



Amphenol
EEC **EFP**SERIES
C O N N E C T O R S Y S T E M



EFP SERIES

FLAMEPROOF ELECTRICAL CONNECTORS FOR HAZARDOUS ENVIRONMENTS



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EFP SERIES INTRODUCTION

The EFP Series of electrical connectors is a comprehensive line of power, control and instrumentation electrical connectors products. This series is certified for use in hazardous locations (Class 1 / Zone 1)

EFP Series electrical connectors may be specified for use in Oil, Gas and Petro-Chemical applications, land based and offshore drilling systems and areas of application include power, control and instrumentation circuits

The connector bodies are manufactured from hard anodised aluminium, alternative materials such as brass and stainless steel, nickel aluminium bronze and titanium are also available.

EFP series connectors are designed for quick mating and unmating. Cable accommodations including armored and sheathed allow industrial, offshore, and petrochemical type cables to be terminated in various manners depending on cable type as well as application and regulatory requirements.

Receptacles are available for panel or cable 'inline' mounting. Receptacles with a potting adaptor can be installed into either an EEx 'd' flameproof, EEx 'e' increased safety. The contact termination methods available are solder, crimp or pressure termination depending on insert selection. Contact materials are copper alloys and various plating options are available depending on application and ampacity. Silver and gold plating, over copper contacts are standard.

The EFP series lends itself to both single and multi conductor applications, with a comprehensive range of inserts to suit wire size 18 AWG (0.75mm²) to 1111 MCM (563mm²).

Multipole power inserts are available up to 600 amperes at 1000V, Single pole power to 1135 amperes at 1000V. Control and instrumentation inserts are available in 2 through 143 contacts. Composite inserts (power & control) are also readily available.

For planned non intermateability connectors maybe furnished with alternate key positions and may be color coded for visual identification.

EFP Series connectors share common insert configurations with the HDS series of connectors, allowing for a complete systems integration in both hazardous and non hazardous locations.

CONNECTOR FEATURES OVERVIEW

EFP SERIES

Panel-mounted receptacle may also be fitted to Ex e (increased safety) certified equipment



- Suitable for use in Zone 1, ATEX, IECEx, and NEC
- Suitable for use in Gas Groups IIA, IIB and IIC
- Ingress Protection of IP68 to IEC60529 with deluge protection to DTS01:91
- Operating Temperature range -55° to +125°C. Temperature Class & Ambient T5 40°C
- Optional T5 and T6 temperature classifications are available with ambient's up to 65°C

EFP CONNECTOR FEATURES



Acme Thread at Mating Interface
Unique ACME thread offers a strong and durable thread form in service. The thread is easy to start and less susceptible to jamming.



Keyed Positions
Provides an extended installation keyway, which assists connector assembly by making Pin and Socket insertion quick and easy and integrating mold into the insert guarantees alignment while preventing pin damage.



Multiple Keyway Option
The unique multi position insert keying system along with the integral machined keyways prevent contact damage and ensures safe use by eliminating the possibility of misconnection of adjacent circuits.



Flameproof Barrier Joint
A component carrier joint provides a flameproof method of protection with a low temperature rating of -55°C.



Threaded Bulkhead Connector
The threaded bulkhead connector utilises industry standard threads and also incorporates integral 'o' ring seal. Suitable for IIC locations, EFP connectors can be supplied preterminated and encapsulated to suit the customer's requirements.



Multi Armor Cone
The EFP incorporates our proven and patented armor termination method. Clamping devices are supplied to accommodate different types including SWA and braid.

EFP CONNECTOR FEATURES



Versatile LSFZH Rear Seal

Accommodates a wide range of cable sizes and provides highly effective cable grip and ingress protection IP68.



EX Series Cable Glands

A2 Series cable glands are the perfect cable glad for the termination of offshore type cable. A straight forward design and good quality workmanship allow EEC to offer this gland for assembly on to cable mounted receptacles for protection classes Eex d and Eex e.



Stainless Steel EFP Electrical Connectors

EFP Electrical connectors are available from stock in shell sizes 12 through 28. The connectors are manufactured in a variety of stainless steel materials including but not limited to types 303, 304, 316L. All configurations available in the hard anodized variants are available in stainless steel.

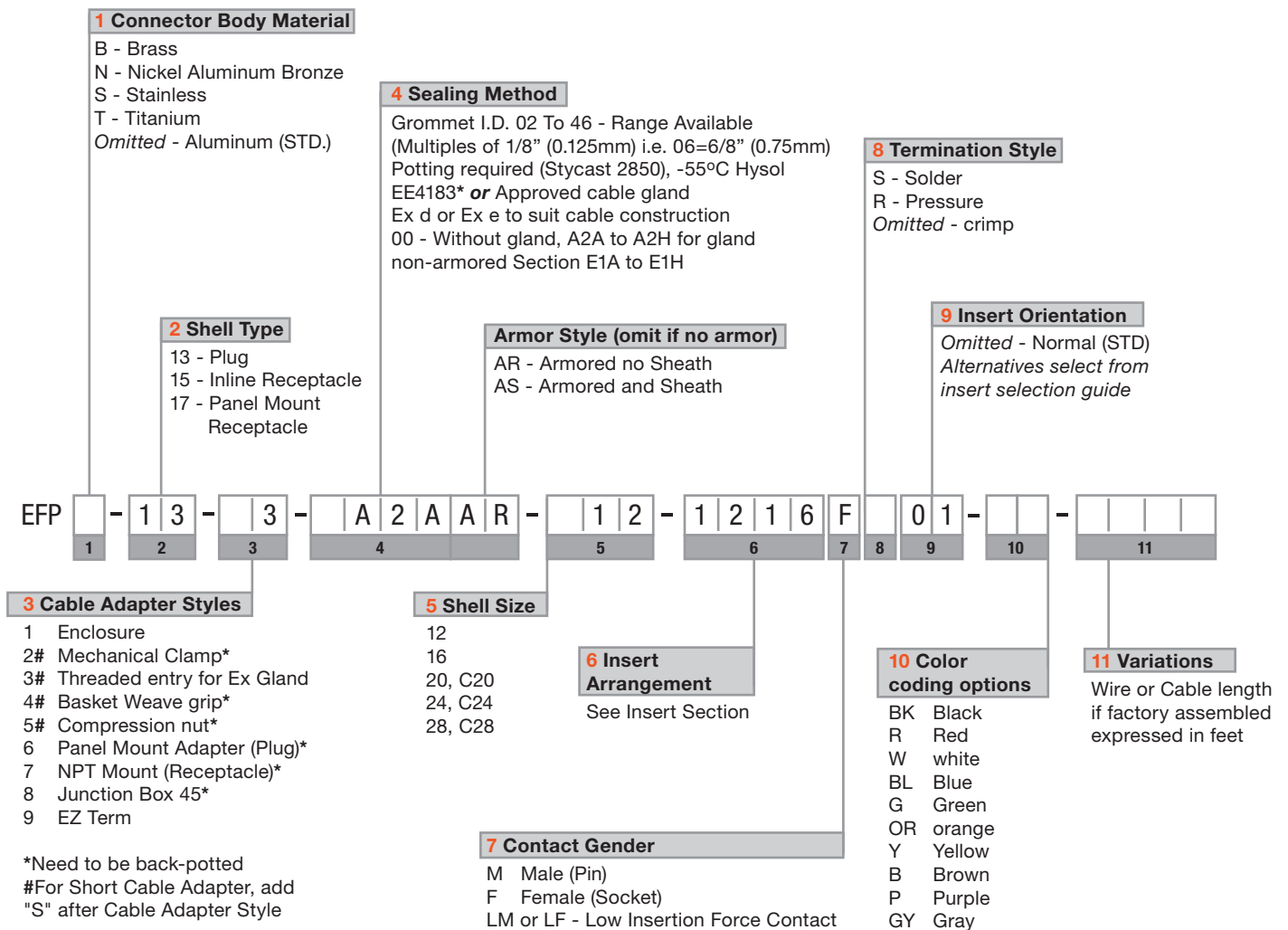


EFP Cable Assemblies

All connector variants are available as complete cable assemblies whether the cable mounted variants of receptacles requiring leads. We are able to provide receptacle assembled and certified in accordance with the following protection concepts: Eex d, Eex e, Eex and P.

