

veam

# VBN Connectors



ITT

## PROVEN QUALITY, RELIABILITY AND EXPERTISE.

ITT's Veam brand is a leading global manufacturer of connector products serving international customers in multiple end markets. In an increasingly global economy, getting from Point A to Point B on time and on budget is more

important than ever. Veam connectors protect the world's products and people in transit so they can get to where they're going with maximum efficiency.



Engineered with your toughest challenges in mind.

### About ITT

ITT is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for the energy, transportation and industrial markets. Building on its heritage of innovation, ITT partners with its customers to deliver enduring solutions to the key industries that underpin our modern way of life. Founded in 1920, ITT is headquartered in Stamford, Connecticut, with employees in more than 35 countries and sales in a total of approximately 125 countries. For more information, visit [itt.com](http://itt.com).



- The VBN connector series is based on MIL-DTL-5015G and VG95234 specification. They are interchangeable with all corresponding CIR/VG types and feature identical panel mounting dimensions
- VBN connectors are available in 15 sizes arrangements from shell size 16S to shell size 40 with arrangements having from 4 up to 70 contacts.  
Out of this range, 14 sizes arrangements are qualified to NF F 61-030 French specification and approved by SNCF and RATP (from 4 to 60 contacts).
- The contact system enables easy insertion and removal. The inserts are composed of a halogen free hard plastic material that results in a very low fire hazard.
- Stainless steel bayonet pins riding along the three Bayonet ramps (machined into the receptacle shell) achieve the connector coupling. Coupling integrity is guaranteed by:
  - Three stainless steel pins at the critical wear points of the receptacle shell bayonet ramps;
  - An audible click when fully mated;
  - Alignment of three yellow-colored dots when fully mated;
- Crimp contacts are available in sizes 16, 12 and 8 AWG.
- The stainless-steel pins installed on the critical wear points of the ramps, the dynamic coupling gasket at the base of the plugshell, the flat and the wave washer between the coupling nut and the plugshell, are the key features that allow to prevent the unmating of the connection in case of vibration and guarantees the high reliability of the bayonet mating system.
- Environmental sealing of mated connectors to IP67 is achieved by compression of the coupling gasket, while integrity at the rear is achieved by the use of an individual wire seal grommet with membranes (being penetrated only when a wire is present) and use of appropriate accessories.
- Comprehensive range of screened / unscreened, sealed / unsealed backshells & accessories.

# TABLE OF CONTENTS

|                            |    |                         |    |
|----------------------------|----|-------------------------|----|
| Technical information      | 5  | Receptacle - 90 degrees | 21 |
| Components description     | 6  | Plug - straight         | 26 |
| Order code                 | 7  | Plug - 90 degrees       | 34 |
| Version overview           | 8  | Shielded connectors     | 39 |
| Inserts arrangements       | 9  | Spares backshells       | 43 |
| Contacts - pin contacts    | 11 | Accessories             | 51 |
| Contacts - socket contacts | 12 | Application notes       | 59 |
| Receptacle - straight      | 13 |                         |    |



## MATERIAL CONSTRUCTION

**Shells:** Aluminum alloy

**Available Platings:** T108: Black Zn/Co - 200h salt spray - Conductive

T240: Blue Zn/Ni - 500h salt spray - Conductive

T39: Black epoxyurethane coating - 500h salt spray - non-conductive

**Insulator:** Low fire hazard thermoplastic.

**Interfacial Seal & Grommet:** Low fire hazard silicone rubber

**Contacts:** Copper alloy with gold or silver (on request, not according NFF standard) plating.

## ENVIRONMENTAL PERFORMANCE

**Operating Temperature:** -40°C to +100°C per NF F 61-030

**Corrosion Resistance:** T108: Black Zn/Co - 200h salt spray - Conductive

T240: Blue Zn/Ni - 500h salt spray - Conductive

T39: Black epoxyurethane coating - 500h salt spray - non-conductive

**Water Protection:** IP67 in mated condition when used with proper backshell and accessories

**Fluid Resistance:** Gas, oil, mineral oil, acid bath per NF F 61-030

**Fire and smoke:** - acc. to NFF 16-101 & 16 - 102 (exigence 2)  
- UL94v0 compliant

## MECHANICAL PERFORMANCE

**Durability:** 500 mating cycles minimum

**Bayonet Coupling Torque:** Per VG95234

**Shock:** 30g - 18 ms.

**Vibration:** 2g / 10-100Hz or 5g / 25-250Hz (NF F 60-002 / NF C 93-400).

**Min. Retention force:** 70N for contacts #16

**of the contact in:** 90N for contacts #12

**the insulator:** 110N for contacts #8

## ELECTRICAL PERFORMANCE

**Insulation Resistance:** 5000 MOhm

**Rated voltage:** 380Vac / 500Vdc per NF F 61-030

**Withstanding Voltage:** 3250 VAC rms per NF F 61-030

**Creepage/Clearance distance:** 12mm / 8mm min. (In mated conditions, interfacial seal in compression)

**Contact Rating:** See table

| Layout | Shell Size | Contacts Size | No of Contacts | Rated Current (*) A |               | Contact Resistance mΩ max. |
|--------|------------|---------------|----------------|---------------------|---------------|----------------------------|
|        |            |               |                | Single cont.        | Grouped cont. |                            |
| 16S-1  | 16S        | 16S           | 7              | 15                  | 12            | 2.5                        |
| 18-19  | 18         | 16            | 10             | 15                  | 12            | 2.5                        |
| 20-15  | 20         | 12            | 7              | 23                  | 20            | 1.3                        |
| 20-4   | 20         | 12            | 4              | 23                  | 22            | 1.3                        |
| 20-7   | 20         | 16            | 8              | 15                  | 14            | 2.5                        |
| 22-14  | 22         | 16            | 19             | 15                  | 11,5          | 2.5                        |
| 22-23  | 22         | 12            | 8              | 23                  | 20            | 1.3                        |
| 24-10  | 24         | 8             | 7              | 46                  | 33            | 0.9                        |
| 28-21  | 28         | 16            | 37             | 15                  | 12            | 2.5                        |
| 32A-13 | 32         | 12            | 13             | 23                  | 18            | 1.3                        |
| 36-10  | 36         | 16            | 48             | 15                  | 7,5           | 2.5                        |
| 36A-22 | 36         | 12            | 22             | 23                  | 19            | 1.3                        |
| 40A-35 | 40         | 12            | 35             | 23                  | 15,5          | 1.3                        |
| 40A-60 | 40         | 16            | 60             | 15                  | 9             | 2.5                        |

(\*) Acc. To NF F 61-030. Max heating allowed: 50°C

- Single contact: loaded into insulator. - Grouped contacts: fully populated insulator, all contacts loaded.

## VCN COMPONENTS DESCRIPTION

### PANEL MOUNTED CONNECTOR

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**Flange** - holds the insert and incorporates an alignment key to position the insert. The flange accommodates either the socket or pin insert to reverse gender. Bayonet Coupling ramps provide cam action for coupling and uncoupling with the plug connectors. Stainless steel pins, at the top of the ramps, ensure positive locking and long service life.

**Insert (pin or socket)** - Removable, orientable, retains the contacts and can be used in either flange or plugshells.

**Contacts (pin or socket)** - Suitable to be crimped with the wire conductors.

**Circlip Retaining Ring** - Retains the insert into the shell.



### PLUG CONNECTOR

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**Coupling nut** - Provides cam force when mating and un-mating mechanical system for coupling and uncoupling of the connectors.

**Plugshell** - Holds the insert and incorporates an alignment key to position the insert. The plugshell accommodates either the socket or pin insert to reverse gender.

**Insert (pin or socket)** - Removable, orientable, retains the contacts and can be used in either flange or plugshells.

**Circlip Retaining Ring** - Retains the insert into the shell.

**Contacts (pin or socket)** - Suitable to be crimped with the wire conductors



# VEAM ORDER CODE



|      |   |     |    |    |   |   |     |     |
|------|---|-----|----|----|---|---|-----|-----|
| VEAM | 3 | ( ) | 20 | 15 | P | N | TXX | ( ) |
|------|---|-----|----|----|---|---|-----|-----|

## Connector Series

VEAM Bayonet  
Coupling N Series  
Plug

## Connector Type

2 Front Mounting Receptacle  
3 Rear Mounting Receptacle  
38 90° Rear Mount Receptacle  
6 Straight Plug Connector  
8 90° Plug Connector

## Connector Class

A, R Straight or Right Angle, no Strain relief  
AF, F, CF, CFZ Straight or Right Angle with Strain relief  
APG, RPG Straight for use with PG fitting  
SS Backshells for shielded cable

## Shell Size

16S, 18, 20, 22, 24, 28, 32, 36, 40

## Insert Arrangement

Refer to pages 9 and 10

## Contact Gender

P Male Contacts (Pin)  
S Female Contacts (Sockets)

## Insert Orientation

N Normal  
W, X, Y, Z Degree for alternate positions - refer to page 10  
No Letter Insulation Not Installed

## Shell Plating

TXX See available platings page 5

## Modification Code

Consult Factory

\*To be used only with Connector Type "6" and Connector Class "SS"

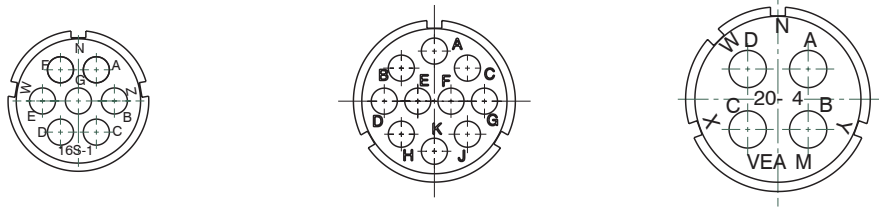
Dimensions shown in mm  
Specifications and dimensions subject to change

## VCN VERSION OVERVIEW

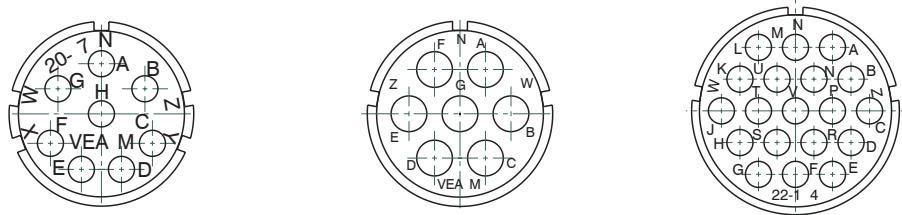
| RECEPTACLE<br>& PLUG                                                                                                   | SEALING                                                                                                    | STRAIGHT<br>VERSIONS                                                                                                                                      | RECEPTACLE<br>& PLUG                                                                                                   | SEALING                                                                                                      | 90° VERSIONS                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                        |                                                                                                            |  <p>CLASS AV / RV<br/>Short backshell<br/>ext. thread</p>                |                                                                                                                        |                                                                                                              |  <p>CLASS A / R<br/>Standard backshell<br/>ext. thread</p>               |
|  <p>VCN 2<br/>Front Panel</p>         |                                                                                                            |  <p>CLASS A / R<br/>Standard backshell<br/>ext. thread</p>               |  <p>VCN 2<br/>Front Panel</p>         |                                                                                                              |  <p>CLASS APG / RPG<br/>Standard backshell int.<br/>PG thread</p>        |
|  <p>VCN3<br/>Rear panel mounting</p> |  <p>With Grommet</p>     |  <p>CLASS APG / RPG<br/>Standard backshell int.<br/>PG thread</p>       |  <p>VCN3<br/>Rear panel mounting</p> |  <p>With Grommet</p>     |  <p>CLASS AF / F<br/>Standard backshell<br/>with "A" cable clamp</p>    |
|  <p>Plug - VCN6</p>                 |  <p>Without Grommet</p> |  <p>CLASS AF / F<br/>Standard backshell<br/>with "A" cable clamp</p>   |  <p>Plug - VCN6</p>                 |  <p>Without Grommet</p> |  <p>CLASS CF / CFZ<br/>Standard backshell<br/>with "C" cable clamp</p> |
|  <p>Plug - VCN6-GG</p>              |                                                                                                            |  <p>CLASS CF / CFZ<br/>Standard backshell<br/>with "C" cable clamp</p> |  <p>Plug - VCN6-GG</p>              |                                                                                                              |  <p>CLASS CF / CFZ<br/>Standard backshell<br/>with "C" cable clamp</p> |
|                                                                                                                        |                                                                                                            |  <p>CLASS SS / RSS<br/>Backshell with<br/>shielding system</p>         |                                                                                                                        |                                                                                                              |  <p>CLASS SS / RSS<br/>Backshell with<br/>shielding system</p>         |

## CONTACT LAYOUTS

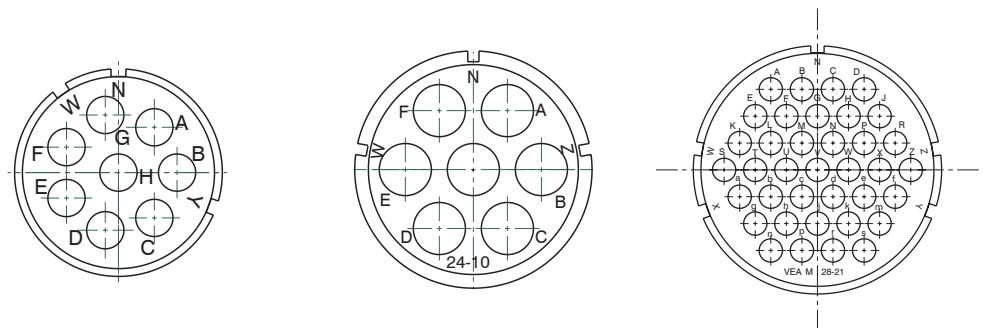
### Front View of the Male Insert



| Layout        | 16S-1 | 18-19 | 20-4 |
|---------------|-------|-------|------|
| # of contacts | 7     | 10    | 4    |
| Contact Size  | 16S   | 16    | 12   |



| Layout        | 20-7 | 20-15 | 22-14 |
|---------------|------|-------|-------|
| # of contacts | 8    | 7     | 19    |
| Contact Size  | 16   | 12    | 16    |



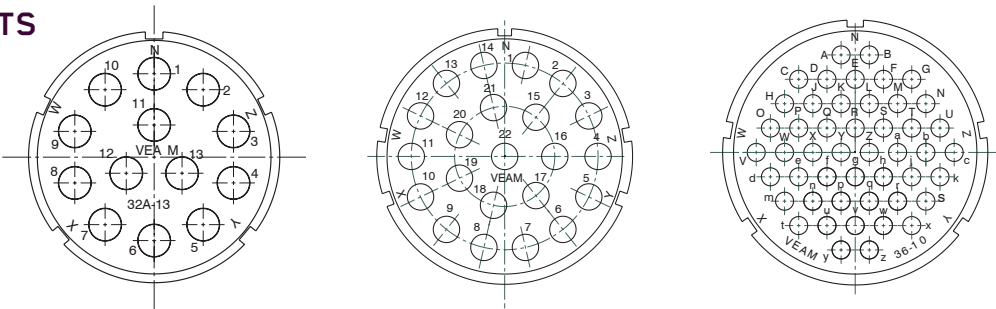
| Layout        | 22-23 | 24-10 | 28-21 |
|---------------|-------|-------|-------|
| # of contacts | 8     | 7     | 37    |
| Contact Size  | 12    | 8     | 16    |

Dimensions shown in mm  
Specifications and dimensions subject to change

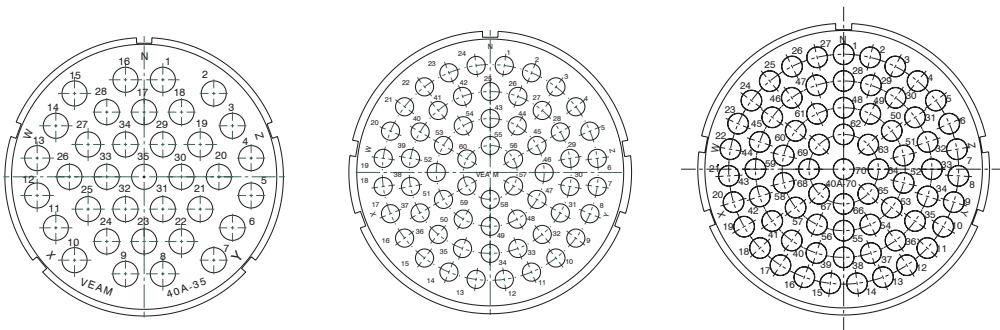
# VBN INSERT ARRANGEMENTS

## CONTACT ARRANGEMENTS

Front View of the Male Insert



| Layout        | 32A-13 | 36A-22 | 36-10 |
|---------------|--------|--------|-------|
| # of contacts | 13     | 22     | 48    |
| Contact Size  | 12     | 12     | 16    |

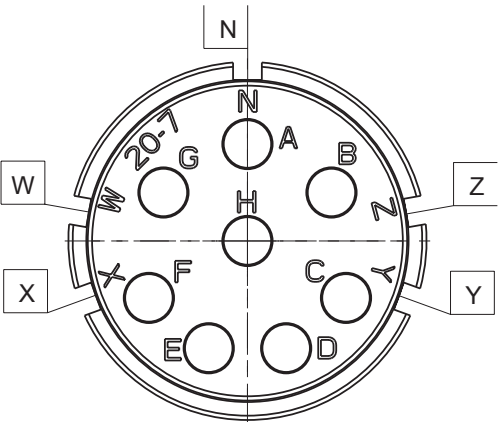


\*not qualified according NF F standards

| Layout        | 40A-35 | 40A-60 | 40A-70 |
|---------------|--------|--------|--------|
| # of contacts | 35     | 60     | 70     |
| Contact Size  | 12     | 16     | 16     |

## KEYING SYSTEM

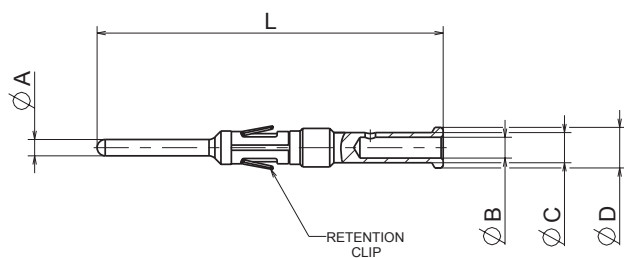
Front view of male insert - Insert rotation



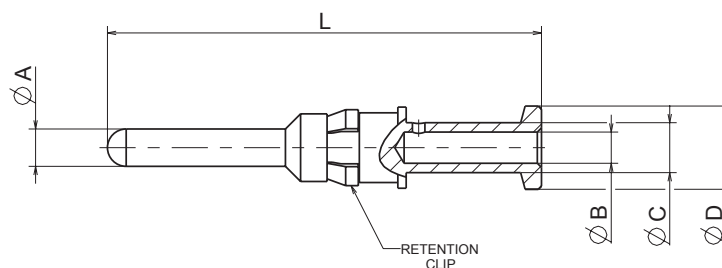
| Insert Layout | Degrees for alternate positions |    |     |     |     |
|---------------|---------------------------------|----|-----|-----|-----|
|               | N                               | W  | X   | Y   | Z   |
| 16S-1         | 0                               | 80 |     |     | 280 |
| 18-19         | 0                               |    | 120 | 240 |     |
| 20-4          | 0                               | 45 | 110 | 250 |     |
| 20-7          | 0                               | 80 | 110 | 250 | 280 |
| 20-15         | 0                               | 80 |     |     | 280 |
| 22-14         | 0                               | 80 |     |     | 280 |
| 22-23         | 0                               | 35 |     | 250 |     |
| 24-10         | 0                               | 80 |     |     | 280 |
| 28-21         | 0                               | 80 | 110 | 250 | 280 |
| 32A-13        | 0                               | 65 | 130 | 230 | 295 |
| 36-10         | 0                               | 80 | 125 | 235 | 280 |
| 36A-22        | 0                               | 80 | 110 | 250 | 280 |
| 40A-35        | 0                               | 70 | 130 | 230 | 290 |
| 40A-60        | 0                               | 80 | 110 | 250 | 280 |
| 40A-70        | 0                               | 80 | 110 | 250 | 280 |

## PIN CONTACTS

Male contact to be used on connector with male insulator.



