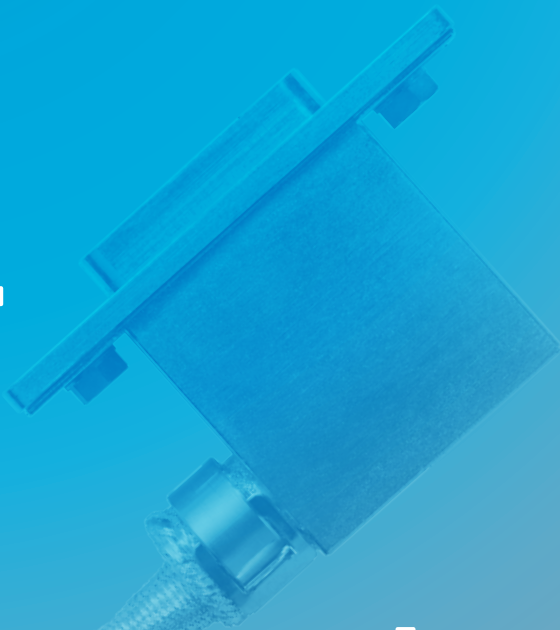




# Backshells

EMI protection for D-Sub & Micro-D Connectors





THE INFORMATION IN THIS CATALOGUE IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AT TIME OF PUBLISHING, HOWEVER, AXON' CANNOT BE HELD LIABLE FOR ANY ERRORS MADE AS A RESULT OF INFORMATION CONTAINED HEREIN. CHANGES AND MODIFICATIONS CAN BE MADE TO THIS BROCHURE AT ANY TIME WITHOUT PRIOR NOTICE.

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*Please check our list of high runner products, with faster lead times and no MOQ.*

# EMI protection for D-Sub



▲ FROM SHIELDING TECHNIQUES TO MATERIALS; FROM SIMULATION TOOLS TO MEASUREMENT METHODS, AXON' HAS CONTINUOUSLY INNOVATED FOR DECADES IN THE FIELD OF EMI EXPERTISE.

Backshells are used for mechanical protection and cable strain relief at the rear of the connector, and very often also to provide enhanced EMI protection in this area. The MIL-STD-1553 standard, for example, strongly recommends the use of backshells in order to have an effective shield coverage for an overall cable assembly.

Axon's backshells are designed to provide both effective EMC and mechanical protection to the cables, and they come in a variety of configurations to adapt to the specific space constraints in each application. The rectangular backshells in this catalogue are compatible with Micro-D connectors in accordance with MIL-DTL-83513 and D-Sub connectors in accordance with MIL-DTL-24308.

Axon's rectangular backshells are designed for a wide range of applications so they can be configured as required. The size of the funnel, the orientation and the available space inside for the wires can all be selected to suit. The position and size of the cable entry is particularly important as these are the two key features that can determine the correct fit of the cable harness within the available space, and also the optimum EMC performance of the harness. With most of the backshells shown in these pages, the cable entry can be either circular (in a number of available diameters) or elliptical. The elliptical entry is particularly useful for some larger cable bundles, to allow the harness to be locally flattened out at that point, and become easier to manipulate, whereas the circular entry, where possible, allows for a more uniform EMC screen termination. In addition, the cable entry (often also referred to as the "funnel", "chimney" or "outlet") can exit from the body of the backshells in a number of positions:

- **Top Entry (U):** Also called "Straight entry" – where the funnel exits from the back or top of the backshell,
- **90° Side Entry (Z):** This is where the funnel exits at 90° from one of the "long" sides or faces of the backshell, as opposed to the shorter edges,
- **90° Edge Entry (T):** This describes a 90° edge entry, i.e. where the cable exits to the side of the connector, over the top of the hardware. *Note:* although this can be useful to fit into certain spaces, it makes it very difficult to access the screwing hardware underneath the funnel,
- **45° Edge Entry (F):** This is also an edge entry, but with a 45° angle, leaving a little more accessibility over the hardware,
- **Capped (C):** Similar to a backshell, this is a closed EMC enclosure around the back of a connector, so here there is no cable entry at all.



## STANDARD EMC BACKSHELLS

For standard EMC backshells, the interface between the connectors is visible, this area can be susceptible to electromagnetic interference and can therefore reduce overall EMC performance. In order to overcome this issue, enhanced EMC panel-mount backshells offer a complete protection. The interface is protected by the backshell itself along with an EMI gasket.

# & Micro-D connectors

Although most backshells will be produced in plated Aluminium Alloy by default (with a range of available plating options) they can also be selected in Stainless Steel, Titanium or indeed other materials if required for specific applications.

It is possible to find "open" backshells, usually with some kind of cable clamp, intended only to provide mechanical protection and strain relief, but without any EMC function. These styles are not shown in this document. All Axon' backshells featuring in this brochure are closed metallic versions, and therefore they all have some degree of EMI protection when correctly terminated to the cable screens.

Two general levels of EMI protection are available:

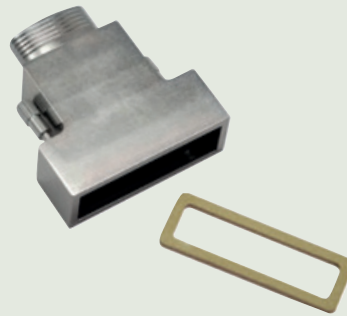
- **Standard EMC backshell.** Here, the interface between the mated pair of connectors is outside the backshell, therefore the overall EMC performance can be degraded depending on the quality of the interface between the two connectors and also between the cable connector and the equipment panel.
- **Enhanced EMC "panel-mount" backshell.** This version entirely shrouds the front face of the connector and makes contact directly with the equipment panel via an EMI gasket, providing excellent 360° continuity between the cable shield and the equipment.



▲ THE AXON' GROUP HAS IN-HOUSE EXPERTISE INCLUDING MACHINING FOR STANDARD AND CUSTOM-DESIGNED CONNECTORS & BACKSHELLS, METAL AND PLASTIC PARTS.

## ENHANCED EMC PANEL-MOUNT BACKSHELLS

With the aid of a conductive EMI gasket bonded to the front face, this backshell provides a high degree of shielding efficiency up to around 10 GHz. EMC enhanced panel-mount backshells are available for a range of standard panel thicknesses, but customised versions are also possible on request.



### Application Notes:

1. The benefit of the panel-mount backshell that shrouds the front of the connector is it provides a 360° screen connection with the panel of the equipment itself. The panel surface, or at least the area of contact with the backshell, must, therefore, be conductive.
2. When choosing the EMI panel-mount version, the conductive gasket will be supplied loose in the bag with protective backing on the adhesive side. It should ideally be applied to the front face of the backshell just before integration.

QUALITY  
ASSURANCE

ISO 9001

ISO 9100

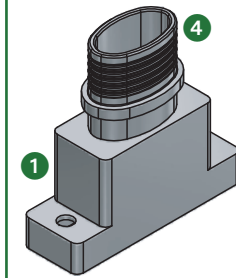
ISO 14001

ISO 45001

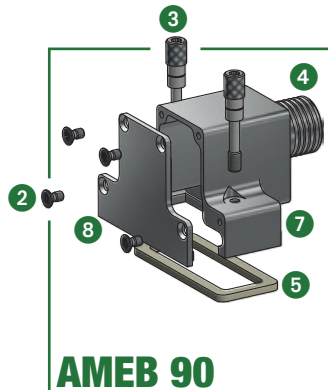
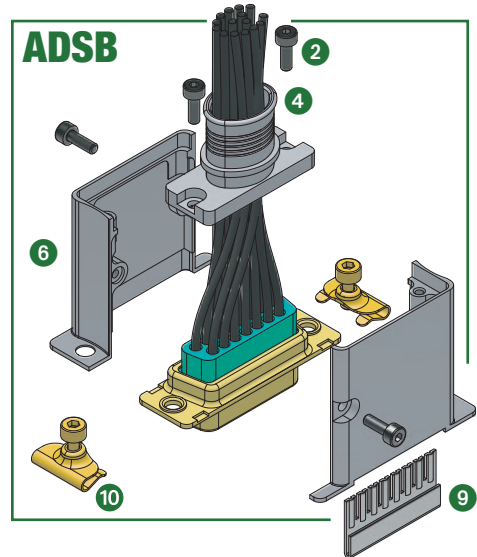


## GLOSSARY OF TERMS

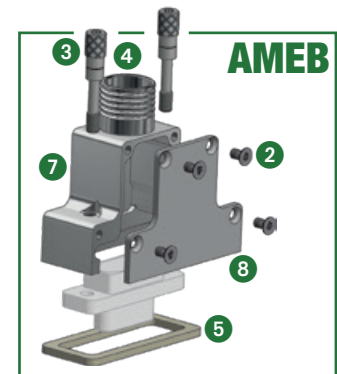
### AXON



### ADSB



### AMEB 90



### AMEB

BACKSHELL	1	Mechanical & EMI protection for connectors' rears.
SCREW	2	Holds the backshells parts together.
JACKSCREW	3	High profile or hexagonal socket head.
FUNNEL	4	Helps to direct the pigtails without damaging it.
EMI GASKET	5	Improves EMI performances between connectors & panels.
SYMETRICAL HALF BACKSHELL	6	Backshell made of two symetrical parts.
BACKSHELL BODY	7	Main piece of multi-part backshells.
BACKSHELL COVER	8	Closes the backshell body.
HALORING	9	Accessory allowing shield grounding for multiple shields.
SCREWLOCK	10	Holds the symetrical half backshells to the connector.

- Monobloc backshell ● Backshell made of a single piece. For D-Sub et Micro-D connectors.
- Modular multi-part backshell ● Multi-part backshell for D-Sub connectors allowing to change funnels.
- EMC panel-mount Micro-D backshell ● Backshell for panel mount Micro-D connectors.

# PLATING OPTIONS

With over 30 years of plating experience Axon' is able to offer a large range of in-house surface treatment solutions. Axon's plating expertise extends to conductors, flat flexible cables (FFCs), connectors, backshells, contacts, metalwork and composite parts. This vertically integrated capability enables Axon' to offer rapid turnkey interconnect solutions.

The choice of surface treatment of a part can be vitally important in terms of changing its visual appearance, electrical conductivity, corrosion resistance, solderability or its ability to withstand wear or friction. Axon' offers many different types of surface treatment, some of which involve single or multiple metallic plating layers, while others, such as passivation or anodization, involve changing the surface state of the existing base material. The quality and consistency of the surface finish is very important to ensure the overall quality of the finished item, and having this capability fully integrated in-house gives Axon' excellent control over both the quality and the lead-times associated with plating operations.

Axon' offers three standard plating options for the rectangular backshell ranges, but other finishes are available on request.

### Why choose one plating over another?

Below is a selection guide to help the user choose the most suitable backshell finish.

Plating code	Type of plating	Corrosion resistance	Temperature range	Applicable standard	Magne-tism	Common usages	Cost
C	Electroless nickel (Medium Phosphorus)	Good (min. 48 hours in salt spray test)	-55°/+200° C	SAE AMS 2404 class 4	Medium	Most mil/aero/civil applications	\$
CHP	Electroless nickel (High Phosphorus)	Very good (min. 96 hours in salt spray test)	-55°/+200° C	SAE AMS 2404 class 4	Very low	Space, low magnetic applications, common with EMI panel mount range	\$
G	Zinc nickel	Excellent (min. 500 hours in salt spray test)	-55°/+125° C	ASTM B841	Very low	Good RoHS-compliant alternative to cadmium plating. Non-magnetic, non-reflective	\$\$

*Our standard platings are all RoHS compliant.*



DEFENCE



AERONAUTICS



NAVAL



SPACE



OFFSHORE



ENERGY

## EMC PERFORMANCES

Overall shielding effectiveness depends on many things, notably the quality of the cable screening, how well it is terminated to the backshell, and finally the quality of 360° electrical seal between the backshell/connector assembly and the equipment it is connecting to. All of these aspects need to be controlled to ensure a reliable and quantifiable level of EMI performance.