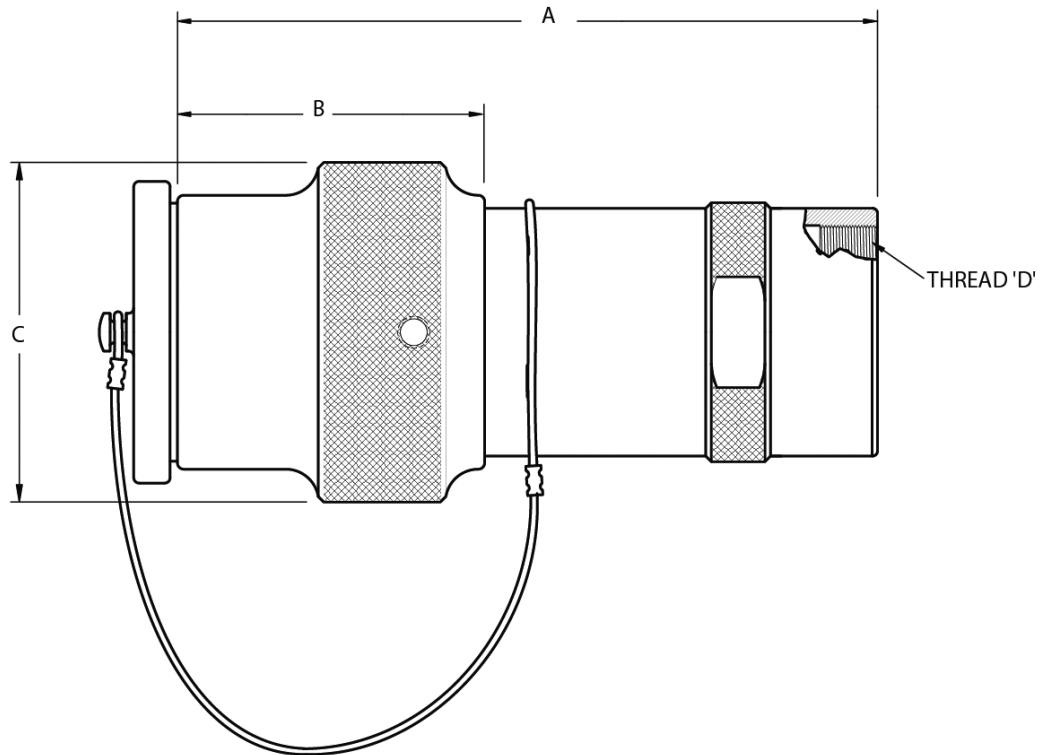
CODE LOGIC

EFP SERIES



INLINE PLUG WITH THREADED ENTRY (METRIC)

EFP-13-3-XX



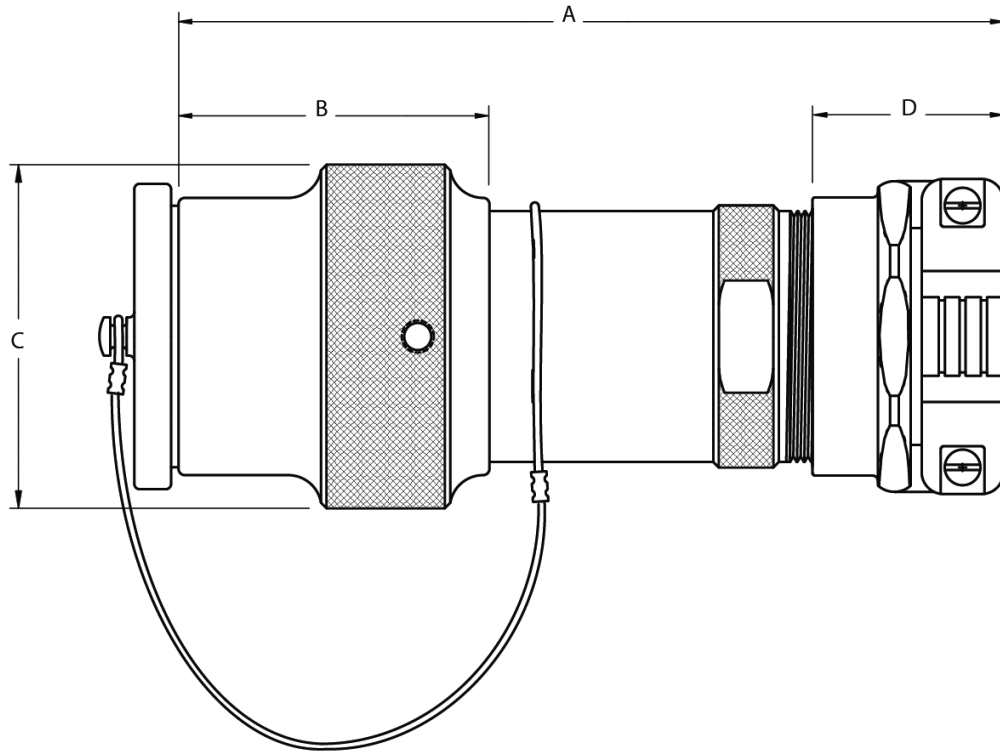
Shell Size	Dimension			
	A	B	C	Tread D
12	5-3/4 (146.1)	3-1/16 (77.8)	2-1/4 (57.1)	M25x1.5-6H
16	7-3/4 (196.9)	3-1/16 (77.8)	2-3/4 (69.9)	M40x1.5-6H
20	7-3/4 (196.9)	3-1/16 (77.8)	3-1/4 (82.6)	M50x1.5-6H
24	7-3/4 (196.9)	3-1/16 (77.8)	3-3/4 (95.2)	M63x1.5-6H
28	7-3/4 (196.9)	3-1/16 (77.8)	4-1/4 (107.9)	M75x1.5-6H

Notes: For "C" length inserts, add 1/2" (12.7mm) to both dimensions "A" & "B".