Shape type 1



Shape type 2

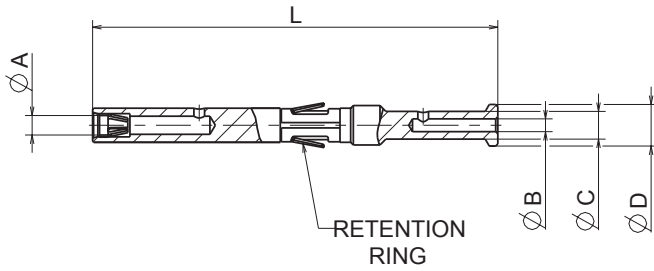
| Male Part number | Size | Wire Size<br>mm2 | AWG | L    | ØA   | ØB  | ØC  | ØD  | Cable O.D.<br>max. (2 - 3) | Type |
|------------------|------|------------------|-----|------|------|-----|-----|-----|----------------------------|------|
| 51513-16S-12T12  | 16S  | 0.5-0.75         | 20  | 28.1 | 1.58 | 1.2 | 2.6 | 3.9 | 3.8                        | 1    |
| 51513-16S-20T12  | 16S  | 1.0-2.0          | 16  | 28.1 | 1.58 | 2.0 | 2.9 | 3.9 | 3.8                        | 1    |
| 51513-16S-26T12  | 16S  | 2.5-3.0          | 12  | 28.1 | 1.58 | 2.5 | 3.8 | 3.8 | 3.8                        | 1    |
| 51513-16-12T12   | 16   | 0.5-0.75         | 20  | 33.2 | 1.58 | 1.2 | 2.6 | 3.9 | 3.8                        | 1    |
| 51513-16-20T12   | 16   | 1.0-2.0          | 16  | 33.2 | 1.58 | 2.0 | 2.9 | 3.9 | 3.8                        | 1    |
| 51513-16-26T12   | 16   | 2.5-3.0          | 12  | 33.2 | 1.58 | 2.5 | 3.8 | 3.8 | 3.8                        | 1    |
| 51513-12T12      | 12   | 2.5-3.0          | 12  | 38.5 | 2.38 | 2.5 | 3.8 | 5.5 | 5.4                        | 1    |
| 51513-12-12T12   | 12   | 0.5-0.75         | 20  | 38.5 | 2.38 | 1.2 | 2.6 | 5.5 | 5.4                        | 1    |
| 51513-12-20T12   | 12   | 1.0-2.0          | 16  | 38.5 | 2.38 | 2.0 | 3.8 | 5.5 | 5.4                        | 1    |
| 51513-12-30T12   | 12   | 4.0              | 12  | 38.5 | 2.38 | 3.0 | 4.8 | 5.5 | 5.4                        | 1    |
| 51513-12-38T12   | 12   | 6.0              | 10  | 38.5 | 2.38 | 3.6 | 4.8 | 5.5 | 5.4                        | 1    |
| 51513-8T12       | 8    | AWG 8            | 8   | 41.7 | 3.60 | 4.6 | 6.8 | 8.0 | 7.8                        | 2    |
| 51513-8-20T12    | 8    | 1.0 – 2.0        |     | 41.7 | 3.60 | 2.0 | 3.8 | 8.0 | 7.8                        | 2    |
| 51513-8-26T12    | 8    | 3.0              |     | 41.7 | 3.60 | 2.5 | 3.8 | 8.0 | 7.8                        | 2    |
| 51513-8-30T12    | 8    | 4.0              |     | 41.7 | 3.60 | 3.0 | 4.8 | 8.0 | 7.8                        | 2    |
| 51513-8-38T12    | 8    | 6.0              |     | 41.7 | 3.60 | 3.6 | 4.8 | 8.0 | 7.8                        | 2    |
| 51513-8-50T12    | 8    | 10               |     | 41.7 | 3.60 | 5.0 | 7   | 8.0 | 7.8                        | 2    |

NOTES: 1. Finish: Silver plating on size 12 and 8 also available (please consult factory).  
2. The dimensions indicated are the maximum OD cable permitted, due to the rear insert holes.  
3. When grommets are used refer to page 50 for cable dimensions.

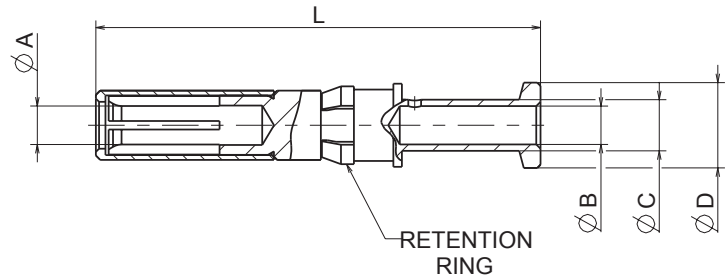
# VCN CONTACTS

## SOCKET CONTACTS

Female contact to be used on connector with female insulator.



Shape type 1



Shape type 2

| Female Part number | Size | Wire Size mm2 | Wire Size AWG | L    | ØA   | ØB  | ØC  | ØD  | Cable O.D. max. (2 - 3) | Type |
|--------------------|------|---------------|---------------|------|------|-----|-----|-----|-------------------------|------|
| 51511-16S-12T12    | 16S  | 0.5-0.75      | 20            | 28.1 | 1.65 | 1.2 | 2.6 | 3.9 | 3.8                     | 1    |
| 51511-16S-20T12    | 16S  | 1.0-2.0       | 16            | 28.1 | 1.65 | 2.0 | 2.9 | 3.9 | 3.8                     | 1    |
| 51511-16S-26T12    | 16S  | 2.5-3.0       | 12            | 28.1 | 1.65 | 2.5 | 3.8 | 3.8 | 3.8                     | 1    |
| 51511-16-12T12     | 16   | 0.5-0.75      | 20            | 33.2 | 1.65 | 1.2 | 2.6 | 3.9 | 3.8                     | 1    |
| 51511-16-20T12     | 16   | 1.0-2.0       | 16            | 33.2 | 1.65 | 2.0 | 2.9 | 3.9 | 3.8                     | 1    |
| 51511-16-26T12     | 16   | 2.5-3.0       | 12            | 33.2 | 1.65 | 2.5 | 3.8 | 3.8 | 3.8                     | 1    |
| 51511-12T12        | 12   | 2.5-3.0       | 12            | 38.5 | 2.48 | 2.5 | 3.8 | 5.5 | 5.4                     | 1    |
| 51511-12-12T12     | 12   | 0.5-0.75      | 20            | 38.5 | 2.48 | 1.2 | 2.6 | 5.5 | 5.4                     | 1    |
| 51511-12-20T12     | 12   | 1.0-2.0       | 16            | 38.5 | 2.48 | 2.0 | 3.8 | 5.5 | 5.4                     | 1    |
| 51511-12-30T12     | 12   | 4.0           | 12            | 38.5 | 2.48 | 3.0 | 4.8 | 5.5 | 5.4                     | 1    |
| 51511-12-38T12     | 12   | 6.0           | 10            | 38.5 | 2.48 | 3.6 | 4.8 | 5.5 | 5.4                     | 1    |
| 51511-8T12         | 8    | AWG 8         | 8             | 41.7 | 3.70 | 4.6 | 6.8 | 8.0 | 7.8                     | 2    |
| 51511-8-20T12      | 8    | 1.0 – 2.0     |               | 41.7 | 3.70 | 2.0 | 3.8 | 8.0 | 7.8                     | 2    |
| 51511-8-26T12      | 8    | 3.0           |               | 41.7 | 3.70 | 2.5 | 3.8 | 8.0 | 7.8                     | 2    |
| 51511-8-30T12      | 8    | 4.0           |               | 41.7 | 3.70 | 3.0 | 4.8 | 8.0 | 7.8                     | 2    |
| 51511-8-38T12      | 8    | 6.0           |               | 41.7 | 3.70 | 3.6 | 4.8 | 8.0 | 7.8                     | 2    |
| 51511-8-50T12      | 8    | 10            |               | 41.7 | 3.70 | 5.0 | 7   | 8.0 | 7.8                     | 2    |

NOTES: 1. Finish: Silver plating on size 12 and 8 also available (please consult factory).  
2. The dimensions indicated are the maximum OD cable permitted, due to the rear insert holes.  
3. When grommets are used refer to page 50 for cable dimensions.

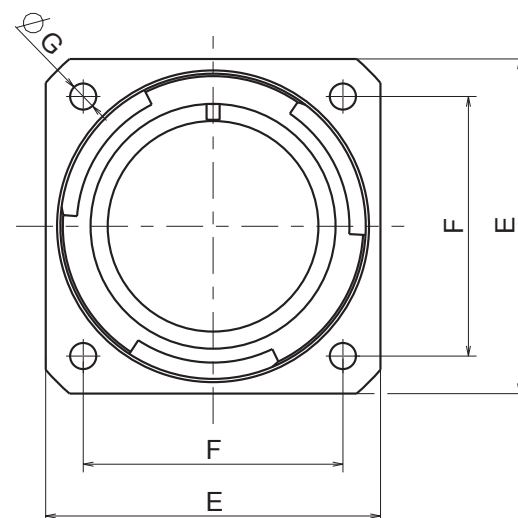
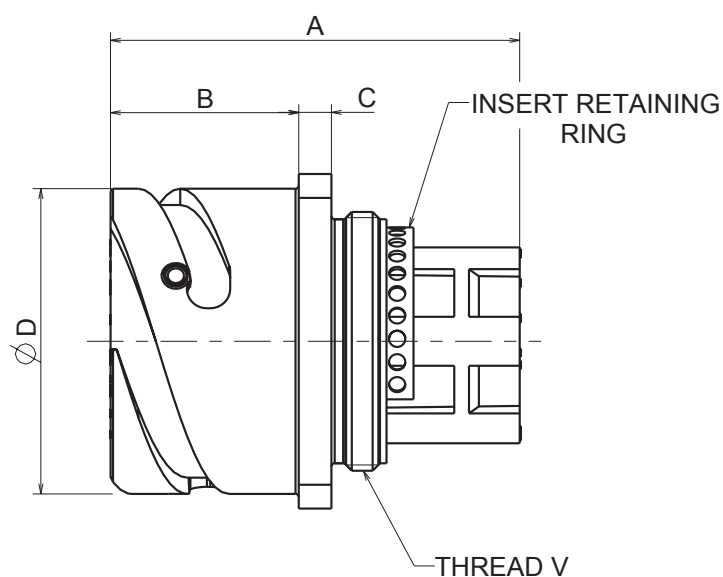
# VBN RECEPTACLE



## VBN2--

Front panel mounting receptacle with through fixing holes and a threaded rear end.

Supplied without accessories



| SIZE | A  | B<br>+0.4-0 | C<br>±0.2 | ØD<br>+0-0.15 | E<br>±0.3 | F<br>±0.1 | ØG  | Thread V       |
|------|----|-------------|-----------|---------------|-----------|-----------|-----|----------------|
| 16S  | 40 | 18.2        | 3.2       | 27.4          | 32.5      | 24.6      | 3.2 | 7/8"-20 UNEF   |
| 18   | 50 | 23.05       | 4         | 30.8          | 35        | 27        | 3.2 | 1"-20 UNEF     |
| 20   | 50 | 23.05       | 4         | 34.2          | 38        | 29.4      | 3.2 | 1 1/8"-18 UNEF |
| 22   | 50 | 23.05       | 4         | 37.4          | 41        | 31.8      | 3.2 | 1 1/4"-18 UNEF |
| 24   | 50 | 23.05       | 4         | 40.9          | 44.5      | 34.9      | 3.7 | 1 3/8"-18 UNEF |
| 28   | 50 | 24.05       | 4         | 46.7          | 50.8      | 39.7      | 3.7 | 1 5/8"-18 UNEF |
| 32   | 50 | 24.05       | 4         | 53.4          | 57        | 44.5      | 4.3 | 1 7/8"-16 UN   |
| 36   | 50 | 24.05       | 4         | 59.6          | 63.5      | 49.2      | 4.3 | 2 1/16"-16 UN  |
| 40   | 50 | 24.05       | 4         | 65.5          | 69.9      | 55.5      | 4.3 | 2 5/16"-16 UN  |

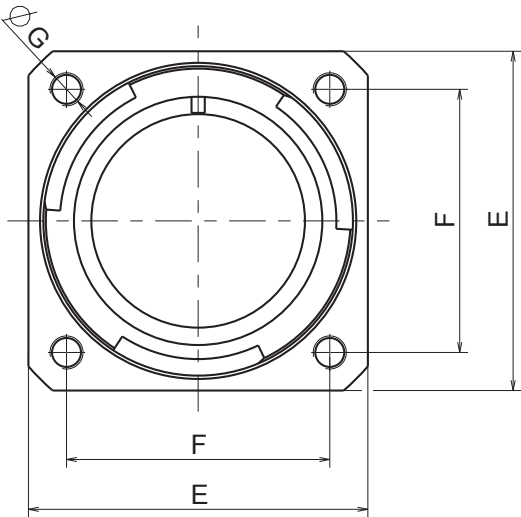
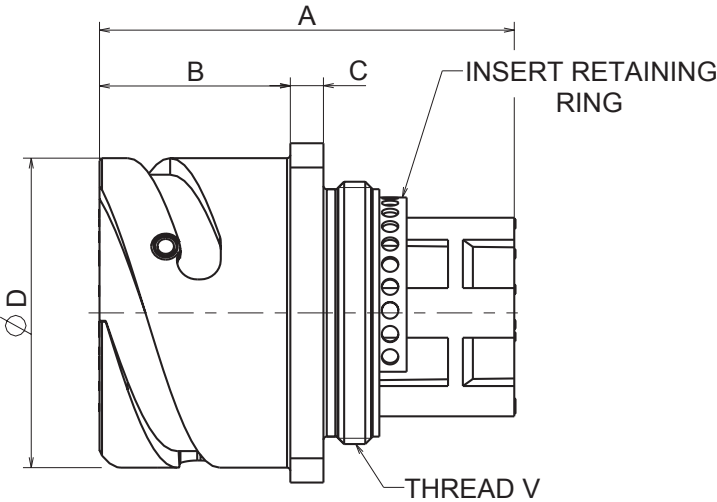
Dimensions shown in mm  
Specifications and dimensions subject to change

# VCN RECEPACLE

## VCN3--

Rear panel mounting receptacle with threaded  
fixing holes and a threaded rear end.

Supplied without accessories



| SIZE | A  | B<br>+0.4-0 | C<br>±0.2 | ØD<br>+0-0.15 | E<br>±0.3 | F<br>±0.1 | ØG | Thread V       |
|------|----|-------------|-----------|---------------|-----------|-----------|----|----------------|
| 16S  | 40 | +0.4-0      | 3.2       | 27.4          | 32.5      | 24.6      | M4 | 7/8"-20 UNEF   |
| 18   | 50 | 23.05       | 4         | 30.8          | 35        | 27        | M4 | 1"-20 UNEF     |
| 20   | 50 | 23.05       | 4         | 34.2          | 38        | 29.4      | M4 | 1 1/8"-18 UNEF |
| 22   | 50 | 23.05       | 4         | 37.4          | 41        | 31.8      | M4 | 1 1/4"-18 UNEF |
| 24   | 50 | 23.05       | 4         | 40.9          | 44.5      | 34.9      | M4 | 1 3/8"-18 UNEF |
| 28   | 50 | 24.05       | 4         | 46.7          | 50.8      | 39.7      | M5 | 1 5/8"-18 UNEF |
| 32   | 50 | 24.05       | 4         | 53.4          | 57        | 44.5      | M5 | 1 7/8"-16 UN   |
| 36   | 50 | 24.05       | 4         | 59.6          | 63.5      | 49.2      | M5 | 2 1/16"-16 UN  |
| 40   | 50 | 24.05       | 4         | 65.5          | 69.9      | 55.5      | M5 | 2 5/16"-16 UN  |

# VBN RECEPTACLE

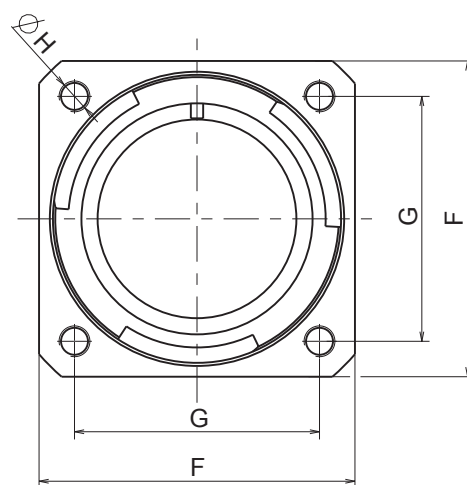
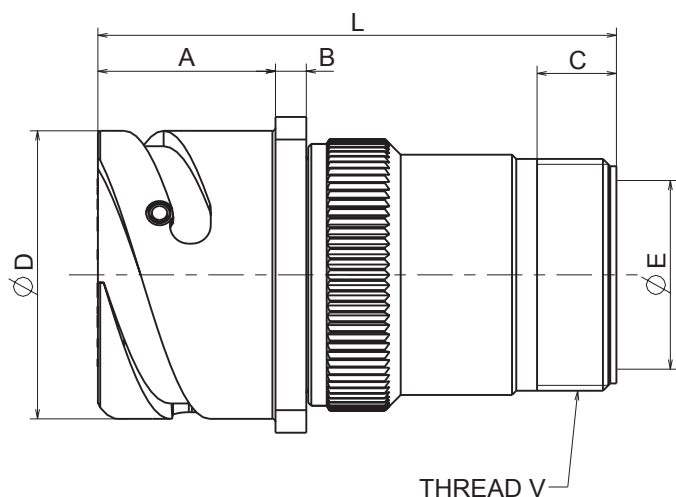


## VBN3AV-- VBN3RV--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a short straight backshell with UNEF external thread.

