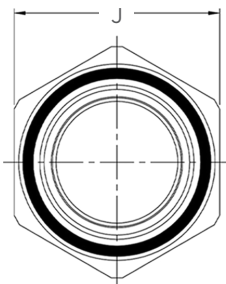
Flange Connector Receptacle



Shell Size	A Length (In)	B Length (In)	C Length (In)	D Ø (In)	E O-Ring	F Thread	G Mounting Holes Ø (In)	Part Number
15	1.25	0.313	1.50	0.625	116	15/16-20 UNEF	0.215	5506-15XX-XXXX
16	1.50	0.375	1.625	0.625	116	1-9 STUB ACME	0.219	5506-16XX-XXXX
20	1.50	0.375	1.75	0.74	118	1 1/4-9 STUB ACME	0.276	5506-20XX-XXXX
24	1.50	0.375	2.00	0.99	122	1 1/2-9 STUB ACME	0.276	5506-24XX-XXXX
32	1.50	0.375	2.625	1.50	130	2-9 STUB ACME	0.335	5506-32XX-XXXX

5507-BCR

Bulkhead Connector Receptacle

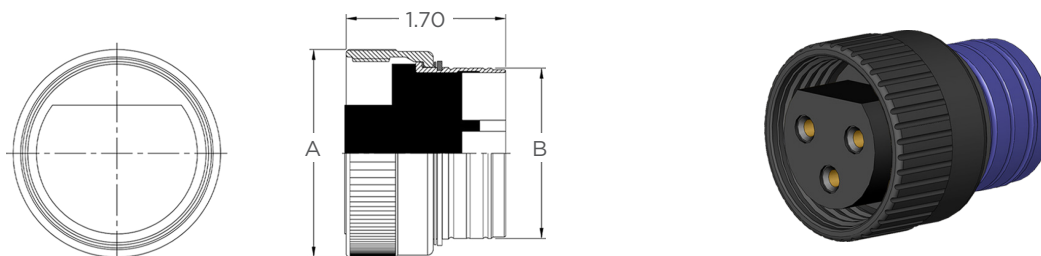


Shell Size	H Length (In)	I Length (In)	J Across Flats (In)	K O-Ring (In)	L Thread	M Thread	Part Number
15	1.25	0.313	1.12	116	5/8-18 UNF	15/16-20 UNEF	5507-15XX-XXXX
16	1.50	0.375	1.12	116	5/8-18 UNF	1-9 STUB ACME	5507-16XX-XXXX
20	1.50	0.375	1.25	118	3/4-16 UNF	1 1/4-9 STUB ACME	5507-20XX-XXXX
24	1.50	0.375	1.50	122	1-14 UNS	1 1/2-9 STUB ACME	5507-24XX-XXXX
32	1.50	0.375	2.00	130	1 1/2-12 UNF	2-9 STUB ACME	5507-32XX-XXXX



55A1-CCP/AT

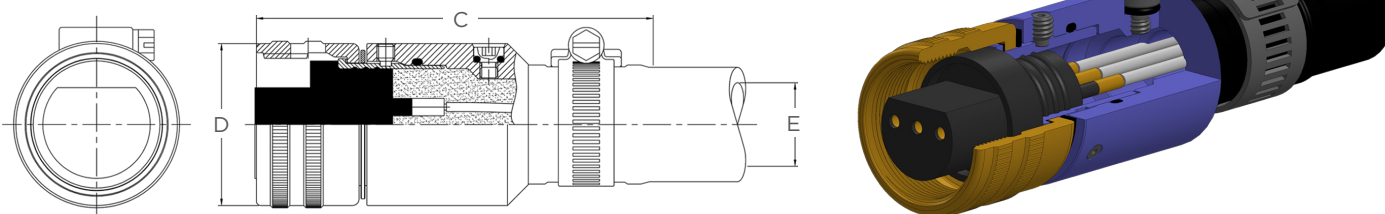
Cable Connector Plug Attachable



Shell Size	A Ø (In)	B Ø (In)	Part Number
15	1.08	0.69	55A1-15XX-XXXX
16	1.17	0.813	55A1-16XX-XXXX
20	1.45	1.085	55A1-20XX-XXXX
24	1.70	1.30	55A1-24XX-XXXX
32	2.23	1.81	55A1-32XX-XXXX