INLINE PLUG WITH MECHANICAL CLAMP

EFP-13-2-XX



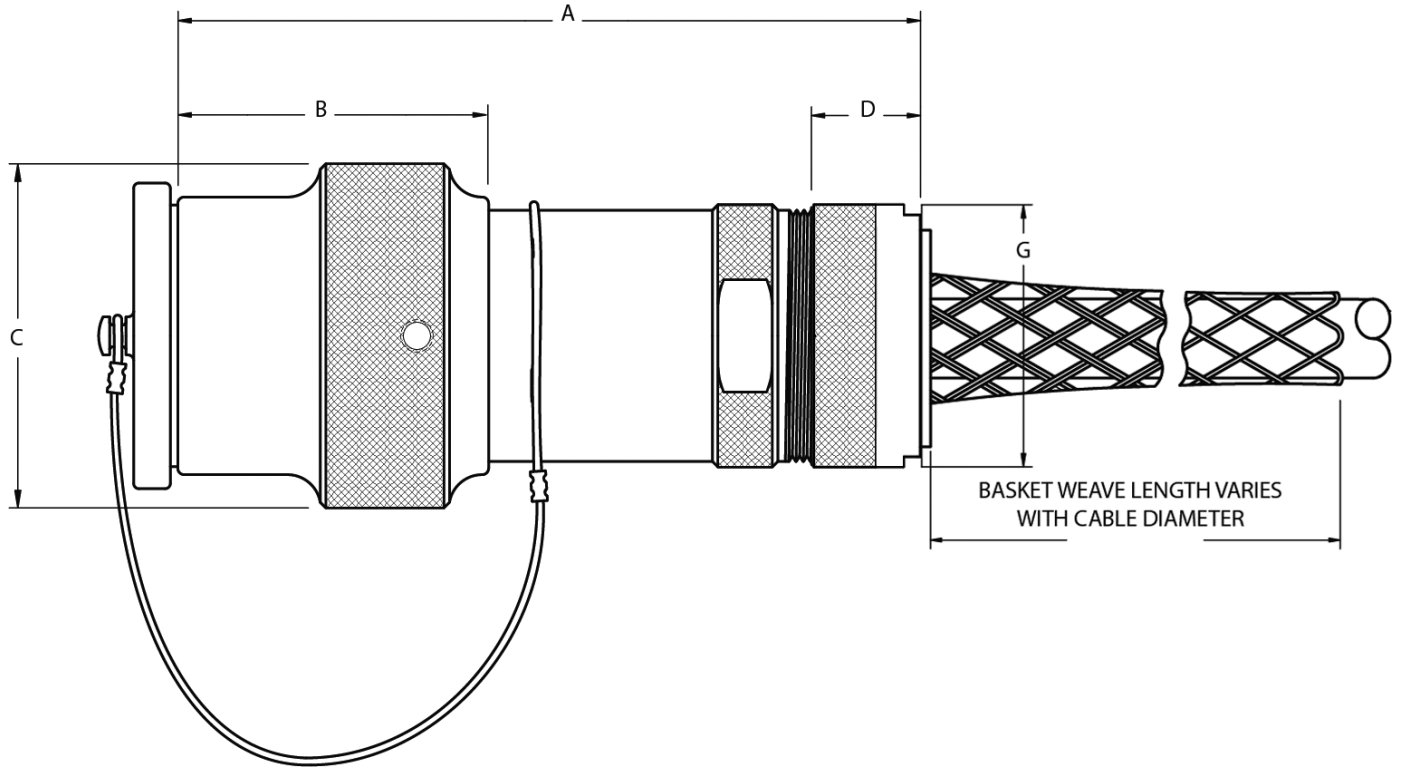
Shell Size	Dimension				
	A	B	C	D	E
12	7-1/4 (184.1)	3-1/16 (77.8)	2-1/4 (57.1)	2 (50.8)	2-3/8 (60.3)
16	9-5/16 (236.5)	3-1/16 (77.8)	2-3/4 (69.9)	2-1/16 (52.4)	3 (76.2)
20	9-3/8 (238.1)	3-1/16 (77.8)	3-1/4 (82.6)	2-1/8 (54.0)	3-3/4 (95.3)
24	9-7/16 (239.7)	3-1/16 (77.8)	3-3/4 (95.2)	2-3/16 (55.6)	4-1/2 (114.3)
28	9-1/2 (241.3)	3-1/16 (77.8)	4-1/4 (107.9)	2-1/4 (57.2)	5-1/8 (130.2)

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



INLINE PLUG WITH BASKET WEAVE GRIP

EFP-13-4-XX



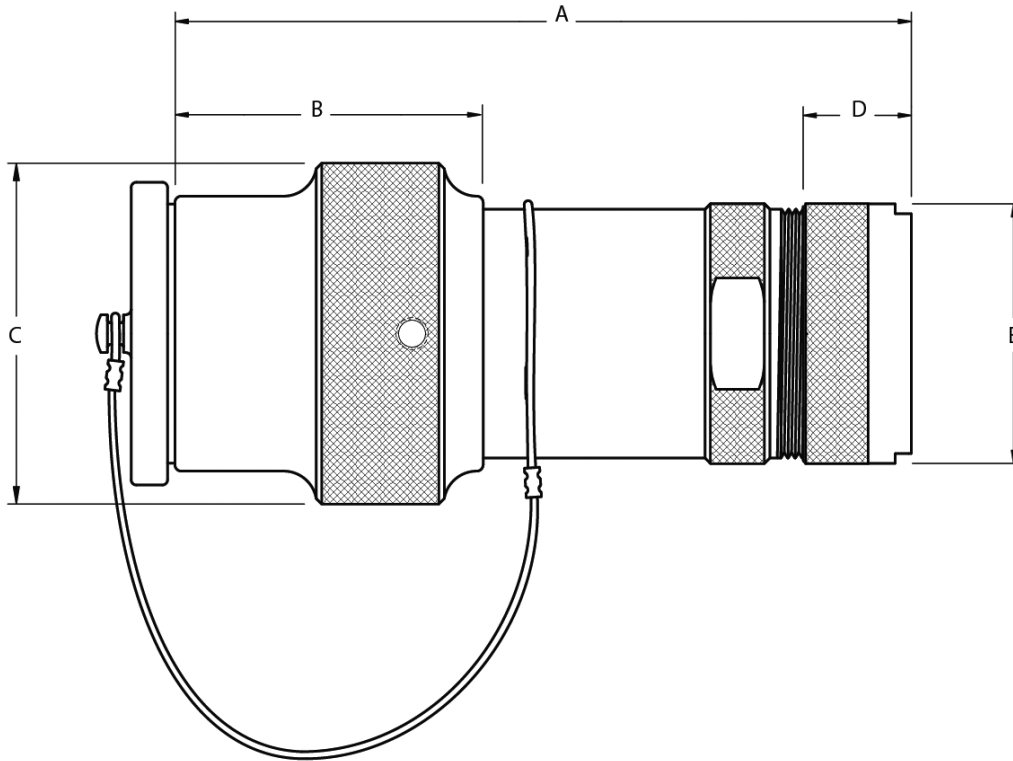
Shell Size	Dimension				
	A	B	C	D	E
12	6-1/2 (165.1)	3-1/16 (77.8)	2-1/4 (57.1)	1-1/4 (31.8)	1-1/2 (38.1)
16	8-1/2 (215.9)	3-1/16 (77.8)	2-3/4 (69.9)	1-1/4 (31.8)	2 (50.8)
20	8-1/2 (215.9)	3-1/16 (77.8)	3-1/4 (82.6)	1-1/4 (31.8)	2-1/2 (63.5)
24	8-1/2 (215.9)	3-1/16 (77.8)	3-3/4 (95.2)	1-1/4 (31.8)	3 (76.2)
28	8-1/2 (215.9)	3-1/16 (77.8)	4-1/4 (107.9)	1-1/4 (31.8)	3-1/2 (88.9)