Supplied with (RV) or without (AV) grommet.



| SIZE | L  | A<br>+0.4-0 | B<br>±0.2 | C<br>Min. | ØD<br>+0-0.15 | ØE<br>Max. | F<br>±0.3 | G<br>±0.1 | ØH | Thread V        |
|------|----|-------------|-----------|-----------|---------------|------------|-----------|-----------|----|-----------------|
| 16S  | 55 | 18.2        | 3.2       | 10        | 27.4          | 16.2       | 32.5      | 24.6      | M4 | 7/8"-20 UNEF    |
| 18   | 65 | 23.05       | 4         | 10        | 30.8          | 19         | 35        | 27        | M4 | 1"-20 UNEF      |
| 20   | 70 | 23.05       | 4         | 10        | 34.2          | 22         | 38        | 29.4      | M4 | 1 3/16"-18 UNEF |
| 22   | 70 | 23.05       | 4         | 10        | 37.4          | 24.5       | 41        | 31.8      | M4 | 1 3/16"-18 UNEF |
| 24   | 70 | 23.05       | 4         | 10        | 40.9          | 27.8       | 44.5      | 34.9      | M4 | 1 7/16"-18 UNEF |
| 28   | 75 | 24.05       | 4         | 10        | 46.7          | 31.2       | 50.8      | 39.7      | M5 | 1 7/16"-18 UNEF |
| 32   | 75 | 24.05       | 4         | 12        | 53.4          | 37.8       | 57        | 44.5      | M5 | 1 3/4"-18 UNS   |
| 36   | 80 | 24.05       | 4         | 12        | 59.6          | 45         | 63.5      | 49.2      | M5 | 2 "-18 UNS      |
| 40   | 80 | 24.05       | 4         | 12        | 65.5          | 51.2       | 69.9      | 55.5      | M5 | 2 1/4"-16 UN    |

Dimensions shown in mm  
Specifications and dimensions subject to change

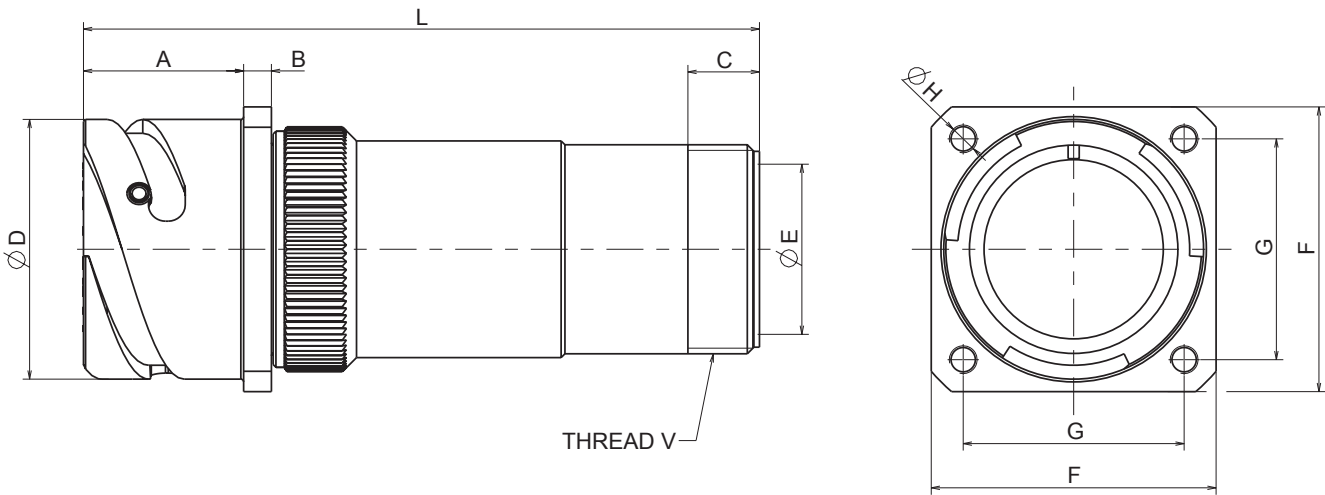
# VCN RECEPACLE

## VCN3A-- VCN3R--

Rear panel mounting receptacle with threaded  
fixing holes.

Foresees a standard straight backshell with UNEF  
external thread.

Supplied with (R) or without (A) grommet.



| SIZE | L   | A<br>+0.4-0 | B<br>±0.2 | C<br>Min. | ØD<br>+0-0.15 | ØE<br>Max. | F<br>±0.3 | G<br>±0.1 | ØH | Thread V        |
|------|-----|-------------|-----------|-----------|---------------|------------|-----------|-----------|----|-----------------|
| 16S  | 80  | 18.2        | 3.2       | 10        | 27.4          | 16.2       | 32.5      | 24.6      | M4 | 7/8"-20 UNEF    |
| 18   | 100 | 23.05       | 4         | 10        | 30.8          | 19         | 35        | 27        | M4 | 1"-20 UNEF      |
| 20   | 100 | 23.05       | 4         | 10        | 34.2          | 22         | 38        | 29.4      | M4 | 1 3/16"-18 UNEF |
| 22   | 100 | 23.05       | 4         | 10        | 37.4          | 24.5       | 41        | 31.8      | M4 | 1 3/16"-18 UNEF |
| 24   | 105 | 23.05       | 4         | 10        | 40.9          | 27.8       | 44.5      | 34.9      | M4 | 1 7/16"-18 UNEF |
| 28   | 105 | 24.05       | 4         | 10        | 46.7          | 31.2       | 50.8      | 39.7      | M5 | 1 7/16"-18 UNEF |
| 32   | 115 | 24.05       | 4         | 12        | 53.4          | 37.8       | 57        | 44.5      | M5 | 1 3/4"-18 UNS   |
| 36   | 125 | 24.05       | 4         | 12        | 59.6          | 45         | 63.5      | 49.2      | M5 | 2 "-18 UNS      |
| 40   | 125 | 24.05       | 4         | 12        | 65.5          | 51.2       | 69.9      | 55.5      | M5 | 2 1/4"-16 UN    |

# VBN RECEPTACLE

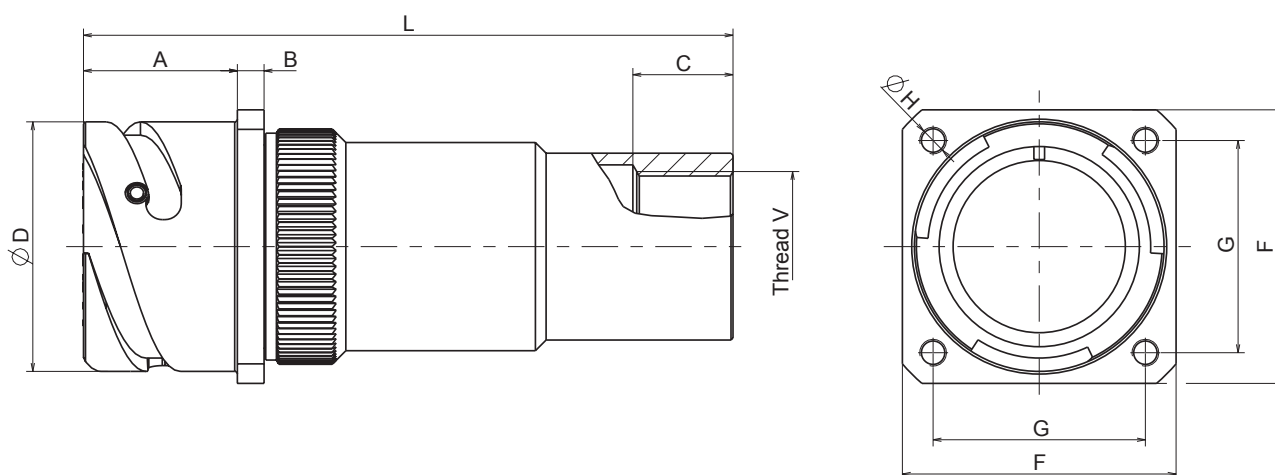


## VBN3AM-- VBN3RM--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a standard straight backshell with metric internal thread.

Supplied with (RM) or without (AM) grommet.



| SIZE | L   | A<br>+0.4-0 | B<br>±0.2 | ØD<br>+0-0.15 | F<br>±0.3 | G<br>±0.1 | ØH | Thread V |                                                     |
|------|-----|-------------|-----------|---------------|-----------|-----------|----|----------|-----------------------------------------------------|
|      |     |             |           |               |           |           |    | C Min    | Metric                                              |
| 16S  | 80  | 18.2        | 3.2       | 27.4          | 32.5      | 24.6      | M4 | 12       | M12x1.5                                             |
|      |     |             |           |               |           |           |    | 15       | M16x1.5<br>M20x1.5                                  |
| 18   | 100 | 23.05       | 4         | 30.8          | 35        | 27        | M4 | 15       | M16x1.5<br>M20x1.5<br>M25x1.5                       |
|      |     |             |           |               |           |           |    | 18       | M32x1.5                                             |
| 20   | 100 | 23.05       | 4         | 34.2          | 38        | 29.4      | M4 | 15       | M16x1.5<br>M20x1.5<br>M25x1.5                       |
|      |     |             |           |               |           |           |    | 15       | M20x1.5<br>M25x1.5                                  |
| 22   | 100 | 23.05       | 4         | 37.4          | 41        | 31.8      | M4 | 15       | M25x1.5                                             |
|      |     |             |           |               |           |           |    | 18       | M32x1.5                                             |
| 24   | 105 | 23.05       | 4         | 40.9          | 44.5      | 34.9      | M4 | 15       | M25x1.5                                             |
|      |     |             |           |               |           |           |    | 18       | M32x1.5<br>M20x1.5                                  |
| 28   | 105 | 24.05       | 4         | 46.7          | 50.8      | 39.7      | M5 | 15       | M25x1.5<br>M32x1.5                                  |
|      |     |             |           |               |           |           |    | 20       | M40x1.5                                             |
| 32   | 115 | 24.05       | 4         | 53.4          | 57        | 44.5      | M5 | 20       | M25x1.5<br>M32x1.5<br>M40x1.5                       |
|      |     |             |           |               |           |           |    | 20       | M32x1.5<br>M40x1.5<br>M50x1.5                       |
| 36   | 125 | 24.05       | 4         | 59.6          | 63.5      | 49.2      | M5 | 20       | M25x1.5<br>M32x1.5<br>M40x1.5<br>M50x1.5            |
|      |     |             |           |               |           |           |    | 20       | M25x1.5<br>M32x1.5<br>M40x1.5<br>M50x1.5<br>M63x1.5 |

For additional thread size please consult the factory.

Dimensions shown in mm

Specifications and dimensions subject to change

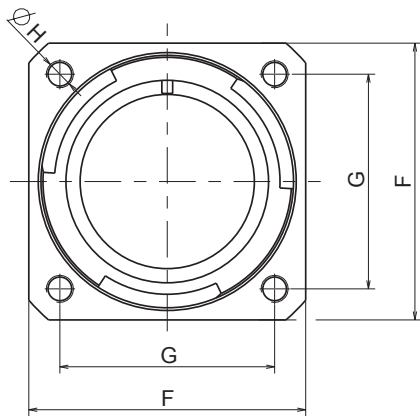
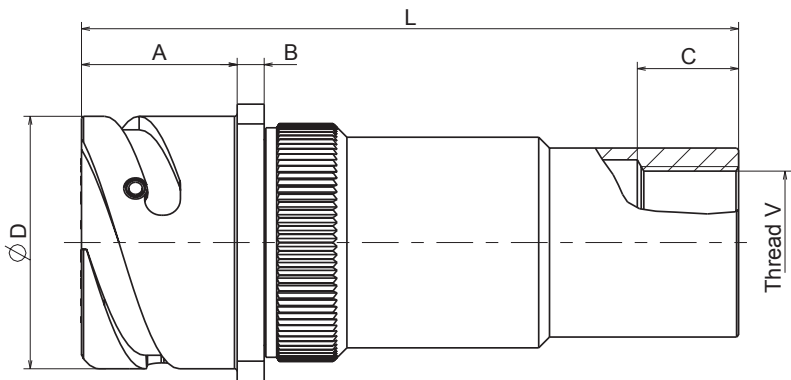
# VBN RECEPTACLE

## VBN3APG-- VBN3RPG--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a standard straight backshell with PG internal thread.

Supplied with (RPG) or without (APG) grommet.



| SIZE | L   | A<br>+0.4-0 | B<br>±0.2 | ØD<br>+0-0.15 | F<br>±0.3 | G<br>±0.1 | ØH | Thread V |       |
|------|-----|-------------|-----------|---------------|-----------|-----------|----|----------|-------|
|      |     |             |           |               |           |           |    | C Min    | C Min |
| 16S  | 80  | 18.2        | 3.2       | 27.4          | 32.5      | 24.6      | M4 | 13       | PG9   |
| 18   | 100 | 23.05       | 4         | 30.8          | 35        | 27        | M4 | 15       | PG16  |
| 20   | 100 | 23.05       | 4         | 34.2          | 38        | 29.4      | M4 | 15       | PG21  |
| 22   | 100 | 23.05       | 4         | 37.4          | 41        | 31.8      | M4 | 15       | PG16  |
| 24   | 105 | 23.05       | 4         | 40.9          | 44.5      | 34.9      | M4 | 15       | PG29  |
| 28   | 105 | 24.05       | 4         | 46.7          | 50.8      | 39.7      | M5 | 15       | PG21  |
| 32   | 115 | 24.05       | 4         | 53.4          | 57        | 44.5      | M5 | 15       | PG29  |
| 36   | 125 | 24.05       | 4         | 59.6          | 63.5      | 49.2      | M5 | 20       | PG36  |
| 40   | 125 | 24.05       | 4         | 65.5          | 69.9      | 55.5      | M5 | 20       | PG42  |

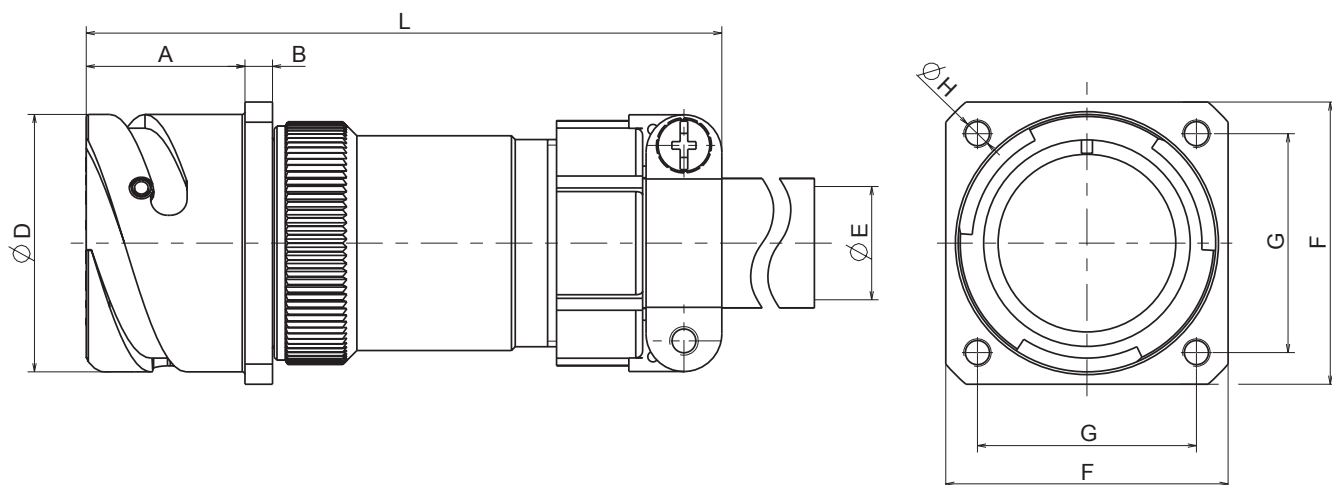
For additional thread size please consult the factory.

## VCN3AF-- VCN3F--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a standard straight backshell and a cable clamp with bushing for single wires.