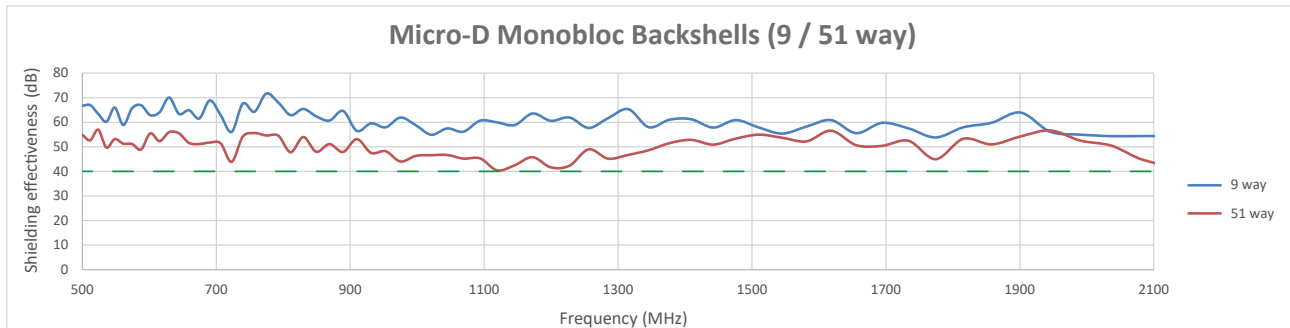
For this reason, the following charts have been produced *for indicative purposes only*. They represent measurements carried out on sample screened cable assemblies manufactured by Axon', and tested in a mode stirred chamber. The measurement of shielding effectiveness is based on the comparison of the electromagnetic power outside the equipment under test (EUT) to the electromagnetic power that propagates into the EUT.

It is defined by the following formula:

$$SE = 10 \cdot \log \left( \frac{P_{Ref}}{P_{EUT}} \right) \quad \begin{array}{l} P_{Ref} = \text{Antenna power} \\ P_{EUT} = \text{Power in test equipment} \end{array}$$

### Micro-D Monobloc Backshells (Code: AXON)

Due to the Micro-D connector geometry, smaller sizes will be a little more efficient. However, with our standard Micro-D Monobloc Backshells, we can expect a shielding effectiveness greater than 40 dB up to 2000 MHz

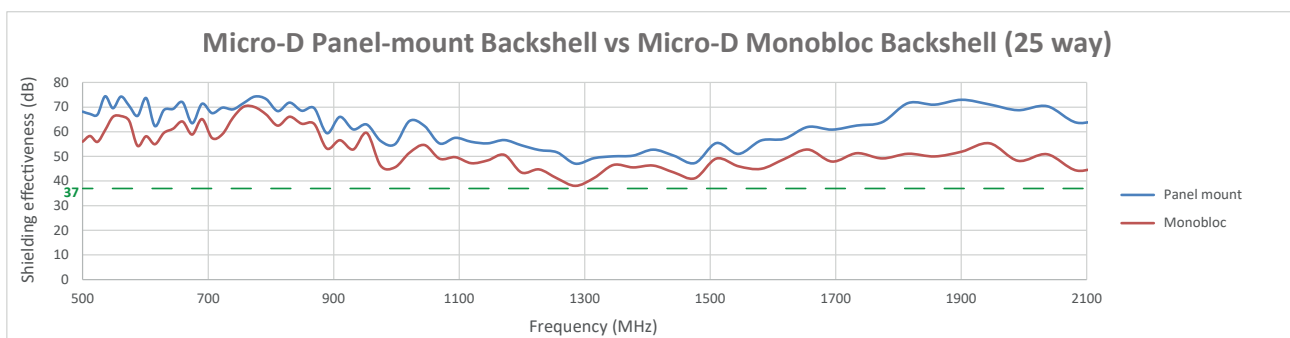


**Expected performance:** > 40 dB up to 2000 MHz

To improve overall performance still further, enhanced EMC Micro-D panel-mount backshells can be used, which typically provide between 10 and 20 dB improvement up to 2000 MHz.

For guidance: 10 dB equates to attenuating the power of the interference by a factor of 6;  
20 dB by a factor of 20.

**Expected performance:** to be better than a Micro-D Monobloc Backshell.

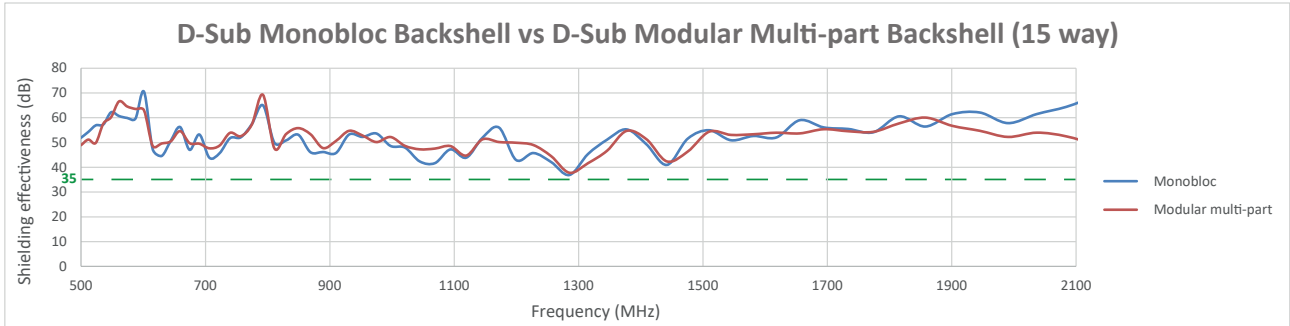




## D-Sub Backshells

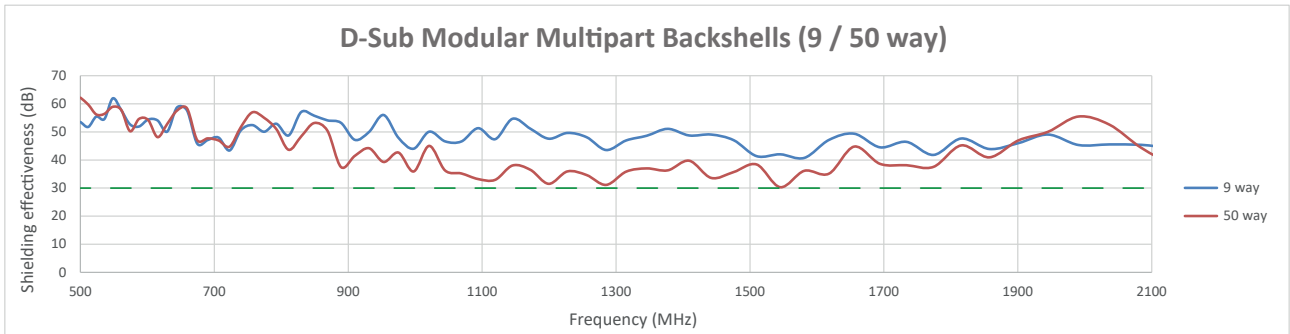
D-Sub Modular Multi-part D-Sub backshells are designed to offer the same performance as the monobloc (machined-from-solid) version to offer a higher versatility. The following chart compares a D-Sub Monobloc backshell and a D-Sub Modular Multi-part backshell.

**Target:** to get as close as possible to the performance of a monobloc backshell.



Due to the D-Sub connector geometry, EMC performances are somewhat different between sizes. However, it is possible to expect a minimum of 30 dB of shielding effectiveness up to 2000 MHz.

**Expected performance:** > 30 dB up to 2000 MHz.



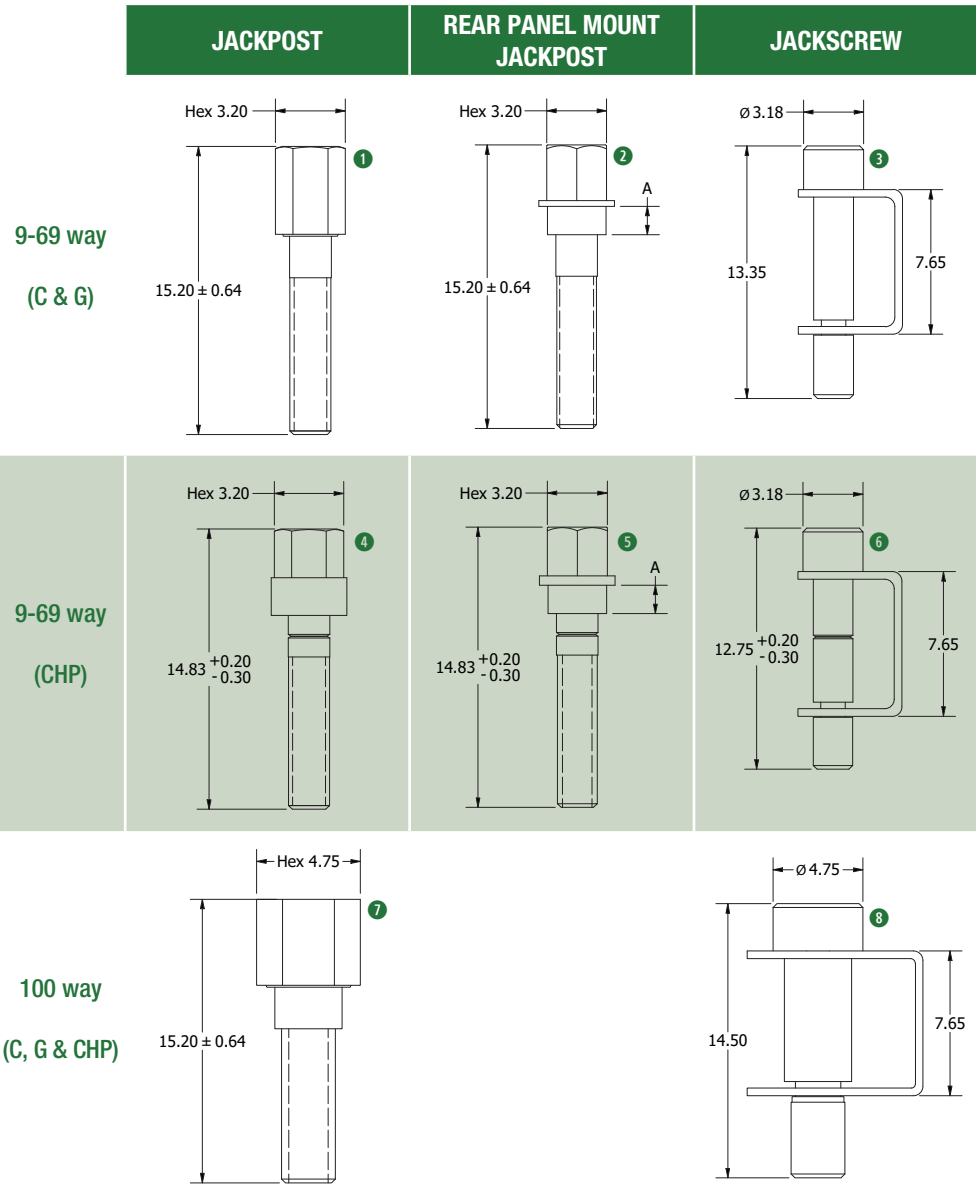
# BACKSHELL HARDWARE

▶ Hardware for AXON series Micro-D backshells

HARDWARE CODE	Jackposts	J1	J2	J3	J4	J5
PANEL THICKNESS -0.0 / +0.2 (-.000 / +.008)	mm	0.8	1.2	1.6	2	2.4
	inch	.031	.047	.062	.079	.094
DIM. A ±0.05 (±.002)	mm	0.7	1.1	1.5	1.9	2.3
	inch	.028	.043	.059	.075	.091

	GENDER	BACKSHELL PLATING	PANEL MOUNT	SIZE	DESCRIPTION	CODE
1	Female	C & G	NO	9-69	Jackpost (2-56 UNC-2B THD)	F
2	Female	C & G	YES	9-69	Rear panel mount jackpost (2-56 UNC-2B THD)	Fx
3	Male	C & G	N/A*	9-69	Jackscrew (2-56 UNC-2A THD)	Blank
4	Female	CHP	NO	9-69	Jackpost (2-56 UNC-2B THD)	F
5	Female	CHP	YES	9-69	Rear panel mount jackpost (2-56 UNC-2B THD)	Fx
6	Male	CHP	N/A*	9-69	Jackscrew (2-56 UNC-2A THD)	Blank
7	Female	C, CHP & G	NO	100	Jackpost (4-40 UNC-2B THD)	F
8	Male	C, CHP & G	N/A*	100	Jackscrew (4-40 UNC-2A THD)	Blank

N/A\*: For panel mounting, only the female hardware need to be specific.



For specific requests, please contact us.