55OF1-ST-CCP

Cable Connector Plug Oil Filled Straight

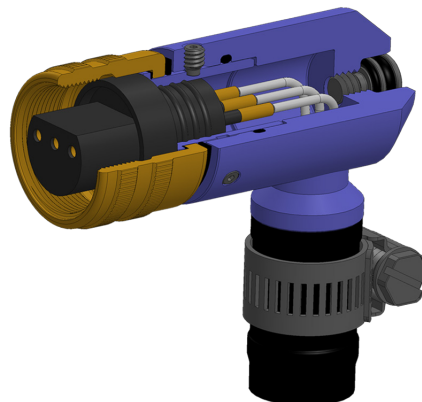
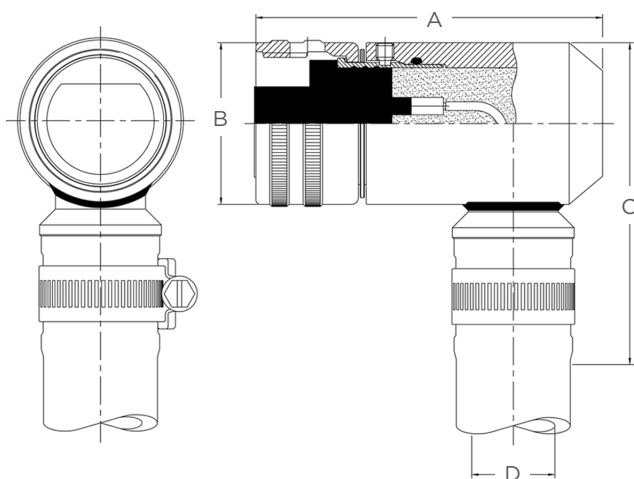


Shell Size	C Length	D Ø (In)	E Hose Ø (In)	Part Number
15	3.56	1.102	0.50	55OF1-15XX-XXXX
20	3.56	1.450	0.75	55OF1-20XX-XXXX
24	3.69	1.670	0.75	55OF1-24XX-XXXX



55OF1-R/A-CCP

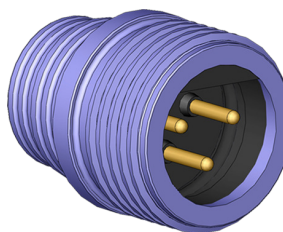
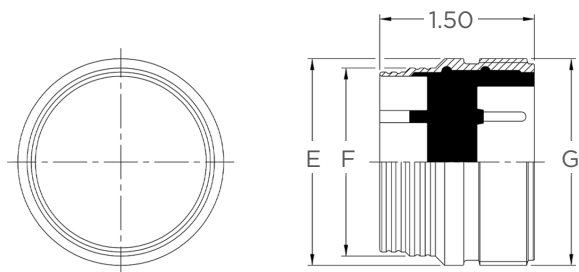
Cable Connector Plug Oil Filled Right Angle



Shell Size	A Length (in)	B Ø (In)	C Length (in)	D Hose Ø (In)	Part Number
15	2.86	1.102	2.53	0.50	55OF1-15XX-XXXX
20	3.12	1.450	2.88	0.75	55OF1-20XX-XXXX
24	3.12	1.670	3.10	0.75	55OF1-24XX-XXXX

55A2-CCR

Cable Connector Receptacle/Attachable

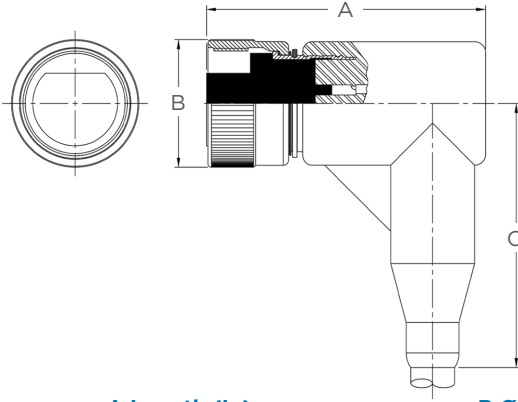


Connector	E Ø (In)	F Ø (In)	G Thread	Part Number
55A2-15	1.00	0.77	15/16-20 UNEF	55A2-15XX-XXXX
55A2-16	T.B.A.	T.B.A.	T.B.A.	55A2-16XX-XXXX
55A2-20	1.25	1.02	1 1/4-9 STUB ACME	55A2-20XX-XXXX
55A2-24	1.50	1.28	1 1/2-9 STUB ACME	55A2-24XX-XXXX
55A2-32	2.00	1.82	2-9 STUB ACME	55A2-32XX-XXXX