Supplied with (F) or without (AF) grommet.



| SIZE | L   | A<br>+0.4-0 | B<br>±0.2 | ØD<br>+0-0.15 | ØE (*)<br>Max. | F<br>±0.3 | G<br>±0.1 | ØH |
|------|-----|-------------|-----------|---------------|----------------|-----------|-----------|----|
| 16S  | 105 | 18.2        | 3.2       | 27.4          | 11             | 32.5      | 24.6      | M4 |
| 18   | 125 | 23.05       | 4         | 30.8          | 14.2           | 35        | 27        | M4 |
| 20   | 125 | 23.05       | 4         | 34.2          | 15.8           | 38        | 29.4      | M4 |
| 22   | 125 | 23.05       | 4         | 37.4          | 15.8           | 41        | 31.8      | M4 |
| 24   | 130 | 23.05       | 4         | 40.9          | 19             | 44.5      | 34.9      | M4 |
| 28   | 130 | 24.05       | 4         | 46.7          | 19             | 50.8      | 39.7      | M5 |
| 32   | 145 | 24.05       | 4         | 53.4          | 23.8           | 57        | 44.5      | M5 |
| 36   | 155 | 24.05       | 4         | 59.6          | 31.7           | 63.5      | 49.2      | M5 |
| 40   | 167 | 24.05       | 4         | 65.5          | 34.9           | 69.9      | 55.5      | M5 |

(\*): Maximum cable (or wires bundle dimension) outer diameter

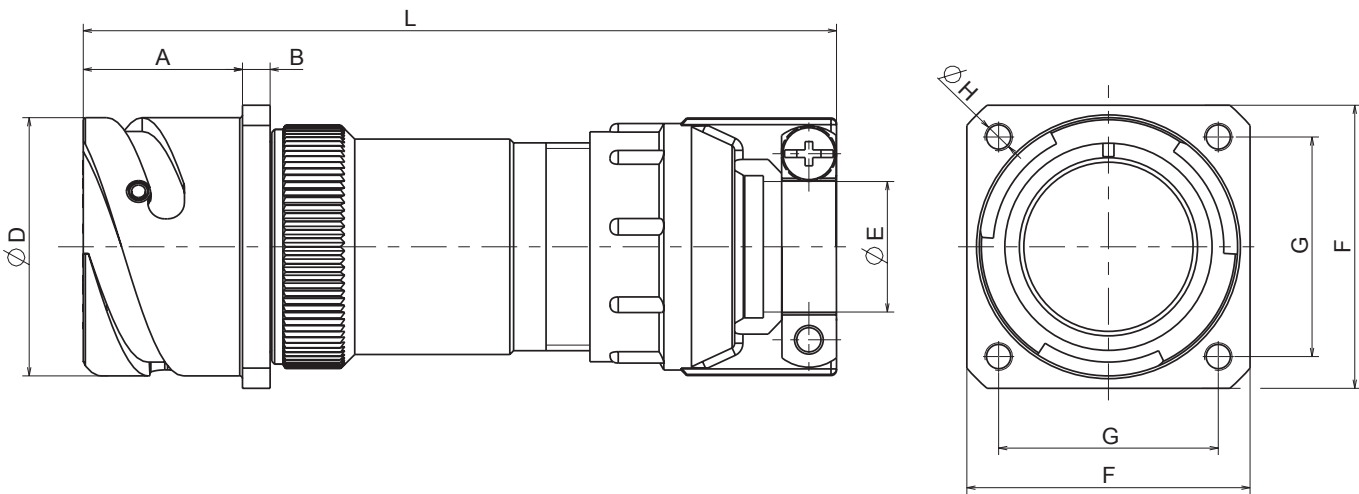
# VBN RECEPTACLE

## VBN3CF-- VBN3CFZ--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a standard straight backshell and a cable clamp for jacketed cable.

Supplied with (CFZ) or without (CF) grommet.



| SIZE | L   | A<br>+0.4-0 | B<br>±0.2 | ØD<br>+0-0.15 | ØE (*) |      | F<br>±0.3 | G<br>±0.1 | ØH |
|------|-----|-------------|-----------|---------------|--------|------|-----------|-----------|----|
|      |     |             |           |               | Min    | Max  |           |           |    |
| 16S  | 110 | 18.2        | 3.2       | 27.4          | 8      | 13.5 | 32.5      | 24.6      | M4 |
| 18   | 135 | 23.05       | 4         | 30.8          | 9.6    | 15.8 | 35        | 27        | M4 |
| 20   | 135 | 23.05       | 4         | 34.2          | 11.3   | 19   | 38        | 29.4      | M4 |
| 22   | 135 | 23.05       | 4         | 37.4          | 11.3   | 19   | 41        | 31.8      | M4 |
| 24   | 140 | 23.05       | 4         | 40.9          | 15.5   | 23.8 | 44.5      | 34.9      | M4 |
| 28   | 140 | 24.05       | 4         | 46.7          | 15.5   | 23.8 | 50.8      | 39.7      | M5 |
| 32   | 160 | 24.05       | 4         | 53.4          | 23.4   | 31.7 | 57        | 44.5      | M5 |
| 36   | 175 | 24.05       | 4         | 59.6          | 23.4   | 35   | 63.5      | 49.2      | M5 |
| 40   | 175 | 24.05       | 4         | 65.5          | 29.9   | 41.2 | 69.9      | 55.5      | M5 |

(\*): cable outer diameter range.

# VBN RECEPTACLE

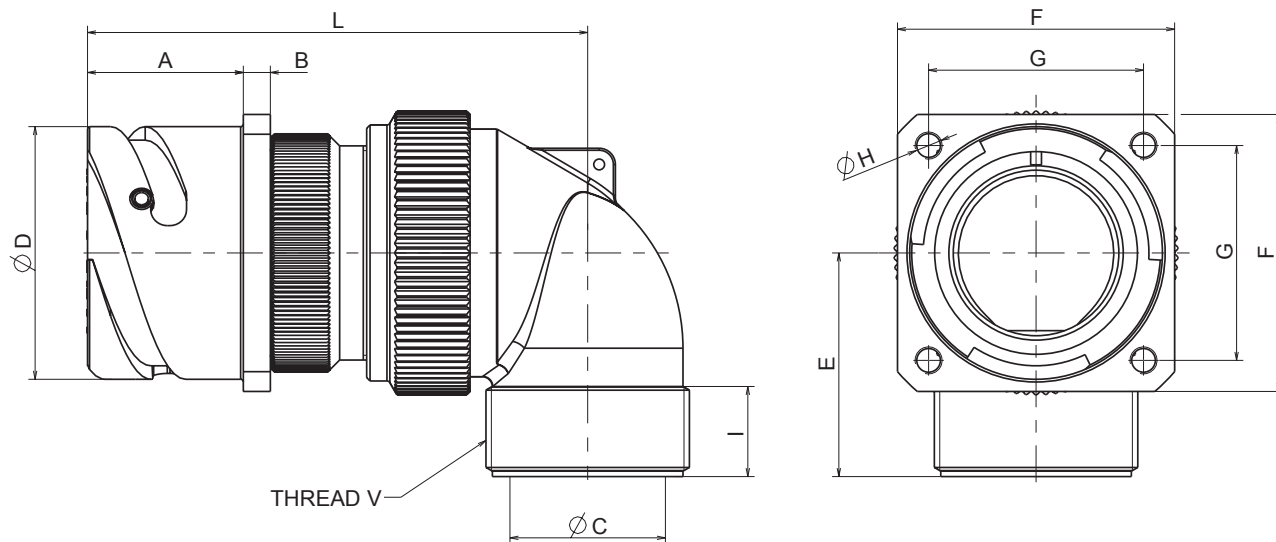


## VBN38A-- VBN38R--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a 90° backshell with UNEF external thread.

Supplied with (R) or without (A) grommet.



| SIZE | L  | A<br>+0.4-0 | B<br>±0.2 | ØC.   | ØD<br>+0-0.15 | E  | F<br>±0.3 | G<br>±0.1 | ØH | I<br>Min. | Thread V        |
|------|----|-------------|-----------|-------|---------------|----|-----------|-----------|----|-----------|-----------------|
| 16S  | 63 | 18.2        | 3.2       | 14.7  | 27.4          | 30 | 32.5      | 24.6      | M4 | 10        | 7/8"-20 UNEF    |
| 18   | 75 | 23.05       | 4         | 17.2  | 30.8          | 35 | 35        | 27        | M4 | 10        | 1"-20 UNEF      |
| 20   | 80 | 23.05       | 4         | 20.35 | 34.2          | 35 | 38        | 29.4      | M4 | 10        | 1 3/16"-18 UNEF |
| 22   | 80 | 23.05       | 4         | 23    | 37.4          | 35 | 41        | 31.8      | M4 | 10        | 1 3/16"-18 UNEF |
| 24   | 80 | 23.05       | 4         | 25.8  | 40.9          | 40 | 44.5      | 34.9      | M4 | 10        | 1 7/16"-18 UNEF |
| 28   | 80 | 24.05       | 4         | 28.7  | 46.7          | 40 | 50.8      | 39.7      | M5 | 10        | 1 7/16"-18 UNEF |
| 32   | 85 | 24.05       | 4         | 36.5  | 53.4          | 45 | 57        | 44.5      | M5 | 12        | 1 3/4"-18 UNS   |
| 36   | 90 | 24.05       | 4         | 42.6  | 59.6          | 50 | 63.5      | 49.2      | M5 | 12        | 2 "-18 UNS      |
| 40   | 95 | 24.05       | 4         | 48.6  | 65.5          | 55 | 69.9      | 55.5      | M5 | 12        | 2 1/4"-16 UN    |

The connectors are supplied with an adapter between the flange and the elbow.

Dimensions shown in mm  
Specifications and dimensions subject to change

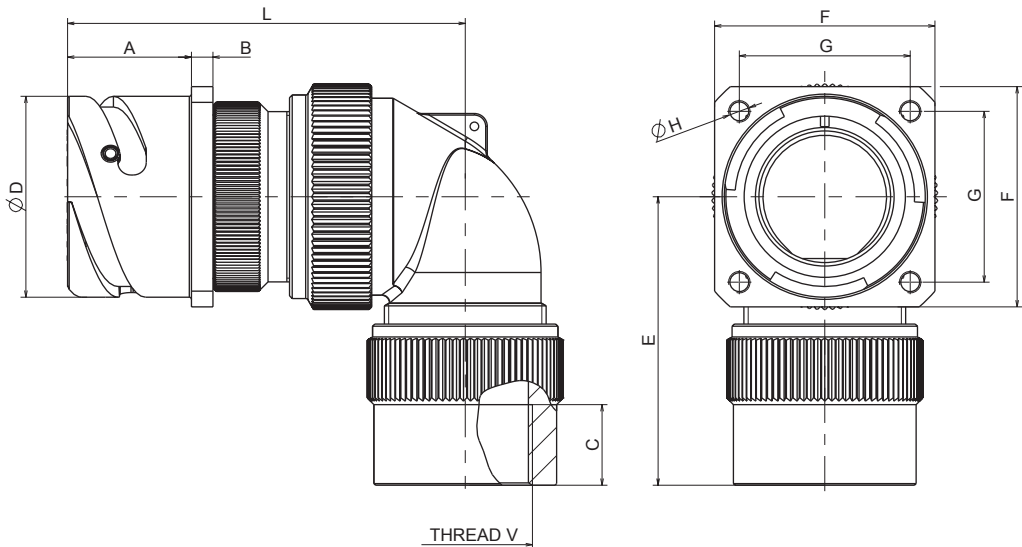
# VBN RECEPTACLE

**VBN38AM--**  
**VBN38RM--**

Rear panel mounting receptacle with threaded fixing holes.

Foresees a 90° backshell with an adapter with metric internal thread.

Supplied with (RM) or without (AM) grommet.



| SIZE | L  | A<br>+0.4-0 | B<br>±0.2 | ØD<br>+0-0.15 | E  | F<br>±0.3 | G<br>±0.1 | ØH | Thread V |         |
|------|----|-------------|-----------|---------------|----|-----------|-----------|----|----------|---------|
|      |    |             |           |               |    |           |           |    | C Min    | Metric  |
| 16S  | 63 | 18.2        | 3.2       | 27.4          | 52 | 32.5      | 24.6      | M4 | 12       | M12x1.5 |
|      |    |             |           |               |    |           |           |    | 15       | M16x1.5 |
|      |    |             |           |               |    |           |           |    |          | M20x1.5 |
| 18   | 75 | 23.05       | 4         | 30.8          | 57 | 35        | 27        | M4 | 15       | M16x1.5 |
|      |    |             |           |               |    |           |           |    |          | M20x1.5 |
|      |    |             |           |               |    |           |           |    |          | M25x1.5 |
| 20   | 80 | 23.05       | 4         | 34.2          | 57 | 38        | 29.4      | M4 | 15       | M20x1.5 |
|      |    |             |           |               |    |           |           |    | 18       | M25x1.5 |
|      |    |             |           |               |    |           |           |    |          | M32x1.5 |
| 22   | 80 | 23.05       | 4         | 37.4          | 57 | 41        | 31.8      | M4 | 15       | M20x1.5 |
|      |    |             |           |               |    |           |           |    | 18       | M25x1.5 |
|      |    |             |           |               |    |           |           |    |          | M32x1.5 |
| 24   | 80 | 23.05       | 4         | 40.9          | 65 | 44.5      | 34.9      | M4 | 15       | M25x1.5 |
|      |    |             |           |               |    |           |           |    | 18       | M32x1.5 |
|      |    |             |           |               |    |           |           |    | 20       | M40x1.5 |
|      |    |             |           |               |    |           |           |    | 15       | M25x1.5 |
|      |    |             |           |               |    |           |           |    | 18       | M32x1.5 |
| 28   | 80 | 24.05       | 4         | 46.7          | 65 | 50.8      | 39.7      | M5 | 20       | M40x1.5 |
|      |    |             |           |               |    |           |           |    | 20       | M25x1.5 |
|      |    |             |           |               |    |           |           |    |          | M32x1.5 |
|      |    |             |           |               |    |           |           |    |          | M40x1.5 |
| 32   | 85 | 24.05       | 4         | 53.4          | 70 | 57        | 44.5      | M5 | 20       | M25x1.5 |
|      |    |             |           |               |    |           |           |    |          | M32x1.5 |
|      |    |             |           |               |    |           |           |    |          | M40x1.5 |
| 36   | 90 | 24.05       | 4         | 59.6          | 78 | 63.5      | 49.2      | M5 | 20       | M50x1.5 |
|      |    |             |           |               |    |           |           |    |          | M40x1.5 |
|      |    |             |           |               |    |           |           |    |          | M50x1.5 |
|      |    |             |           |               |    |           |           |    |          | M63x1.5 |
| 40   | 95 | 24.05       | 4         | 65.5          | 80 | 69.9      | 55.5      | M5 | 20       | M50x1.5 |
|      |    |             |           |               |    |           |           |    |          | M50x1.5 |
|      |    |             |           |               |    |           |           |    |          | M63x1.5 |

The connectors are supplied with an adapter between the flange and the elbow.

# VBN RECEPTACLE

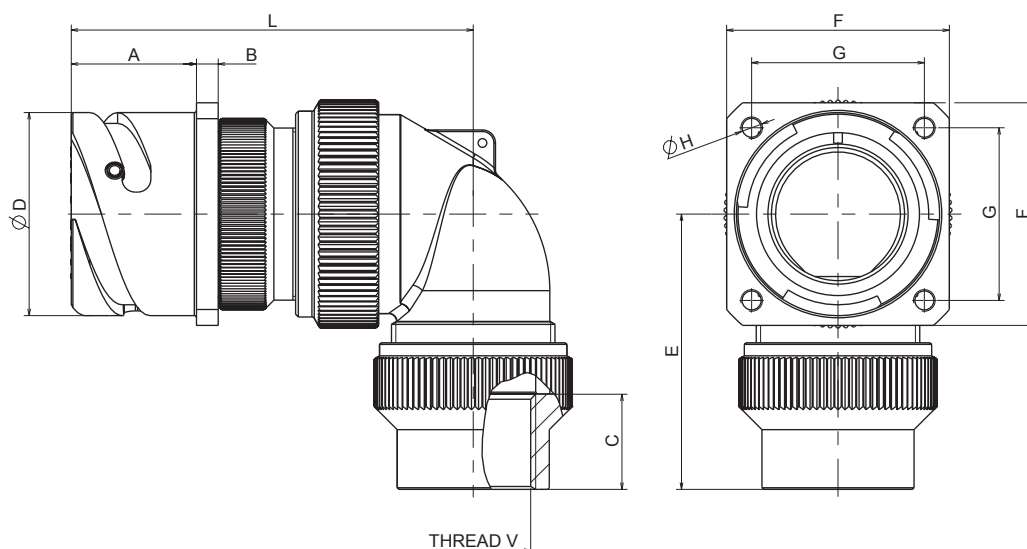


## VBN38APG-- VBN38RPG--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a 90° backshell with an adapter with PG internal thread.

Supplied with (RPG) or without (APG) grommet.



| SIZE | L  | A +0.4-0 | B ±0.2 | ØD +0-0.15 | F ±0.3 | E        | G ±0.1 | ØH | Thread V |                      |
|------|----|----------|--------|------------|--------|----------|--------|----|----------|----------------------|
|      |    |          |        |            |        |          |        |    | C Min    | PG                   |
| 16S  | 63 | 18.2     | 3.2    | 27.4       | 32.5   | 48       | 24.6   | M4 | 14       | PG9                  |
| 18   | 75 | 23.05    | 4      | 30.8       | 35     | 54       | 27     | M4 | 14       | PG16<br>PG21         |
| 20   | 80 | 23.05    | 4      | 34.2       | 38     | 53       | 29.4   | M4 | 15<br>13 | PG16<br>PG29         |
| 22   | 80 | 23.05    | 4      | 37.4       | 41     | 53       | 31.8   | M4 | 15<br>13 | PG16<br>PG29         |
| 24   | 80 | 23.05    | 4      | 40.9       | 44.5   | 58<br>69 | 34.9   | M4 | 13<br>15 | PG21<br>PG36<br>PG29 |
| 28   | 80 | 24.05    | 4      | 46.7       | 50.8   | 58<br>69 | 39.7   | M5 | 13<br>15 | PG21<br>PG36<br>PG29 |
| 32   | 85 | 24.05    | 4      | 53.4       | 57     | 60<br>71 | 44.5   | M5 | 15       | PG29<br>PG36         |
| 36   | 90 | 24.05    | 4      | 59.6       | 63.5   | 68       | 49.2   | M5 | 15       | PG36<br>PG42         |
| 40   | 95 | 24.05    | 4      | 65.5       | 69.9   | 74<br>76 | 55.5   | M5 | 15       | PG42<br>PG48         |

The connectors are supplied with an adapter between the flange and the elbow. For additional thread size please consult the factory.