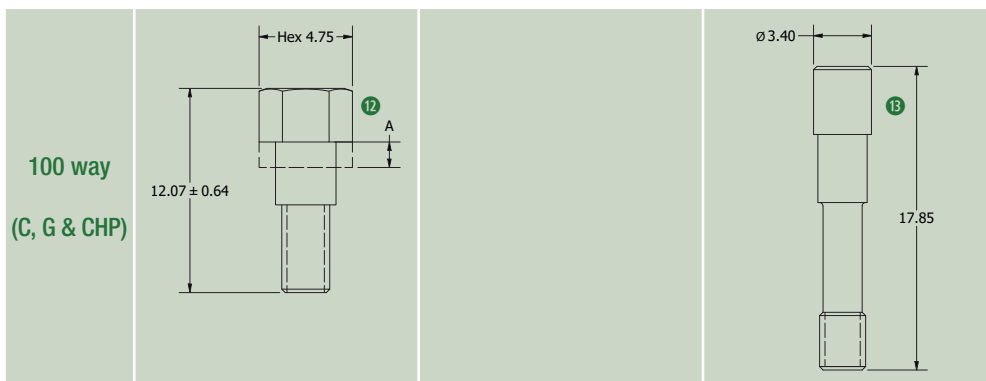
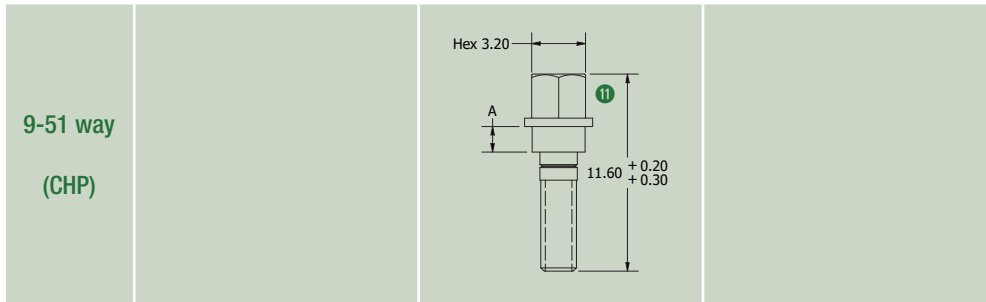
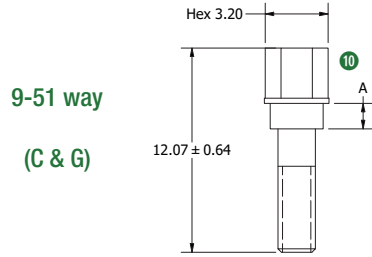
## ► Hardware for AMEB series Micro-D backshells

HARDWARE CODE	Jackscrews		R1	R2	R3	R4	R5
	Jackposts		J1	J2	J3	J4	J5
PANEL THICKNESS -0.0 / +0.2 (-.000 / +.008)	mm		0.8	1.2	1.6	2	2.4
	inch		.031	.047	.062	.079	.094
DIM. A ±0.05 (±.002)	mm		0.7	1.1	1.5	1.9	2.3
	inch		.028	.043	.059	.075	.091

	GENDER	BACKSHELL PLATING	PANEL MOUNT	SIZE	DESCRIPTION	CODE
9	Male	C, G & CHP	N/A*	9-51	Jackscrew (2-56 UNC-2A THD)	F, Rx
10	Female	C & G	YES	9-51	Rear panel mount jackpost according to MIL-DTL-83513/05	J1 to J5
11	Female	CHP	YES	9-51	Rear panel mount jackpost according to ESCC 3401/032	J1 to J5
12	Female	C, G & CHP	YES	100	Rear panel mount jackpost according to MIL-DTL-83513/05	J1 to J5
13	Male	C, G & CHP	N/A*	100	Jackscrew (4-40 UNC-2A THD)	F, Rx

N/A\*: For panel mounting, only the female hardware need to be specific.

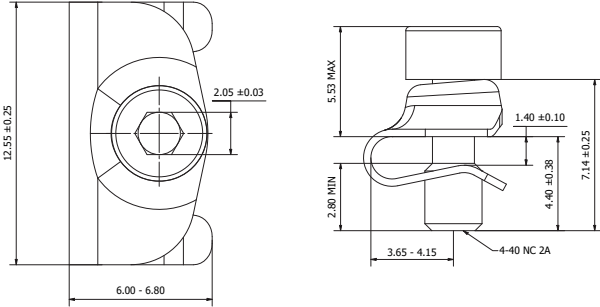
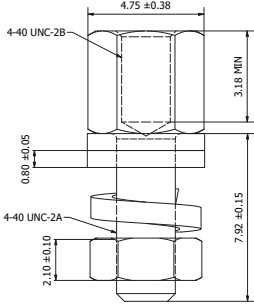
REAR PANEL MOUNT JACKPOST		JACKSCREW
MIL-DTL-83513/05	ESCC 3401/032	



For specific requests, please contact us.

## ► Hardware for D-Sub backshells

Axon' offers hardware to be put on backshells with 3 plating options (see page 07). They are compatible with our entire range, from 9 to 104 ways, mounted with ESCC qualified connectors. For more information or custom-designed solutions, don't hesitate to contact us.

MALE SCREWLOCK	FEMALE SCREWLOCK
	
<p><b>Kit:</b></p> <ul style="list-style-type: none"> <li>- 1 Screw (Hexagonal hole head)</li> <li>- 1 Clip</li> </ul>	<p><b>Kit:</b></p> <ul style="list-style-type: none"> <li>- 1 Screwlock</li> <li>- 2 Washers</li> <li>- 1 Lock washer</li> <li>- 1 Nut</li> </ul>

**Note:**

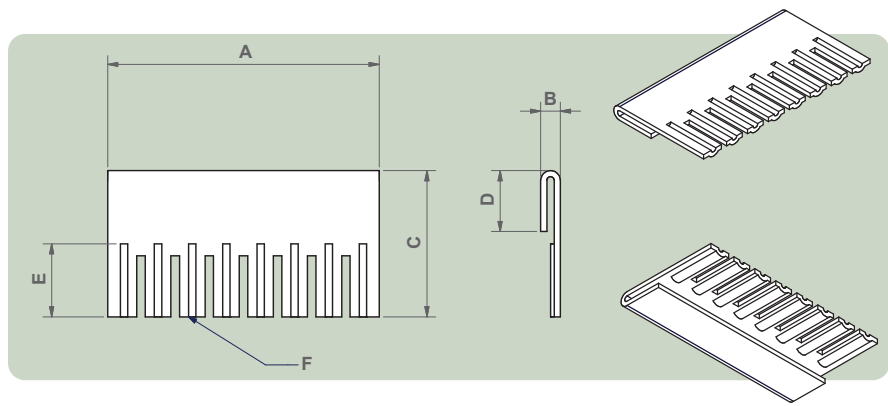
- Front mounting: two washers are used
- Rear mounting: remove 1 washer every 0.80mm (.031) of panel thickness
- 1.60mm (.063) panel maximum

	ESCC QUALIFIED	SPACE GRADE	MILITARY GRADE
Male screwlock	340102289B NMB	VER091246A	VER450056A
Female screwlock	340102201B NMB	VER091132A	VER450057A

## ACCESSORIES

### Halorings for D-Sub connector backshells

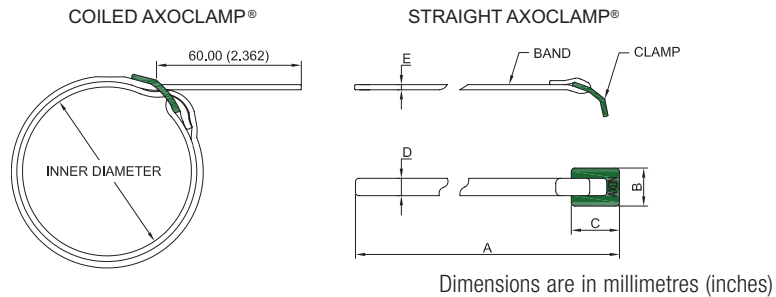
In order to facilitate the shield grounding of a cable made with several shielded wires and shielded pairs, Axon' recommends the use of shield combs or halorings. These accessories are directly connected between the D-Sub connector and the backshell. The braid of the shielded wires is soldered onto the individual tines of the silver plated comb (F). This technology provides an excellent electrical contact and saves time. Axon's halorings are made of silver plated brass, and are qualified according to UNS C27000 & AMS 2410 test methods.



DESIGNATION	SINGLE HALORING PART NUMBER	DIMENSIONS mm (in)					N° OF TINES*	SIZE OF CONNECTOR
		A	B	C	D	E		
BACKSHELL HALORING E	040486 A	14.64 (.576)	1.6 (.063)	12 (0.472)	5 (0.197)	6 (0.236)	5	E (9/15 contacts)
BACKSHELL HALORING A	040487 A	22.26 (.876)	1.6 (.063)	12 (0.472)	5 (0.197)	6 (0.236)	8	A (15/26 contacts)
BACKSHELL HALORING B	040488 A	34.96 (1.376)	1.6 (.063)	12 (0.472)	5 (0.197)	6 (0.236)	13	B (25/44 contacts)
BACKSHELL HALORING C	040489 A	47.46 (1.869)	1.6 (.063)	12 (0.472)	5 (0.197)	6 (0.236)	17	C (37/62 contacts)
BACKSHELL HALORING D	040489 A	47.46 (1.869)	1.6 (.063)	12 (0.472)	5 (0.197)	6 (0.236)	17	D (50/78 contacts)
BACKSHELL HALORING F	040489 A	47.46 (1.869)	1.6 (.063)	12 (0.472)	5 (0.197)	6 (0.236)	17	F (104 contacts)

(\*) Number of tines = number of braids that can be soldered

## AXOCLAMP® EMI Band termination system



360° shield termination can be effected on the backshell funnel with Axon's patented AXOCLAMP® banding straps. This ensures the continuity of shielding efficiency at the cable/connector junction.

### IDENTIFICATION CODE

AX CL	01
AXOCLAMP®	BAND TYPES 01: STANDARD 02: MICROBAND DOUBLE WRAPPED* 03: MICROBAND DOUBLE WRAPPED*

\* Dimensions differs, see hereunder, choose according to your connector.

### DIMENSIONS

Dimensions are in millimetres (inches).

SPECIFICATIONS	AXOCLAMP® STANDARD	AXOCLAMP® MICROBAND	
REFERENCE	AXCL 01	AXCL 02	AXCL 03
DIMENSION A	375 (14.764)	375 (14.764)	200 (7.874)
DIMENSION B	9 (.364)	5.5 (.217)	5.2 (.205)
DIMENSION C	10 (.394)	8 (.315)	5.5 (.217)
DIMENSION D	5.9 (.232)	3.5 (.138)	3 (.118)
DIMENSION E	0.5 (.020)	0.5 (.020)	0.35 (.014)
MINIMUM DIAMETER*	10 (.394)	5 (.197)	5 (.197)
MAXIMUM DIAMETER*	40 (1.575)	15 (.591)	15 (.591)

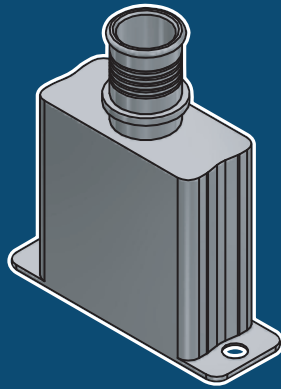
\* Minimum and maximum diameter of the backshell funnel on which the AXOCLAMP® can be mounted.

### BANDING TOOLS

	MANUAL HAND TOOL	CLAMPING VALUES	PNEUMATIC CLAMPING TOOL	RECOMMENDED BANDING VALUES*	CALIBRATION DEVICE
AXOCLAMP® AX CL 01	A40199	100-180 LBS	A35199	160	A 50099
AXOCLAMP® AX CL 02	A40199	100-180 LBS	A35199	125	A 50099
AXOCLAMP® AX CL 03	A30199	60-100 LBS	A35599	90	A 50099

\* Banding values are given for information only.





**ASBM U A M 080D 1 CHP HO**

- D-Sub Monobloc aluminium backshell for EMI termination.
- Various entry sizes, shapes and heights.
- Available for standard and micro AXOCLAMP® band termination.
- For D-Sub connectors from 9 to 50 contacts (15 to 104 contacts for high density D-Sub).

*Please check our list of high runner products, with faster lead times and no MOQ.*

# D-SUB MONOBLOC BACKSHELL

## IDENTIFICATION CODE

**ASBM U A M 080D 1 CHP HO**

### SERIES

**ASBM:** Axon' Monobloc D-Sub Backshell.

### STYLE TYPE

**U:** Top entry.  
**Z:** Side entry.  
**F:** 45° edge entry.  
**T:** 90° edge entry.  
**C:** Capped backshell (no cable entry).

### CONNECTOR SIZE

*Standard / High density*

**E:** 09 contacts / 15 contacts.  
**A:** 15 contacts / 26 contacts.  
**B:** 25 contacts / 44 contacts.  
**C:** 37 contacts / 62 contacts.  
**D:** 50 contacts / 78 contacts.  
**F:** 104 contacts.

### HEIGHT (wiring chamber)

**S (small):** 25 mm. **XL:** 40 mm. **4XL\*:** 55 mm.  
**M (med.):** 30 mm. **XXL:** 45 mm. **5XL\*:** 60 mm.  
**L (large):** 35 mm. **3XL\*:** 50 mm.