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



INLINE PLUG WITH COMPRESSION NUT

EFP-13-5-XX



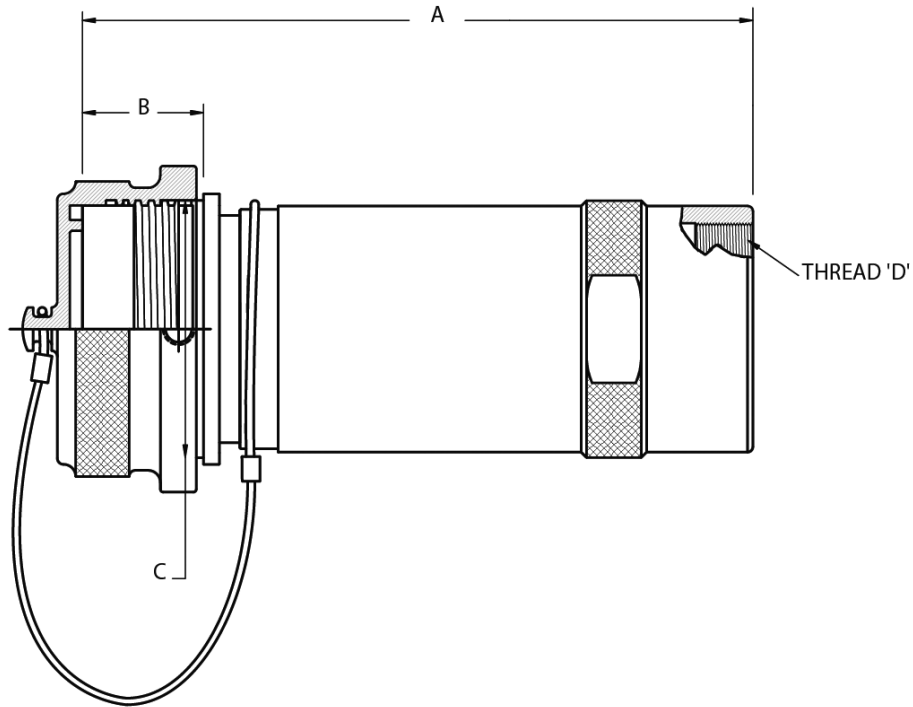
Shell Size	Dimension				
	A	B	C	D	E
12	6-1/2 (165.1)	3-1/16 (77.8)	2-1/4 (57.1)	1-1/4 (31.8)	1-1/2 (38.1)
16	8-1/2 (215.9)	3-1/16 (77.8)	2-3/4 (69.9)	1-1/4 (31.8)	2 (50.8)
20	8-1/2 (215.9)	3-1/16 (77.8)	3-1/4 (82.6)	1-1/4 (31.8)	2-1/2 (63.5)
24	8-1/2 (215.9)	3-1/16 (77.8)	3-3/4 (95.2)	1-1/4 (31.8)	3 (76.2)
28	8-1/2 (215.9)	3-1/16 (77.8)	4-1/4 (107.9)	1-1/4 (31.8)	3-1/2 (88.9)

Notes: For "C" length inserts, add 1/2" (12.7mm) to both dimensions "A" & "B".



INLINE RECEPTACLE WITH THREADED ENTRY

EFP-15-3-XX



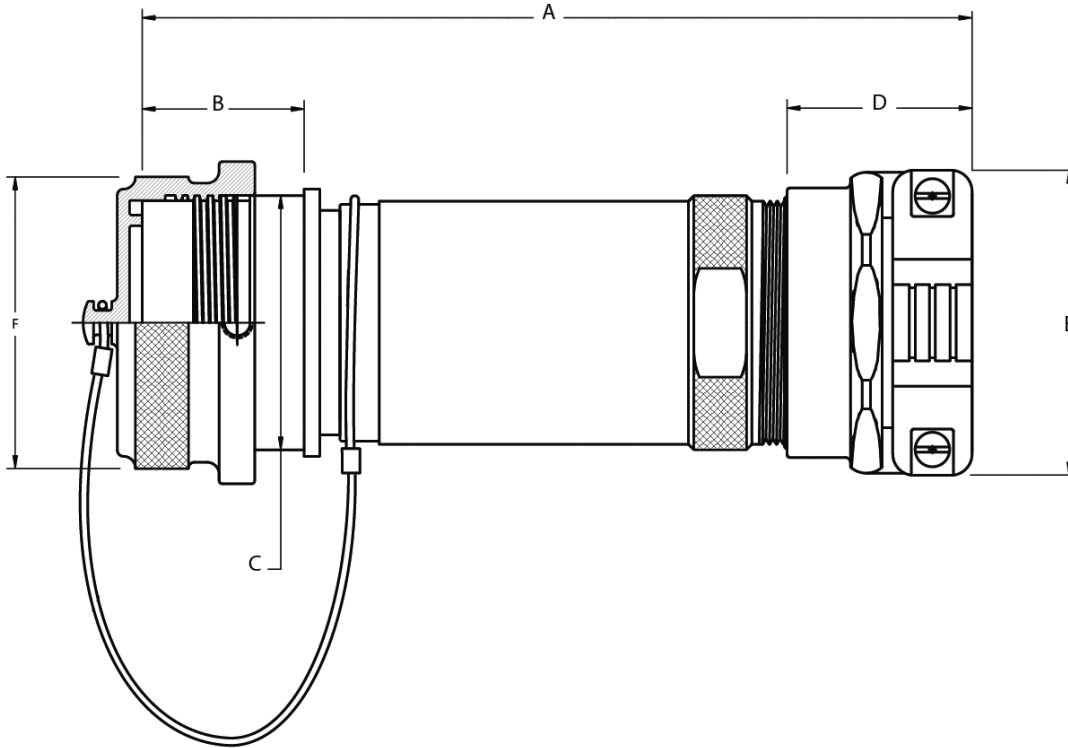
Shell Size	Dimension			
	A	B	C	Tread D
12	6-1/8 (155.6)	1-1/2 (38.1)	1-1/2 (38.1)	M25x1.5-6H
16	8-1/8 (206.4)	1-1/2 (38.1)	2 (50.8)	M40x1.5-6H
20	8-1/8 (206.4)	1-1/2 (38.1)	2-1/2 (63.5)	M50x1.5-6H
24	8-1/8 (206.4)	1-1/2 (38.1)	3 (76.2)	M63x1.5-6H
28	8-1/8 (206.4)	1-1/2 (38.1)	3-1/2 (88.9)	M75x1.5-6H