Dimensions shown in mm  
Specifications and dimensions subject to change

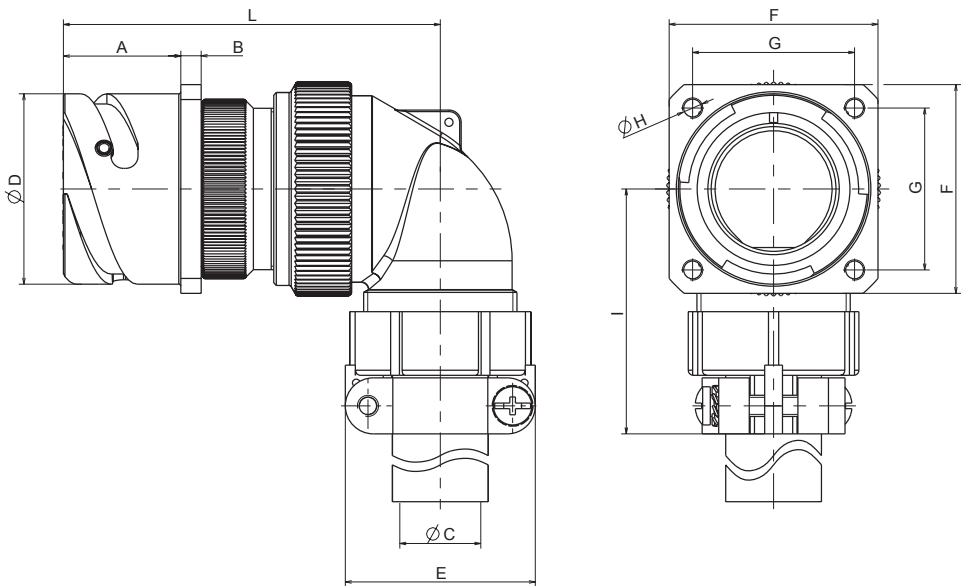
# VCN RECEPACLE

## VCN38AF-- VCN38F--

Rear panel mounting receptacle with threaded  
fixing holes.

Foresees a 90° backshell and a cable clamp with  
bushing for single wires.

Supplied with (F) or without (AF) grommet.



| SIZE | L  | A<br>+0.4-0 | B<br>±0.2 | ØC (*)<br>Max. | ØE<br>+0-0.15 | E Max. | F<br>±0.3 | G<br>±0.1 | ØH | I  |
|------|----|-------------|-----------|----------------|---------------|--------|-----------|-----------|----|----|
| 16S  | 63 | 18.2        | 3.2       | 11             | 27.4          | 30     | 32.5      | 24.6      | M4 | 45 |
| 18   | 75 | 23.05       | 4         | 14.2           | 30.8          | 32.2   | 35        | 27        | M4 | 53 |
| 20   | 80 | 23.05       | 4         | 15.8           | 34.2          | 37.5   | 38        | 29.4      | M4 | 53 |
| 22   | 80 | 23.05       | 4         | 15.8           | 37.4          | 37.5   | 41        | 31.8      | M4 | 53 |
| 24   | 80 | 23.05       | 4         | 19             | 40.9          | 43.3   | 44.5      | 34.9      | M4 | 58 |
| 28   | 80 | 24.05       | 4         | 19             | 46.7          | 43.3   | 50.8      | 39.7      | M5 | 58 |
| 32   | 85 | 24.05       | 4         | 23.8           | 53.4          | 51.7   | 57        | 44.5      | M5 | 66 |
| 36   | 90 | 24.05       | 4         | 31.7           | 59.6          | 58     | 63.5      | 49.2      | M5 | 69 |
| 40   | 95 | 24.05       | 4         | 34.9           | 65.5          | 68.5   | 69.9      | 55.5      | M5 | 95 |

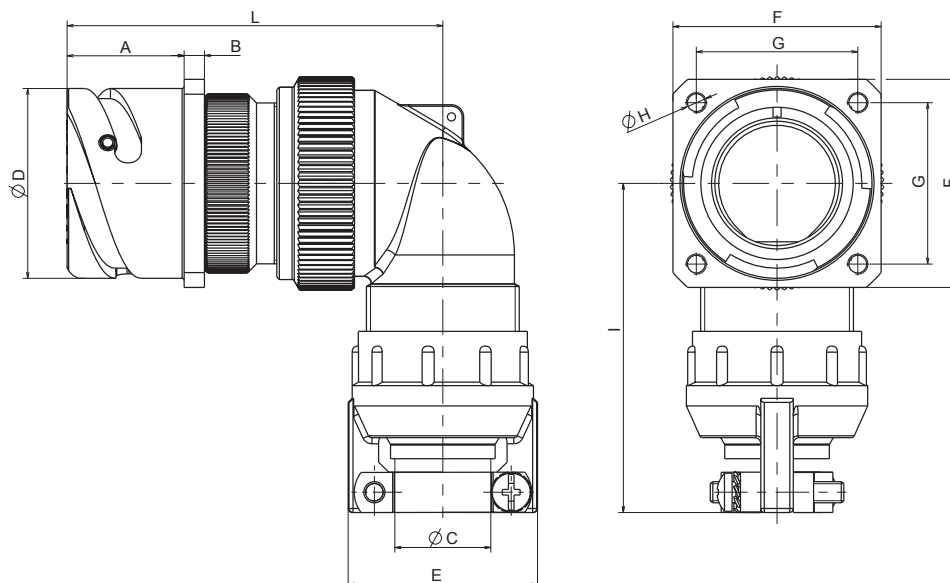
(\*): Maximum cable (or wires bundle dimension) outer diameter. The connectors are supplied with an adapter between the flange and the elbow.

## VCN38CF-- VCN38CFZ--

Rear panel mounting receptacle with threaded fixing holes.

Foresees a 90° backshell and a cable clamp for jacketed cable.

Supplied with (CFZ) or without (CF) grommet.



| SIZE | L  | A<br>+0.4-0 | B<br>±0.2 | ØC (*) |      | ØD<br>+0-0.15 | E Max. | F±0.3 | G<br>±0.1 | ØH | I   |
|------|----|-------------|-----------|--------|------|---------------|--------|-------|-----------|----|-----|
|      |    |             |           | Min    | Max  |               |        |       |           |    |     |
| 16S  | 63 | 18.2        | 3.2       | 8      | 13.5 | 27.4          | 28.1   | 32.5  | 24.6      | M4 | 61  |
| 18   | 75 | 23.05       | 4         | 9.6    | 15.8 | 30.8          | 31     | 35    | 27        | M4 | 68  |
| 20   | 80 | 23.05       | 4         | 11.3   | 19   | 34.2          | 37.3   | 38    | 29.4      | M4 | 68  |
| 22   | 80 | 23.05       | 4         | 11.3   | 19   | 37.4          | 37.3   | 41    | 31.8      | M4 | 68  |
| 24   | 80 | 23.05       | 4         | 15.5   | 23.8 | 40.9          | 42     | 44.5  | 34.9      | M4 | 76  |
| 28   | 80 | 24.05       | 4         | 15.5   | 23.8 | 46.7          | 42     | 50.8  | 39.7      | M5 | 76  |
| 32   | 85 | 24.05       | 4         | 23.4   | 31.7 | 53.4          | 54     | 57    | 44.5      | M5 | 97  |
| 36   | 90 | 24.05       | 4         | 23.4   | 35   | 59.6          | 57.1   | 63.5  | 49.2      | M5 | 98  |
| 40   | 95 | 24.05       | 4         | 29.9   | 41.2 | 65.5          | 63.5   | 69.9  | 55.5      | M5 | 103 |

(\*): cable outer diameter range. The connectors are supplied with an adapter between the flange and the elbow.

Dimensions shown in mm  
Specifications and dimensions subject to change

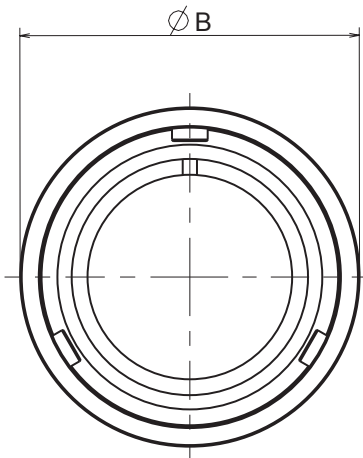
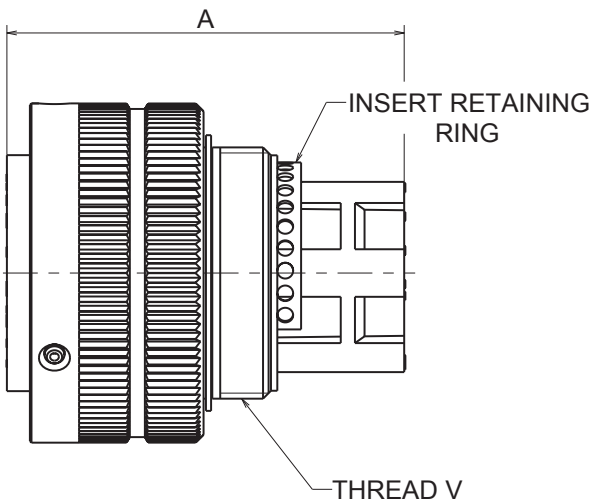
# VCN PLUG

## VCN6--

Plug connector with standard coupling nut.

Foresees a threaded rear end.

Supplied without accessories



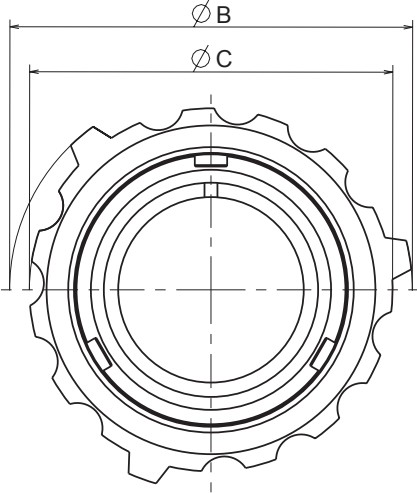
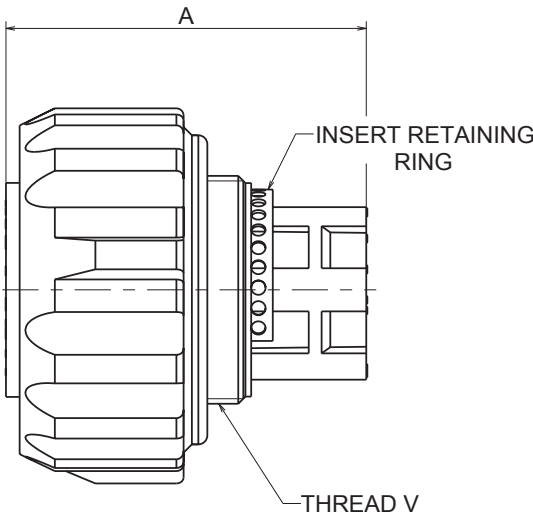
| SIZE | A  | ØB Max. | Thread V       |
|------|----|---------|----------------|
| 16S  | 40 | 32      | 7/8"-20 UNEF   |
| 18   | 50 | 36.5    | 1"-20 UNEF     |
| 20   | 50 | 39.9    | 1 1/8"-18 UNEF |
| 22   | 50 | 43.1    | 1 1/4"-18 UNEF |
| 24   | 50 | 46.6    | 1 3/8"-18 UNEF |
| 28   | 50 | 53.4    | 1 5/8"-18 UNEF |
| 32   | 50 | 60.1    | 1 7/8"-16 UN   |
| 36   | 50 | 66.3    | 2 1/16"-16 UN  |
| 40   | 50 | 72.5    | 2 5/16"-16 UN  |

## MGPVBN6--

Plug connector with rubber covered coupling nut.

Foresees a threaded rear end.

Supplied without accessories



| SIZE | A  | ØB   | ØC   | Thread V       |
|------|----|------|------|----------------|
| 16S  | 40 | 44   | 38.9 | 7/8"-20 UNEF   |
| 18   | 50 | 49   | 43.5 | 1"-20 UNEF     |
| 20   | 50 | 51.5 | 46   | 1 1/8"-18 UNEF |
| 22   | 50 | 56   | 50.5 | 1 1/4"-18 UNEF |
| 24   | 50 | 60   | 54   | 1 3/8"-18 UNEF |
| 28   | 50 | 67   | 61   | 1 5/8"-18 UNEF |
| 32   | 50 | 76   | 67.6 | 1 7/8"-16 UN   |
| 36   | 50 | 82.3 | 74.3 | 2 1/16"-16 UN  |
| 40   | 50 | 88   | 80   | 2 5/16"-16 UN  |

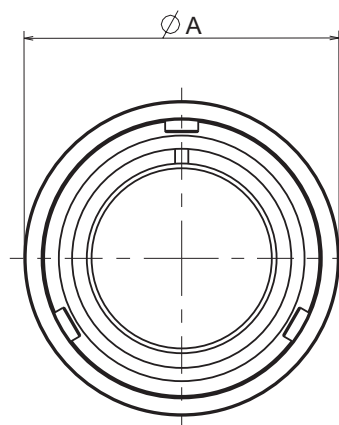
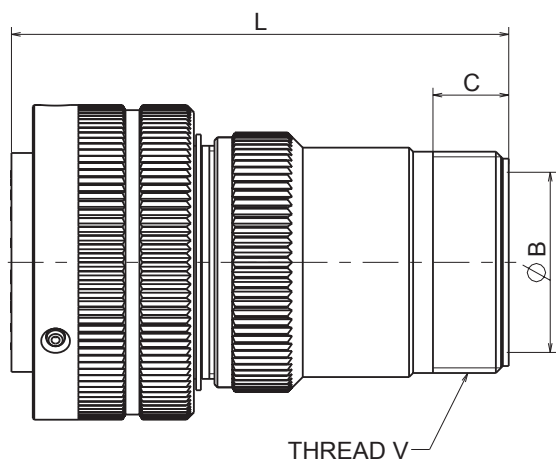
# VCN PLUG

## VCN6AV-- VCN6RV--

Plug connector with standard coupling nut.

Foresees a short straight backshell with UNEF external thread.

Supplied with (RV) or without (AV) grommet.



| SIZE | L  | ØA Max. | ØB Max. | C Min. | Thread V        |
|------|----|---------|---------|--------|-----------------|
| 16S  | 55 | 32      | 16.2    | 10     | 7/8"-20 UNEF    |
| 18   | 65 | 36.5    | 19      | 10     | 1"-20 UNEF      |
| 20   | 70 | 39.9    | 22      | 10     | 1 3/16"-18 UNEF |
| 22   | 70 | 43.1    | 24.5    | 10     | 1 3/16"-18 UNEF |
| 24   | 70 | 46.6    | 27.8    | 10     | 1 7/16"-18 UNEF |
| 28   | 75 | 53.4    | 31.2    | 10     | 1 7/16"-18 UNEF |
| 32   | 75 | 60.1    | 37.8    | 12     | 1 3/4"-18 UNS   |
| 36   | 80 | 66.3    | 45      | 12     | 2 "-18 UNS      |
| 40   | 80 | 72.5    | 51.2    | 12     | 2 1/4"-16 UN    |

## VCN PLUG

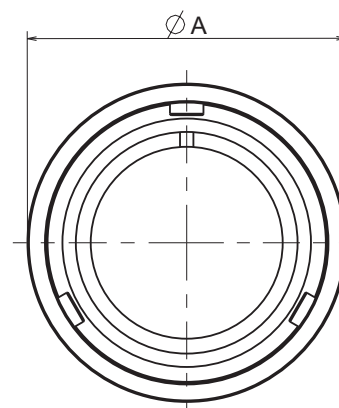
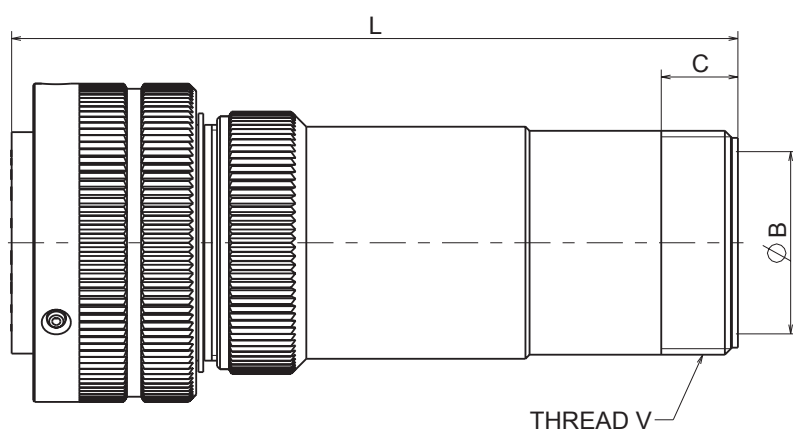


### VCN6A-- VCN6R--

Plug connector with standard coupling nut.

Foresees a standard straight backshell with UNEF external thread.

Supplied with (R) or without (A) grommet.



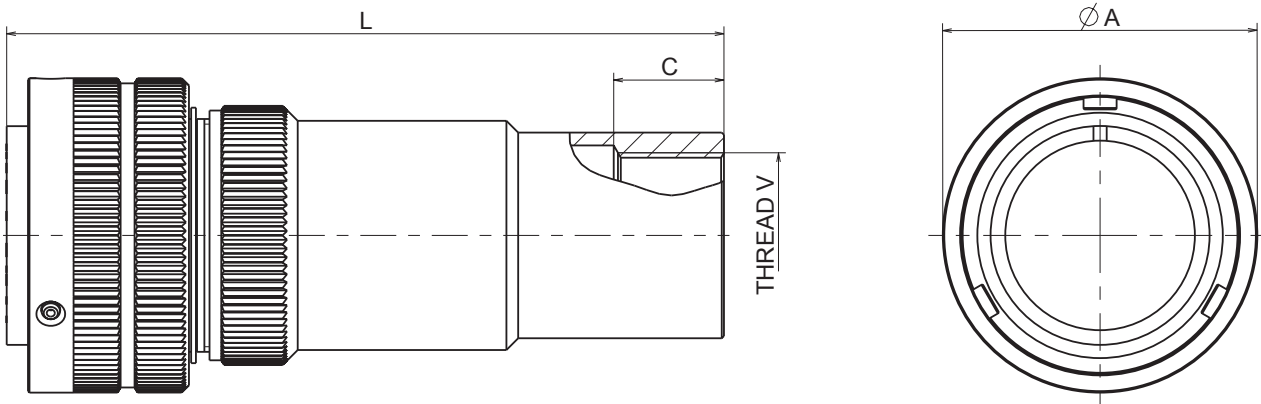
| SIZE | L   | ØA Max. | ØB Max. | C Min. | Thread V        |
|------|-----|---------|---------|--------|-----------------|
| 16S  | 80  | 32      | 16.2    | 10     | 7/8"-20 UNEF    |
| 18   | 100 | 36.5    | 19      | 10     | 1"-20 UNEF      |
| 20   | 100 | 39.9    | 22      | 10     | 1 3/16"-18 UNEF |
| 22   | 100 | 43.1    | 24.5    | 10     | 1 3/16"-18 UNEF |
| 24   | 105 | 46.6    | 27.8    | 10     | 1 7/16"-18 UNEF |
| 28   | 105 | 53.4    | 31.2    | 10     | 1 7/16"-18 UNEF |
| 32   | 115 | 60.1    | 37.8    | 12     | 1 3/4"-18 UNS   |
| 36   | 125 | 66.3    | 45      | 12     | 2 "-18 UNS      |
| 40   | 125 | 72.5    | 51.2    | 12     | 2 1/4"-16 UN    |

Dimensions shown in mm  
Specifications and dimensions subject to change

VBN PLUG

VBN6AM--  
VBN6RM--

Plug connector with standard coupling nut.  
  