See height tables for each type. Other heights available on request.  
 \* Only available for style type T.

### CABLE ENTRY DIMENSIONS

**032D, 048D, 064D, 080D, 095D, 111D, 127D** (Circular).  
**1209E, 1609E, 2009E, 2409E, 2909E, 3309E, 3809E, 4209E, 4709E,**  
**5109E, 4711E, 5111E** (Elliptical).

See page 18 to 22 for compatibility tables.

**Blank:** if style type is capped backshell (style type: C).

### MATERIAL

**1:** Aluminium 6061T6.

Other materials available on request.

### PLATING OPTIONS

**C:** Electroless nickel per SAE-AMS-2404, class 4. (13 µm / .0005"min).  
**CHP:** Hi Phos. electroless nickel per SAE-AMS-2404, class 4 (25.4 µm / .001"min), 10% P minimum.  
**G:** Zinc nickel over nickel under plate per ASTM B841.  
 Other platings available on request.

### SLOTS FOR HALORINGS (RFI combs)

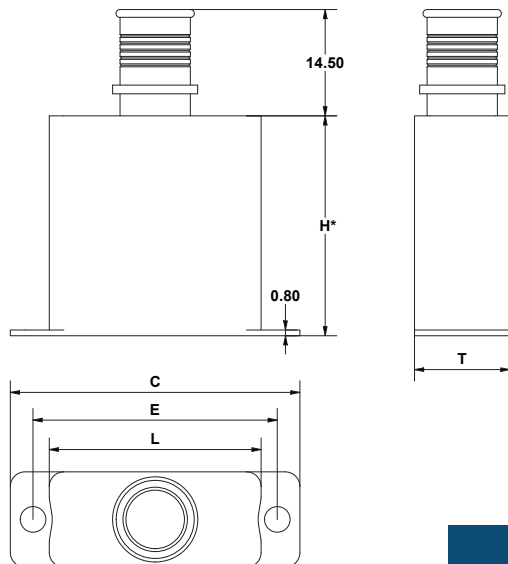
**HO:** No haloring. **H1:** 1 haloring. **H2:** 2 halorings.

Halorings to be order separatly. See page 15.

# STYLE U: TOP CABLE ENTRY

## DIMENSIONS

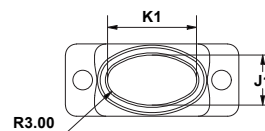
Dimensions are in millimetres (inches).



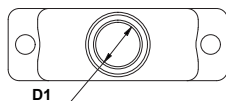
SIZES	T	C	E	L
E	13.00 (0.512)	31.20 (1.228)	24.99 (0.984)	20.70 (0.815)
A	13.00 (0.512)	39.50 (1.555)	33.32 (1.312)	28.90 (1.138)
B	13.00 (0.512)	53.40 (2.102)	47.04 (1.852)	42.70 (1.681)
C	13.00 (0.512)	69.70 (2.744)	63.50 (2.500)	59.50 (2.343)
D	15.80 (0.622)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
F	17.90 (0.705)	69.70 (2.744)	63.50 (2.500)	60.80 (2.394)

\*: For H dimension, please refer to the "Height" part of the identification code

## ELLIPTICAL ENTRY



## CIRCULAR ENTRY



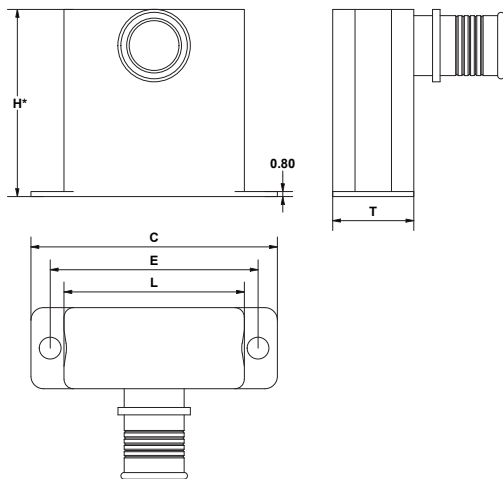
Circular cable entry			Shell sizes	
Code	D1	Area mm <sup>2</sup> (in <sup>2</sup> )	E to C	D & F
032D	3.20 (0.126)	8.00 (0.012)	+	+
048D	4.80 (0.189)	18.00 (0.028)	+	+
064D	6.40 (0.252)	32.00 (0.050)	+	+
080D	8.00 (0.315)	50.00 (0.078)	+	+
095D	9.50 (0.374)	71.00 (0.110)	+	+
111D	11.10 (0.437)	97.00 (0.150)	-	+
127D	12.70 (0.500)	127.00 (0.197)	-	+

Code	Elliptical cable entry			Shell sizes				
	K1	J1	Area mm <sup>2</sup> (in <sup>2</sup> )	E	A	B	C	D F
1209E	12.00 (0.472)	9.00 (0.354)	83 (0.129)	+	+	+	+	+
1609E	16.00 (0.630)	9.00 (0.354)	112 (0.174)	+	+	+	+	+
2009E	20.00 (0.787)	9.00 (0.354)	143 (0.222)	-	+	+	+	+
2409E	24.00 (0.945)	9.00 (0.354)	174 (0.270)	-	+	+	+	+
2909E	29.00 (1.142)	9.00 (0.354)	214 (0.332)	-	-	+	+	+
3309E	33.00 (1.299)	9.00 (0.354)	246 (0.381)	-	-	+	+	+
3809E	38.00 (1.496)	9.00 (0.354)	286 (0.443)	-	-	+	+	+
4209E	42.00 (1.654)	9.00 (0.354)	317 (0.491)	-	-	-	+	+
4709E	47.00 (1.850)	9.00 (0.354)	357 (0.553)	-	-	-	+	+
5109E	51.00 (2.008)	9.00 (0.354)	389 (0.603)	-	-	-	+	+
4711E	47.00 (1.850)	11.00 (0.433)	414 (0.642)	-	-	-	-	+
5111E	51.00 (2.008)	11.00 (0.433)	451 (0.699)	-	-	-	-	+

# STYLE Z: SIDE ENTRY

## DIMENSIONS

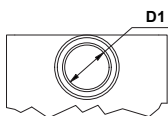
Dimensions are in millimetres (inches).



SIZES	T	C	E	L
E	13.00 (0.512)	31.20 (1.228)	24.99 (0.984)	20.70 (0.815)
A	13.00 (0.512)	39.50 (1.555)	33.32 (1.312)	28.90 (1.138)
B	13.00 (0.512)	53.40 (2.102)	47.04 (1.852)	42.70 (1.681)
C	13.00 (0.512)	69.70 (2.744)	63.50 (2.500)	59.50 (2.343)
D	15.80 (0.622)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
F	17.90 (0.705)	69.70 (2.744)	63.50 (2.500)	61.00 (2.402)

\*: For H dimension, please refer to the "Height" part of the identification code

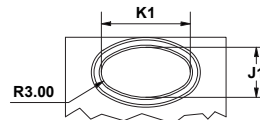
## CIRCULAR ENTRY



Circular cable entry			Shell sizes	
Code	D1	Area mm <sup>2</sup> (in <sup>2</sup> )	E to C	D & F
032D	3.20 (0.126)	8.00 (0.012)	+	+
048D	4.80 (0.189)	18.00 (0.028)	+	+
064D	6.40 (0.252)	32.00 (0.050)	+	+
080D	8.00 (0.315)	50.00 (0.078)	+	+
095D	9.50 (0.374)	71.00 (0.110)	+	+
111D	11.10 (0.437)	97.00 (0.150)	-	+
127D	12.70 (0.500)	127.00 (0.197)	-	+
143D*	14.30 (0.563)	161 (0.250)	-	+
159D*	15.90 (0.626)	199 (0.308)	-	+
175D*	17.50 (0.689)	241 (0.374)	-	+

\*: Cable entries not available for backshell height S.

## ELLIPTICAL ENTRY

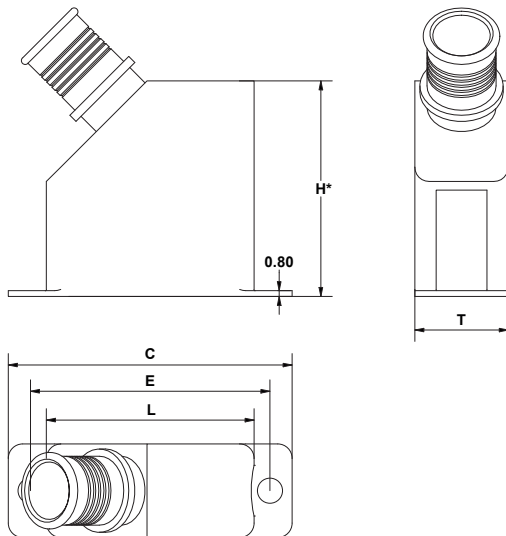


Elliptical cable entry			Shell sizes					
Code	K1	J1	Area mm <sup>2</sup> (in <sup>2</sup> )	E	A	B	D	C F
1209E	12.00 (0.472)	9.00 (0.354)	83 (0.129)	-	+	+	+	+
1609E	16.00 (0.630)	9.00 (0.354)	112 (0.174)	-	+	+	+	+
2009E	20.00 (0.787)	9.00 (0.354)	143 (0.222)	-	-	+	+	+
2409E	24.00 (0.945)	9.00 (0.354)	174 (0.270)	-	-	+	+	+
2909E	29.00 (1.142)	9.00 (0.354)	214 (0.332)	-	-	+	+	+
3309E	33.00 (1.299)	9.00 (0.354)	246 (0.381)	-	-	-	+	+
3809E	38.00 (1.496)	9.00 (0.354)	286 (0.443)	-	-	-	+	+
4209E	42.00 (1.654)	9.00 (0.354)	317 (0.491)	-	-	-	+	+
4709E	47.00 (1.850)	9.00 (0.354)	357 (0.553)	-	-	-	-	+
4711E	47.00 (1.850)	11.00 (0.433)	414 (0.642)	-	-	-	-	+

# STYLE F: 45° EDGE ENTRY

## DIMENSIONS

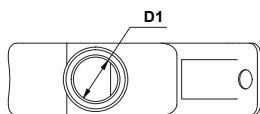
Dimensions are in millimetres (inches).



SIZES	T	C	E	L
E	13.00 (0.512)	31.20 (1.228)	24.99 (0.984)	20.70 (0.815)
A	13.00 (0.512)	39.50 (1.555)	33.32 (1.312)	28.90 (1.138)
B	13.00 (0.512)	53.40 (2.102)	47.04 (1.852)	42.70 (1.681)
C	13.00 (0.512)	69.70 (2.744)	63.50 (2.500)	59.50 (2.343)
D	15.80 (0.622)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
F	17.90 (0.705)	69.70 (2.744)	63.50 (2.500)	61.00 (2.402)

\*: For H dimension, please refer to the "Height" part of the identification code

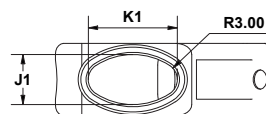
## CIRCULAR ENTRY



Circular cable entry			Shell sizes		
Code	D1	Area mm <sup>2</sup> (in <sup>2</sup> )	E to C	D	F
032D	3.20 (0.126)	8.00 (0.012)	+	+	+
048D	4.80 (0.189)	18.00 (0.028)	+	+	+
064D	6.40 (0.252)	32.00 (0.050)	+	+	+
080D	8.00 (0.315)	50.00 (0.078)	+	+	+
095D	9.50 (0.374)	71.00 (0.110)	+	+	-
111D*	11.10 (0.437)	97.00 (0.150)	-	+	+
127D*	12.70 (0.500)	127.00 (0.197)	-	+	+

\*: Available only for wiring chamber heights M and larger.

## ELLIPTICAL ENTRY



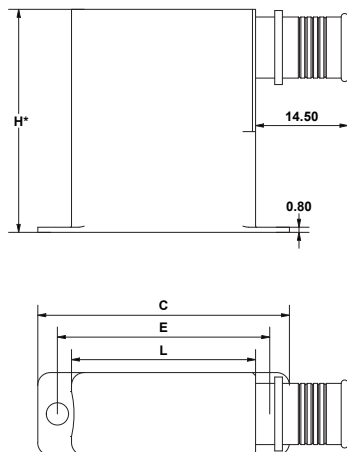
Elliptical cable entry				Shell sizes											
Code	K1	J1	Area mm <sup>2</sup> (in <sup>2</sup> )	E		A		B			C, D & F				
				M & +	M	L & +	M	L	XL & +	M	L	XL	XXL		
1209E	12.00 (0.472)	9.00 (0.354)	83 (0.129)	+	+	+	+	+	+	+	+	+	+	+	+
1609E	16.00 (0.630)	9.00 (0.354)	112 (0.174)	+	+	+	+	+	+	+	+	+	+	+	+
2009E	20.00 (0.787)	9.00 (0.354)	143 (0.222)	-	-	+	-	+	+	-	+	+	+	+	+
2409E	24.00 (0.945)	9.00 (0.354)	174 (0.270)	-	-	-	-	-	+	-	-	-	+	+	+
2909E	29.00 (1.142)	9.00 (0.354)	214 (0.332)	-	-	-	-	-	+	-	-	-	+	+	+
3309E	33.00 (1.299)	9.00 (0.354)	246 (0.381)	-	-	-	-	-	-	-	-	-	-	-	+
3311E*	33.00 (1.299)	11.00 (0.433)	287 (0.445)	-	-	-	-	-	-	-	-	-	-	-	+

\*: Available only for the two largest shell sizes D & F.

