

Backshells

For LJT, RNJ, RNJ LP, TV-CTV, SC39 and SJT Connectors
For MIL-DTL-38999 Series I, II, III, EN3645 and VG96912 Connectors



For AS85049 Backshells,
please consult our complete
catalog "Amphenol Backshell"



OUR COMPANY



Proven excellence in interconnect solutions

- Since **1947**, Amphenol Socapex has prescribed, designed and manufactured reliable and innovative interconnection solutions for harsh environments, specializing in standard and customized electrical and fiber optic connectors, contacts, accessories and cabling solutions.
- Located in the **Mont Blanc region** of France and Pune in India, Amphenol Socapex serve customers in over 100 countries around the world.
- Amphenol Socapex is part of the leading supplier of interconnect systems **Amphenol**.



1400+
employees



175 M€
Net Sales 2024
75% Export - 25% France



Thyez, **France**
Pune, **India**



Our expertise has no boundaries

Integrated Production in France & India

- 24 000 m² manufacturing capacity on 2 sites
- Design and manufacturing centers in France and India
- State-of-the-art manufacturing technology

Our markets



Defense



**Commercial
Aerospace**



Space



Industry

TECHNOLOGIES & INNOVATION

Engineering Laboratory



Product testing and qualification expertise in many fields:

- Environmental, mechanical, electrical, chemical, climatic skills
- RF and fiber optics expertise

High-Speed Expertise



Strong expertise in high-speed signals

- 3D EM simulation software & EM models
- Time Domain and frequency domain

Materials Expertise



Focus on materials expertise and manufacturing techniques to produce faster, smaller and stronger products

- Advanced technology research and development: polymers, metals, platings, resins ...
- Cutting edge characterizations of interconnects: Radio Frequency, partial discharges ...
- 3D CAD mechanical software, simulation & analysis

Eco-responsibility



Sustainable environment approach, with pro-active management of regulations (REACH / RoHS / Conflict minerals...)

- New materials development, plating, and suitable processes
- Recycling and rational resources consumption

Our workshops



Our workshops located in France & India provide consistent quality adapted to your volume requirements.

Automation & Tooling : Tools for our different activities : molding, machining, assembly

Molding : Solid expertise in thermoplastic elastomer and thermoset molding

Machining : Manufacturing of cylindrical shells and rectangular shells

Screw Machining : Manufacturing of electrical contacts

Plating : Plating with cadmium, nickel, electroless nickel, silver, black zinc nickel, gold

Assembly : Connector and harness assembly (electrical & optical)

Our certifications

Product certifications : MIL-DTL38999, EN3645, EN3155, VG (VG95328, VG95319, VG96944, VG95218, VG96949)



Certified Management System



Certified Management System



Certified Management System



Certified Management System

Our memberships

Member of CMG (Connecting Manufacturing Group) Consortium



CONVENTION DES ENTREPRISES
GREEN ALLIANCE

CUSTOMER EXPERIENCE



Service

► We have a strong reputation for helping customers solve their toughest challenges. This approach of serving your needs is ingrained in our company - from our sales team to our product development engineers.

A partner you can trust

Customer Proximity



Design Expertise



Quality Commitment



On Time Delivery Performance







Compliance management



Buy our solutions

You can access our solutions through our global network of sales offices or through our distributors.

Field Sales Team :

-  10 in France
-  15 in Europe
-  100+ in North America and rest of the world.
-  5 Business Development Managers supporting local sales force Europe, North America and the rest of the world

-  **Technical Advisement & Multilingual Customer Service :**
20 people

Worldwide Distribution Network :

Our range of circular connectors, contacts, fiber optic connectors, PCB connectors and accessories are available thru our extensive distribution network.

It includes qualified distributors (QPL approved) for assembling MIL-DTL-38999 & derivatives and PT/451 (VG95328) connectors.

[Check our product inventory](#)



[Product Selectors & 3D Files](#)



NEW



OUR HISTORY

1947



- **Socapex creation** in Suresnes, France
- 1st radio connector

1956-57



- **Manufacturing unit in Cluses** (74), France
- Thomson-CSF becomes primary shareholder

Early 1960's



- 1st board level connectors: HE8
- 1st "licence Bendix" manufactured connectors
- SL Series

1973



New factory in Thyez (74) France with 250 people, 13 000m²

1975



Production of 38999 connectors

1986

Amphenol
Socapex

Amphenol becomes primary shareholder

1995-96



- Expanded Beam connector
- CTOS launch
- Headquarters transferred to Thyez

2004



RJ Field launch, "Award Electronica"

2005



New factory in Pune, India

2010's



LuxBeam™ and HDAS launch

2014-2017



New workshops :
- Cable Assembly & Contact Manufacturing workshop

2019



Increased manufacturing capacity with 2nd building in Pune, India

2022



Harness in the box solution launch

Today & tomorrow



New technologies :
- Investment in automation & technical expertise



Amphenol SOCAPEX joins the "Convention des Entreprises pour le Climat".
- Our goal: **to accelerate our transition to a more sustainable operation.**

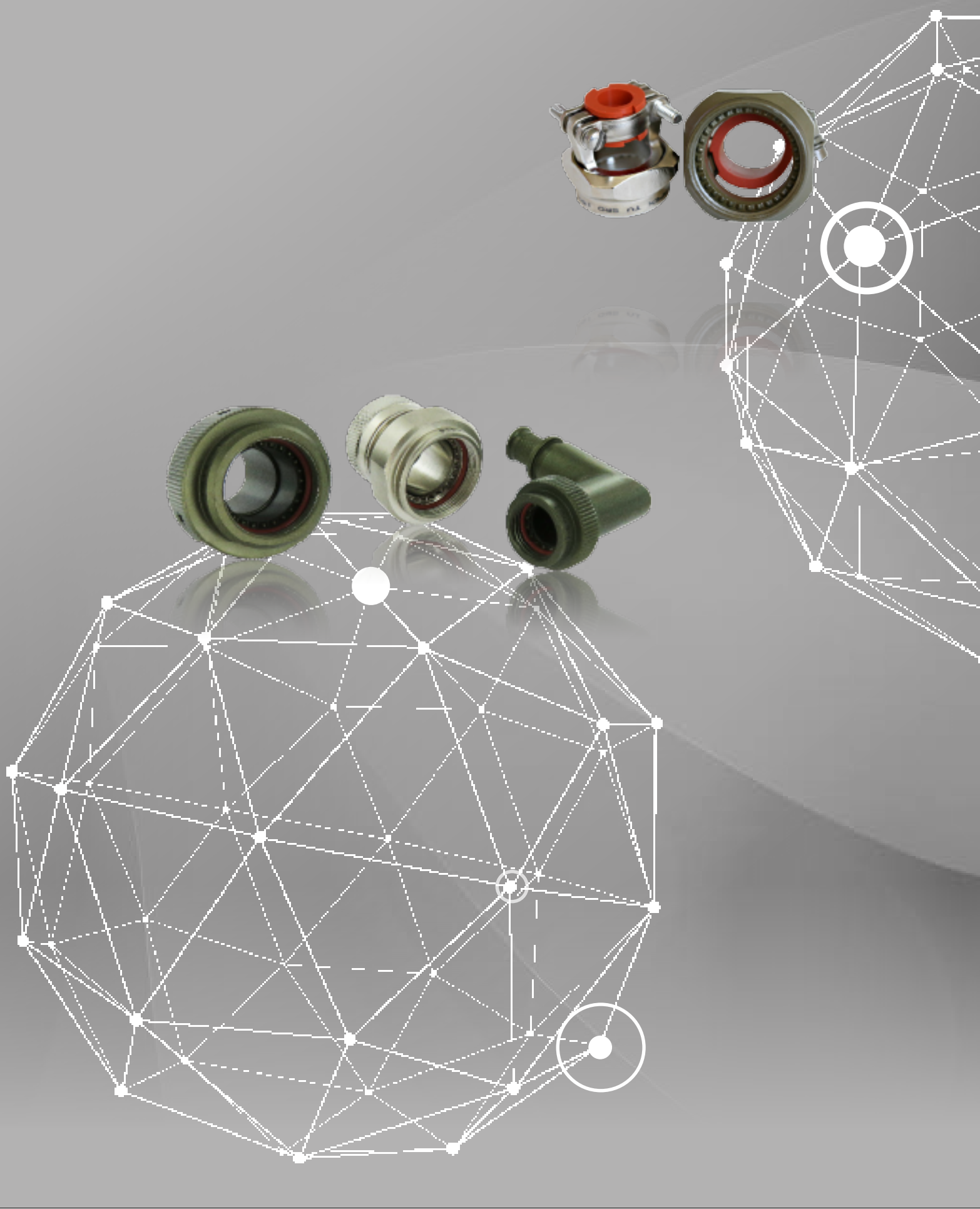


NOTES

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GENERAL CHARACTERISTICS

Main features

- **Shell material**

- Aluminium alloy
- Marine bronze
- For composite, please consult us

- **Finish**

- Olive drab cadmium plating
- Electroless nickel plating
- Green zinc cobalt plating
- Black zinc nickel plating
- For others, please consult us

- **9 shell sizes per model**

- **Straight or right angled versions**

- **Working temperature**

- From – 65°C to + 175°C with olive drab cadmium plating, green zinc cobalt plating and black zinc nickel plating
- From – 65°C to + 200°C with electroless nickel plating

For specific backshells for marine applications and 217 backshells, please consult us.



Description

You will find hereafter Amphenol Socapex backshells for LJT (MIL-DTL-38999 Series I / HE308), RNJ (HE308), RNJ LP, TV-CTV (MIL-DTL-38999 Series III), SC39 and SJT (VG96912) connectors. These rear accessories enhance the performance capabilities of the connectors for both general duty and severe environment applications.

Different technologies are used in order to ensure the following functions:

- **EMI shielding**
- **cable retention**
- **sealing**

This large choice of rear accessories provides you with the right solution for your connector/backshell interconnection.

BACKSHELLS SERIES SERVES VARIOUS MARKETS, INCLUDING:



Navy



Military Aerospace



Ground vehicle



C4ISR



Industrial

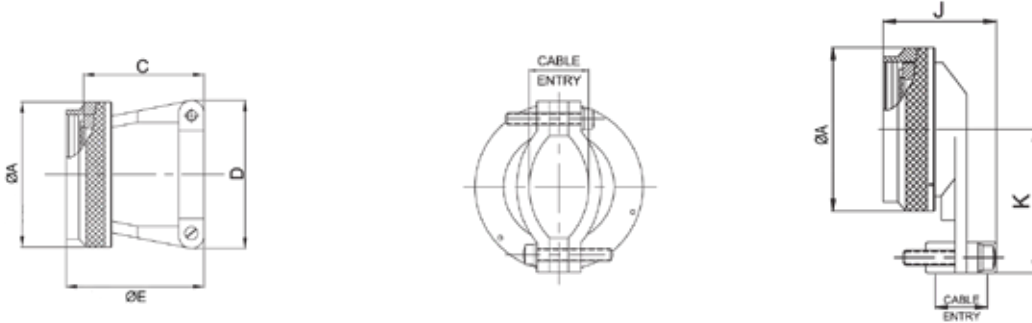
STRAIN RELIEFS

These backshells ensure a mechanical retention of the cable.