 Foresees a standard straight backshell with metric internal thread.  
  
 Supplied with (RM) or without (AM)t grommet.



| SIZE | L   | ØA Max. | Thread V |         |
|------|-----|---------|----------|---------|
|      |     |         | C Min    | Metric  |
| 165  | 80  | 32      | 12       | M12x1.5 |
|      |     |         | 15       | M16x1.5 |
|      |     |         |          | M20x1.5 |
| 18   | 100 | 36.5    | 15       | M16x1.5 |
|      |     |         |          | M20x1.5 |
|      |     |         |          | M25x1.5 |
| 20   | 100 | 39.9    | 18       | M32x1.5 |
|      |     |         |          | M16x1.5 |
|      |     |         |          | M20x1.5 |
| 22   | 100 | 43.1    | 15       | M25x1.5 |
|      |     |         |          | M20x1.5 |
|      |     |         |          | M32x1.5 |
| 24   | 105 | 46.6    | 15       | M25x1.5 |
|      |     |         | 18       | M32x1.5 |
|      |     |         |          | M20x1.5 |
| 28   | 105 | 53.4    | 15       | M25x1.5 |
|      |     |         | 15       | M32x1.5 |
|      |     |         | 20       | M40x1.5 |
| 32   | 115 | 60.1    |          | M25x1.5 |
|      |     |         |          | M32x1.5 |
|      |     |         |          | M40x1.5 |
| 36   | 125 | 66.3    | 20       | M32x1.5 |
|      |     |         |          | M40x1.5 |
|      |     |         |          | M50x1.5 |
| 40   | 125 | 72.5    | 20       | M25x1.5 |
|      |     |         |          | M32x1.5 |
|      |     |         |          | M40x1.5 |
|      |     |         |          | M50x1.5 |
|      |     |         |          | M63x1.5 |

For additional thread size please consult the factory.

## VCN PLUG

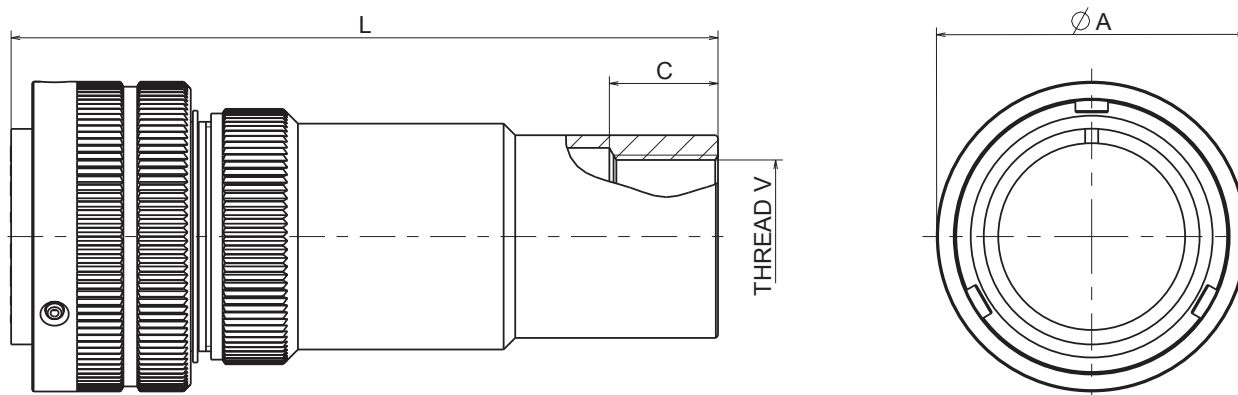


### VCN6APG-- VCN6RPG--

Plug connector with standard coupling nut.

Foresees a standard straight backshell with  
PG internal thread.

Supplied with (RPG) or without (APG) grommet.



| SIZE | L   | ØA Max. | Thread V |      |
|------|-----|---------|----------|------|
|      |     |         | C Min    | PG   |
| 16S  | 80  | 32      | 13       | PG9  |
| 18   | 100 | 36.5    | 15       | PG16 |
|      |     |         | 15       | PG21 |
| 20   | 100 | 39.9    | 15       | PG16 |
|      |     |         | 15       | PG29 |
| 22   | 100 | 43.1    | 15       | PG16 |
|      |     |         | 15       | PG29 |
| 24   | 105 | 46.6    | 15       | PG21 |
|      |     |         | 15       | PG29 |
|      |     |         | 20       | PG36 |
| 28   | 105 | 53.4    | 15       | PG21 |
|      |     |         | 15       | PG29 |
| 32   | 115 | 60.1    | 20       | PG29 |
|      |     |         | 20       | PG36 |
| 36   | 125 | 66.3    | 20       | PG36 |
|      |     |         | 20       | PG42 |
| 40   | 125 | 72.5    | 20       | PG36 |
|      |     |         | 20       | PG42 |

For additional thread size please consult the factory.

Dimensions shown in mm

Specifications and dimensions subject to change

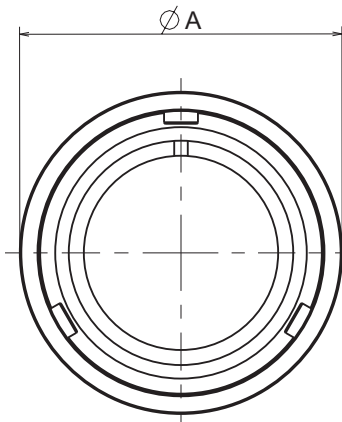
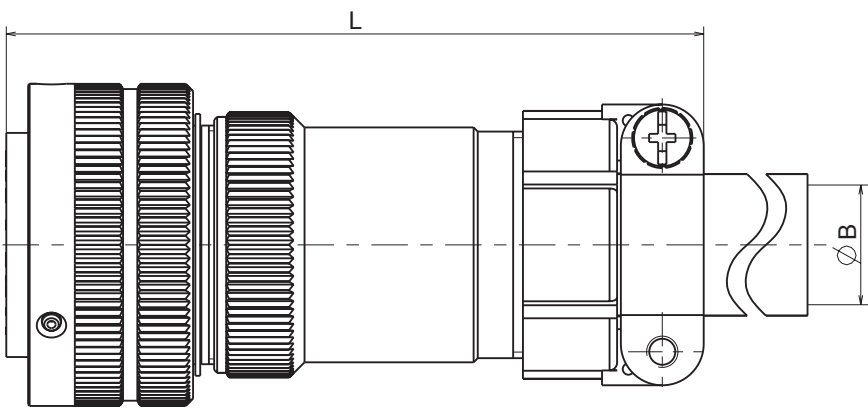
# VBN PLUG

## VBN6AF-- VBN6F--

Plug connector with standard coupling nut.

Foresees a standard straight backshell and a cable clamp with bushing for single wires.

Supplied with (F) or without (AF) grommet.



| SIZE | L   | ØA Max. | ØB (*) Max. |
|------|-----|---------|-------------|
| 16S  | 105 | 32      | 11          |
| 18   | 125 | 36.5    | 14.2        |
| 20   | 125 | 39.9    | 15.8        |
| 22   | 125 | 43.1    | 15.8        |
| 24   | 130 | 46.6    | 19          |
| 28   | 130 | 53.4    | 19          |
| 32   | 145 | 60.1    | 23.8        |
| 36   | 155 | 66.3    | 31.7        |
| 40   | 167 | 72.5    | 34.9        |

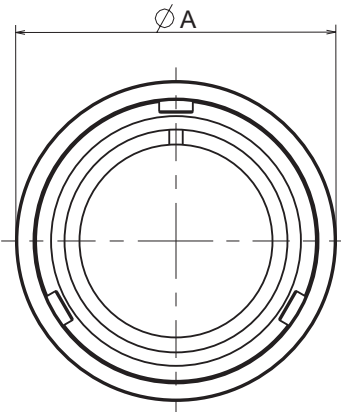
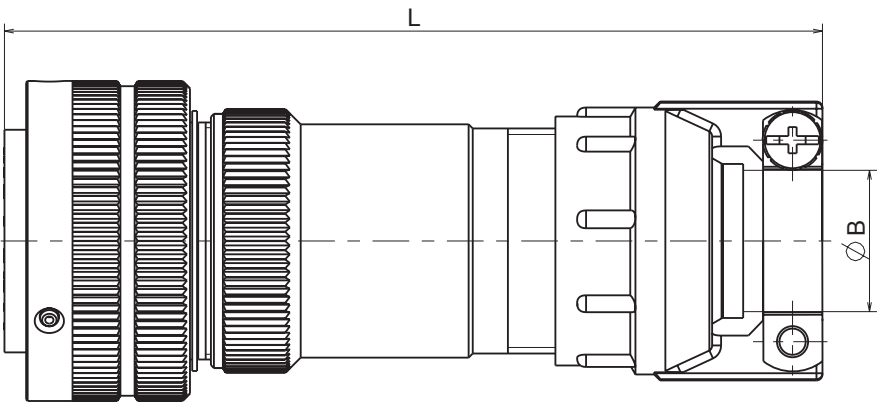
(\*): Maximum cable (or wires bundle dimension) outer diameter The connectors are supplied with an adapter between the flange and the elbow.

**VBN6CF--**  
**VBN6CFZ--**

Plug connector with standard coupling nut.

Foresees a standard straight backshell and a cable clamp for jacketed cable.

Supplied with (CFZ) or without (CF) grommet.



| SIZE | L   | ØA Max. | ØB (*) |      |
|------|-----|---------|--------|------|
|      |     |         | Min    | Max. |
| 16S  | 110 | 32      | 8      | 13.5 |
| 18   | 135 | 36.5    | 9.6    | 15.8 |
| 20   | 135 | 39.9    | 11.3   | 19   |
| 22   | 135 | 43.1    | 11.3   | 19   |
| 24   | 140 | 46.6    | 15.5   | 23.8 |
| 28   | 140 | 53.4    | 15.5   | 23.8 |
| 32   | 160 | 60.1    | 23.4   | 31.7 |
| 36   | 175 | 66.3    | 23.4   | 35   |
| 40   | 175 | 72.5    | 29.9   | 41.2 |

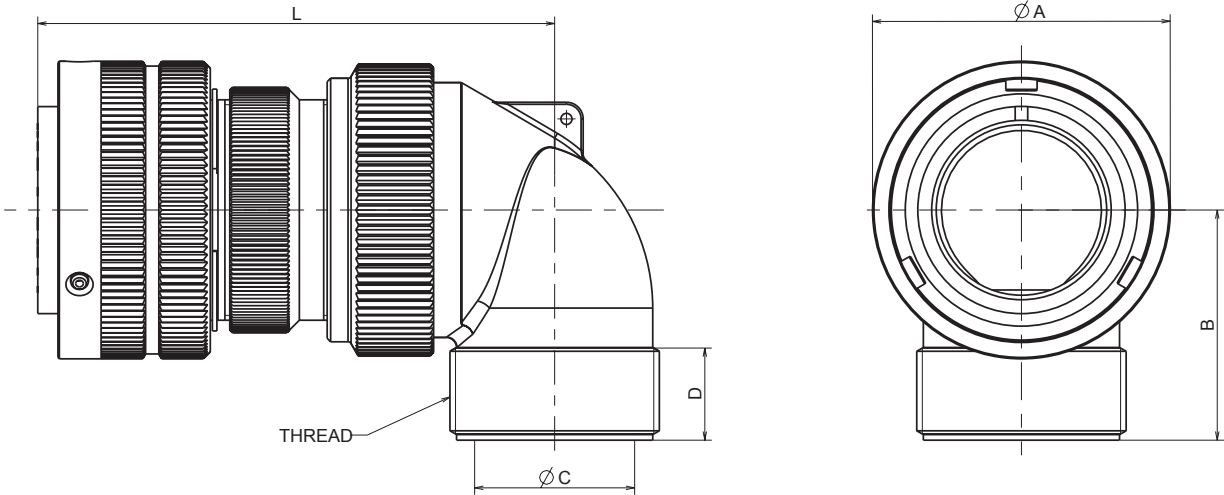
(\*): cable outer diameter range.

Dimensions shown in mm  
Specifications and dimensions subject to change

# VBN PLUG

## VBN8A-- VBN8R--

Plug connector with standard coupling nut.  
 Foresees a 90° backshell with UNEF external thread.  
 Supplied with (R) or without (A) grommet.



| SIZE | L  | ØA Max. | B  | ØC Max. | D Min. | Thread V        |
|------|----|---------|----|---------|--------|-----------------|
| 16S  | 63 | 32      | 30 | 14.7    | 10     | 7/8"-20 UNEF    |
| 18   | 75 | 36.5    | 35 | 17.2    | 10     | 1"-20 UNEF      |
| 20   | 80 | 39.9    | 35 | 20.35   | 10     | 1 3/16"-18 UNEF |
| 22   | 80 | 43.1    | 35 | 23      | 10     | 1 3/16"-18 UNEF |
| 24   | 80 | 46.6    | 40 | 25.8    | 10     | 1 7/16"-18 UNEF |
| 28   | 80 | 53.4    | 40 | 28.7    | 10     | 1 7/16"-18 UNEF |
| 32   | 85 | 60.1    | 45 | 36.5    | 12     | 1 3/4"-18 UNS   |
| 36   | 90 | 66.3    | 50 | 42.6    | 12     | 2 "-18 UNS      |
| 40   | 95 | 72.5    | 55 | 48.6    | 12     | 2 1/4"-16 UN    |

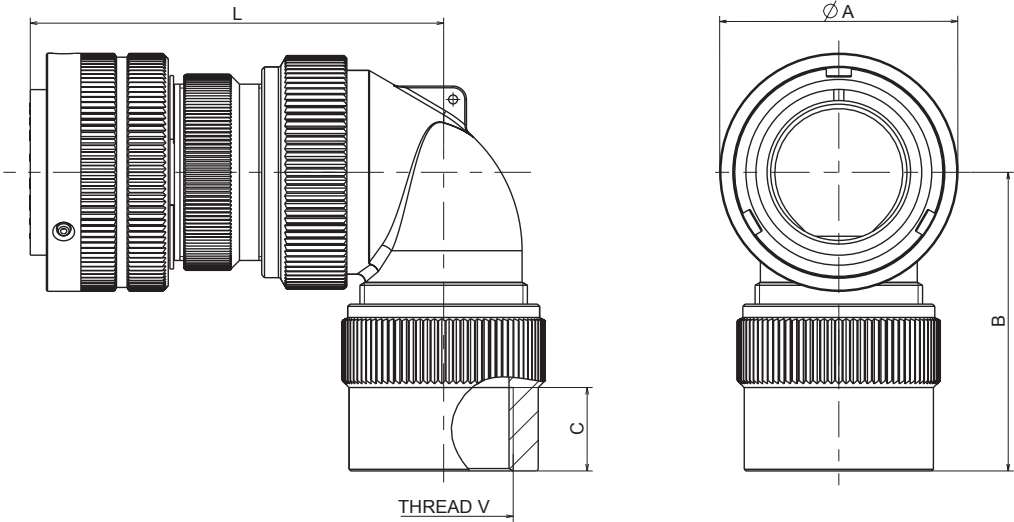
The connectors are supplied with an adapter between the plugshell and the elbow.

# VCN PLUG



## VCN8AM-- VCN8RM--

Plug connector with standard coupling nut.  
Foresees a 90° backshell with metric internal thread.  
Supplied with (RM) or without (AM) grommet.



| SIZE | L  | ØA Max. | B  | Thread V |         |
|------|----|---------|----|----------|---------|
|      |    |         |    | Min      | Max.    |
| 16S  | 63 | 32      | 52 | 12       | M12x1.5 |
|      |    |         |    | 15       | M16x1.5 |
|      |    |         |    |          | M20x1.5 |
| 18   | 75 | 36.5    | 57 | 15       | M16x1.5 |
|      |    |         |    |          | M20x1.5 |
|      |    |         |    |          | M25x1.5 |
| 20   | 80 | 39.9    | 57 | 15       | M20x1.5 |
|      |    |         |    |          | M25x1.5 |
|      |    |         |    | 18       | M32x1.5 |
| 22   | 80 | 43.1    | 57 | 15       | M20x1.5 |
|      |    |         |    |          | M25x1.5 |
|      |    |         |    | 18       | M32x1.5 |
| 24   | 80 | 46.6    | 65 | 15       | M25x1.5 |
|      |    |         |    | 18       | M32x1.5 |
|      |    |         |    | 20       | M40x1.5 |
| 28   | 80 | 53.4    | 65 | 15       | M25x1.5 |
|      |    |         |    | 18       | M32x1.5 |
|      |    |         |    | 20       | M40x1.5 |
| 32   | 85 | 60.1    | 70 | 20       | M25x1.5 |
|      |    |         |    |          | M32x1.5 |
|      |    |         |    |          | M40x1.5 |
| 36   | 90 | 66.3    | 78 | 20       | M32x1.5 |
|      |    |         |    |          | M40x1.5 |
|      |    |         |    |          | M50x1.5 |
| 40   | 95 | 72.5    | 80 | 20       | M40x1.5 |
|      |    |         |    |          | M50x1.5 |
|      |    |         |    |          | M63x1.5 |

The connectors are supplied with an adapter between the plugshell and the elbow. For additional thread size please consult the factory.