55R1-CCP

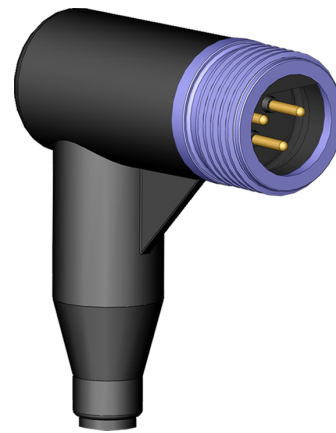
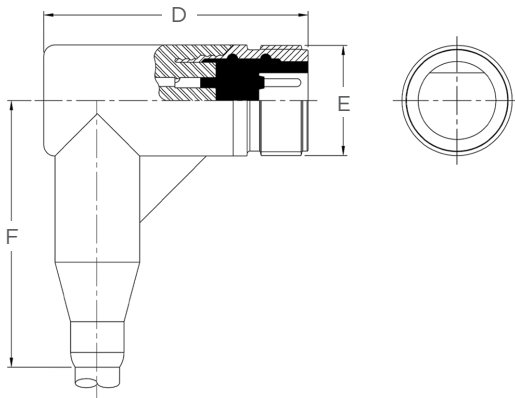
Cable Connector Plug/Right Angle



Shell Size	A Length (In)	B Ø (In)	C Length (In)	Part Number
15	2.91	1.08	2.63	55R1-15XX-XXXX
16	2.91	1.17	2.63	55R1-16XX-XXXX
20	3.16	1.45	3.42	55R1-20XX-XXXX
24	3.42	1.70	3.84	55R1-24XX-XXXX
32	3.63	2.23	4.85	55R1-32XX-XXXX

55R2-CCR

Cable Connector Receptacle/Right Angle

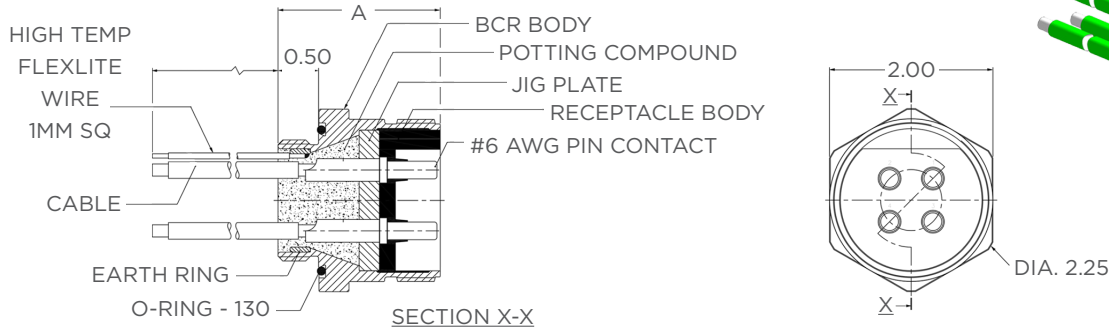


Shell Size	D Length (In)	E Thread (In)	F Length (In)	Part Number
15	2.52	15/16-20 UNEF	2.63	55R2-15XX-XXXX
16	2.52	1-9 STUB ACME	2.63	55R2-16XX-XXXX
20	3.48	1 1/4-9 STUB ACME	3.42	55R2-20XX-XXXX
24	3.52	1 1/2-9 STUB ACME	3.84	55R2-24XX-XXXX
32	3.54	2-9 STUB ACME	4.85	55R2-32XX-XXXX



5507-BCR-HP

Bulkhead Connector Receptacle High Power

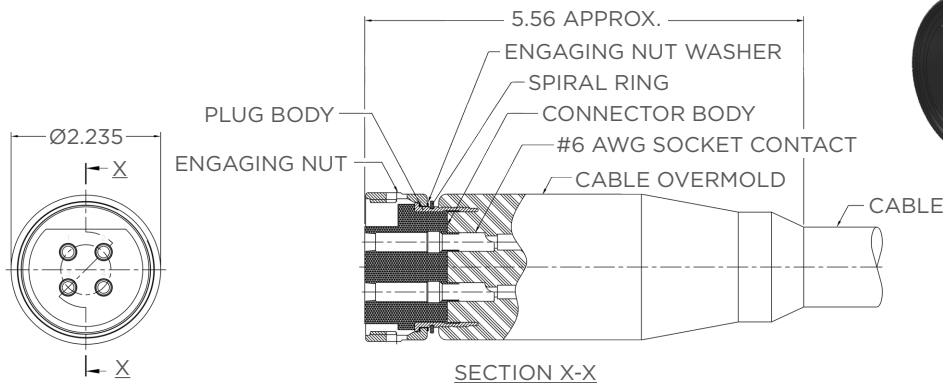


Notes:

- High power BCR only available in size 32, #6 AWG and 4 contact configurations.
- Only mates to high power 55 Series CCP.