LJT/TV strain reliefs



M85049/49-2 strain relief and M85049/47 (90° angled versions) suitable for LJT (MIL-DTL-38999 Series I / HE308) and RNJ (HE308) connectors.
M85049/38 strain relief and M85049/39 (90° angled versions) suitable for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors.



Size	LJT Thread for M85049/49-2 UNEF-2B	TV Thread for M85049/38 Metric	Ø A max mm (in)	C max mm (in)	D max mm (in)	E max mm (in)	Cable Entry mm (in)		J mm (in)		K mm (in)
							min	max	for M85049/47	for M85049/39	
09	.4375-28	M12 x 1.0 - 6H	19.05 (0.75)	23.11 (0.91)	21.59 (0.85)	27.94 (1.10)	2.49 (0.10)	5.94 (0.23)	35.05 (1.38)	33.27 (1.31)	25.40 (1.00)
11	.5625-24	M15 x 1.0 - 6H	21.59 (0.85)	23.11 (0.91)	22.86 (0.90)	27.94 (1.10)	3.89 (0.15)	5.94 (0.23)	35.05 (1.38)	33.27 (1.31)	27.94 (1.10)
13	.6875-24	M18 x 1.0 - 6H	25.40 (1.00)	25.65 (1.01)	27.94 (1.10)	30.48 (1.20)	4.83 (0.19)	8.33 (0.33)	37.08 (1.46)	38.35 (1.51)	27.94 (1.10)
15	.8125-20	M22 x 1.0 - 6H	27.94 (1.10)	26.92 (1.06)	29.21 (1.15)	31.75 (1.25)	6.60 (0.26)	11.61 (0.46)	41.4 (1.63)	39.37 (1.55)	31.75 (1.25)
17	.9375-20	M25 x 1.0 - 6H	31.75 (1.25)	29.46 (1.16)	33.02 (1.30)	34.44 (1.36)	7.19 (0.28)	15.60 (0.61)	45.72 (1.80)	43.43 (1.71)	33.02 (1.30)
19	1.0625-18	M28 x 1.0 - 6H	35.56 (1.40)	35.81 (1.41)	38.10 (1.50)	40.64 (1.60)	8.26 (0.33)	16.10 (0.63)	46.23 (1.82)	45.97 (1.81)	34.29 (1.35)
21	1.1875-18	M31 x 1.0 - 6H	38.10 (1.50)	38.35 (1.51)	40.64 (1.60)	43.21 (1.70)	8.71 (0.34)	17.73 (0.70)	48.26 (1.90)	49.53 (1.95)	40.64 (1.60)
23	1.3125-18	M34 x 1.0 - 6H	41.91 (1.65)	42.16 (1.66)	43.18 (1.70)	46.99 (1.85)	9.68 (0.38)	20.90 (0.82)	51.82 (2.04)	53.34 (2.10)	44.45 (1.75)
25	1.4375-18	M37 x 1.0 - 6H	44.45 (1.75)	44.70 (1.76)	45.72 (1.80)	49.56 (1.95)	10.62 (0.42)	21.67 (0.85)	54.61 (2.15)	56.13 (2.21)	46.99 (1.85)

How to order M85049/49-2/38/39

SAE-85049 designation - Backshells for LJT (MIL-DTL-38999 Series I/HE308), JT (MIL-DTL-38999 Series II) and TV/CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	M85049/	49-2	12	W
Type of strain relief				
49-2: for LJT (MIL-DTL-38999 Series I / HE308), JT (MIL-DTL-38999 Series II) and RNJ (HE308) connectors				
38: for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors				
39: 90° right angled for TV (MIL-DTL-38999 Series III) connectors				
Size of backshell				
08-10-12-14-16-18-20-22-24 (remove 1 from your connector size) for LJT (MIL-DTL-38999 Series I / HE308) and RNJ (HE308) connectors				
09-11-13-15-17-19-21-23-25 (same as connector size) for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors				
Finish				
W: olive-drab cadmium plating				
N: electroless nickel plating ✓				

How to order M85049/47

SAE-85049 designation – 90° angled backshells for LJT (MIL-DTL-38999 Series I / HE308) and RNJ (HE308)

Series	M85049/	47	W	12
Type of strain relief				
47: 90° right angled for LJT (MIL-DTL-38999 Series I/HE308) connectors				
Finish				
W: olive drab cadmium plating				
N: electroless nickel plating ✓				
Backshell size				
08-10-12-14-16-18-20-22-24 for LJT (MIL-DTL-38999 series I / HE308) and RNJ (HE308) connectors: remove 1 to your connector size				

✓: RoHS compliant

STRAIN RELIEFS

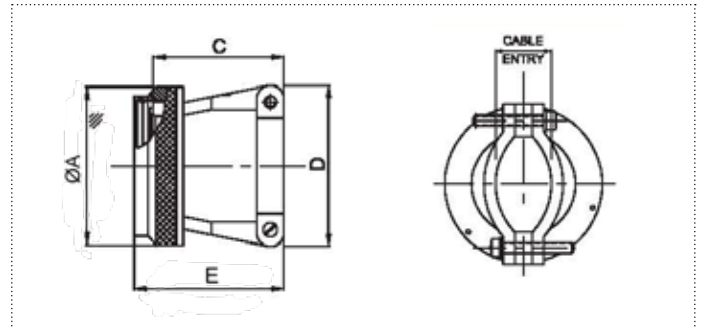
How to order

SAE-85049 designation - Backshells for LJT (MIL-DTL-38999 Series I/HE308)

Series	M85049/	47	W	12
Type of strain relief	47: 90° right angled for LJT (MIL-DTL-38999 Series I / HE308) connectors			
Finish	W: olive-drab cadmium plating N: electroless nickel plating ✓			
Size of backshell	08-10-12-14-16-18-20-22-24 (remove 1 from your connector size) for LJT (MIL-DTL-38999 Series I / HE308)			

SJT strain reliefs

SJT strain reliefs suitable for SJT (VG 96912) connectors.



Size*	ØA max mm (in)	C max mm (in)	D max mm (in)	E max mm (in)	Cable entry mm (in)		Thread for SJT00 & SJT06	Thread for SJT07
					min	max		
08	19.05 (0.750)	23.11 (0.910)	21.59 (0.850)	27.94 (1.100)	2.49 (0.098)	5.94 (0.234)	.4375-28	.5625-24
10	21.59 (0.850)	23.11 (0.910)	22.86 (0.900)	27.94 (1.100)	3.89 (0.153)	5.94 (0.234)	.5625-24	.6875-24
12	25.40 (1.000)	25.65 (1.010)	27.94 (1.100)	30.48 (1.200)	4.83 (0.190)	8.33 (0.328)	.6875-24	.8125-20
14	27.94 (1.100)	26.92 (1.060)	29.21 (1.150)	31.75 (1.250)	6.60 (0.260)	11.61 (0.457)	.8125-20	.9375-20
16	31.75 (1.250)	29.46 (1.160)	33.02 (1.300)	34.44 (1.356)	7.19 (0.283)	15.60 (0.614)	.9375-20	1.0625-18
18	35.56 (1.400)	35.81 (1.410)	38.10 (1.500)	40.64 (1.600)	8.26 (0.325)	16.10 (0.634)	1.0625-18	1.1875-18
20	38.10 (1.500)	38.35 (1.510)	40.64 (1.600)	43.21 (1.701)	8.71 (0.343)	17.73 (0.698)	1.1875-18	1.3125-18
22	41.91 (1.650)	42.16 (1.660)	43.18 (1.700)	46.99 (1.850)	9.68 (0.381)	20.90 (0.823)	1.3125-18	1.4375-18
24	44.45 (1.750)	44.70 (1.760)	45.72 (1.800)	49.56 (1.951)	10.62 (0.418)	21.67 (0.853)	1.4375-18	1.4375-18

*For SJT00 & SJT06, 08-10-12-14-16-18-20-22-24

For SJT07, add 2 to your connectors size i.e. for 8 size connector use size 10 backshell

How to order

Amphenol designation - Backshells for SJT (VG96912)

Series	BS1	SR	M	12	99	9	X	W
Type of backshell	SR: straight cable clamp with spin coupling							
Connector group	M: SJT							
Size of backshell	08-10-12-14-16-18-20-22-24 (same as connector size)							
Entry size	99: standard							
Length	9: standard							
Constant	X							
Finish	W: olive-drab cadmium plating N: electroless nickel plating ✓							

✓: RoHS compliant

BACKSHELLS FOR SHIELDING

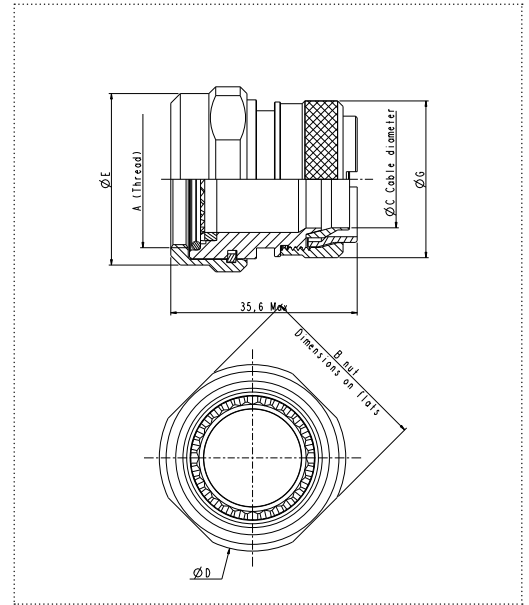
NSA and SA backsells ensure the shielding by clamping the braid with a screwing system. The free inner ring avoids twisting of the braid during screwing.



LJT NSA & TV NSA

LJT NSA (HE308-13) suitable for LJT (MIL-DTL-38999 Series I / HE308), RNJ (HE308).
TV NSA suitable for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors.