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



INLINE RECEPTACLE WITH MECHANICAL CLAMP

EFP-15-2-XX



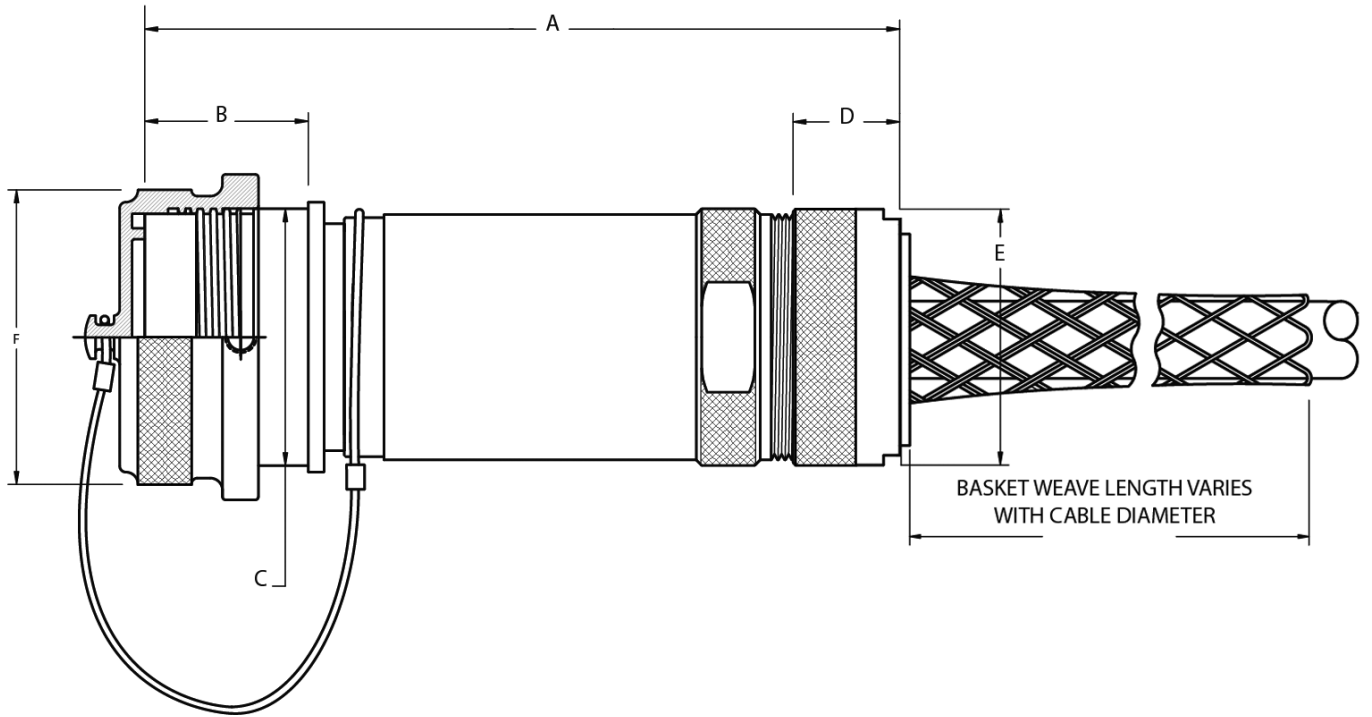
Shell Size	Dimension				
	A	B	C	D	E
12	7-1/4 (184.1)	1-3/4 (44.5)	1-1/2 (38.1)	2 (50.8)	2-3/8 (60.3)
16	9-1/4 (235.9)	1-3/4 (44.5)	2 (50.8)	2-1/16 (52.4)	3 (76.2)
20	9-5/16 (236.5)	1-3/4 (44.5)	2-1/2 (63.5)	2-1/8 (54.0)	3-3/4 (95.3)
24	9-3/8 (238.1)	1-3/4 (44.5)	3 (76.2)	2-3/16 (55.6)	4-1/2 (114.3)
28	9-7/16 (239.6)	1-3/4 (44.5)	3-1/2 (88.9)	2-1/4 (57.2)	5-1/8 (130.2)

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



INLINE RECEPTACLE WITH BASKET WEAVE GRIP

EFP-15-4-XX



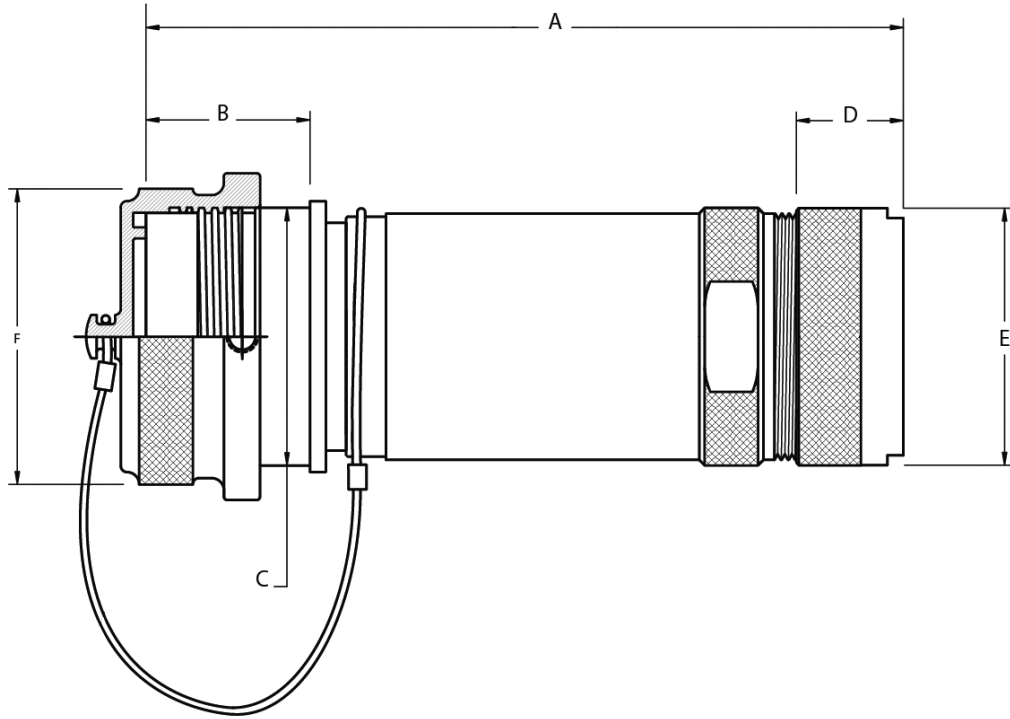
Shell Size	Dimension				
	A	B	C	D	E
12	6-1/2 (165.1)	1-3/4 (44.5)	1-1/2 (38.1)	1-1/4 (31.8)	1-1/2 (38.1)
16	8-1/2 (215.9)	1-3/4 (44.5)	2 (50.8)	1-1/4 (31.8)	2 (50.8)
20	8-1/2 (215.9)	1-3/4 (44.5)	2-1/2 (63.5)	1-1/4 (31.8)	2-1/2 (63.5)
24	8-1/2 (215.9)	1-3/4 (44.5)	3 (76.2)	1-1/4 (31.8)	3 (76.2)
28	8-1/2 (215.9)	1-3/4 (44.5)	3-1/2 (88.9)	1-1/4 (31.8)	3-1/2 (88.9)

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



INLINE RECEPTACLE WITH COMPRESSION NUT

EFP-15-5-XX



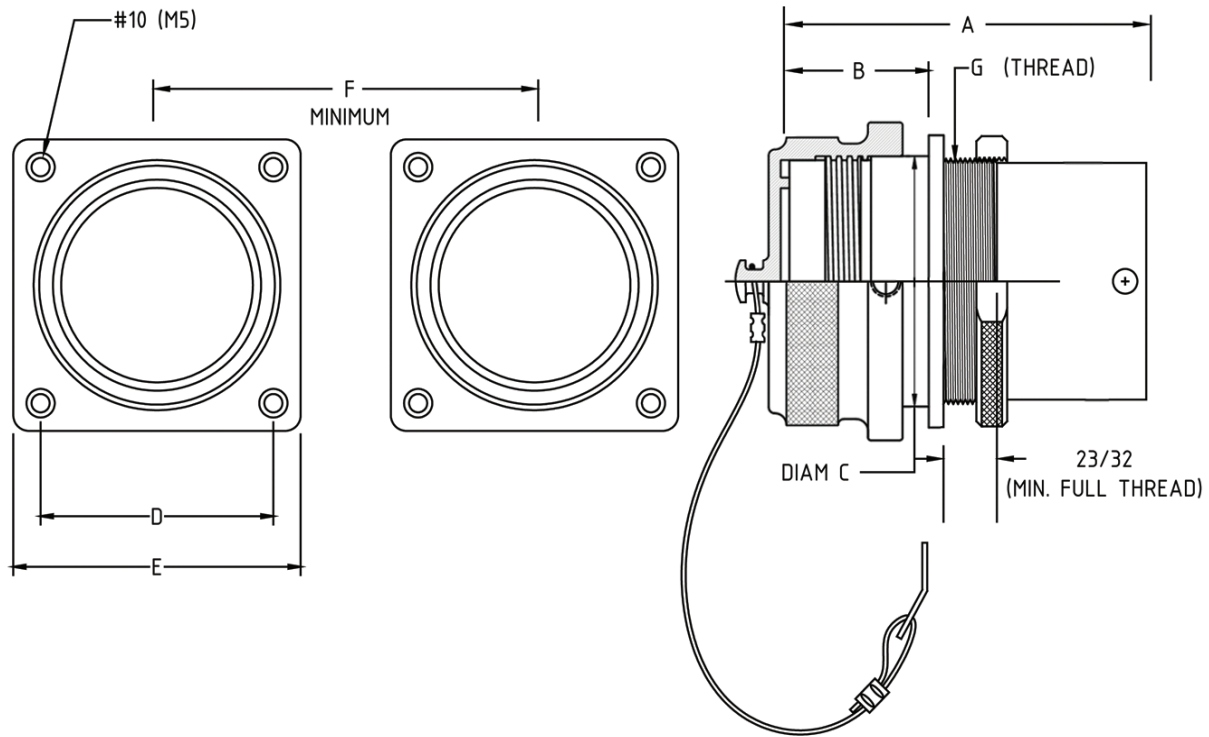
Shell Size	Dimension				
	A	B	C	D	E
12	6-1/2 (165.1)	1-3/4 (44.5)	1-1/2 (38.1)	1-1/4 (31.8)	1-1/2 (38.1)
16	8-1/2 (215.9)	1-3/4 (44.5)	2 (50.8)	1-1/4 (31.8)	2 (50.8)
20	8-1/2 (215.9)	1-3/4 (44.5)	2-1/2 (63.5)	1-1/4 (31.8)	2-1/2 (63.5)
24	8-1/2 (215.9)	1-3/4 (44.5)	3 (76.2)	1-1/4 (31.8)	3 (76.2)
28	8-1/2 (215.9)	1-3/4 (44.5)	3-1/2 (88.9)	1-1/4 (31.8)	3-1/2 (88.9)