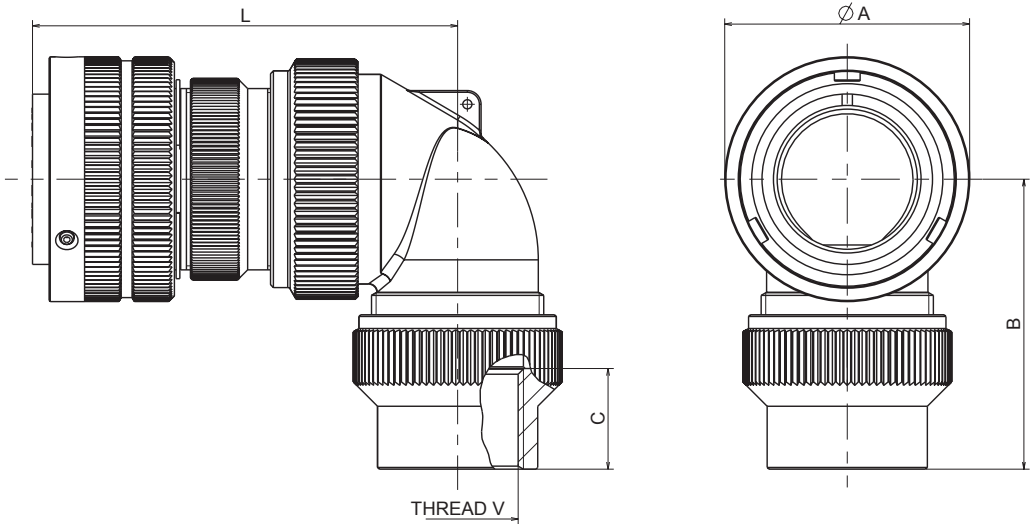
Dimensions shown in mm  
Specifications and dimensions subject to change



# VBN PLUG

VBN8APG--  
VBN8RPG--

Plug connector with standard coupling nut.  
Foresees a 90° backshell with PG internal thread.  
Supplied with (RPG) or without (APG) grommet.



| SIZE | L  | ØA Max. | B  | Thread V |      |
|------|----|---------|----|----------|------|
|      |    |         |    | C Min    | PG   |
| 16S  | 63 | 32      | 48 | 14       | PG9  |
| 18   | 75 | 36.5    | 54 | 14       | PG16 |
|      |    |         |    | 14       | PG21 |
| 20   | 80 | 39.9    | 53 | 15       | PG16 |
|      |    |         |    | 13       | PG29 |
| 22   | 80 | 43.1    | 53 | 15       | PG16 |
|      |    |         |    | 13       | PG29 |
| 24   | 80 | 46.6    | 58 | 13       | PG21 |
|      |    |         | 69 | 15       | PG29 |
|      |    |         |    |          | PG36 |
| 28   | 80 | 53.4    | 58 | 13       | PG21 |
|      |    |         | 69 | 15       | PG29 |
|      |    |         |    |          | PG36 |
| 32   | 85 | 60.1    | 60 | 15       | PG29 |
|      |    |         | 71 |          | PG36 |
| 36   | 90 | 66.3    | 68 | 15       | PG36 |
|      |    |         |    |          | PG42 |
| 40   | 95 | 72.5    | 74 | 15       | PG42 |
|      |    |         | 76 |          | PG48 |

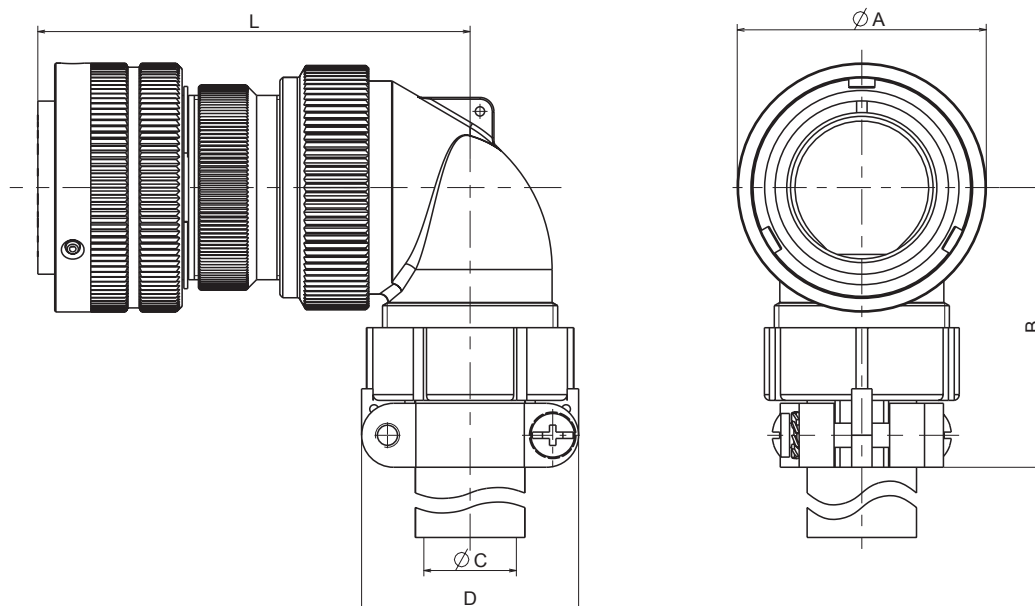
The connectors are supplied with an adapter between the plugshell and the elbow. For additional thread size please consult the factory.

## VBN8AF-- VBN8F--

Plug connector with standard coupling nut.

Foresees a 90° backshell and a cable clamp with bushing for single wires.

Supplied with (F) or without (AF) grommet.



| SIZE | L  | ØA Max. | B  | ØC (*) Max. | D Max. |
|------|----|---------|----|-------------|--------|
| 16S  | 63 | 32      | 45 | 11          | 30     |
| 18   | 75 | 36.5    | 53 | 14.2        | 32.2   |
| 20   | 80 | 39.9    | 53 | 15.8        | 37.5   |
| 22   | 80 | 43.1    | 53 | 15.8        | 37.5   |
| 24   | 80 | 46.6    | 58 | 19          | 43.3   |
| 28   | 80 | 53.4    | 58 | 19          | 43.3   |
| 32   | 85 | 60.1    | 66 | 23.8        | 51.7   |
| 36   | 90 | 66.3    | 69 | 31.7        | 58     |
| 40   | 95 | 72.5    | 95 | 34.9        | 68.5   |

(\*): Maximum cable (or wires bundle dimension) outer diameter The connectors are supplied with an adapter between the plugshell and the elbow.

Dimensions shown in mm  
Specifications and dimensions subject to change

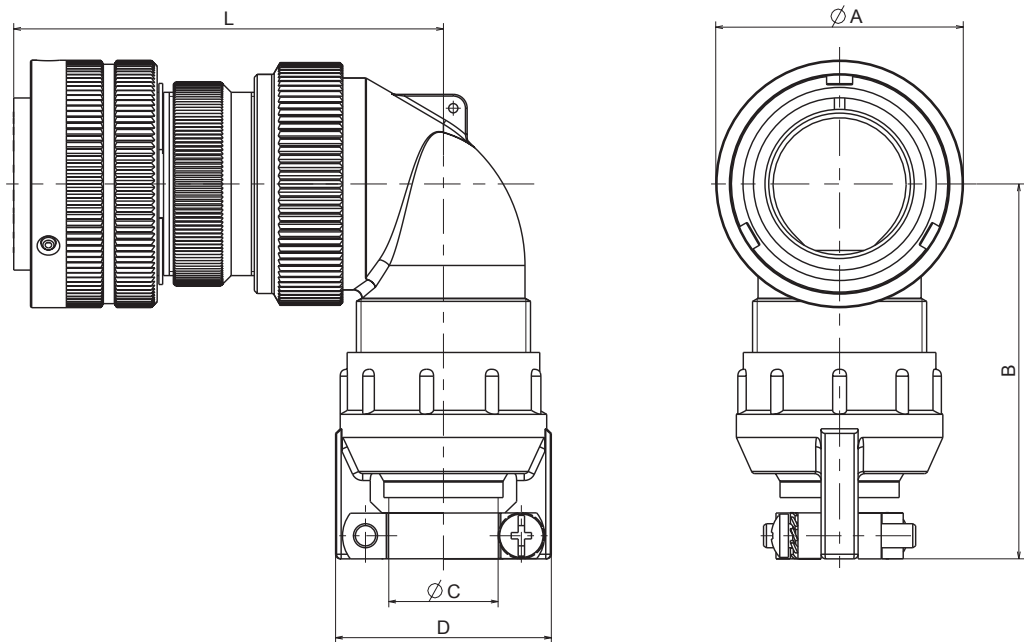
# VCN PLUG

## VCN8CF-- VCN8CFZ--

Plug connector with standard coupling nut.

Foresees a 90° backshell and a cable clamp for jacketed cable.

Supplied with (CFZ) or without (CF) grommet.



| SIZE | L  | ØA Max. | B   | ØC (*) |      | D Max. |
|------|----|---------|-----|--------|------|--------|
|      |    |         |     | Min    | Max. |        |
| 16S  | 63 | 32      | 61  | 8      | 13.5 | 28.1   |
| 18   | 75 | 36.5    | 68  | 9.6    | 15.8 | 31     |
| 20   | 80 | 39.9    | 68  | 11.3   | 19   | 37.3   |
| 22   | 80 | 43.1    | 68  | 11.3   | 19   | 37.3   |
| 24   | 80 | 46.6    | 76  | 15.5   | 23.8 | 42     |
| 28   | 80 | 53.4    | 76  | 15.5   | 23.8 | 42     |
| 32   | 85 | 60.1    | 97  | 23.4   | 31.7 | 54     |
| 36   | 90 | 66.3    | 98  | 23.4   | 35   | 57.1   |
| 40   | 95 | 72.5    | 103 | 29.9   | 41.2 | 63.5   |

(\*): cable outer diameter range. The connectors are supplied with an adapter between the plugshell and the elbow.

## VCN SS--

Termination of shielded cables is necessary to provide RFI/EMI shielding protection. The VCN Connector series foresees a special version to connect cable shielding braid to the connector backshell and to guarantee the RFI/EMI immunity.

This version is available on both plug and receptacle, in straight and 90° version. The plugs foresees a RFI spring on the plug-shell to improve the shielding performances.

### VCN3SS—

Rear mounting receptacle with straight shielded backshell without grommet

### VCN3RSS--

Rear mounting receptacle with straight shielded backshell with grommet



### VCN38SS—

Rear mounting receptacle with 90° shielded backshell without grommet

### VCN38RSS--

Rear mounting receptacle with 90° shielded backshell with grommet



### VCN6SS—

Plug with straight shielded backshell without grommet

### VCN6RSS--

Plug with straight shielded backshell with grommet



### VCN8SS—

Plug with 90° shielded backshell without grommet

### VCN8RSS--

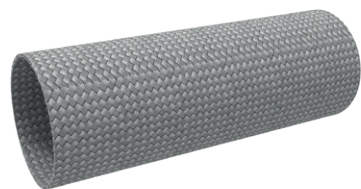
Plug with 90° shielded backshell with grommet



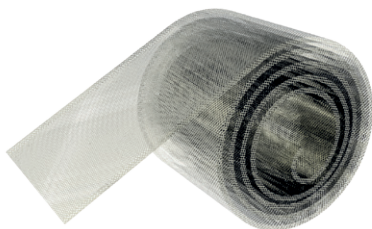
# VCN SHIELDED CONNECTORS

## VCN SS--

The connector type SS are supplied with the accessories necessary to connect the braid of the cable to the connector shells.



**BRAID SOCK**



**KNIT MESH**



**METALLIC TIE BAND**

The cable braid is connected to the rear knurled area of the backshell and clamped by using the metallic tie band.

If case the cable braid cannot be directly connected to the shell, it is possible to use the supplied braid sock to create a “bridge” between the cable braid and the shell; a second tie-band must be used to fix the braid sock to the cable (see below picture).

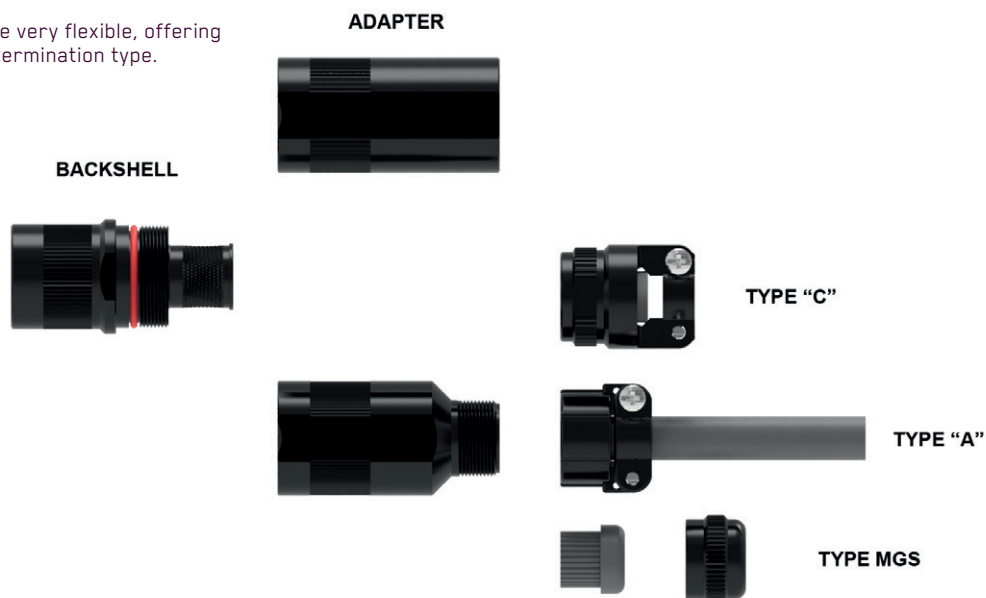


The SS system offers the possibility to connect more than one cable; in this case the braids of the cable must be wrapped together using the knit mesh to form a round shape.

The rear adapter protects the shielding area and it is available with many type of termination to guarantee sealing.

## VBN SS--

The connector type SS are very flexible, offering a wide range of size and termination type.



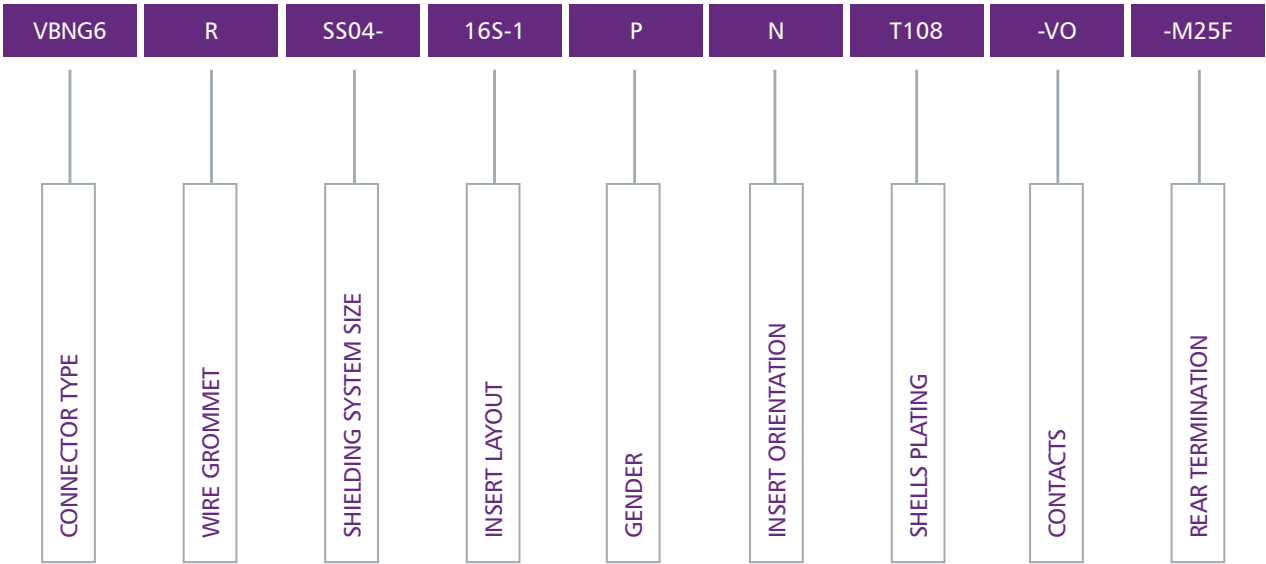
| VBN CONN.<br>SIZE | BACKSHELL        |                 | ADAPTER              |                   | CABLE CLAMP         |             |                       |             |
|-------------------|------------------|-----------------|----------------------|-------------------|---------------------|-------------|-----------------------|-------------|
|                   | Shielding System |                 | Inner Thread         |                   | Type MGS            |             | Type VE3057 "A" & "C" |             |
|                   | SS Size          | DIAM. B<br>Max. | PG Thread            | Metric Thread     | Cable<br>Clamp Size | Cable Range | Cable<br>Clamp Size   | Cable Range |
| 16S               | 04               | 8.4             | PG11<br>PG16         | M12<br>M16<br>M20 | 02                  | 5 - 8       | -4                    | 2.5 - 8     |
|                   | 05               | 13.5            |                      |                   | 03R                 | 7 - 9       | -6                    | 6.3 - 11    |
|                   | 06               | 16.5            |                      |                   | 03                  | 9 - 12      |                       |             |
| 18                | 04               | 8.4             | PG11<br>PG16         | M12<br>M16<br>M20 | 05                  | 13 - 16     | -10                   | 9.6 - 15.8  |
|                   | 05               | 13.5            |                      |                   | 03R                 | 7 - 9       | -6                    | 6.3 - 11    |
|                   | 06               | 16.5            |                      |                   | 04                  | 11 - 14     | -8                    | 8 - 13.5    |
| 20                | 05               | 13.5            | PG16<br>PG21         | M16<br>M20<br>M25 | 05                  | 13 - 16     | -10                   | 9.5 - 15.8  |
|                   | 06               | 16.5            |                      |                   | 04                  | 11 - 14     | -8                    | 8 - 13.5    |
|                   | 05               | 16.5            |                      |                   | 05                  | 13 - 16     | -10                   | 9.5 - 15.8  |
| 22                | 05               | 16.5            | PG16<br>PG21         | M16<br>M20<br>M25 | 06                  | 15 - 17.5   | -12                   | 11.3 - 19   |
|                   | 06               | 19              |                      |                   | 05                  | 13 - 16     | -10                   | 9.5 - 15.8  |
| 24                | 08               | 19              | PG21<br>PG29         | M20<br>M25<br>M32 | 06                  | 15 - 17.5   | -12                   | 11.3 - 19   |
|                   | 10               | 24              |                      |                   | 07                  | 18 - 23.5   | -16                   | 15.5 - 23.8 |
| 28                | 08               | 19              | PG21<br>PG29<br>PG36 | M20<br>M25<br>M32 | 06                  | 15 - 17.5   | -12                   | 11.3 - 19   |
|                   | 10               | 24              |                      |                   | 07                  | 18 - 23.5   | -16                   | 15.5 - 23.8 |
|                   | 12               | 31.2            |                      |                   | -                   | -           | -20                   | 23.4 - 31.7 |
| 32                | 12               | 31.2            | PG36                 | M32<br>M40        | -                   | -           | -20                   | 23.4 - 31.7 |
| 36                | 13               | 36.5            | PG42                 | M50               | -                   | -           | -24                   | 23.4 - 35   |
|                   | 14               | 42              | PG48                 | M63               | -                   | -           | -28                   | 29.9 - 41.2 |
| 40                | 14               | 42              |                      | M63               | -                   | -           | -28                   | 29.9 - 41.2 |

# VBN SHIELDED CONNECTORS

## VBN SS--

### Shielded connector part number description

Below is an example of how a complete connector part number is generated from available options.