Size	LJT	TV	B max mm (in)	Ø C max mm (in)	Ø D max mm (in)	Ø E max mm (in)	Ø G max mm (in)
	A Thread UNEF-2B	A Thread Metric					
09	4375-28	M12 x 1.0 - 6H	17 (0.669)	6.9 (0.272)	19.1 (0.752)	15.2 (0.598)	16.5 (0.650)
11	5625-24	M15 x 1.0 - 6H	21 (0.827)	9.6 (0.378)	23.1 (0.909)	18.2 (0.717)	19.4 (0.764)
13	6875-24	M18 x 1.0 - 6H	26 (1.024)	12.7 (0.500)	28.1 (1.106)	21.2 (0.835)	22.6 (0.890)
15	8125-20	M22 x 1.0 - 6H	29 (1.142)	14.8 (0.583)	31.1 (1.224)	25.1 (0.988)	25.8 (1.016)
17	9375-20	M25 x 1.0 - 6H	32 (1.260)	17.9 (0.705)	34.1 (1.343)	28.1 (1.106)	29.0 (1.142)
19	1.0625-18	M28 x 1.0 - 6H	36 (1.417)	19.9 (0.784)	38.1 (1.500)	31.1 (1.224)	32.0 (1.260)
21	1.1875-18	M31 x 1.0 - 6H	39 (1.535)	23.1 (0.909)	41.1 (1.618)	34.1 (1.343)	35.2 (1.386)
23	1.3125-18	M34 x 1.0 - 6H	42 (1.654)	26.2 (1.032)	44.1 (1.736)	36.9 (1.453)	38.4 (1.512)
25	1.4375-18	M37 x 1.0 - 6H	45 (1.772)	28.8 (1.134)	49.1 (1.933)	39.9 (1.571)	41.5 (1.634)



How to order

Amphenol designation - Backshells for LJT (MIL-DTL-38999 Series I / HE308), RNJ (HE308)

Series	LJT	NSA	11	014
Type of backshell	NSA: screened clamping braid backshell accepting heat shrink moulded piece			
Size of backshell	09-11-13-15-17-19-21-23-25 for LJT connectors: same as connector size			
Finish	014: olive-drab cadmium plating 023: electroless nickel plating ✓ 024: green zinc cobalt plating ✓ 033K: black zinc nickel plating ✓			

HE 308 military designation - Backshells for HE308 (LJT / MIL-DTL-38999 Series I / RNJ) connectors

Series	HE308	13	15	7	M
Type of backshell	13: screened clamping braid backshell heat shrink moulded piece				
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)				
Finish	07: olive-drab cadmium plating 06: electroless nickel plating ✓				
Military standard					

How to order

Amphenol designation – Backshells for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	TV	NSA	11	014
Type of backshell	NSA: screened clamping braid backshell accepting heat shrink moulded piece			
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)			
Finish	014: olive-drab cadmium plating 023: electroless nickel plating ✓ 024: green zinc cobalt plating ✓ 033K: black zinc nickel plating ✓			

✓: RoHS compliant

BACKSHELLS FOR SHIELDING

Assembly instructions for NSA backshells

- 1 Prepare the cable for termination process and slide onto the cable the items in the order shown on figure 1.
- 2 Screw the backshell at the rear of the connector. The best performance in time of the system « connector + rear accessory » consists in applying the torque value to screw then to unscrew, to apply the torque value to screw a second time, then to unscrew and finally to screw the torque value a third time.
- 3 Fold back the braid on the outer jacket and fix it (figure 2)
- 4 Install the braid as shown on figures 3 and 4: Release the braid and cover the backshell (a) and the connector's shell. Slide the first ring (b) over the braid. Fold back the braid on the ring (b) and slide the second ring (c) over the braid and the first ring (b). Screw the last ring (d) at the rear of the backshell. If necessary, fix the extra braid on the outer jacket of the cable. If this installation (double folding of the braid) is not possible, refer to figure 5: Slide the first ring (b). Release the braid and cover the backshell (a). Cut the braid as shown. Slide the second ring (c) over the braid and the first ring (b). Screw the last ring at the rear of the backshell.
- 5 Install the heat-shrink moulded piece.

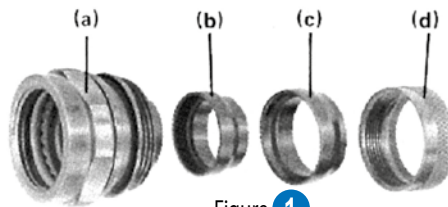


Figure 1



Figure 2

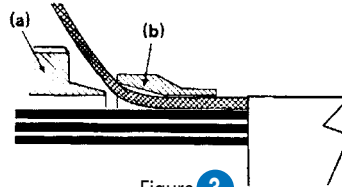


Figure 3

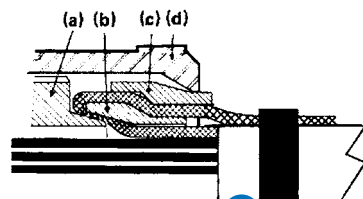


Figure 4

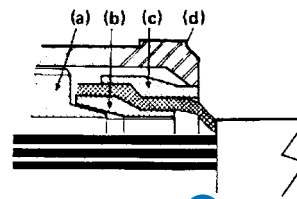


Figure 5

BAND BACKSHELLS FOR SHIELDING

These band backsells provide a full 360° shield termination. They are available with different cabling chamber lengths and exit diameters. The use of replaceable bands facilitates future maintenance or reparability. Sealing is ensured by straight or right angled heat shrink moulded piece at the rear of backshell.

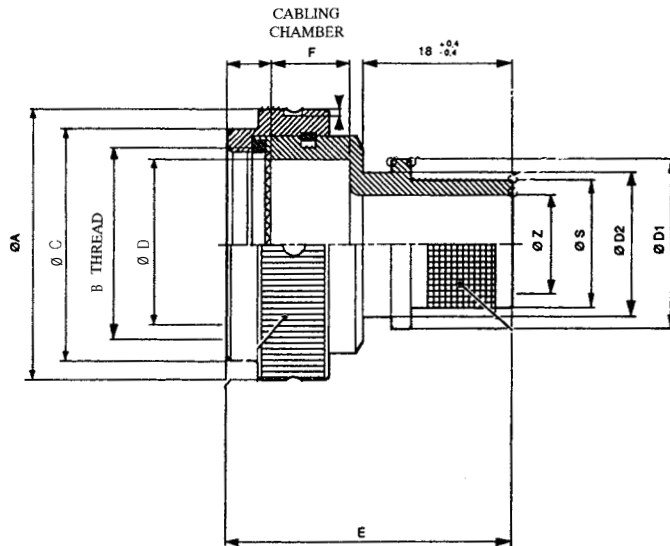
HE308-35 and TV35 backsells

HE308-35 suitable for LJT (*MIL-DTL-38999 Series I / HE308*), RNJ (*HE308*) connectors.

TV35 suitable for TV-CTV (*MIL-DTL-38999 Series III*), SC39 and RNJ LP connectors.

TVB35 suitable for TV bronze connectors.

These straight band backsells provide a full 360° shield termination with a quick, easy and cost effective cabling process. For straight or right angled heat shrink moulded pieces, please refer to page 29.



Size	HE308-35				TV35/TVB35			
	Ø A max mm (in)	B Thread UNEF-2B	Ø C mm (in)	Ø D mm (in)	Ø A max mm (in)	B Thread Metric	Ø C mm (in)	Ø D mm (in)
09	21.40 (0.843)	0.4375-28	15.20 (0.598)	7.80 (0.307)	24.30 (0.957)	M12 x 1.0-6H	18.00 (0.709)	7.80 (0.307)
11	24.30 (0.957)	0.5625-24	18.40 (0.724)	10.80 (0.425)	27.40 (1.079)	M15 x 1.0-6H	21.00 (0.827)	10.99 (0.433)
13	27.40 (1.079)	0.6875-24	21.60 (0.850)	13.10 (0.516)	31.80 (1.252)	M18 x 1.0-6H	25.00 (0.984)	13.80 (0.543)
15	31.80 (1.252)	0.8125-20	24.80 (0.976)	16.30 (0.642)	35.00 (1.378)	M22 x 1.0-6H	28.00 (1.102)	16.30 (0.642)
17	35.00 (1.378)	0.9375-20	28.00 (1.102)	19.50 (0.768)	38.10 (1.500)	M25 x 1.0-6H	30.80 (1.213)	20.10 (0.791)
19	38.10 (1.500)	1.0625-18	31.00 (1.220)	21.70 (0.854)	41.20 (1.622)	M28 x 1.0-6H	34.10 (1.343)	22.93 (0.903)
21	41.20 (1.622)	1.1875-18	34.20 (1.347)	24.90 (0.980)	44.30 (1.744)	M31 x 1.0-6H	36.90 (1.453)	26.00 (1.024)
23	44.30 (1.744)	1.3125-18	37.40 (1.472)	28.10 (1.106)	47.20 (1.858)	M34 x 1.0-6H	39.80 (1.567)	29.28 (1.153)
25	47.20 (1.858)	1.4375-18	40.60 (1.599)	31.20 (1.228)	50.00 (1.969)	M37 x 1.0-6H	43.00 (1.693)	32.45 (1.278)

BAND BACKSHELLS FOR SHIELDING

Size	E max mm	Cabling chamber length F ^{±0.1} mm	Z rear side diameter coding										
			06	08	10	12	14	16	20	24	28	32	36
09	36	10		o	x	o	x	x					
	36	10		x	o	o	o	x	x				
11	41	15	x	x	x	x							
	46	20				x							
	56	30						x	x				
	66	40				x	x						
13	36	10		x	x	o	o	o	x				
	56	30				△		o					
15	36	10		x	x	o	o	x	o	x			
	41	15		x	x	x	x	x					
	56	30							o				
17	36	10				o	o	o	o	o			
	41	20					x	x					
	51	25				o	x						
	56	30						x		o			
19	36	10		x				o	o	o	x		
	56	30						x		o			
21	36	10					x	x	o	x	o	x	
	46	20					x		△	x			
	51	25					x						
	56	30							△		o		
23	36	10						x		o	x	o	
	56	30								o		o	
25	36	10						x		o		o	
	56	30								o		o	
Z rear side diameter			06	08	10	12	14	16	20	24	28	32	36
Ø Z			4.8 (0.189)	6.30 (0.248)	7.90 (0.313)	9.40 (0.370)	11.00 (0.433)	12.60 (0.496)	15.80 (0.622)	19.00 (0.748)	22.10 (0.870)	25.30 (0.996)	28.60 (1.126)
Ø S min/max			7.80/7.9 (0.307/0.311)	9.40/9.50 (0.370/0.374)	11.1/11.2 (0.437/0.440)	12.60/12.70 (0.496/0.500)	14.10/14.30 (0.555/0.563)	15.70/15.90 (0.618/0.626)	18.90/19.10 (0.744/0.752)	22.00/22.20 (0.866/0.874)	25.20/25.40 (0.992/1)	28.40/28.60 (1.118/1.126)	31.50/31.80 (1.240/1.252)
Ø D1 ±0.1			12.40 (0.488)	14.00 (0.551)	17.10 (0.673)	17.10 (0.673)	18.70 (0.736)	20.30 (0.799)	23.50 (0.925)	26.70 (1.051)	29.80 (1.173)	33.00 (1.299)	36.20 (1.425)
Ø D2 ±0.1			9.80 (0.386)	11.40 (0.449)	14.50 (0.571)	14.50 (0.571)	16.10 (0.634)	17.70 (0.697)	20.90 (0.823)	23.10 (0.909)	26.20 (1.032)	29.40 (1.158)	32.60 (1.284)

x
HE308-35

o
HE308-35 & TV35/TVB35

△
TV35/TVB35

How to order

HE 308 military designation - Backshells for HE 308 (LJT/ MIL-DTL-38999 Series I / RNJ) connectors

Series	HE308	-35	-11	-10	-12	-7	M
Type of backshell	35: band backshell accepting heat shrink moulded piece						
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)						
Cabling chamber length	10-15-20-25-30-40						
Refer above - dimension F							
Rear side diameter	06-08-10-12-14-16-20-24-28-32-36						
Refer above - dimension Z							
Finish	7: olive-drab cadmium plating 6: electroless nickel plating ✓ 033K: black zinc nickel plating ✓						
Military standard (only for olive-drab cadmium and electroless nickel versions)							