Notes: For "C" length inserts, add 1/2" (12.7mm) to both dimensions "A" & "B".



PANEL MOUNT RECEPTACLE

EFP-17-1-XX



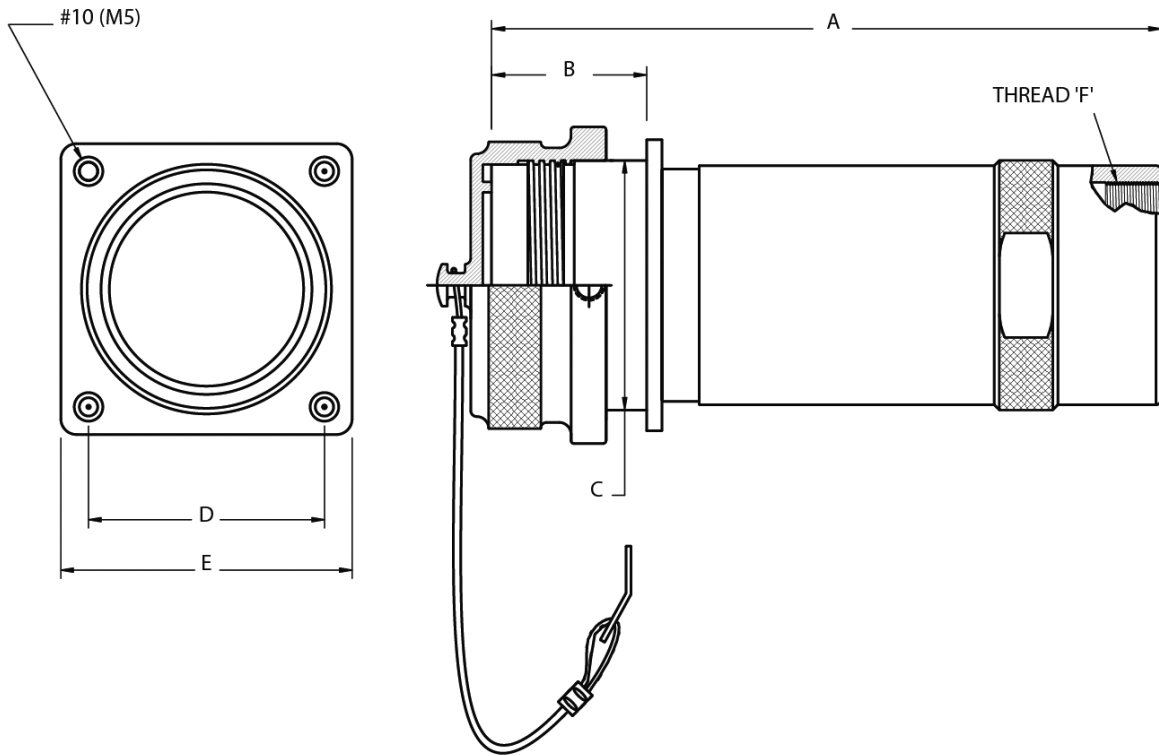
Shell Size	Dimension						
	A	B	C	D	E	F	G
12	4-3/4 (120.7)	1-3/4 (44.5)	1-1/2 (38.1)	1.654 (42)	2-1/4 (57.2)	3-3/8 (86)	M40x1.5 -6g
16	4-3/4 (120.7)	1-3/4 (44.5)	2 (50.8)	2.047 (52)	2-5/8 (66.7)	3-7/8 (98)	M50x1.5 -6g
20	4-3/4 (120.7)	1-3/4 (44.5)	2-1/2 (63.5)	2.441 (62)	3 (76.2)	4-5/8 (118)	M63x1.5 -6g
24	4-3/4 (120.7)	1-3/4 (44.5)	3 (76.2)	2.835 (72)	3-1/2 (88.9)	5-1/8 (130)	M75x1.5 -6g
28	4-3/4 (120.7)	1-3/4 (44.5)	3-1/2 (88.9)	3.228 (82)	4 (101.6)	5-5/8 (143)	M90x1.5 -6g

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



PANEL MOUNT RECEPTACLE WITH THREADED ENTRY (METRIC)