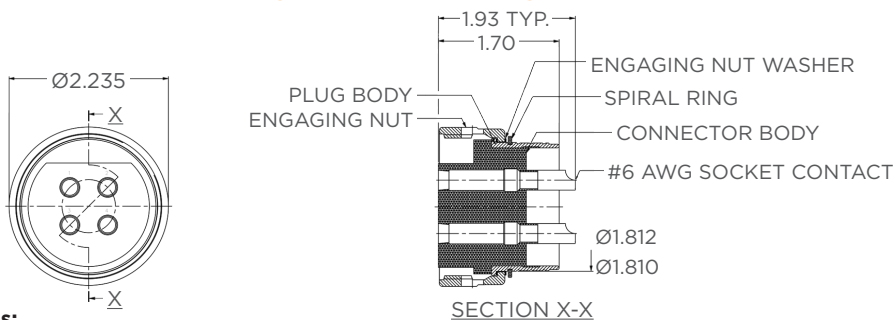
5501-CCP-HP

Cable Connector Plug High Power



55A1-CCP/AT-HP

Cable Connector Plug/Attachable High Power



Notes:

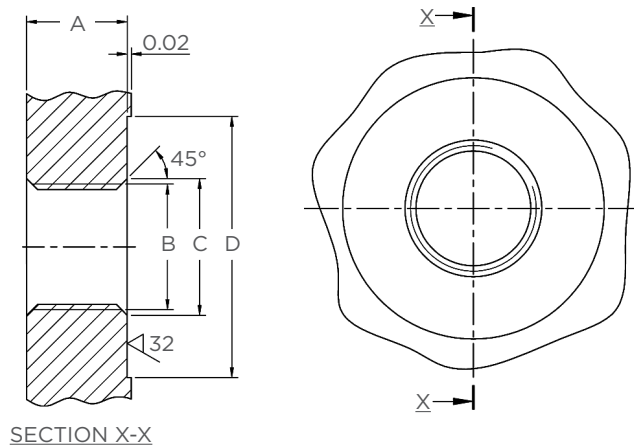
- High power CCP only available in size 32, #6 AWG and 4 contact configurations.
- Only mates to high power 55 Series BCR.



Interface Details

5507-BCR

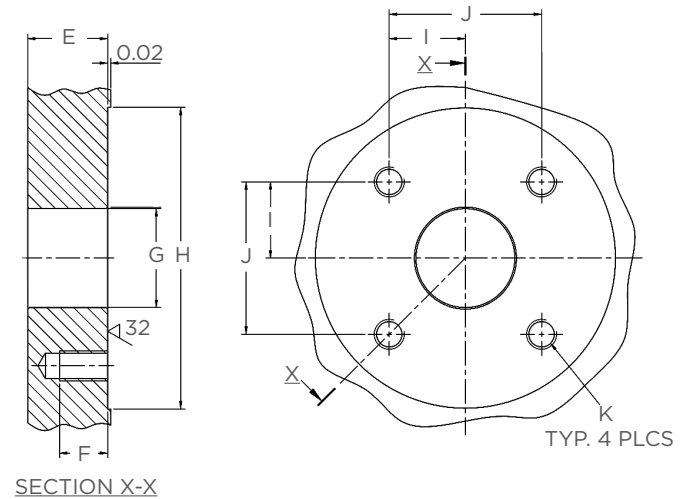
Bulkhead Connector Receptacle



Shell Size	A Min. Length (In)	B Thread (In)	C Ø (In)	D Min. Ø (In)
15	0.50	5/8-18 UNF 2B	0.68	1.30
16	0.50	5/8-18 UNF 2B	0.68	1.30
20	0.50	3/4-16 UNF 2B	0.79	1.44
24	0.50	1-14 UNS 2B	1.05	1.73
32	0.50	1 1/2-12 UNF 2B	1.55	2.31