Amphenol designation – Backshells for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	TV	35	11	10	12	014
Type of backshell	35: aluminium straight band backshell accepting heat shrink moulded piece B35: bronze straight band backshell accepting heat shrink moulded piece ✓					
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)					
Cabling chamber length	10-20-25-30					
Refer above - dimension F						
Rear side diameter	06-08-10-12-14-16-20-24-28-32-36					
Refer above - dimension Z						
Finish	014: olive-drab cadmium plating 023: electroless nickel plating ✓ 024: green zinc cobalt plating ✓ 033K: black zinc nickel plating ✓ Blank for bronze version ✓					

✓: RoHS compliant

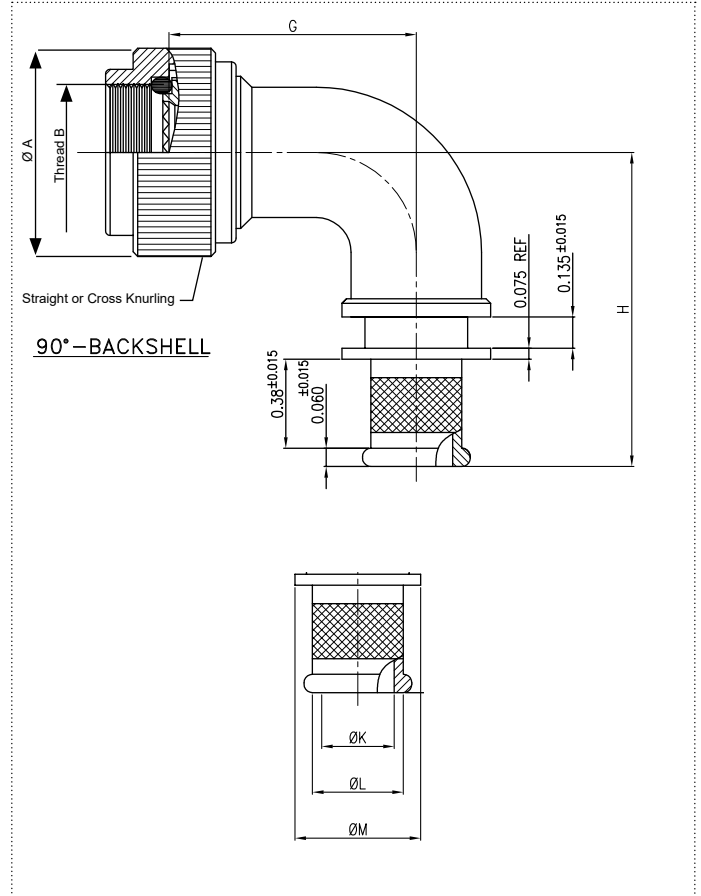
BAND BACKSHELLS FOR SHIELDING

SBC Backshells

LJT SBC suitable for LJT (MIL-DTL-38999 Series I / HE308) and RNJ (HE308) connectors.

TV SBC suitable for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors.

These right angled band backshells provide a full 360° shield termination with a quick, easy and cost effective cabling process. For right angled heat shrink moulded pieces, please refer to page 29.



Size	LJT SBC only		TV SBC only	
	Ø A max (in)	B Thread UNEF-2B	Ø A max (in)	B Thread Metric
09	19.10 (0.752)	0.4375-28	19.10 (0.752)	M12 x 1.0-6H
11	21.59 (0.850)	0.5625-24	21.59 (0.850)	M15 x 1.0-6H
13	25.40 (1.000)	0.6875-24	25.40 (1.000)	M18 x 1.0-6H
15	29.18 (1.149)	0.8125-20	29.18 (1.149)	M22 x 1.0-6H
17	31.78 (1.251)	0.9375-20	31.78 (1.251)	M25 x 1.0-6H
19	35.59 (1.401)	1.0625-18	35.59 (1.401)	M28 x 1.0-6H
21	39.29 (1.547)	1.1875-18	39.29 (1.547)	M31 x 1.0-6H
23	41.88 (1.649)	1.3125-18	41.88 (1.649)	M34 x 1.0-6H
25	44.48 (1.751)	1.4375-18	44.48 (1.751)	M37 x 1.0-6H

Size	G max mm (in)	K rear side diameter		H max mm (in)	Ø L ± 0.015" mm (in)	Ø M ± 0.015" mm (in)
		Coding 1/32 of Inch	Dimension mm (in)			
09	28.58 (1.125)	10	7.92 (0.312)	33.91 (1.335)	11.13 (0.438)	12.70 (0.500)
11	31.75 (1.250)	14	11.13 (0.438)	37.08 (1.460)	14.27 (0.562)	15.85 (0.624)
13	34.93 (1.375)	16	12.70 (0.500)	40.26 (1.585)	15.88 (0.625)	17.45 (0.687)
15	38.10 (1.500)	20	15.88 (0.625)	43.43 (1.710)	19.05 (0.75)	20.62 (0.812)
17	41.28 (1.625)	24	19.05 (0.750)	46.61 (1.835)	22.23 (0.875)	23.80 (0.937)
19	44.45 (1.750)	24	19.05 (0.750)	49.78 (1.960)	22.23 (0.875)	23.80 (0.937)
21	47.63 (1.875)	28	22.23 (0.875)	42.96 (2.085)	25.40 (1.000)	26.97 (1.062)
23	50.80 (2.000)	32	25.40 (1.000)	56.13 (2.210)	28.58 (1.125)	30.15 (1.187)
25	53.98 (2.125)	36	28.58 (1.125)	59.31 (2.335)	31.75 (1.250)	33.32 (1.312)

How to order

Amphenol designation – Backshells for LJT (LJT/ MIL-DTL-38999 Series I / HE308/ RNJ) connectors

Series	LJT	SBC	11	14	014
Type of backshell	SBC: aluminium right angled band backshell accepting heat shrink moulded piece				
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)				
Rear side diameter	10-14-16-20-24-28-32-36				
Refer above - dimension Z					
Finish	014: olive-drab cadmium plating 023: electroless nickel plating ✓				

✓: RoHS compliant

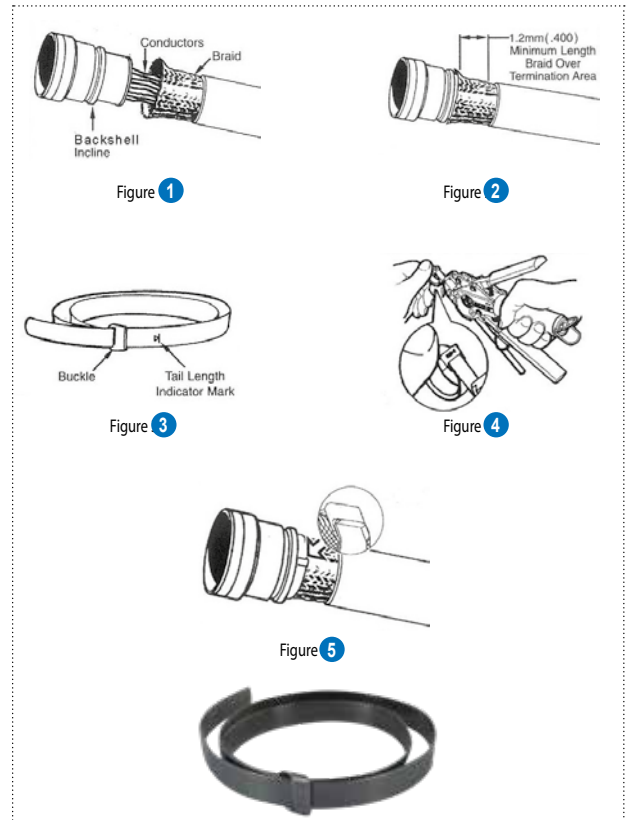
BAND BACKSHELLS FOR SHIELDING

Amphenol designation – Backshells for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	TV	SBC	11	14	014
Type of backshell					
SBC: aluminium right angled band backshell accepting heat shrink moulded piece					
Size of backshell 09-11-13-15-17-19-21-23-25 (same as connector size)					
Rear side diameter 10-14-16-20-24-28-32-36					
<i>Refer previous page - dimension K</i>					
Finish					
014: olive-drab cadmium plating					
023: electroless nickel plating ✓					
033K: black zinc nickel plating ✓					

Assembly instructions for HE308-35, TV35 and SBC backshells

- 1 Prepare the cable for termination process (figure 1).
- 2 Screw the backshell at the rear of the connector.
- 3 Push the braid over the backshell to the incline point. Milk the braid as required to remove the slack and insure a snug fit around the shield termination area (figure 2).
- 4 Prepare the band: Roll the band through the buckle slot twice (the band must be double-coiled). Pull on the band until the mark is within approximately 6.4 mm (.250 in) of the buckle slot (figure 3). The band may be tightened further if desired.
- 5 Squeeze the gripper release lever of the banding tool and insert the band into the front end opening of the tool as shown on figure 4 (the circular portion of looped band must always face downward).
- 6 Aligning the band and the tool with the shield termination area, squeeze the black pull-up handle repeatedly using short strokes until it locks against the tool body (this indicates the band is compressed to the tool precalibrated tension).
- 7 Complete the clamping process by squeezing the grey cut-off handle.
- 8 Remove the excess band from the tool.
- 9 Inspect shield termination (figure 5). If the alignment of the band and the shield is unsatisfactory, tension on the band can be relaxed by pushing on the slotted release lever on the top of the tool. Make adjustments as necessary and squeeze again the black pull-up handle.



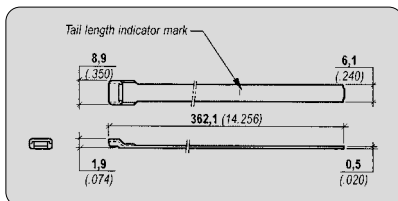
Tooling and accessories

Coupling tool

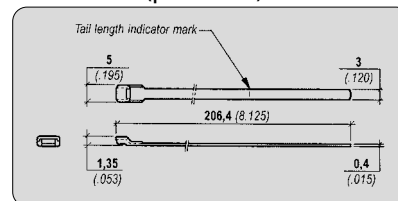
Coupling wrench for HE308-35 and TV(B) 35 backshells: **116.50** (Facom p/n)

Clamping bands

Standard band: **072952**



Micro band (precoiled): **895693**



Hand banding tools

Banding tool for standard band: **809952**

Banding tool for micro band: **809985**

Caution: Tools and bands should never be lubricated

✓ : RoHS compliant

BAND BACKSHELLS FOR SHIELDING

M85049 band backshells

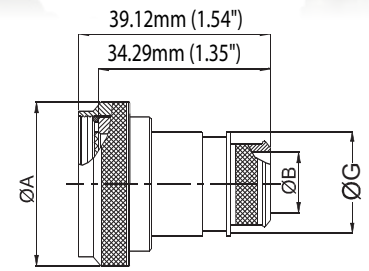
M85049/85 and M85049/87 suitable for LJT (MIL-DTL-38999 Series I / HE308), RNJ (HE308) connectors.

M85049/88 and M85049/90 suitable for TV/CTV (MIL-DTL-38999 Series III), SC39 and RNJLP connectors.

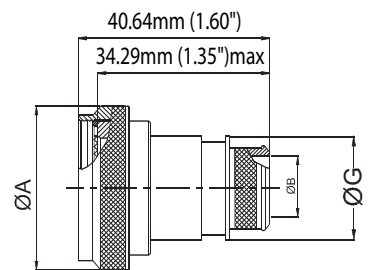
These straight band backshells provide a full 360° shield termination with a quick, easy and cost effective cabling process. For straight or right angled heat shrink moulded pieces, please refer to page 29.