EFP-17-3-XX



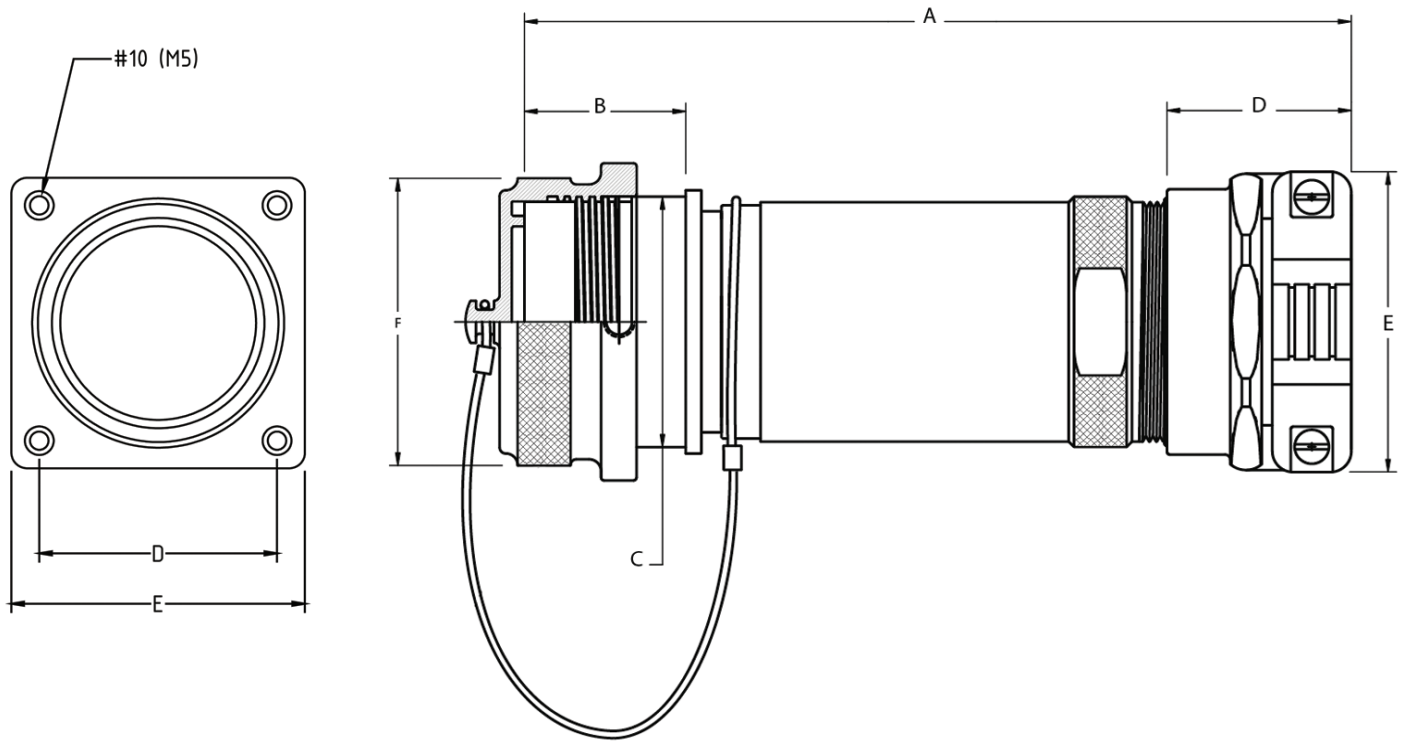
Shell Size	Dimension					
	A	B	C	D	E	Thread F
12	5-7/8 (150)	1-3/4 (44.5)	1-1/2 (38.1)	1.654 (42)	2-1/4 (57.2)	M25x1.5-6H
16	7-7/8 (200)	1-3/4 (44.5)	2 (50.8)	2.047 (52)	2-5/8 (66.7)	M40x1.5-6H
20	7-7/8 (200)	1-3/4 (44.5)	2-1/2 (63.5)	2.441 (62)	3 (76.2)	M50x1.5-6H
24	7-7/8 (200)	1-3/4 (44.5)	3 (76.2)	2.835 (72)	3-1/2 (88.9)	M63x1.5-6H
28	7-7/8 (200)	1-3/4 (44.5)	3-1/2 (88.9)	3.228 (82)	4 (101.6)	M75x1.5-6H

Notes: For "C" length inserts, add 1/2" (12.7mm) to both dimensions "A" & "B".



PANEL MOUNT RECEPTACLE WITH MECHANICAL CLAMP

EFP-17-2-XX



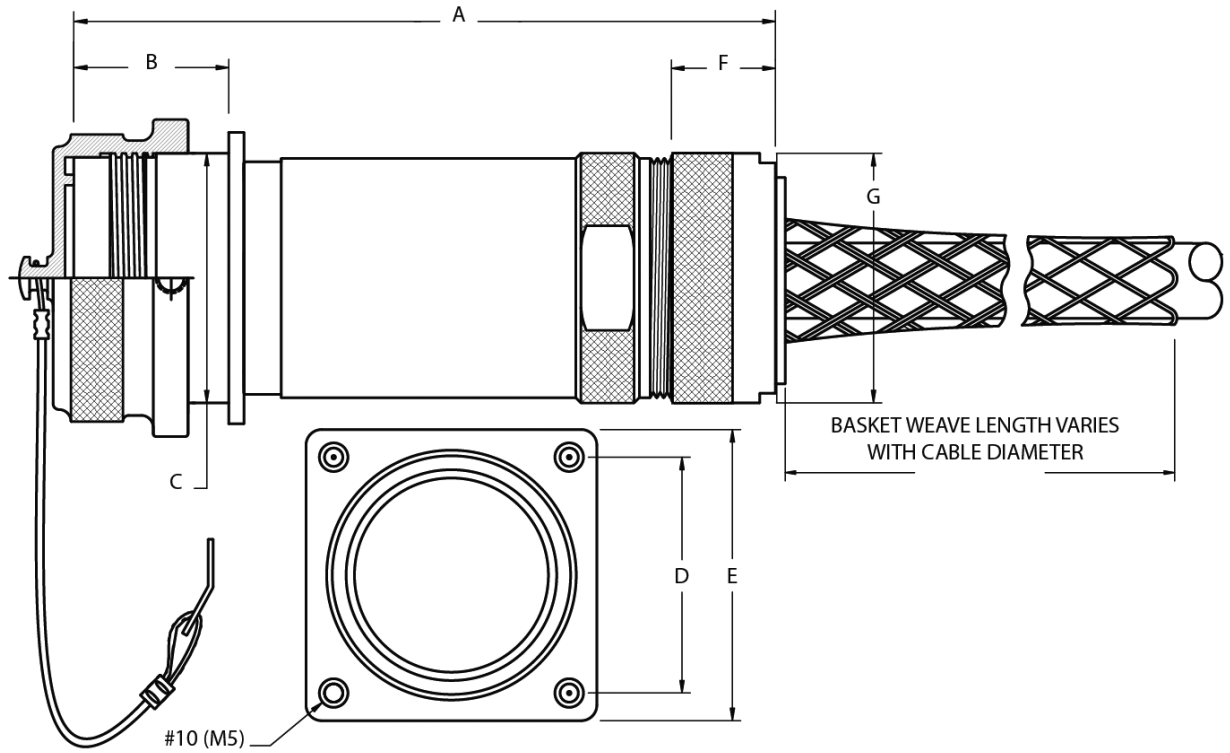
Shell Size	Dimension						
	A	B	C	D	E	F	G
12	7-1/4 (184.1)	1-3/4 (44.5)	1-1/2 (38.1)	1.654 (42)	2-1/4 (57.2)	2 (50.8)	2-3/8 (60.3)
16	9-1/4 (235.9)	1-3/4 (44.5)	2 (50.8)	2.047 (52)	2-5/8 (66.7)	2-1/16 (52.4)	3 (76.2)
20	9-5/16 (236.5)	1-3/4 (44.5)	2-1/2 (63.5)	2.441 (62)	3 (76.2)	2-1/8 (54.0)	3-3/4 (95.3)
24	9-3/8 (238.1)	1-3/4 (44.5)	3 (76.2)	2.835 (72)	3-1/2 (88.9)	2-3/16 (55.6)	4-1/2 (114.3)
28	9-7/16 (239.6)	1-3/4 (44.5)	3-1/2 (88.9)	3.228 (82)	4 (101.6)	2-1/4 (57.2)	5-1/8 (130.2)

Notes: For "C" length inserts, add 1/2" (12.7) to both dimensions "A" & "B".