5506-FCR

Flange Connector Receptacle

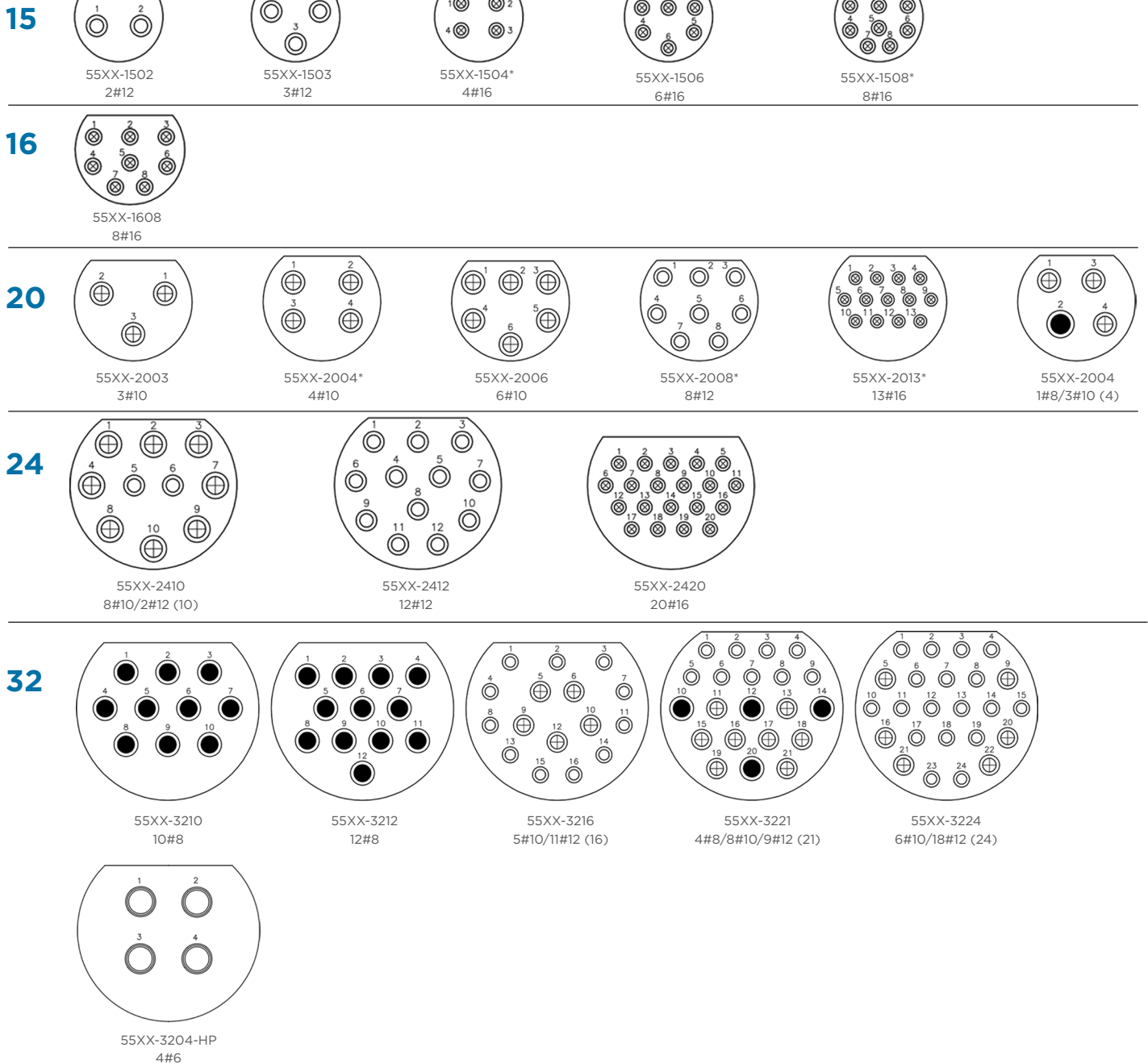


Shell Size	E Min. (In)	F Typical (In)	G Ø (In)	H Ø (In)	I (In)	J (In)	K Thread	Recommended Fixing Screw Length
15	0.525	0.315	0.65	1.98	0.50	1.00	M5x0.8p 6H	15mm
16	0.525	0.315	0.65	2.13	0.5625	1.125	M5x0.8p 6H	16mm
20	0.625	0.375	0.77	2.33	0.625	1.25	M6x1.0p 6H	18mm
24	0.625	0.375	1.02	2.655	0.75	1.50	M6x1.0p 6H	18mm
32	0.825	0.50	1.52	3.53	1.00	2.00	M8x1.25p 6H	20mm



Contact Configurations

CCP Face View Only - Not to Scale



Pin Diameter	1/16	3/32	1/8	5/32
Wire Accommodation (AWG)	18	16	16	12

Notes:

- * Ethernet compatible connectors. Please see page 4 for more details.

LET'S CONNECT

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Consult TE for the latest dimensions and design specifications.

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