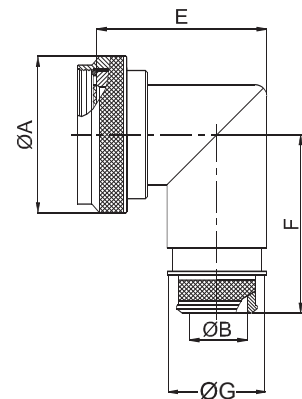
Size	Entry Size		Ø B ⁰ _{-0.5} mm (in)	Ø A max mm (in)	E max mm (in)	F max mm (in)		Ø G max mm (in)
	Coding					LJT	TV	
	for /85 only	for /88/87/90						
09	01	02	N/A	21.82 (0.859)	34.93 (1.375)	35.99 (1.417)	35.99 (1.417)	N/A
	02	03	6.60 (0.260)					14.22 (0.560)
11	01	02	N/A	25.04 (0.986)	36.50 (1.437)	37.59 (1.480)	37.59 (1.480)	N/A
	02	03	8.13 (0.320)					16.00 (0.630)
13	01	02	8.13 (0.320)	29.36 (1.156)	39.67 (1.562)	39.45 (1.553)	39.45 (1.553)	16.00 (0.630)
	02	03	11.43 (0.450)					19.05 (0.750)
15	01	02	11.43 (0.450)	32.54 (1.281)	42.85 (1.687)	41.00 (1.614)	41.00 (1.614)	19.05 (0.750)
	02	03	14.48 (0.570)					22.61 (0.890)
17	01	02	12.95 (0.510)	35.71 (1.406)	44.45 (1.750)	42.62 (1.678)	42.62 (1.678)	20.83 (0.820)
	02	03	16.26 (0.640)					24.13 (0.950)
19	01	02	16.26 (0.640)	38.51 (1.516)	47.63 (1.875)	44.02 (1.733)	45.03 (1.773)	24.13 (0.950)
	02	03	19.30 (0.760)					27.18 (1.070)
21	01	02	16.26 (0.640)	41.68 (1.641)	49.23 (1.938)	45.62 (1.796)	45.62 (1.796)	24.13 (0.950)
	02	03	20.83 (0.820)					28.07 (1.105)
23	01	02	17.78 (0.700)	44.86 (1.766)	52.37 (2.062)	47.22 (1.859)	47.22 (1.859)	25.99 (1.023)
	02	03	24.13 (0.950)					32.00 (1.260)
25	01	02	19.30 (0.760)	48.03 (1.891)	53.98 (2.125)	48.74 (1.919)	48.74 (1.919)	27.18 (1.070)
	02	03	25.65 (1.010)					33.53 (1.320)



M85049/85



M85049/88



M85049/87 & M85049/90

How to order

SAE-85049 designation - Backshell for LJT (MIL-DTL-38999 Series I / HE308) or TV/CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	M85049/	85	09	W	02
Type of backshell					
<i>LJT/HE308:</i>					
85: straight					
87: 90° right angle					
<i>TV:</i>					
88: straight					
90: 90° right angle					
Size of backshell					
08-10-12-14-16-18-20-22-24 for LJT (MIL-DTL-38999 Series I / HE308) and RNJ (HE308) connectors: remove 1 to your connector size					
09-11-13-15-17-19-21-23-25 (same as connector size) for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors					
Finish					
W: olive-drab cadmium plating					
N: electroless nickel plating ✓					
Entry size 01-02-03					
Refer above - dimension B					

✓ : RoHS compliant

CONNECTORS WITH INTEGRATED BACKSHELLS

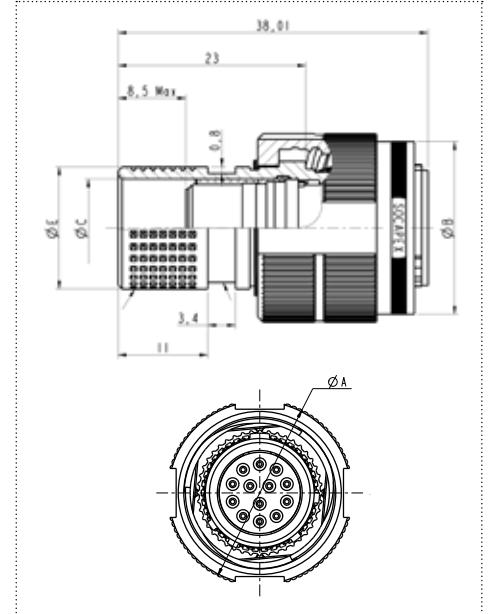
Available on plugs and receptacles, these 2 in 1 connectors/band backshells provide a high EMI protection with a quick, easy and cost effective cabling process. They are low profile, with enhance sealing level and allow the use of macro and micro bands, as well as straight or right angled heat shrink moulded pieces. The design of the shells make them compatible with over moulding process.



Integrated backshells FOR TV

Suitable for TV (MIL-DTL-38999 Series III) connectors.

Size	Ø A max mm (in)	Ø B max ^{+0.2} ₀ mm (in)	Ø C mm (in)	Ø E max ⁰ _{-0.2} mm (in)
09	21.8 (0.858)	18.4 (0.724)	8.74 (0.344)	12 (0.472)
11	25.0 (0.984)	21.1 (0.831)	11.99 (0.472)	15 (0.591)
13	29.4 (1.157)	25.4 (1.000)	14.88 (0.586)	18 (0.709)
15	32.5 (1.280)	28.7 (1.130)	18.06 (0.711)	22 (0.866)
17	35.7 (1.406)	32.2 (1.268)	21.23 (0.836)	25 (0.984)
19	38.5 (1.516)	34.9 (1.374)	23.93 (0.942)	28 (1.102)
21	41.7 (1.642)	38.1 (1.500)	27.10 (1.067)	31 (1.220)
23	44.9 (1.768)	41.1 (1.618)	30.28 (1.192)	34 (1.339)
25	48.0 (1.890)	44.3 (1.744)	33.45 (1.317)	37 (1.457)



How to order

Amphenol designation - Integrated backshell for TV (MIL-DTL-38999 Series III)

Series	TV	06	RW	11-35	P	A	F472
Shell type							
straight plug: 175°C: 06							
straight plug: 200°C: S06							
Shell material and finish							
<u>Aluminium</u>							
RW: olive drab cadmium plated 175°C							
RF: electroless nickel plated 200°C ✓							
ZN: black zinc nickel plated 175°C ✓							
RZ: green zinc cobalt plated 175°C ✓							
<i>Please consult for bronze and stainless steel versions</i>							
Shell size and contact arrangement							
See MIL-DTL 38999 Series III catalogue pages 8 to 11							
Contact type							
P: pin							
S: socket							
Polarisation							
blank for normal or A, B, C, D, E							
Deviation							
F472: connectors with integrated backshell							

✓: RoHS compliant

Please consult us for receptacles with integrated backshell



CONNECTORS WITH INTEGRATED BACKSHELLS

Description

MIL-DTL-38999 Series I & III Connectors with INTEGRATED BACKSHELL

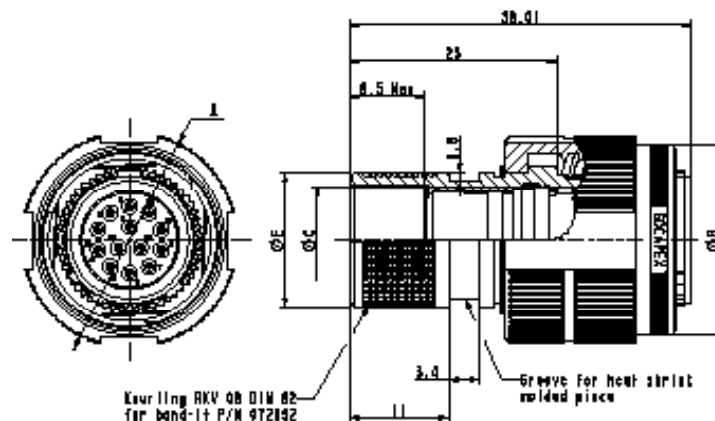
Available on plugs and receptacles, these 2 in 1 connectors/band backshells provide a high EMI protection with a quick, easy and cost effective cabling process. They are low profile, with enhance sealing level and allow the use of macro and micro bands, as well as straight or right angled heat shrink molded pieces. The design of the shells make them compatible with over molding process.

Main Features

- Suitable for MIL-DTL-38999 Series III and Series I connectors
- Available on plugs and receptacles
- All in one product : time saving during order and installation
- Total length saving : average -47% vs standard plug with TV35 backshell
- Average -50% lighter vs standard plug with TV35 backshell
- High EMI protection
- Braid clamping (metal Band-it)
- Available materials/plating:
 - Aluminum (olive drab cadmium / electroless nickel / black zinc nickel)
 - Bronze
 - Stainless steel

TV

Plug TV 06 F472

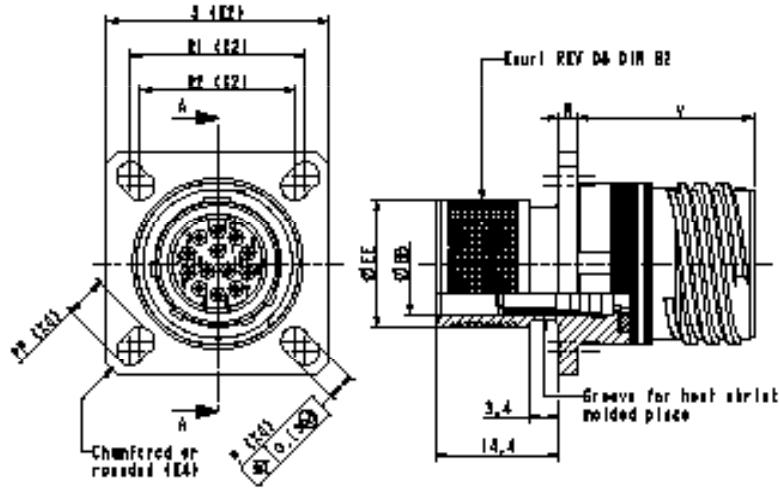


Size	ØA Max	ØE 0 -0.2	ØB +0.2 0	ØC
09	21,8	12	18,4	8,74
11	25,0	15	21,1	11,99
13	29,4	18	25,4	14,88
15	32,5	22	28,7	18,06
17	35,7	25	32,2	21,23
19	38,5	28	34,9	23,93
21	41,7	31	38,1	27,1
23	44,9	34	41,1	30,28
25	48,0	37	44,3	33,45