# STYLE T: 90° EDGE ENTRY

## DIMENSIONS

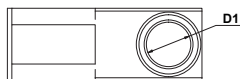
Dimensions are in millimetres (inches).



SIZES	T	C	E	L
E	13.00 (0.512)	31.20 (1.228)	24.99 (0.984)	20.70 (0.815)
A	13.00 (0.512)	39.50 (1.555)	33.32 (1.312)	28.90 (1.138)
B	13.00 (0.512)	53.40 (2.102)	47.04 (1.852)	42.70 (1.681)
C	13.00 (0.512)	69.70 (2.744)	63.50 (2.500)	59.50 (2.343)
D	15.80 (0.622)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
F	17.90 (0.705)	69.70 (2.744)	63.50 (2.500)	61.00 (2.402)

\*: For H dimension, please refer to the "Height" part of the identification code

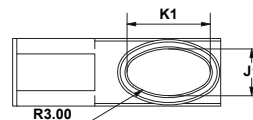
## CIRCULAR ENTRY



Circular cable entry			Shell sizes	
Code	D1	Area mm <sup>2</sup> (in <sup>2</sup> )	E to C	D & F
032D	3.20 (0.126)	8.00 (0.012)	+	+
048D	4.80 (0.189)	18.00 (0.028)	+	+
064D	6.40 (0.252)	32.00 (0.050)	+	+
080D	8.00 (0.315)	50.00 (0.078)	+	+
095D	9.50 (0.374)	71.00 (0.110)	+	+
111D*	11.10 (0.437)	97.00 (0.150)	-	+
127D*	12.70 (0.500)	127.00 (0.197)	-	+

\*: Available only for wiring chamber heights L and larger.

## ELLIPTICAL ENTRY



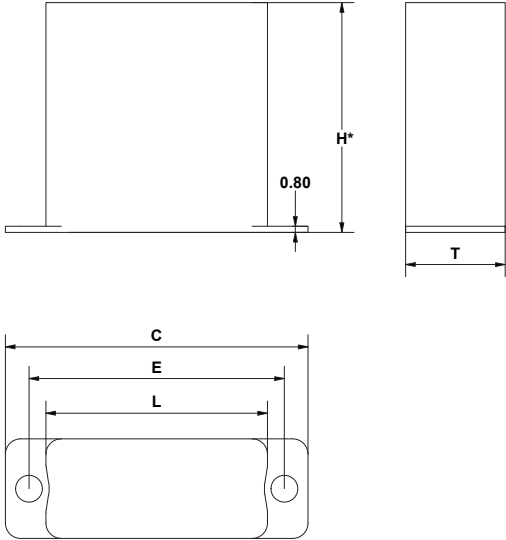
Elliptical cable entry				Height						
Code	K1	J1	Area mm <sup>2</sup> (in <sup>2</sup> )	M	L	XL	XXL	3XL	4XL	5XL
1209E	12.00 (0.472)	9.00 (0.354)	83 (0.129)	-	+	+	+	+	+	+
1609E	16.00 (0.630)	9.00 (0.354)	112 (0.174)	-	+	+	+	+	+	+
2009E	20.00 (0.787)	9.00 (0.354)	143 (0.222)	-	-	+	+	+	+	+
2409E	24.00 (0.945)	9.00 (0.354)	174 (0.270)	-	-	-	+	+	+	+
2909E	29.00 (1.142)	9.00 (0.354)	214 (0.332)	-	-	-	-	+	+	+
3309E	33.00 (1.299)	9.00 (0.354)	246 (0.381)	-	-	-	-	-	+	+
3809E	38.00 (1.496)	9.00 (0.354)	286 (0.443)	-	-	-	-	-	-	+
3311E*	33.00 (1.299)	11.00 (0.433)	287 (0.445)	-	-	-	-	-	+	+
3811E*	38.00 (1.496)	11.00 (0.433)	331 (0.513)	-	-	-	-	-	-	+

\*: Available only for the two largest sizes D & F.

# STYLE C: CAPPED BACKSHELLS

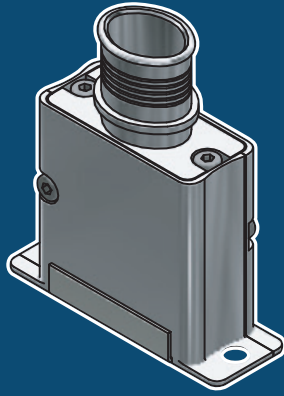
## DIMENSIONS

Dimensions are in millimetres (inches).



SIZES	T	C	E	L
<b>E</b>	13.00 (0.512)	31.20 (1.228)	24.99 (0.984)	20.70 (0.815)
<b>A</b>	13.00 (0.512)	39.50 (1.555)	33.32 (1.312)	28.90 (1.138)
<b>B</b>	13.00 (0.512)	53.40 (2.102)	47.04 (1.852)	42.70 (1.681)
<b>C</b>	13.00 (0.512)	69.70 (2.744)	63.50 (2.500)	59.50 (2.343)
<b>D</b>	15.80 (0.622)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
<b>F</b>	17.90 (0.705)	69.70 (2.744)	63.50 (2.500)	60.80 (2.394)

\*: For H dimension, please refer to the "Height" part of the identification code



**ADSB A M 1209E 1 CHP H1**

- D-Sub Modular Multi-part aluminium backshell for EMI termination.
- Various entry sizes and heights.
- Available for standard and micro AXOCLAMP® band termination.
- Interchangeable cable entries
- For D-Sub connectors from 9 to 50 contacts (15 to 104 contacts for high density D-Sub).

*Please check our list of high runner products, with faster lead times and no MOQ.*

# D-SUB MODULAR MULTI-PART BACKSHELL

## IDENTIFICATION CODE

**ADSB**

**A M**

**1209E**

**1**

**CHP**

**H1**

### SERIES

**ADSB:** Axon' Modular multi-part D-Sub Backshell.

### CONNECTOR SIZE (standard / high density)

**E:** 09 contacts / 15 contacts.      **C:** 37 contacts / 62 contacts.  
**A:** 15 contacts / 26 contacts.      **D:** 50 contacts / 78 contacts.  
**B:** 25 contacts / 44 contacts.      **F:** 104 contacts.

### HEIGHT (wiring chamber)

**M (medium):** 30 mm.      **XL:** 40 mm.  
**L (large):** 35 mm.      **XXL:** 45 mm.  
**Other heights available on request.**

### CABLE ENTRY DIMENSIONS

**XXXXX:** Standard cable outlet  
**SXXXXX:** Cable outlet with strain relief  
**See pages 24 & 25 for compatibility tables.**

### MATERIAL

**1:** Aluminium 6061T6.  
**Other materials available on request.**

### PLATING OPTIONS

**C:** Electroless nickel per SAE-AMS-2404, class 4. (13 µm / .0005"min).  
**CHP:** Hi Phos. electroless nickel per SAE-AMS-2404, class 4 (25.4 µm / .001"min), 10% P minimum.  
**G:** Zinc nickel over nickel under plate per ASTM B841.  
**Other platings available on request.**

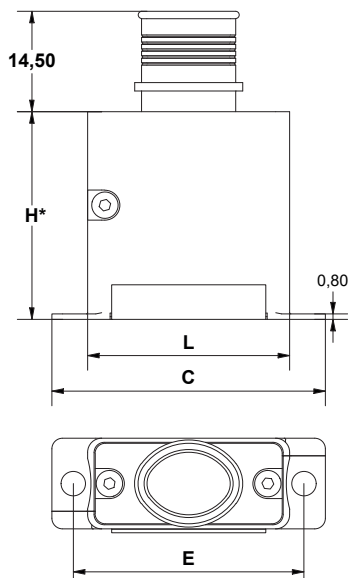
### SLOTS FOR HALORINGS (RFI combs)

**H0:** No haloring      **H1:** 1 haloring      **H2:** 2 halorings.  
**Halorings to be order separately. See page 15.**

# XXXXX: STANDARD CABLE ENTRY

## DIMENSIONS

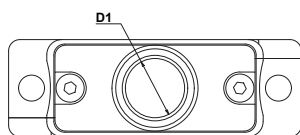
Dimensions are in millimetres (inches).



SIZES	T	C	E	L
E	13.10 (0.516)	31.20 (1.228)	24.99 (0.984)	21.00 (0.827)
A	13.10 (0.516)	39.50 (1.555)	33.32 (1.312)	29.20 (1.150)
B	13.10 (0.516)	53.40 (2.102)	47.04 (1.852)	43.00 (1.693)
C	13.10 (0.516)	69.70 (2.744)	63.50 (2.500)	59.40 (2.339)
D	15.90 (0.626)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
F	18.00 (0.709)	69.70 (2.744)	63.50 (2.500)	61.10 (2.406)

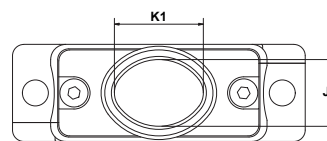
\*: For H dimension, please refer to the "Height" part of the identification code

## CIRCULAR ENTRY



Circular cable entry			Shell sizes		
Code	D1	Area mm <sup>2</sup> (in <sup>2</sup> )	E	A to C	D F
032D	3.20 (0.126)	8.00 (0.012)	+	+	+
048D	4.80 (0.189)	18.00 (0.028)	+	+	+
064D	6.40 (0.252)	32.00 (0.050)	+	+	+
080D	8.00 (0.315)	50.00 (0.078)	+	+	+
095D	9.50 (0.374)	71.00 (0.110)	-	+	+
111D	11.10 (0.437)	97.00 (0.150)	-	-	+
127D	12.70 (0.500)	127.00 (0.197)	-	-	+

## ELLIPTICAL ENTRY



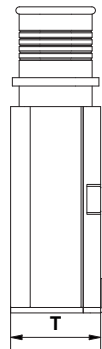
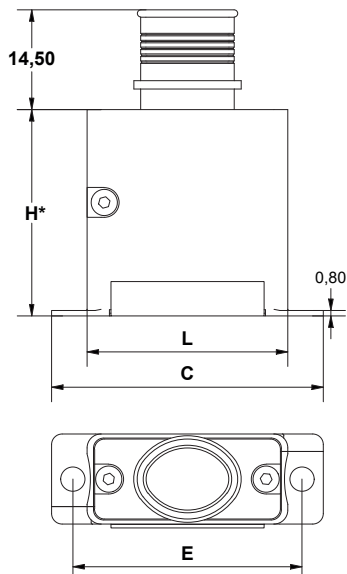
Elliptical cable entry			Shell sizes					
Code	K1	J1	Area mm <sup>2</sup> (in <sup>2</sup> )	E	A	B	C	D F
1209E	12.00 (0.472)	9.00 (0.354)	83 (0.129)	-	+	+	+	+
1609E	16.00 (0.630)	9.00 (0.354)	112 (0.174)	-	+	+	+	+
2009E	20.00 (0.787)	9.00 (0.354)	143 (0.222)	-	-	+	+	+
2409E	24.00 (0.945)	9.00 (0.354)	174 (0.270)	-	-	+	+	+
2909E	29.00 (1.142)	9.00 (0.354)	214 (0.332)	-	-	+	+	+
3309E	33.00 (1.299)	9.00 (0.354)	246 (0.381)	-	-	-	+	+
3809E	38.00 (1.496)	9.00 (0.354)	286 (0.443)	-	-	-	+	+
4209E	42.00 (1.654)	9.00 (0.354)	317 (0.491)	-	-	-	+	+
4211E	42.00 (1.654)	11.00 (0.433)	368 (0.570)	-	-	-	-	+



# SXXXX: CABLE ENTRY WITH STRAIN RELIEF

## DIMENSIONS

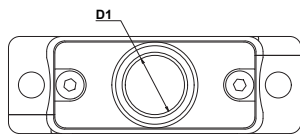
Dimensions are in millimetres (inches).