PANEL MOUNT RECEPTACLE WITH BASKET WEAVE GRIP

EFP-17-4-XX



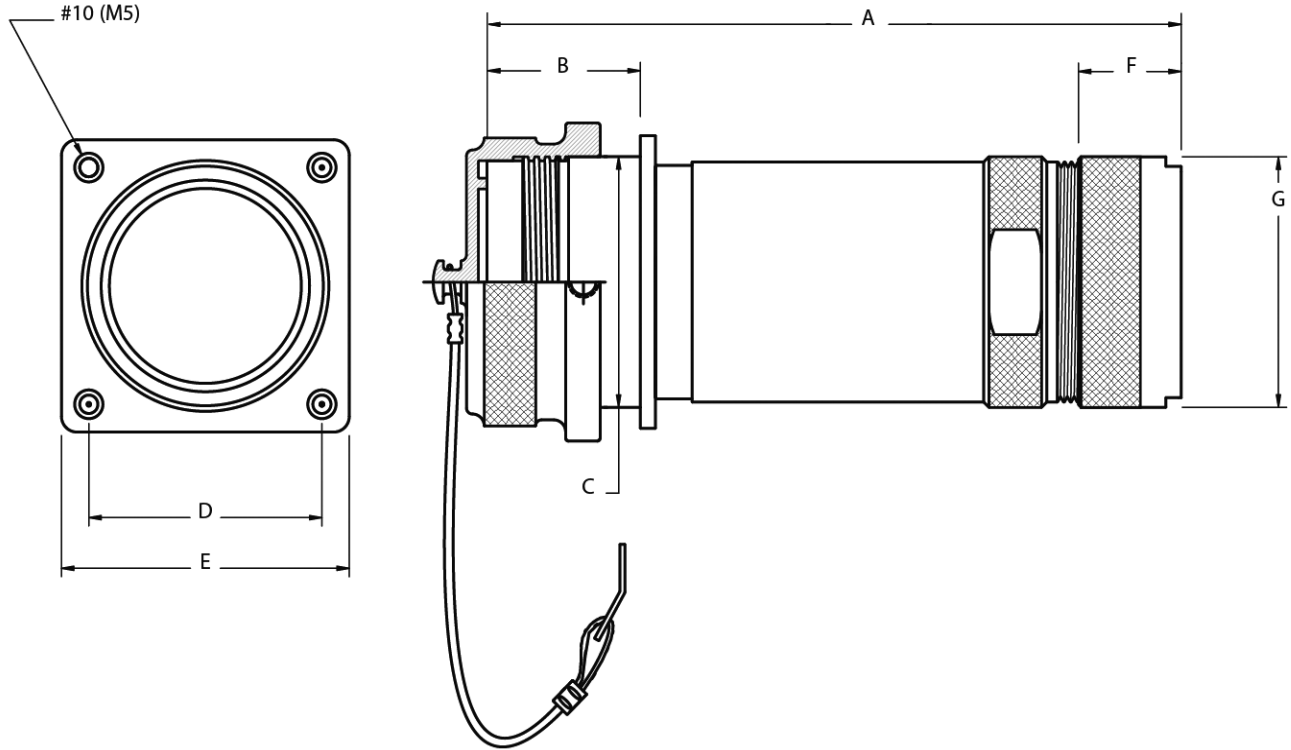
Shell Size	Dimension						
	A	B	C	D	E	F	G
12	6-1/2 (165.1)	1-3/4 (44.5)	1-1/2 (38.1)	1.654 (42)	2-1/4 (57.2)	1-1/4 (31.8)	1-1/2 (38.1)
16	8-1/2 (215.9)	1-3/4 (44.5)	2 (50.8)	2.047 (52)	2-5/8 (66.7)	1-1/4 (31.8)	2 (50.8)
20	8-1/2 (215.9)	1-3/4 (44.5)	2-1/2 (63.5)	2.441 (62)	3 (76.2)	1-1/4 (31.8)	2-1/2 (63.5)
24	8-1/2 (215.9)	1-3/4 (44.5)	3 (76.2)	2.835 (72)	3-1/2 (88.9)	1-1/4 (31.8)	3 (76.2)
28	8-1/2 (215.9)	1-3/4 (44.5)	3-1/2 (88.9)	3.228 (82)	4 (101.6)	1-1/4 (31.8)	3-1/2 (88.9)

Notes: For "C" length inserts, add 1/2" (12.7mm) to both dimensions "A" & "B".



PANEL MOUNT RECEPTACLE WITH COMPRESSION NUT

EFP-17-5-XX



Shell Size	Dimension						
	A	B	C	D	E	F	G
12	6-1/2 (165.1)	1-3/4 (44.5)	1-1/2 (38.1)	1.654 (42)	2-1/4 (57.2)	1-1/4 (31.8)	1-1/2 (38.1)
16	8-1/2 (215.9)	1-3/4 (44.5)	2 (50.8)	2.047 (52)	2-5/8 (66.7)	1-1/4 (31.8)	2 (50.8)
20	8-1/2 (215.9)	1-3/4 (44.5)	2-1/2 (63.5)	2.441 (62)	3 (76.2)	1-1/4 (31.8)	2-1/2 (63.5)
24	8-1/2 (215.9)	1-3/4 (44.5)	3 (76.2)	2.835 (72)	3-1/2 (88.9)	1-1/4 (31.8)	3 (76.2)
28	8-1/2 (215.9)	1-3/4 (44.5)	3-1/2 (88.9)	3.228 (82)	4 (101.6)	1-1/4 (31.8)	3-1/2 (88.9)

Notes: For "C" length inserts, add 1/2" (12.7mm) to both dimensions "A" & "B".



EEX D CABLE TYPES / CABLE GLAND

Amphenol EEC offers an extensive line of explosion-proof and general duty cable glands. Consult Amphenol Industrial Operations and ask for new catalog 12-055, Amphenol Cable Glands and Cord Grips.

EEx d Cable GLand Size Code	Unarmored Cable No deviation if Unarmored		Armored & Sheathed Cable				Armored & Sheathed with reduced bore	
			UA		Standard		OD-Reduced	
	Min	Max	Min	Max	Min	Max	Min	Max
A1	.1575 (4.0)	.3307 (8.4)	.1339 (3.4)	.3307 (8.4)	.3543 (9.0)	.5315 (13.5)	.2638 (6.7)	.4055 (10.3)
A2	.2835 (7.2)	.4606 (11.7)	.2835 (7.2)	.4606 (11.7)	.4528 (11.5)	.6299 (16.0)	.3701 (9.4)	.4921 (12.5)
A	.3780 (9.6)	.5512 (14.0)	.3701 (9.4)	.5512 (14.0)	.6102 (15.5)	.8307 (21.1)	.4724 (12.0)	.6929 (17.6)
B	.5315 (13.5)	.7874 (20.0)	.5315 (13.5)	.7874 (20.0)	.7992 (20.3)	1.079 (27.4)	.6614 (16.8)	.9409 (23.9)
C	.7677 (19.5)	1.035 (26.3)	.7677 (19.5)	1.035 (26.3)	1.051 (26.7)	1.339 (34.0)	.9134 (23.2)	1.201 (30.5)
C2	.9055 (23.0)	1.268 (32.2)	.9055 (23.0)	1.268 (32.2)	1.299 (33.0)	1.598 (40.6)	1.126 (28.6)	1.425 (36.2)
D	1.110 (28.2)	1.504 (38.2)	1.016 (28.1)	1.504 (38.2)	1.551 (39.4)	1.839 (46.7)	1.370 (34.8)	1.669 (42.4)
D2	1.307 (33.2)	1.736 (44.1)	1.303 (33.1)	1.736 (44.1)	1.799 (45.7)	2.094 (53.2)	1.618 (41.1)	1.909 (48.5)
E	1.547 (39.3)	1.972 (50.1)	1.543 (39.2)	1.969 (50.0)	2.051 (52.1)	2.343 (59.5)	1.870 (47.5)	2.157 (54.8)
E2	1.839 (46.7)	2.205 (56.0)	1.839 (46.7)	2.205 (56.0)	2.299 (58.4)	2.591 (65.8)	2.118 (53.8)	2.409 (61.2)
F	2.059 (52.3)	2.441 (62.0)	2.051 (52.1)	2.441 (62.0)	2.551 (64.8)	2.843 (72.2)	2.370 (60.2)	2.677 (68.0)
F2	2.287 (58.1)	2.677 (68.0)	2.283 (58.0)	2.677 (68.0)	2.799 (71.1)	3.071 (78.0)	2.618 (66.5)	2.890 (73.4)
G	2.453 (62.3)	2.835 (72.0)	2.449 (62.2)	2.835 (72.0)	3.031 (77.0)	3.307 (84.0)	-	-



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