CONNECTORS WITH INTEGRATED BACKSHELLS

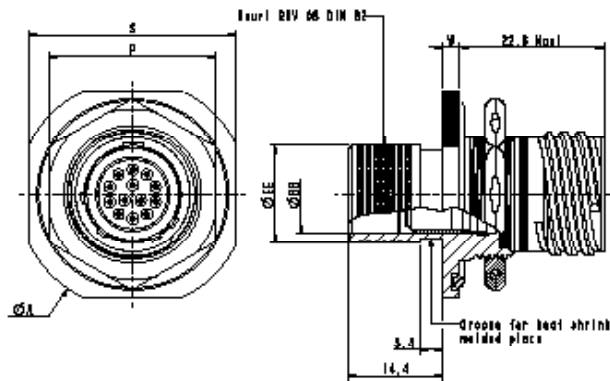
TV

Square Flange Receptacle TVP 00 F472



Size	S ± 0,3	R1	R2	PP ± 0,2	P ± 0,2	ØEE Max	ØBB	V ⁰ _{-1,25}	W
09	23,8	18,26	15,09	5,49		12	9,0		
11	26,2	20,62	18,26	4,93		15	12,2		
13	28,6	23,01	20,62	4,39	3,25	18	15,1	20,83	2,1 - 2,5
15	31,0	24,61	23,01	4,93		22	18,3		
17	33,3	26,97	24,61	4,93		25	21,5		
19	36,5	29,36	26,97	4,93		28	24,2		
21	39,7	31,75	29,36	6,15	3,91	31	27,3	20,07	2,1 - 3,2
23	42,9	34,93	31,75			34	30,5		
25	46,0	38,10	34,93			37	33,7		

Jam Nut Receptacle TV 07 F472

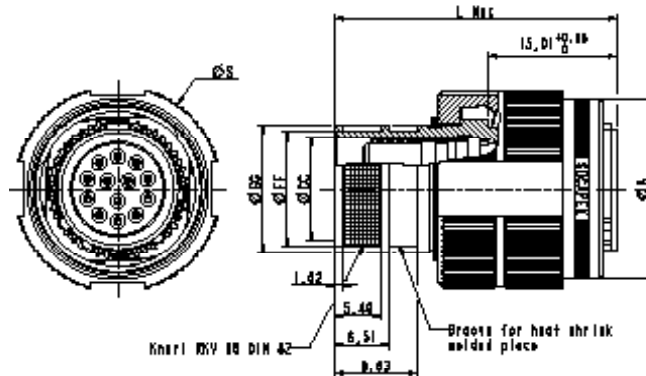


Size	S ± 0,4	ØA ± 0,3	ØBB	ØEE Max	P ± 0,4	W ^{+0,9} _{-0,1}
09	27,0	30,2	9,0	12,0	22,2	
11	31,8	34,9	12,2	15,0	25,4	
13	34,9	38,1	15,1	18,0	30,2	2,2
15	38,1	41,3	18,3	22,0	33,3	
17	41,3	44,5	21,5	25,0	36,5	
19	46,0	49,2	24,2	28,0	39,7	
21	49,2	52,4	27,3	31,0	42,9	3,0
23	52,4	55,6	30,5	34,0	46,0	
25	55,6	58,7	33,7	37,0	50,8	

CONNECTORS WITH INTEGRATED BACKSHELLS

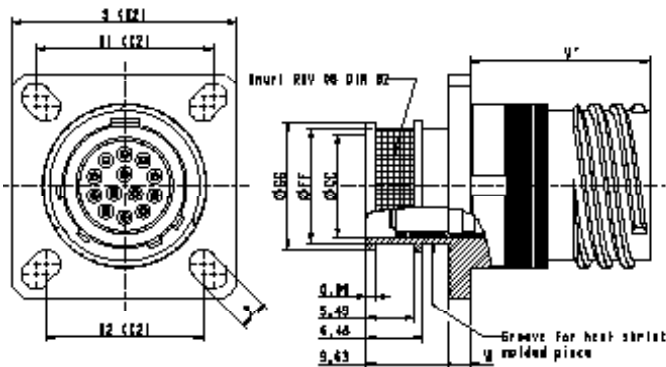
TV

Plug TV 06 F472A



Size	Ø S Max	Ø B ^{+0,2 / 0}	Ø CC	Ø FF ^{+0,13 / 0}	Ø GG ^{0 / -0,2}	L Max
09	21,8	18,4	8,74	10,57	12	
11	25	21,1	11,99	13,26	15	32,95
13	29,4	25,4	14,88	16,56	18	
15	32,5	28,7	18,06	20,57	22	33,1
17	35,7	32,2	21,23	23,57	25	
19	38,5	34,9	23,93	26,57	28	33,25
21	41,7	38,1	27,1	29,57	31	
23	44,9	41,1	30,28	32,56	34	33,41
25	48	44,3	33,45	35,56	37	

Square Flange Receptacle TVP 00 F472A

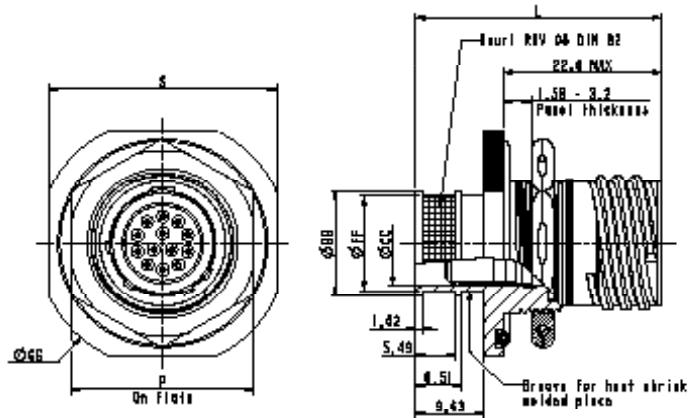


Size	S ± 0,3	Ø CC	Ø FF ^{+0,13 / 0}	Ø GG ^{+0,08 / -0,05}	P ± 0,2	R1	R2	V' Max	W Max
09	23,8	8,74	10,57	11,99		18,26	15,09		
11	26,2	11,99	13,31	14,73		20,62	18,26		
13	28,6	14,88	16,56	17,98		23,01	20,62		
15	31	18,06	20,57	22	3,25	24,61	23,01	20,9	2,5
17	33,3	21,23	23,57	24,99		26,97	24,61		
19	36,5	23,93	26,57	27,99		29,36	26,97		
21	39,7	27,1	29,57	30,99		31,75	29,36		
23	42,9	30,28	32,56	33,99		34,93	31,75	20,1	3,2
25	46	33,45	35,56	36,98	3,91	38,1	34,93		

CONNECTORS WITH INTEGRATED BACKSHELLS

TV

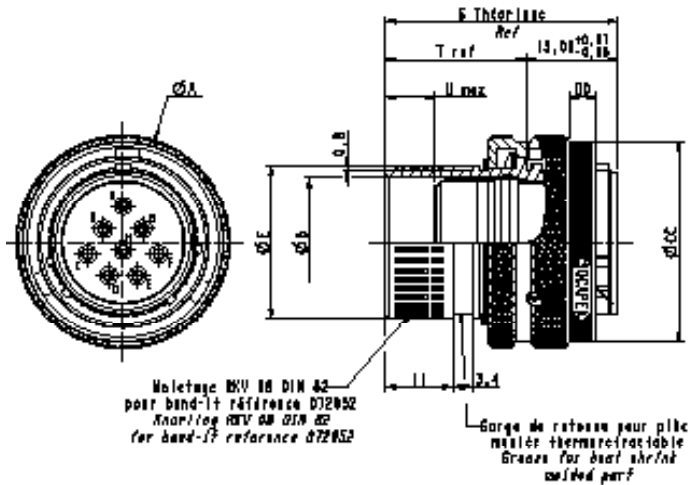
Jam Nut Receptacle TV 07 F472A



Size	S ± 0,4	GG ± 0,3	Ø CC	Ø FF ^{+0,13} / ₀	Ø BB ^{+0,08} / _{-0,05}	L Max	P ± 0,4
09	27	30,2	8,74	10,57	11,99	34,64	22,2
11	31,8	34,9	11,99	13,31	14,73		25,4
13	34,9	38,1	14,88	16,56	17,98		30,2
15	38,1	41,3	18,06	20,57	22	34,81	33,3
17	41,3	44,5	21,23	23,57	24,99		36,5
19	46	49,2	23,93	26,57	27,99		39,7
21	49,2	52,4	27,1	29,57	30,99	35,63	42,9
23	52,4	55,6	30,28	32,56	33,99		46
25	55,6	58,7	33,45	35,56	36,98		50,8

LJT

Plug LJT 06 F472

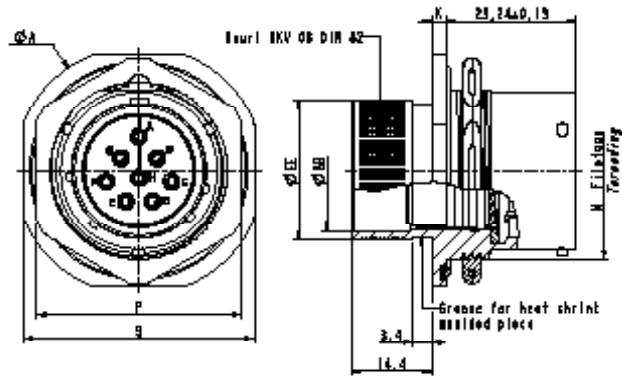


Size	Ø A Max	Ø B	Ø CC ^{+0,28} / ₀	Ø DD ^{+1,14} / _{-0,91}	Ø E ⁰ / _{-0,2}	S	T ref	U Max
09	21,82	8,74	19,81	4,06	12	38,09	23	8,5
11	24,99	11,99	22,99		15			
13	29,36	14,88	26,95		18			
15	32,54	18,06	30,12	4,06	22	38,09	23	8,5
17	35,71	21,23	33,05		25			
19	38,51	23,93	36,12		26,95			
21	41,68	27,1	39,22	4,06	30,12	38,09	23	8,5
23	43,86	30,28	42,34		33,3			
25	48,03	33,45	45,54		36,47			

CONNECTORS WITH INTEGRATED BACKSHELLS

LJT

Jam Nut Receptacle LJT 07 F472



Size	S ± 0,41	ØA ± 0,41	Ø K ^{+0,28 -0,25}	P ± 0,43	Ø BB	Ø EE Max	Threading Class 2A UNEF	
09	26,97	30,18	2,77	22,23	9	12	.6875-24	
11	31,75	34,93		25,4	12,2	15	.8125-20	
13	34,93	38,1		30,18	15,1	18	1.0000-20	
15	38,1	41,28		33,32	18,3	22	1.1250-18	
17	41,28	44,45		36,53	21,5	25	1.2500-18	
19	46,02	49,23	3,56	39,67	24,2	28	1.3750-18	
21	49,23	52,37		42,88	27,3	31	1.5000-18	
23	52,37	55,58		46,02	30,5	34	1.6250-18	
25	55,58	58,72			50,8	33,7	37	1.7500-18

ADAPTERS FOR HEAT SHRINK MOULDED PIECES

NSD backshells

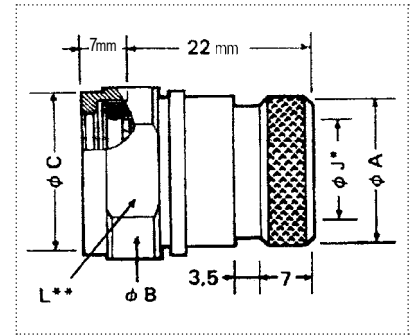


LJT NSD (HE308-14) suitable for LJT (MIL-DTL-38999 Series I / HE308) and RNJ (HE308) connectors.