SIZES	T	C	E	L
E	13.10 (0.516)	31.20 (1.228)	24.99 (0.984)	21.00 (0.827)
A	13.10 (0.516)	39.50 (1.555)	33.32 (1.312)	29.20 (1.150)
B	13.10 (0.516)	53.40 (2.102)	47.04 (1.852)	43.00 (1.693)
C	13.10 (0.516)	69.70 (2.744)	63.50 (2.500)	59.40 (2.339)
D	15.90 (0.626)	67.30 (2.650)	61.11 (2.406)	56.80 (2.236)
F	18.00 (0.709)	69.70 (2.744)	63.50 (2.500)	61.10 (2.406)

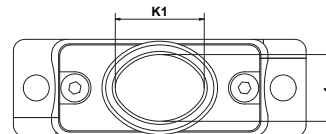
\*: For H dimension, please refer to the "Height" part of the identification code

## CIRCULAR ENTRY

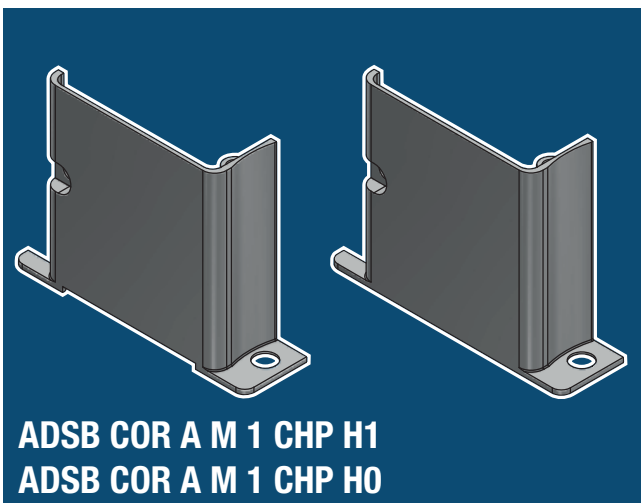


Circular cable entry			Shell sizes		
Code	D1	Area mm <sup>2</sup> (in <sup>2</sup> )	A, B & C	D	F
S032D	3.20 (0.126)	8.00 (0.012)	+	+	+
S048D	4.80 (0.189)	18.00 (0.028)	+	+	+
S064D	6.40 (0.252)	32.00 (0.050)	+	+	+
S080D	8.00 (0.315)	50.00 (0.078)	+	+	+
S095D	9.50 (0.374)	71.00 (0.110)	-	+	+
S111D	11.10 (0.437)	97.00 (0.150)	-	+	+
S127D	12.70 (0.500)	127.00 (0.197)	-	-	+

## ELLIPTICAL ENTRY



Elliptical cable entry			Shell sizes					
Code	K1	J1	Area mm <sup>2</sup> (in <sup>2</sup> )	A	B	C	D	F
S1208E	12.00 (0.472)	8.00 (0.315)	75 (2.853)	+	+	+	+	+
S1608E	16.00 (0.630)	8.00 (0.315)	103 (4.055)	-	+	+	+	+
S2008E	20.00 (0.787)	8.00 (0.315)	132 (5.197)	-	+	+	+	+
S2408E	24.00 (0.945)	8.00 (0.315)	161 (6.339)	-	+	+	+	+
S2908E	29.00 (1.142)	8.00 (0.315)	198 (7.795)	-	-	+	+	+
S3308E	33.00 (1.299)	8.00 (0.315)	227 (8.937)	-	-	+	+	+
S3808E	38.00 (1.496)	8.00 (0.315)	264 (10.394)	-	-	+	+	+
S4208E	42.00 (1.654)	8.00 (0.315)	293 (11.535)	-	-	+	-	+
S3810E	38.00 (1.496)	10.00 (0.394)	308 (12.126)	-	-	-	+	+
S4210E	42.00 (1.654)	10.00 (0.394)	342 (13.465)	-	-	-	-	+



- Half body for D-Sub Modular Multi-part aluminium backshell.
- Various heights.
- Haloring option.
- From 9 to 50 contacts.

*Please check our list of high runner products, with faster lead times and no MOQ.*

# HALF BACKSHELL

## IDENTIFICATION CODE

**ADSB**

**COR**

**A**

**M**

**1**

**CHP**

**H1**

### SERIES

**ADSB:** Axon' Modular multi-part D-Sub Backshell.

### PART

**COR:** Half body.

### CONNECTOR SIZE (standard / high density)

**E:** 09 contacts / 15 contacts.

**C:** 37 contacts / 62 contacts.

**A:** 15 contacts / 26 contacts.

**D:** 50 contacts / 78 contacts.

**B:** 25 contacts / 44 contacts.

**F:** 104 contacts.

### HEIGHT (wiring chamber)

**M (medium):** 30 mm.      **XL:** 40 mm.

**L (large):** 35 mm.      **XXL:** 45 mm.

**Other heights available on request.**

### MATERIAL

**1:** Aluminium 6061T6.

**Other materials available on request.**

### PLATING OPTIONS

**C:** Electroless nickel per SAE-AMS-2404, class 4. (13 µm / .0005"min).

**CHP:** Hi Phos. electroless nickel per SAE-AMS-2404, class 4 (25.4 µm / .001"min), 10% P minimum.

**G:** Zinc nickel over nickel under plate per ASTM B841.

**Other platings available on request.**

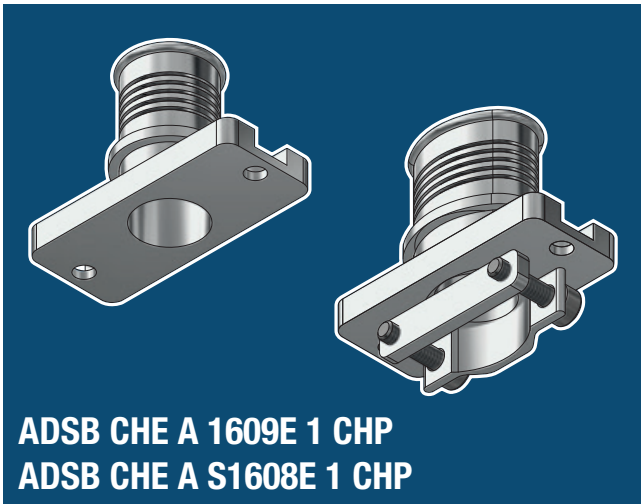
### SLOTS FOR HALORINGS (RFI combs)

**H0:** No haloring

**H1:** 1 haloring.

**Halorings to be order separatly. See page 15.**

**ASSEMBLY SCREW (VISTCHC02/006A4EF) SOLD SEPARATELY**



**ADSB CHE A 1609E 1 CHP**  
**ADSB CHE A S1608E 1 CHP**

- Funnels for D-Sub Modular Multi-part aluminium backshell.
- Various entry sizes.
- Strain relief option.
- From 9 to 50 contacts.

*Please check our list of high runner products, with faster lead times and no MOQ.*

# FUNNELS

<b>IDENTIFICATION CODE</b>	<b>ADSB</b>	<b>CHE</b>	<b>A</b>	<b>1609E</b>	<b>1</b>	<b>CHP</b>
----------------------------	-------------	------------	----------	--------------	----------	------------

**SERIES**  
**KDSB:** Axon' Modular multi-part D-Sub Backshell.

**PART**  
**CHE:** Funnel.

**CONNECTOR SIZE (standard / high density)**  
**E:** 09 contacts / 15 contacts.      **C:** 37 contacts / 62 contacts.  
**A:** 15 contacts / 26 contacts.      **D:** 50 contacts / 78 contacts.  
**B:** 25 contacts / 44 contacts.      **F:** 104 contacts.

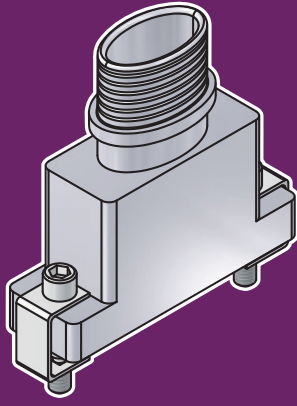
**CABLE ENTRY DIMENSIONS**  
**XXXXX:** Standard funnel.  
**Circular:** 032D (Ø: 3.2mm), 048D, 064D, 080D, 095D, 111D, 127D.  
**Elliptical:** 1209E (12x9mm), 1609E, 2009E, 2409E, 2909E, 3309E, 3809E, 4209E, 4211E.  
**SXXXXX:** Funnel with strain relief (screws & staple are supplied).  
**Circular:** S032D (Ø: 3.2mm), S048D, S064D, S080D, S095D, S111D, S127D.  
**Elliptical:** S1208E (12x8mm), S1608E, S2008E, S2408E, S2908E, S3308E, S3808E, S4208E, S4210E.  
**See pages 24 & 25 for compatibility tables.**

**MATERIAL**  
**1:** Aluminium 6061T6.  
**Other materials available on request.**

**PLATING OPTIONS**

- C:** Electroless nickel per SAE-AMS-2404, class 4. (13 µm / .0005"min).
  - CHP:** Hi Phos. electroless nickel per SAE-AMS-2404, class 4 (25.4 µm / .001"min), 10% P minimum.
  - G:** Zinc nickel over nickel under plate per ASTM B841.
- Other platings available on request.**

**ASSEMBLY SCREW (VISTCHC02/006A4EF) SOLD SEPARATELY**



**AXON U 21 05E 1 CHP F**

- Micro-D Monobloc aluminium backshell for EMI termination.
- Various entry sizes and funnel orientation.
- Available for microband AXOCLAMP® termination.
- Shell size from 9 to 100 contacts.
- Supplied with clips and screws or with jackposts and nuts.

*Please check our list of high runner products, with faster lead times and no MOQ.*

# MICRO-D MONOBLOC BACKSHELL

## IDENTIFICATION CODE

**AXON**

**U**

**21**

**05E**

**1**

**CHP**

**F**

### SERIES

**AXON:** Axon' Monobloc Micro-D Backshell.

### STYLE TYPE

**U:** Top entry.  
**Z:** Side entry.  
**F:** 45° edge entry.

### CONNECTOR SIZE

**09, 15, 21, 25, 31, 37, 51DR, 51, 69, 100.**

### ENTRY SIZE

**01 to 11** (circular). **04E to 09E** (Elliptical).  
 See pages 29, 30 & 31 for compatibility tables.  
 Other entry sizes available on request.

### MATERIAL

**1:** Aluminium 6061T6.  
 Other materials available on request.

### PLATING OPTIONS

**C:** Electroless nickel per SAE-AMS-2404, class 4. (13 µm / .0005"min).  
**CHP:** Hi Phos. electroless nickel per SAE-AMS-2404, class 4 (25.4 µm / .001"min), 10% P minimum.  
**G:** Zinc nickel over nickel under plate per ASTM B841.  
 Other platings available on request.

### HARDWARE OPTIONS

**Blank:** Male jackscrews.  
**F:** Female jackposts.

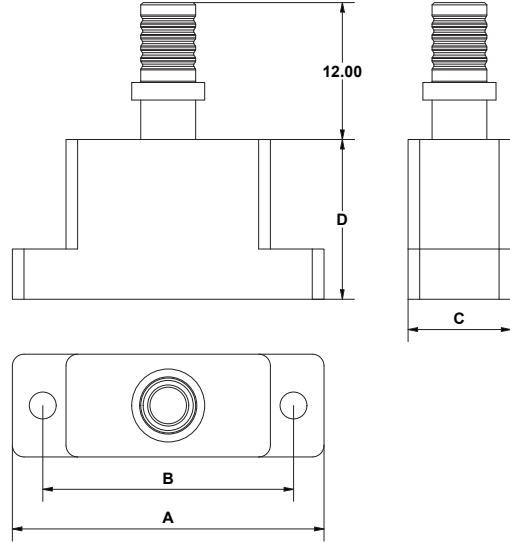
**Fx:** Panel-mount female jackposts.

*x=1: thickness 0.80 mm    2: thickness 1.20 mm    3: thickness 1.60 mm  
 4: thickness 2.00 mm    5: thickness 2.40 mm*

# STYLE U: TOP CABLE ENTRY

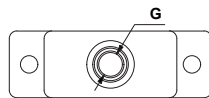
## DIMENSIONS

Dimensions are in millimetres (inches).