TV NSD suitable for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors. These backshells ensure the sealing and the mechanical retention of the cable. For straight and right angled heat shrink moulded pieces, please refer to page 29.

Size	Ø A mm (in)	Ø B ^{±0.2} mm (in)	Ø C max mm (in)	Ø J* min mm (in)	L** max mm (in)
9	12.60 (0.496)	20.00 (0.787)	16.00 (0.630)	7.80 (0.307)	16.80 (0.661)
11	16.40 (0.646)	23.00 (0.906)	19.00 (0.748)	10.80 (0.425)	20.80 (0.819)
13	20.00 (0.787)	26.00 (1.024)	22.00 (0.866)	13.10 (0.516)	22.80 (0.898)
15	22.00 (0.866)	29.00 (1.142)	25.10 (0.988)	16.30 (0.642)	25.80 (1.016)
17	24.60 (0.969)	32.00 (1.260)	28.30 (1.114)	19.00 (0.748)	28.80 (1.134)
19	27.50 (1.083)	35.00 (1.378)	31.30 (1.232)	21.70 (0.854)	31.80 (1.252)
21	31.90 (1.256)	39.00 (1.536)	34.50 (1.358)	24.90 (0.980)	35.80 (1.409)
23	35.00 (1.378)	42.00 (1.654)	37.70 (1.484)	28.10 (1.106)	38.80 (1.528)
25	38.80 (1.528)	45.00 (1.772)	40.80 (1.606)	31.20 (1.228)	41.80 (1.646)

* max permissible cable outside diameter
 ** dimension over the flats (4 flats)



How to order

Amphenol designation - Backshell for LJT (MIL-DTL-38999 Series I/HE308), RNJ (HE308) connectors

HE 308 military designation - Backshells for HE308 (LJT / MIL-DTL-38999 Series I / RNJ) connectors

Series	LJT	NSD	11	014
Type of backshell	NSD: backshell for heat shrink moulded piece			
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)			
Finish	014: olive-drab cadmium plating 023: electroless nickel plating ✓ 033K: black zinc nickel plating ✓			

Series	HE308	14	15	7	M
Type of backshell	NSD: backshell for heat shrink moulded piece				
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)				
Finish	07: olive-drab cadmium plating 06: electroless nickel plating ✓				
Military standard					

Amphenol designation - Backshell for TV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	TV	NSD	11	014
Type of backshell	NSD: backshell for heat shrink moulded piece			
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)			
Finish	014: olive-drab cadmium plating 023: electroless nickel plating ✓ 033K: black zinc nickel plating ✓			

✓: RoHS compliant

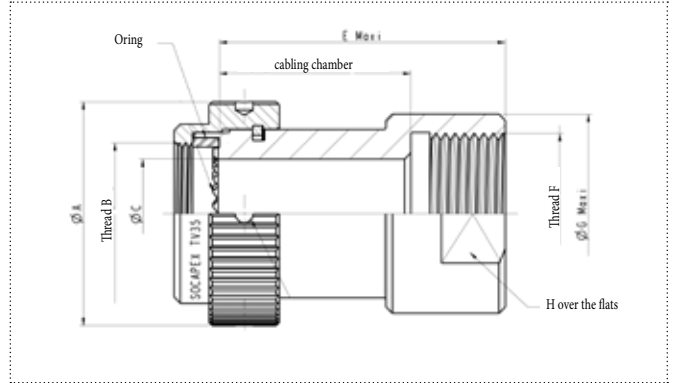
ADAPTERS FOR SEALING GLAND

Metric sealing gland straight version



TV35M suitable for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors. These backshells ensure the adaptation on metric sealing gland.

Rear side	M16	M20	M25	M32	M40	M50
F Thread metric	M16x1.5	M20x1.5	M25x1.5	M32x1.5	M40x1.5	M50x1.5
Ø G mm (in)	20.2 (0.795)	25.3 (0.996)	31.1 (1.224)	39.1 (1.539)	49.5 (1.949)	63.3 (2.492)
H mm (in)	18 (0.709)	22 (0.866)	27 (1.063)	34 (1.339)	43 (1.693)	55 (2.165)



Size	Ø A mm (in)	B Thread metric	Ø C mm (in)	Cabling chamber					Rear side (Thread)								
				30	40	50	60	80	M16	M20	M25	M32	M40	M50			
				E mm (in)													
09	24.3 (0.957)	M12x1	7.71 (0.304)														
11	27.4 (1.079)	M15x1	10.96 (0.431)														
13	31.8 (1.252)	M18x1	13.85 (0.545)														
15	35 (1.378)	M22x1	17.03 (0.670)														
17	38.1 (1.500)	M25x1	20.20 (0.795)	45 (1.772)	55 (2.165)	65 (2.56)	75 (2.953)	95 (3.740)									
19	41.2 (1.622)	M28x1	22.90 (0.902)														
21	44.3 (1.744)	M31x1	26.07 (1.026)														
23	47.2 (1.858)	M34x1	29.25 (1.152)														
25	50 (1.969)	M37x1	32.42 (1.276)														

For other configurations, please consult us

How to order

Amphenol designation - Backshell for TV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	TV	35	15	30	M20	023
35: aluminum						
B35: bronze ✓						
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)					
Cabling chamber	30-40-50-60-80					
	Refer above					
Rear side	M16-M20-M25-M32-M40-M50					
	Refer above					
Finish						
014: olive-drab cadmium plating						
023: electroless nickel plating ✓						
033K: black zinc nickel plating ✓						
Blank for bronze version ✓						

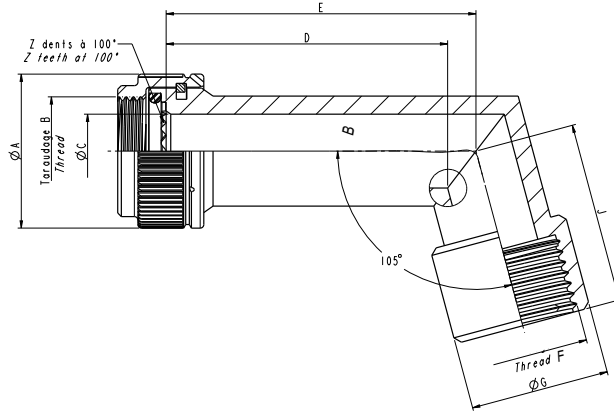
✓ : RoHS compliant

ADAPTERS FOR SEALING GLAND



Metric sealing gland 105° angled version

TV105M suitable for TV-CTV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors. These backshells ensure the adaptation on metric sealing gland.



Rear side	M16	M20	M25	M32	M40	M50	M63
F Thread metric	M16x1.5-6H	M20x1.5-6H	M25x1.5-6H	M32x1.5-6H	M40x1.5-6H	M50x1.5-6H	M63x1.5-6H
Ø G mm (in)	20 (0.787)	24 (0.945)	29 (1.142)	36 (1.417)	44 (1.732)	54 (2.126)	67 (2.638)

Size	Ø A max mm (in)	B Thread metric	Ø C min mm (in)	Cabling chamber D mm (in)	E max mm (in)	J max mm (in)	Rear side (Thread)								
							M16	M20	M25	M32	M40	M50	M63		
11	25.04 (0.986)	M15x1-6H	9.90 (0.390)	35	42.5 (1.673)	35 (1.378)									
13	29.36 (1.156)	M18x1-6H	12.80 (0.504)	40	48.25 (1.900)	35 (1.378)									
15	32.54 (1.281)	M22x1-6H	16.00 (0.630)	50	60.50 (2.382)	35 (1.378)									
17	35.71 (1.406)	M25x1-6H	19.20 (0.756)	55	66.60 (2.622)	36.50 (1.437)									
19	38.51 (1.516)	M28x1-6H	21.40 (0.843)	55	67.80 (2.669)	37 (1.457)									
21	41.68 (1.641)	M31x1-6H	24.60 (0.969)	40	54 (2.126)	38.50 (1.516)									
				60	74 (2.913)	40 (1.575)									
23	44.86 (1.766)	M34x1-6H	27.70 (1.091)	60	74.75 (2.943)	40 (1.575)									
25	48.03 (1.891)	M37x1-6H	30.90 (1.217)	75	91.50 (3.602)	40 (1.575)									

For other configurations, please consult us

How to order

Amphenol designation - Backshell for TV (MIL-DTL-38999 Series III), SC39 and RNJ LP connectors

Series	TV	105	15	50	M20	023
105: aluminum						
B105: bronze ✓						
Size of backshell 09-11-13-15-17-19-21-23-25 (same as connector size)						
Cabling chamber 35-40-50-55-60-75 Refer above - dimension D						
Rear side M16-M20-M25-M32-M40-M50-M63 Refer above						
Finish						
014: olive-drab cadmium plating						
023: electroless nickel plating ✓						
033K: black zinc nickel plating ✓						
Blank for bronze version ✓						

✓: RoHS compliant

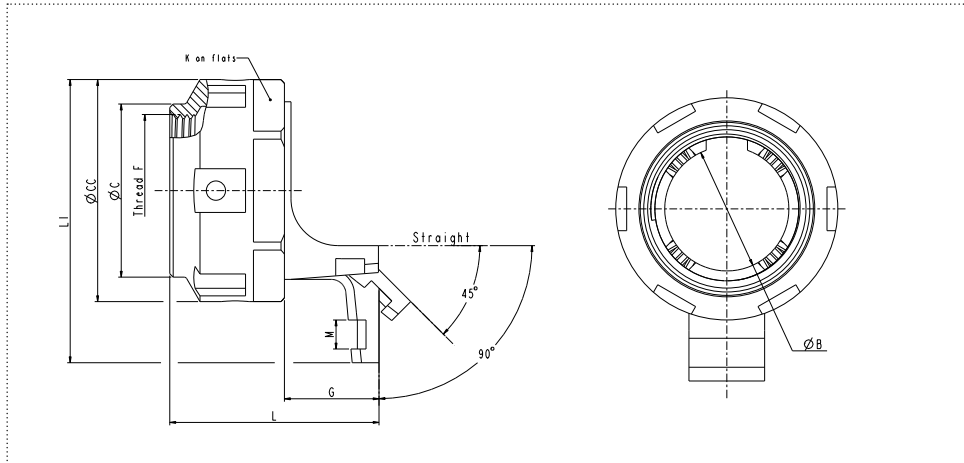
COMPOSITE BACKSHELLS



CTV35/ABS2216

CTV35/ABS2216 suitable for TV/CTV (MIL-DTL-38999 Series III/EN3645) connectors:

- Light weight solution
- Quick and easy installation
- Handling temperature from -65°C to 200°C
- Anti-decoupling system to withstand shocks and vibrations in harsh environment