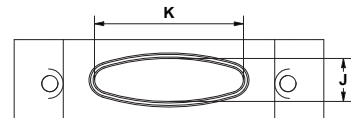
SIZES	A	B	C	D
9	19.70 (0.776)	14.35 (0.565)	9.00 (0.354)	10.00 (0.394)
15	23.40 (0.921)	18.16 (0.715)	9.00 (0.354)	12.00 (0.472)
21	27.30 (1.075)	21.97 (0.865)	9.00 (0.354)	14.00 (0.551)
25	29.85 (1.175)	24.51 (0.965)	9.00 (0.354)	16.00 (0.630)
31	33.70 (1.327)	28.32 (1.115)	9.00 (0.354)	17.00 (0.669)
37	37.50 (1.476)	32.13 (1.265)	9.00 (0.354)	18.00 (0.709)
51DR	46.30 (1.823)	41.02 (1.615)	9.00 (0.354)	19.00 (0.748)
51	36.10 (1.421)	30.86 (1.215)	10.00 (0.394)	19.00 (0.748)
69	43.75 (1.722)	38.48 (1.515)	10.00 (0.394)	20.00 (0.787)
100	55.00 (2.165)	45.72 (1.800)	11.00 (0.433)	21.00 (0.827)

## CIRCULAR ENTRY



Circular cable entry		Shell sizes		
Code	G (diam)	09 to 51DR	51 69	100
01	1.60 (0.063)	+	+	+
02	3.20 (0.126)	+	+	+
03	4.80 (0.189)	+	+	+
04	6.40 (0.252)	-	+	+
05	8.00 (0.315)	-	-	+

## ELLIPTICAL ENTRY

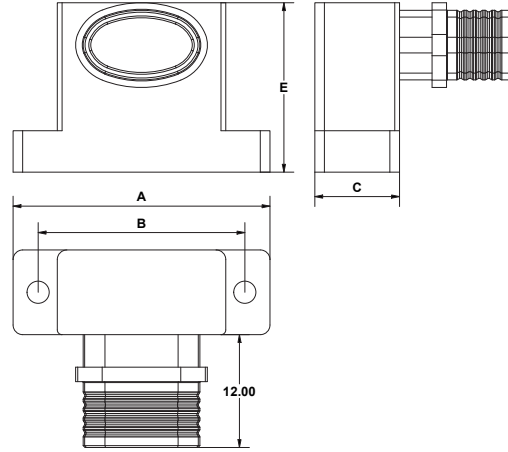


Elliptical cable entry		Shell sizes						
Code	K	J	09	15 21	25 31	37 51DR	51 69	100
04E	7.00 (0.276)	5.80 (0.228)	+	+	+	+	+	+
05E	10.80 (0.425)	5.80 (0.228)	-	+	+	+	+	+
06E	15.20 (0.598)	5.80 (0.228)	-	-	+	+	+	+
07E	20.10 (0.791)	5.80 (0.228)	-	-	-	+	+	+
08E	22.80 (0.898)	6.80 (0.268)	-	-	-	-	+	+
09E	26.00 (1.024)	7.80 (0.307)	-	-	-	-	-	+

# STYLE Z: SIDE ENTRY

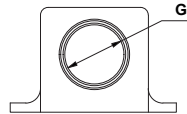
## DIMENSIONS

Dimensions are in millimetres (inches).



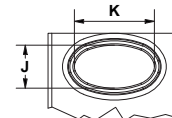
SIZES	A	B	C	E
9	19.70 (0.776)	14.35 (0.565)	9.00 (0.354)	15.00 (0.591)
15	23.40 (0.921)	18.16 (0.715)	9.00 (0.354)	16.50 (0.650)
21	27.30 (1.075)	21.97 (0.865)	9.00 (0.354)	18.00 (0.709)
25	29.85 (1.175)	24.51 (0.965)	9.00 (0.354)	20.00 (0.787)
31	33.70 (1.327)	28.32 (1.115)	9.00 (0.354)	21.00 (0.827)
37	37.50 (1.476)	32.13 (1.265)	9.00 (0.354)	22.00 (0.866)
51DR	46.30 (1.823)	41.02 (1.615)	9.00 (0.354)	23.00 (0.906)
51	36.10 (1.421)	30.86 (1.215)	10.00 (0.394)	23.00 (0.906)
69	43.75 (1.722)	38.48 (1.515)	10.00 (0.394)	24.00 (0.945)
100	55.00 (2.165)	45.72 (1.800)	11.00 (0.433)	25.00 (0.984)

## CIRCULAR ENTRY



Circular cable entry		Shell sizes							
Code	G (diam)	09	15	21	25	31	37 51DR	51 69	100
01	1.60 (0.063)	+	+	+	+	+	+	+	+
02	3.20 (0.126)	+	+	+	+	+	+	+	+
03	4.80 (0.189)	+	+	+	+	+	+	+	+
04	6.40 (0.252)	+	+	+	+	+	+	+	+
05	8.00 (0.315)	-	+	+	+	+	+	+	+
06	9.50 (0.374)	-	-	+	+	+	+	+	+
07	11.10 (0.437)	-	-	-	+	+	+	+	+
08	12.70 (0.500)	-	-	-	-	+	+	+	+
09	14.30 (0.563)	-	-	-	-	-	+	+	+
10	15.90 (0.626)	-	-	-	-	-	-	+	+
11	17.50 (0.689)	-	-	-	-	-	-	-	+

## ELLIPTICAL ENTRY

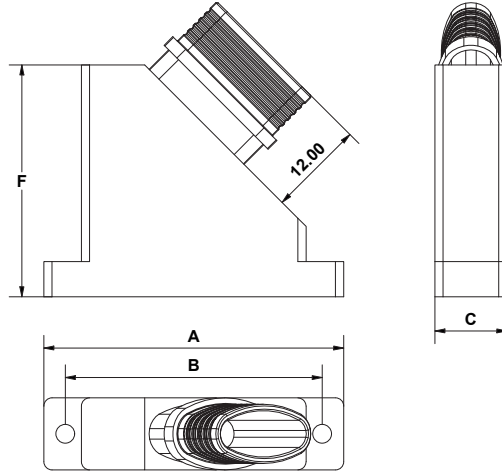


Elliptical cable entry			Shell sizes						
Code	K	J	09	15 21	25 31	37 51DR	51 69	100	
04E	7.00 (0.276)	5.80 (0.228)	+	+	+	+	+	+	
05E	10.80 (0.425)	5.80 (0.228)	-	+	+	+	+	+	
06E	15.20 (0.598)	5.80 (0.228)	-	-	+	+	+	+	
07E	20.10 (0.791)	5.80 (0.228)	-	-	-	+	+	+	
08E	22.80 (0.898)	6.80 (0.268)	-	-	-	-	+	+	
09E	26.00 (1.024)	7.80 (0.307)	-	-	-	-	-	+	

# STYLE F: 45° EDGE ENTRY

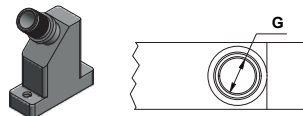
## DIMENSIONS

Dimensions are in millimetres (inches).



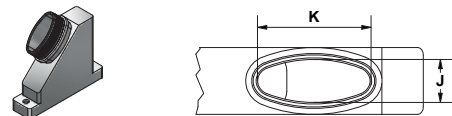
SIZES	A	B	C	F
9	19.70 (0.776)	14.35 (0.565)	9.00 (0.354)	21.00 (0.827)
15	23.40 (0.921)	18.16 (0.715)	9.00 (0.354)	23.00 (0.906)
21	27.30 (1.075)	21.97 (0.865)	9.00 (0.354)	25.00 (0.984)
25	29.85 (1.175)	24.51 (0.965)	9.00 (0.354)	27.00 (1.063)
31	33.70 (1.327)	28.32 (1.115)	9.00 (0.354)	28.00 (1.102)
37	37.50 (1.476)	32.13 (1.265)	9.00 (0.354)	29.00 (1.142)
51DR	46.30 (1.823)	41.02 (1.615)	9.00 (0.354)	30.00 (1.181)
51	36.10 (1.421)	30.86 (1.215)	10.00 (0.394)	30.00 (1.181)
69	43.75 (1.722)	38.48 (1.515)	10.00 (0.394)	31.00 (1.220)
100	55.00 (2.165)	45.72 (1.800)	11.00 (0.433)	38.00 (1.496)

## CIRCULAR ENTRY

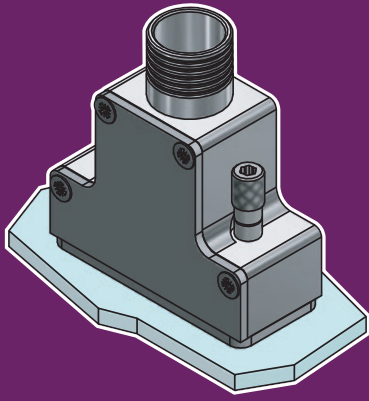


Circular cable entry		Shell sizes		
Code	G (diam)	09 to 51DR	51 to 69	100
01	1.60 (0.063)	+	+	+
02	3.20 (0.126)	+	+	+
03	4.80 (0.189)	+	+	+
04	6.40 (0.252)	-	+	+
05	8.00 (0.315)	-	-	+

## ELLIPTICAL ENTRY



Elliptical cable entry		Shell sizes						
Code	K	J	09 15	21	25 31	37 51DR	51 69	100
04E	7.00 (0.276)	5.80 (0.228)	-	+	+	+	+	+
05E	10.80 (0.425)	5.80 (0.228)	-	-	+	+	+	+
06E	15.20 (0.598)	5.80 (0.228)	-	-	-	+	+	+
07E	17.70 (0.697)	6.80 (0.268)	-	-	-	-	+	+
08E	20.60 (0.811)	7.80 (0.307)	-	-	-	-	-	+
09E	26.00 (1.024)	7.80 (0.307)	-	-	-	-	-	+



**AMEB U 37 06E 1 C J3**

- Micro-D Panel-mount backshell for EMI termination.
- Various entry sizes and funnel orientation.
- Available for microband AXOCLAMP® termination.
- Shell size from 9 to 100 contacts.

*Please check our list of high runner products, with faster lead times and no MOQ.*

# MICRO-D PANEL-MOUNT BACKSHELL

## IDENTIFICATION CODE

**AMEB**

**U**

**15**

**04E**

**1**

**CHP**

**R3**

### SERIES

**AMEB:** Axon' EMC panel-mount Micro-D Backshell.

### STYLE TYPE

**U:** Top entry.

**Z:** Side entry.

### CONNECTOR SIZE

**09, 15, 21, 25, 31, 37, 51DR, 51, 100.**

### ENTRY SIZE

**01 to 11** (circular).

**04E to 09E** (Elliptical).

**See pages 33 & 34 for compatibility tables.**

**Other entry sizes available on request.**

### MATERIAL

**1:** Aluminium 6061T6.

**Other materials available on request.**

### PLATING OPTIONS

**C:** Electroless nickel per SAE-AMS-2404, class 4. (13 µm / .0005"min).

**CHP:** Hi Phos. electroless nickel per SAE-AMS-2404, class 4 (25.4 µm / .001"min), 10% P minimum.

**G:** Zinc nickel over nickel under plate per ASTM B841.

**Other platings available on request.**

### PANEL MOUNTING HARDWARE

**F:** Front mount jackscrews.

**Rx:** Jackscrews.

**Jx:** Jackposts.

*x=1: thickness 0.80 mm*

*2: thickness 1.20 mm*

*3: thickness 1.60 mm*

*4: thickness 2.00 mm*

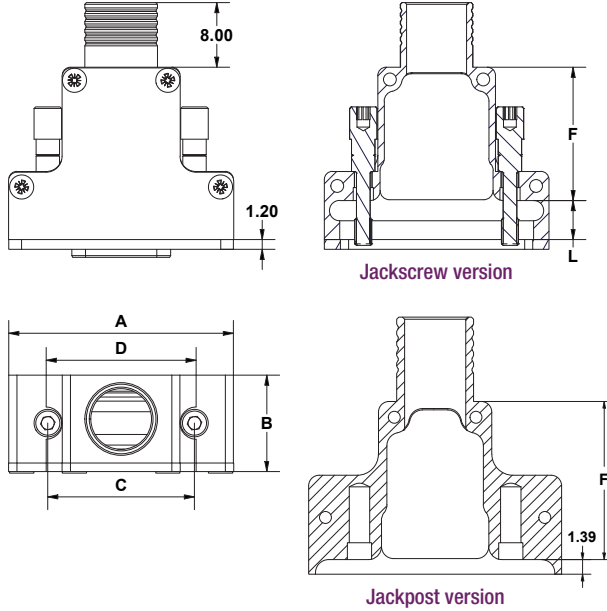
*5: thickness 2.40 mm*



# STYLE U: TOP CABLE ENTRY

## DIMENSIONS

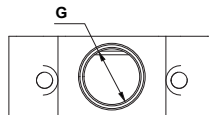
Dimensions are in millimetres (inches).