Size	ØB ⁰ _{-0.1} mm (in)	ØC Max mm (in)	ØCC max mm (in)	Thread F	G max mm (in)			K ⁰ _{-0.2} mm (in)	L max mm (in)			LI Max mm (in)			M ^{+0.2} mm (in)
					droit	45°	90°		droit	45°	90°	droit	45°	90°	
09	8.47 (0.333)	15.24 (0.600)	21.79 (0.858)	M12x1.0+6H R0.100			17 (0.669)	19.05 (0.750)			40 (1.575)	21.76 (0.858)	26 (1.024)	/	3.2 (0.126)
11	12.07 (0.475)	18.21 (0.717)	24.99 (0.984)	M15x1.0-6H R0.100			15 (0.591)	22.23 (0.875)				24.99 (0.984)	30 (1.181)	40 (1.575)	3.2 (0.126)
13	14.96 (0.714)	21.18 (0.834)	29.39 (1.157)	M18x1.0-6H R0.100			15 (0.591)	25.4 (1.000)				29.39 (1.157)	33 (1.299)	40 (1.575)	4.2 (0.165)
15	18.14 (0.714)	25.14 (0.990)	32.46 (1.279)	M22x1.0-6H R0.100			15 (0.591)	28.58 (1.125)				32.49 (1.279)	36 (1.417)	50 (1.969)	4.2 (0.165)
17	21.21 (0.835)	28.12 (1.107)	35.71 (1.406)	M25x1.0-6H R0.100	16 (0.630)	21 (0.827)	15 (0.591)	31.75 (1.250)	40 (1.575)	37 (1.457)	32.5 (1.280)	35.71 (1.406)	39 (1.535)	50 (1.969)	4.2 (0.165)
19	24 (0.945)	31.09 (1.224)	38.5 (1.516)	M28x1.0-6H R0.100			15 (0.591)	34.93 (1.375)				38.5 (1.516)	42 (1.654)	50 (1.969)	4.2 (0.165)
21	27.08 (1.066)	34.06 (1.341)	41.7 (1.642)	M31x1.0-6H R0.100			15 (0.591)	38.1 (1.500)				41.7 (1.642)	45 (1.772)	60 (2.362)	4.2 (0.165)
23	30.35 (1.195)	36.9 (1.453)	44.91 (1.768)	M34x1.0-6H R0.100			15 (0.591)	41.28 (1.625)				44.91 (1.768)	48 (1.890)	60 (2.362)	5.4 (0.213)

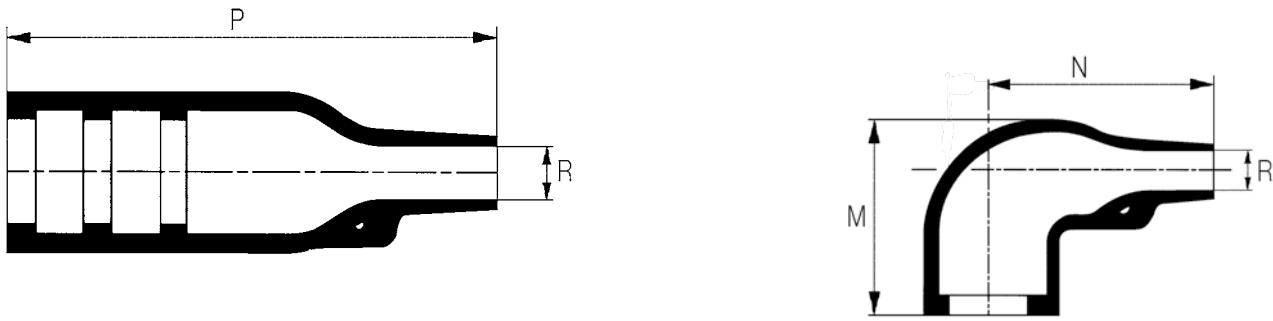
How to order

Amphenol and ABS designation - Backshells for TV/CTV (MIL-DTL-38999 Series III / EN3645) connectors

Series	ABS2216 or CTV35	A	11	W
Type of backshell				
A:	straight backshell			
B:	45° backshell			
C:	90° backshell			
Size of backshell	09-11-13-15-17-19-21-23-25 (same as connector size)			
EMI protection				
W:	EMI shielding backshell (delivered with 200 mm metallic braid) ✓			
P:	non-EMI shielding backshell ✓			

✓: RoHS compliant

HEAT-SHRINK MOULDED PIECES *



* Please note that the Heat-Shrink Moulded pieces are manufactured by Hellerman TYTON.

Heat-shrink moulded piece p/n		M max mm (in)	N ±10% mm (in)	P ±10% mm (in)	Ø R mm (in)	
Straight	Right angled	After total heating			Before heating (max)	After heating (min cable Ø)
		804221	804231	25.40 (1.000)	25.00 (0.984)	38.40 (1.512)
804222	804232	27.20 (1.071)	32.00 (1.260)	54.90 (2.161)	30.00 (1.181)	6.00 (0.236)
804223	804233	30.50 (1.201)	39.40 (1.551)	66.80 (2.630)	31.00 (1.220)	7.10 (0.280)
804225	804235	38.00 (1.496)	46.00 (1.811)	80.00 (3.150)	36.00 (1.417)	8.50 (0.335)
804227	804237	45.00 (1.772)	55.00 (2.165)	99.10 (3.902)	43.00 (1.693)	10.00 (0.394)
804229	804239	54.00 (2.126)	80.00 (3.150)	130.00 (5.118)	60.00 (2.362)	16.00 (0.630)

Standard heat-shrink moulded pieces (semi-rigid polyolefin – without any adhesive)

Size	Backshell type	Rear size coding	Straight			Right angled		
			Amphenol Socapex p/n	Raychem p/n	Hellerman p/n	Amphenol Socapex p/n	Raychem p/n	Hellerman p/n
9	NSA, NSD	-	804221	202K121-3	152-42-G	804231	222K121-3	1152-4-G
	HE308-35, TV35, TVB35, SBC	08	804221	202K121-3	152-42-G	804231	222K121-3	1152-4-G
11	NSA, NSD	-	804222	202K132-3	154-42-G	804232	222K132-3	1154-4-G
	HE308-35, TV35, TVB35, SBC	12	804222	202K132-3	154-42-G	804232	222K132-3	1154-4-G
13	NSA, NSD	-	804223	202K142-3	155-42-G	804233	222K142-3	1155-4-G
	HE308-35, TV35, TVB35, SBC	12	804222	202K132-3	154-42-G	804232	222K132-3	1154-4-G
		16	804223	202K142-3	155-42-G	804233	222K142-3	1155-4-G
		-	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
15	NSA	-	804223	202K142-3	155-42-G	804233	222K142-3	1155-4-G
	NSD	-	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
	HE308-35, TV35, TVB35, SBC	14	804222	202K132-3	154-42-G	804232	222K132-3	1154-4-G
		20	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
17	NSA	-	804227	202K163-3	157-43-G	804237	222K163-3	1157-4-G
	NSD	-	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
		12	804222	202K132-3	154-42-G	804232	222K132-3	1154-4-G
	HE308-35, TV35, TVB35, SBC	16	804223	202K142-3	155-42-G	804233	222K142-3	1155-4-G
		24	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
19	NSA	-	804227	202K163-3	157-43-G	804237	222K163-3	1157-4-G
	NSD	-	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
	HE308-35, TV35, TVB35, SBC	16	804223	202K142-3	155-42-G	804233	222K142-3	1155-4-G
		24	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
21	NSA, NSD	-	804227	202K163-3	157-43-G	804237	222K163-3	1157-4-G
		14	804222	202K132-3	154-42-G	804232	222K132-3	1154-4-G
	HE308-35, TV35, TVB35, SBC	20	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
		28	804227	202K163-3	157-43-G	804237	222K163-3	1157-4-G
		-	804229	202K174-3	158-43-G	804239	222K174-3	1158-4-G
23	NSA, NSD	-	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
	HE308-35, TV35, TVB35, SBC	24	804225	202K153-3	156-42-G	804235	222K152-3	1156-4-G
		32	804227	202K163-3	157-43-G	804237	222K163-3	1157-4-G
25	NSA, NSD	-	804229	202K174-3	158-43-G	804239	222K174-3	1158-4-G
	HE308-35, TV35, TVB35, SBC	28	804227	202K163-3	157-43-G	804237	222K163-3	1157-4-G
		36	804229	202K174-3	158-43-G	804239	222K174-3	1158-4-G

TORQUES VALUES FOR REAR ACCESSORIES

According to the SAE-85049 standard

For all series: MIL-DTL-38999 III / EN3645 / TV-CTV / POWERSAFE / RNJLP / MIL-DTL-38999 II / HE308 / LJT / RNJ / MIL-DTL-38999 I / JT / SJT / VG96912

Accessory thread torque value (N.m) ± 0.565		
Series	TV / Metal MIL-DTL-38999 I, II, III / Metal EN3645 / Powersafe / RNJLP / HE308 / LJT / JT / SJT / VG96912	CTV / MIL-DTL-38999 III class M & J / EN3645 class M & J
Shell size	Heavy duty (All metal connectors only)	Metal medium & light duty (Composite connectors only)
08 / 09	8,475	5,650
10 / 11	11,300	5,650
12 / 13	15,820	5,650
14 / 15	16,950	5,650
16 / 17	16,950	5,650
18 / 19	16,950	5,650
20 / 21	19,775	11,300
22 / 23	19,775	11,300
24 / 25	19,775	11,300

According to the ABS2216 standard

For TV-CTV / MIL-DTL-38999 III / EN3645 connectors	
Shell size	Torque value (N.m)
09	2.75 (± 0.25)
11	2.75 (± 0.25)
13	3 (± 0.5)
15	5 (± 0.5)
17	5 (± 0.5)
19	5 (± 0.5)
21	7 (± 0.5)
23	7 (± 0.5)
25	7 (± 0.5)

The rear accessory installation procedure may change from one equipment manufacturer to another in terms of coupling torques to apply.

The use of Loctite shall be required or excluded.

For Aluminum alloy rear accessory, if the use of Loctite is excluded, the best performance in time of the system « connector + rear accessory » consists in applying the torque value to screw then to unscrew, to apply the torque value to screw a second time, then to unscrew and finally to screw the torque value a third time.

CROSS REFERENCES

The cross references below are given as information only.

The designs of the backshells are not strictly equivalent.

Amphenol p/n	NFC UTE 93422 / HE308 p/n	SAE-85049 p/n
LJT NSA xx 014	HE308 13 xx 7M	
LJT NSA xx 023	HE308 13 xx 6M	
LJT NSD xx 014	HE308 14 xx 7M	M85049/62-xx W
LJT NSD xx 023	HE308 14 xx 6M	M85049/62-XX N
LJTSBC xx xx 014		M85049/87-xx W xx
LJTSBC xx xx 023		M85049/87-xx N xx
HE308-35-xx-xx-xx-7M	HE308-35-xx-xx-xx-7M	M85049/85-xx W xx
HE308-35-xx-xx-xx-6M	HE308-35-xx-xx-xx-6M	M85049/85-xx N xx
TV 35 xx xx xx 014		M85049/88-xx W xx
TV 35 xx xx xx 023		M85049/88-xx N xx
TVSBC xx xx 014		M85049/90-xx W xx
TVSBC xx xx 023		M85049/90-xx N xx

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Founded in 1932, **Amphenol** is one of the largest manufacturers of interconnect products in the world. The company designs, manufactures, and markets electrical, electronic, and fiber optic connectors, interconnect systems, and coaxial and specialty cables.

Amphenol has a diversified presence as a leader in high growth areas of the interconnect industry and provides solutions for customers in the automotive, broadband, industrial, information technology and data communications, military and aerospace, mobile devices, and mobile networks markets.

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