SIZES	A	B	C	D	F
9	24.00 (0.945)	11.88 (0.468)	14.35 (0.565)	10.75 (0.423)	15.00 (0.591)
15	27.81 (1.095)	11.88 (0.468)	18.16 (0.715)	14.56 (0.573)	16.50 (0.650)
21	31.62 (1.245)	11.88 (0.468)	21.97 (0.865)	18.37 (0.723)	18.00 (0.709)
25	34.16 (1.345)	11.88 (0.468)	24.51 (0.965)	20.91 (0.823)	20.00 (0.787)
31	37.97 (1.495)	11.88 (0.468)	28.32 (1.115)	24.72 (0.973)	21.00 (0.827)
37	41.78 (1.645)	11.88 (0.468)	32.13 (1.265)	28.53 (1.123)	22.00 (0.866)
51DR	50.67 (1.995)	11.88 (0.468)	41.02 (1.615)	37.42 (1.473)	23.00 (0.906)
51	40.51 (1.595)	12.97 (0.511)	30.86 (1.215)	27.26 (1.073)	23.00 (0.906)
100	59.17 (2.330)	14.97 (0.589)	45.72 (1.800)	42.12 (1.658)	25.00 (0.984)

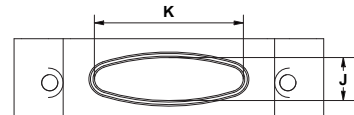
SIZES	F	R1	R2	R3	R4	R5
Panel thick.	N/A	0.80 (.031)	1.20 (.047)	1.60 (.062)	2.00 (.079)	2.40 (.094)
L	8.92 (.351)	5.63 (.222)	5.23 (.206)	4.83 (.190)	4.43 (.174)	4.03 (.159)

## CIRCULAR ENTRY



Circular cable entry		Shell sizes	
Code	G (diam)	09	15 to 100
01	1.60 (0.063)	+	+
02	3.20 (0.126)	+	+
03	4.80 (0.189)	+	+
04	6.40 (0.252)	-	+
05	8.00 (0.315)	-	+

## ELLIPTICAL ENTRY

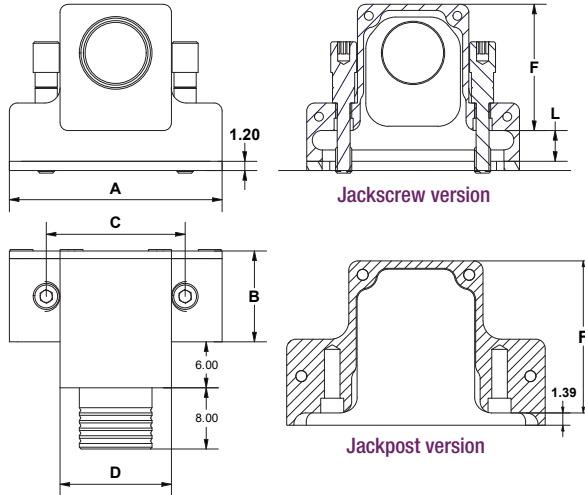


Elliptical cable entry		Shell sizes						
Code	K	J	09	15 21	25 31	37 51DR	51	100
04E	7.00 (0.276)	5.80 (0.228)	+	+	+	+	+	+
05E	10.80 (0.425)	5.80 (0.228)	-	+	+	+	+	+
06E	15.20 (0.598)	5.80 (0.228)	-	-	+	+	+	+
07E	20.10 (0.791)	5.80 (0.228)	-	-	-	+	+	+
08E	22.80 (0.898)	6.80 (0.268)	-	-	-	-	+	+
09E	26.00 (1.024)	7.80 (0.307)	-	-	-	-	-	+

# STYLE Z: SIDE ENTRY

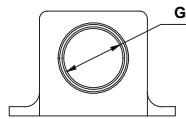
## DIMENSIONS

Dimensions are in millimetres (inches).



SIZES	A	B	C	E	F
9	24.00 (0.945)	11.88 (0.468)	14.35 (0.565)	10.75 (0.423)	15.00 (0.591)
15	27.81 (1.095)	11.88 (0.468)	18.16 (0.715)	14.56 (0.573)	16.50 (0.650)
21	31.62 (1.245)	11.88 (0.468)	21.97 (0.865)	18.37 (0.723)	18.00 (0.709)
25	34.16 (1.345)	11.88 (0.468)	24.51 (0.965)	20.91 (0.823)	20.00 (0.787)
31	37.97 (1.495)	11.88 (0.468)	28.32 (1.115)	24.72 (0.973)	21.00 (0.827)
37	41.78 (1.645)	11.88 (0.468)	32.13 (1.265)	28.53 (1.123)	22.00 (0.866)
51DR	50.67 (1.995)	11.88 (0.468)	41.02 (1.615)	37.42 (1.473)	23.00 (0.906)
51	40.51 (1.595)	12.97 (0.511)	30.86 (1.215)	27.26 (1.073)	23.00 (0.906)
100	59.17 (2.330)	14.97 (0.589)	45.72 (1.800)	42.12 (1.658)	25.00 (0.984)

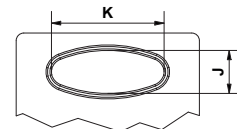
## CIRCULAR ENTRY



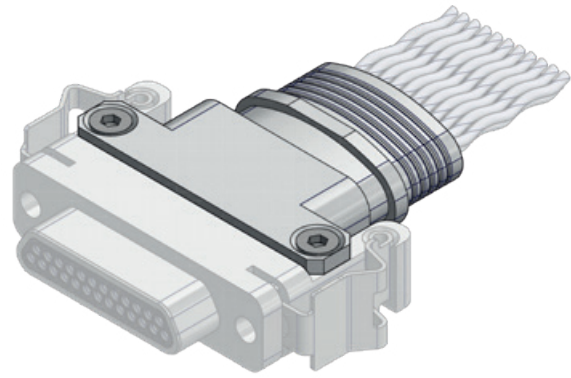
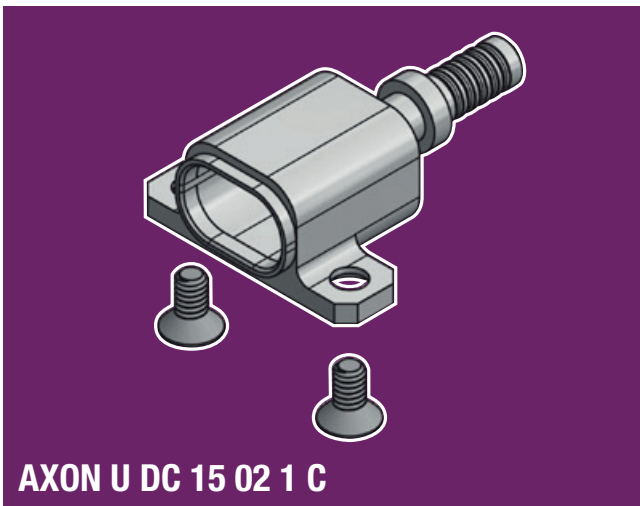
SIZES	F	R1	R2	R3	R4	R5
Panel thick.	N/A	0.80 (.031)	1.20 (.047)	1.60 (.062)	2.00 (.079)	2.40 (.094)
L	8.92 (.351)	5.63 (.222)	5.23 (.206)	4.83 (.190)	4.43 (.174)	4.03 (.159)

Circular cable entry		Shell sizes							
Code	G (diam)	09	15	21	25	31	37 51DR	51	100
01	1.60 (0.063)	+	+	+	+	+	+	+	+
02	3.20 (0.126)	+	+	+	+	+	+	+	+
03	4.80 (0.189)	+	+	+	+	+	+	+	+
04	6.40 (0.252)	+	+	+	+	+	+	+	+
05	8.00 (0.315)	-	+	+	+	+	+	+	+
06	9.50 (0.374)	-	-	+	+	+	+	+	+
07	11.10 (0.437)	-	-	-	+	+	+	+	+
08	12.70 (0.500)	-	-	-	-	+	+	+	+
09	14.30 (0.563)	-	-	-	-	-	+	+	+
10	15.90 (0.626)	-	-	-	-	-	-	+	+
11	17.50 (0.689)	-	-	-	-	-	-	-	+

## ELLIPTICAL ENTRY



Elliptical cable entry		Shell sizes						
Code	K	J	09	15 21	25 31	37 51DR	51	100
04E	7.00 (0.276)	5.80 (0.228)	+	+	+	+	+	+
05E	10.80 (0.425)	5.80 (0.228)	-	+	+	+	+	+
06E	15.20 (0.598)	5.80 (0.228)	-	-	+	+	+	+
07E	20.10 (0.791)	5.80 (0.228)	-	-	-	+	+	+
08E	22.80 (0.898)	6.80 (0.268)	-	-	-	-	+	+
09E	26.00 (1.024)	7.80 (0.307)	-	-	-	-	-	+



Please check our list of high runner products, with faster lead times and no MOQ.

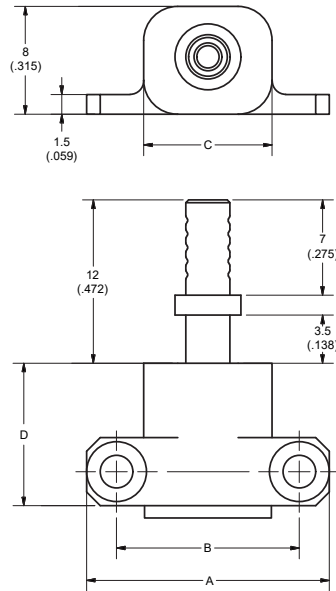
# MICRO-D D-CLICK® BACKSHELL

	<b>IDENTIFICATION CODE</b>	<b>AXON</b>	<b>U</b>	<b>DC</b>	<b>15</b>	<b>02</b>	<b>1</b>	<b>C</b>	<b>10</b>
	<p><b>SERIES</b></p> <p><b>STYLE TYPE</b> U: Top entry.</p> <p><b>VARIANT</b> DC: D-Click® connectors variant.</p> <p><b>CONNECTOR SIZE</b> 09, 15, 21, 25, 31, 37. Number of ways for the corresponding connector.</p> <p><b>ENTRY SIZE</b>  <b>Circular entries:</b>            01: 1.6 mm diameter.            02: 3.2 mm diameter.            03: 4.8 mm diameter.  <b>Elliptical entries:</b>            04E: 7.0 mm width.            05E: 10.8 mm width.            06E: 15.2 mm width.            07E: 20.1 mm width.            See page 36 for dimensions.            Other entry sizes available on request.</p> <p><b>MATERIAL</b> 1: Aluminium 6061T6. Other materials available on request.</p> <p><b>PLATING OPTION</b> C: Electroless nickel per SAE-AMS-2404, class 4 (13 µm / .0005 min). Other platings available on request.</p> <p><b>BACKSHELL DEPTH</b> 10, 15, 20. See page 36 for dimensions.</p>								

Backshells are supplied with passivated stainless steel hex drive flat head M2 screws.

# DIMENSIONS

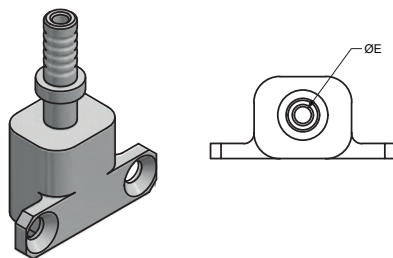
Dimensions are in millimetres (inches).



SHELL SIZE	A	B	C
9	17.87 (.704)	13.43 (.529)	9.47 (.373)
15	21.68 (.854)	17.24 (.679)	13.28 (.523)
21	25.49 (1.003)	21.05 (.832)	17.09 (.673)
25	28.03 (1.104)	23.59 (.929)	19.63 (.773)
31	31.80 (1.252)	27.36 (1.077)	23.40 (.921)
37	35.65 (1.404)	31.21 (1.229)	27.25 (1.073)

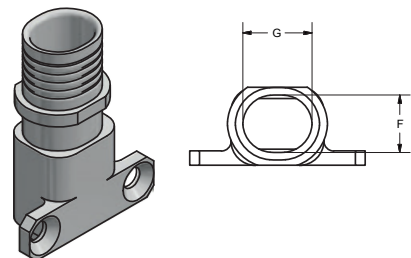
BACKSHELL DEPTH	D ±0.10 (±.004)
10	10.5 (.413)
15	15 (.951)
20	20 (.787)

## CIRCULAR ENTRY



ENTRY SIZE	SHELL SIZE	Ø E
01	09-37	1.6 (.063)
02	09-37	3.2 (.126)
03	09-37	4.8 (.189)

## ELLIPTICAL ENTRY



ENTRY SIZE	SHELL SIZE	F	G
04E	09-37	5.80 (.228)	7.0 (.276)
05E	15-37	5.80 (.228)	10.8 (.425)
06E	25-37	5.80 (.228)	15.2 (.598)
07E	37	5.80 (.228)	20.1 (.791)

These backshells can be used only with pigtail connectors equipped with D-Click latch springs (MDDCSAxxxxDC).





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