#### CONNECTORS TYPE

VBNG3: Rear mounting receptacle  
VBNG38: Rear mounting 90° receptacle  
VBNG6: straight plug with shielding spring  
VBNG8: 90° plug with shielding spring

#### WIRE GROMMET

R: grommet supplied  
NONE: without grommet

#### SHIELDING SYSTEM SIZE

See table page 41

#### INSERT LAYOUT

See pages 9-10

#### GENDER

P: male contacts  
S: female contacts

#### INSERT ORIENTATION

See page 10

#### SHELL PLATING

T108: Black Zinc/Cobalt  
T240: Blue Zn/Ni

#### CONTACTS OPTIONS

VO: without contacts

#### REAR TERMINATION

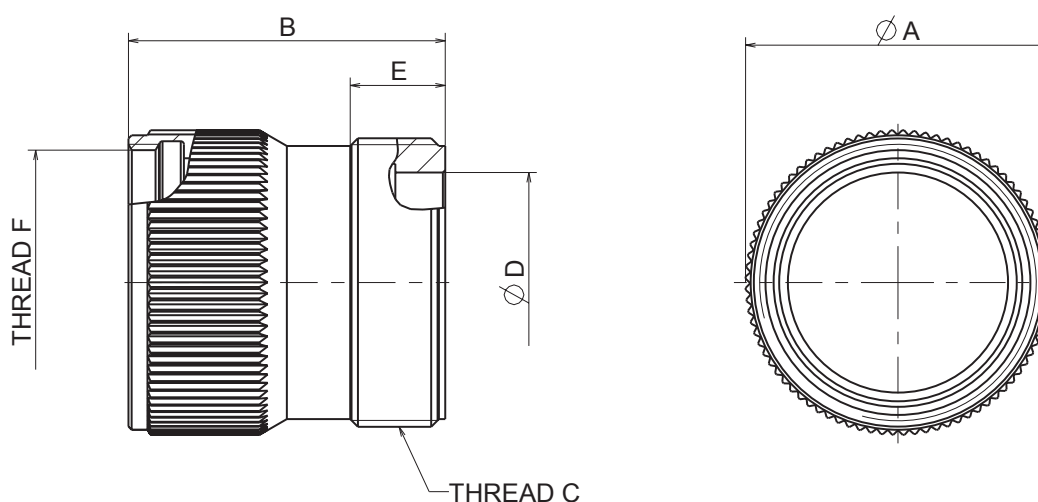
M25F: Internal metric thread  
PG011: Internal PG thread  
MGS04: MGS cable clamp  
12C: Type "C" cable clamp

## VCN-RV--

Short straight backshell with UNEF external thread.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Part number  | Shell size | ØA max | B ± 0.2 | Thread C        | Ø D ± 0.2 | E Min. | Thread F       |
|--------------|------------|--------|---------|-----------------|-----------|--------|----------------|
| VCN-RV16STXX | 16S        | 26     | 30.5    | 7/8"- 20 UNEF   | 14        | 9.5    | 7/8"- 20 UNEF  |
| VCN-RV18TXX  | 18         | 29.5   | 38      | 1"- 20 UNEF     | 17        | 9.5    | 1"- 20 UNEF    |
| VCN-RV20TXX  | 20         | 33     | 40      | 1 3/16"-18 UNEF | 21        | 9.5    | 1 1/8"-18 UNEF |
| VCN-RV22TXX  | 22         | 36     | 40      | 1 3/16"-18 UNEF | 21        | 9.5    | 1 1/4"-18 UNEF |
| VCN-RV24TXX  | 24         | 40     | 40      | 1 7/16"-18 UNEF | 26        | 9.5    | 1 3/8"-18 UNEF |
| VCN-RV28TXX  | 28         | 46     | 45      | 1 7/16"-18 UNEF | 26        | 9.5    | 1 5/8"-18 UNEF |
| VCN-RV32TXX  | 32         | 51.5   | 45      | 1 3/4"-18 UNS   | 32        | 11     | 1 7/8"-16 UN   |
| VCN-RV36TXX  | 36         | 58     | 50      | 2"-18 UNS       | 37        | 11.8   | 2 1/16"-16 UN  |
| VCN-RV40TXX  | 40         | 64.5   | 50      | 2 1/4"-16 UN    | 45        | 11.8   | 2 5/16"-16 UN  |

Add plating suffix to the part number

Dimensions shown in mm  
Specifications and dimensions subject to change

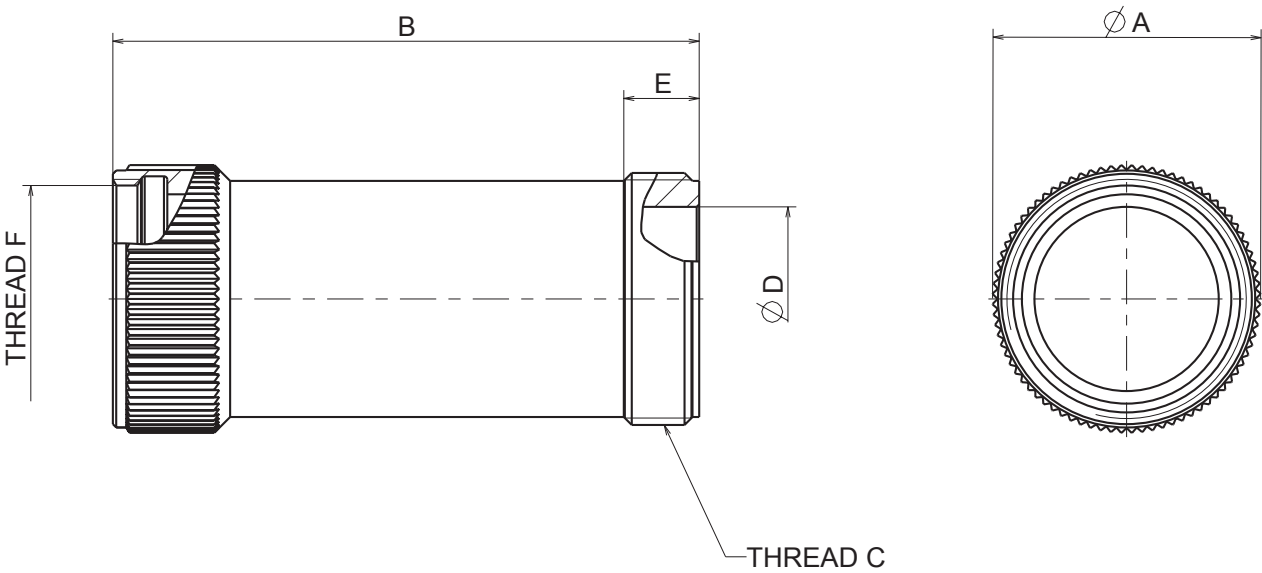
# VBN SPARE BACKSHELLS

## VBN-R--

Standard straight backshell with UNEF external thread.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Part number | Shell size | ØA max | B ± 0.2 | Thread C        | Ø D ± 0.2 | E Min. | Thread F       |
|-------------|------------|--------|---------|-----------------|-----------|--------|----------------|
| VBN-R16STXX | 16S        | 26     | 55      | 7/8"- 20 UNEF   | 14        | 9.5    | 7/8"- 20 UNEF  |
| VBN-R18TXX  | 18         | 29.5   | 70      | 1"- 20 UNEF     | 17        | 9.5    | 1"- 20 UNEF    |
| VBN-R20TXX  | 20         | 33     | 70      | 1 3/16"-18 UNEF | 21        | 9.5    | 1 1/8"-18 UNEF |
| VBN-R22TXX  | 22         | 36     | 70      | 1 3/16"-18 UNEF | 21        | 9.5    | 1 1/4"-18 UNEF |
| VBN-R24TXX  | 24         | 40     | 75      | 1 7/16"-18 UNEF | 26        | 9.5    | 1 3/8"-18 UNEF |
| VBN-R28TXX  | 28         | 46     | 75      | 1 7/16"-18 UNEF | 26        | 9.5    | 1 5/8"-18 UNEF |
| VBN-R32TXX  | 32         | 51.5   | 85      | 1 3/4"-18 UNS   | 32        | 11     | 1 7/8"-16 UN   |
| VBN-R36TXX  | 36         | 58     | 95      | 2"-18 UNS       | 37        | 11.8   | 2 1/16"-16 UN  |
| VBN-R40TXX  | 40         | 64.5   | 95      | 2 1/4"-16 UN    | 45        | 11.8   | 2 5/16"-16 UN  |

Add plating suffix to the part number

# VCN SPARE BACKSHELLS

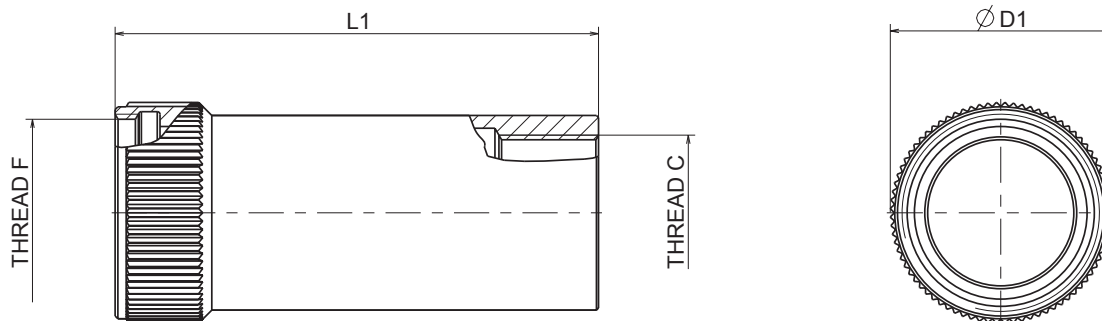


## VCN-M--

Standard straight backshell with metric internal thread.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Ordering Part Number | Shell Size | D1 max | L1 ± 0,2 | Thread C | Thread F       |
|----------------------|------------|--------|----------|----------|----------------|
| VCN-M12BL16STXX      | 16S        | 28     | 55       | M12x1.5  | 7/8"- 20 UNEF  |
| VCN-M16BL16STXX      | 16S        | 26     | 55       | M16x1.5  | 7/8"- 20 UNEF  |
| VCN-M20BL16STXX      | 16S        | 28     | 55       | M20x1.5  | 7/8"- 20 UNEF  |
| VCN-M16BL18TXX       | 18         | 29.5   | 70       | M16x1.5  | 1"- 20 UNEF    |
| VCN-M20BL18TXX       | 18         | 29.5   | 70       | M20x1.5  | 1"- 20 UNEF    |
| VCN-M25BL18TXX       | 18         | 29.5   | 70       | M25x1.5  | 1"- 20 UNEF    |
| VCN-M32BL18TXX       | 18         | 34     | 70       | M32x1.5  | 1"- 20 UNEF    |
| VCN-M16BL20TXX       | 20         | 33     | 70       | M16x1.5  | 1 1/8"-18 UNEF |
| VCN-M20BL20TXX       | 20         | 33     | 70       | M20x1.5  | 1 1/8"-18 UNEF |
| VCN-M25BL20TXX       | 20         | 33     | 70       | M25x1.5  | 1 1/8"-18 UNEF |
| VCN-M20BL22TXX       | 22         | 36     | 70       | M20x1.5  | 1 1/4"-18 UNEF |
| VCN-M25BL22TXX       | 22         | 36     | 70       | M25x1.5  | 1 1/4"-18 UNEF |
| VCN-M32BL22TXX       | 22         | 36     | 70       | M32x1.5  | 1 1/4"-18 UNEF |
| VCN-M25BL24TXX       | 24         | 40     | 75       | M25x1.5  | 1 3/8"-18 UNEF |
| VCN-M32BL24TXX       | 24         | 43     | 75       | M32x1.5  | 1 3/8"-18 UNEF |
| VCN-M20BL28TXX       | 28         | 46     | 75       | M20x1.5  | 1 5/8"-18 UNEF |
| VCN-M25BL28TXX       | 28         | 46     | 75       | M25x1.5  | 1 5/8"-18 UNEF |
| VCN-M32BL28TXX       | 28         | 46     | 75       | M32x1.5  | 1 5/8"-18 UNEF |
| VCN-M40BL28TXX       | 28         | 46     | 75       | M40x1.5  | 1 5/8"-18 UNEF |
| VCN-M25BL32TXX       | 32         | 51.5   | 85       | M25x1.5  | 1 7/8"-16 UN   |
| VCN-M32BL32TXX       | 32         | 51.5   | 85       | M32x1.5  | 1 7/8"-16 UN   |
| VCN-M40BL32TXX       | 32         | 54     | 85       | M40x1.5  | 1 7/8"-16 UN   |
| VCN-M32BL36TXX       | 36         | 58     | 95       | M32x1.5  | 2 1/16"-16 UN  |
| VCN-M40BL36TXX       | 36         | 58     | 95       | M40x1.5  | 2 1/16"-16 UN  |
| VCN-M50BL36TXX       | 36         | 58     | 95       | M50x1.5  | 2 1/16"-16 UN  |
| VCN-M25BL40TXX       | 40         | 64.5   | 95       | M25x1.5  | 2 5/16"-16 UN  |
| VCN-M32BL40TXX       | 40         | 64.5   | 95       | M32x1.5  | 2 5/16"-16 UN  |
| VCN-M40BL40TXX       | 40         | 64.5   | 95       | M40x1.5  | 2 5/16"-16 UN  |
| VCN-M50BL40TXX       | 40         | 64.5   | 95       | M50x1.5  | 2 5/16"-16 UN  |
| VCN-M63BL40TXX       | 40         | 64.5   | 95       | M63x1.5  | 2 5/16"-16 UN  |

For additional thread size please consult the factory. Add plating suffix to the part number

Dimensions shown in mm

Specifications and dimensions subject to change

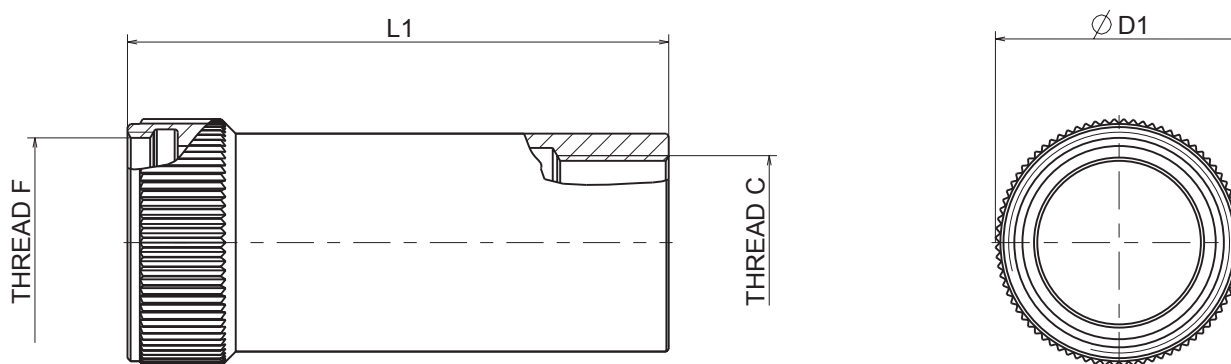
# VCN SPARE BACKSHELLS

## VCN-PG--

Standard straight backshell with PG internal thread.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Ordering Part Number | Shell Size | D1 max | L1 ± 0,2 | Thread C | Thread F       |
|----------------------|------------|--------|----------|----------|----------------|
| VCN-PG9BL16STXX      | 16S        | 26     | 55       | PG9      | 7/8"- 20 UNEF  |
| VCN-PG16BL18TXX      | 18         | 29.5   | 70       | PG16     | 1"- 20 UNEF    |
| VCN-PG21BL18TXX      | 18         | 34     | 70       | PG21     | 1"- 20 UNEF    |
| VCN-PG16BL20TXX      | 20         | 33     | 70       | PG16     | 1 1/8"-18 UNEF |
| VCN-PG29BL20TXX      | 20         | 43     | 75       | PG29     | 1 1/8"-18 UNEF |
| VCN-PG16BL22TXX      | 22         | 36     | 70       | PG16     | 1 1/4"-18 UNEF |
| VCN-PG29BL22TXX      | 22         | 36     | 70       | PG29     | 1 1/4"-18 UNEF |
| VCN-PG21BL24TXX      | 24         | 40     | 75       | PG21     | 1 3/8"-18 UNEF |
| VCN-PG29BL24TXX      | 24         | 43     | 75       | PG29     | 1 3/8"-18 UNEF |
| VCN-PG36BL24TXX      | 24         | 54     | 85       | PG36     | 1 3/8"-18 UNEF |
| VCN-PG21BL28TXX      | 28         | 46     | 75       | PG21     | 1 5/8"-18 UNEF |
| VCN-PG29BL28TXX      | 28         | 46     | 75       | PG29     | 1 5/8"-18 UNEF |
| VCN-PG29BL32TXX      | 32         | 51.5   | 85       | PG29     | 1 7/8"-16 UN   |
| VCN-PG36BL32TXX      | 32         | 54     | 85       | PG36     | 1 7/8"-16 UN   |
| VCN-PG36BL36TXX      | 36         | 58     | 95       | PG36     | 2 1/16"-16 UN  |
| VCN-PG42BL36TXX      | 36         | 58     | 95       | PG42     | 2 1/16"-16 UN  |
| VCN-PG36BL40TXX      | 40         | 64.5   | 95       | PG36     | 2 5/16"-16 UN  |
| VCN-PG42BL40TXX      | 40         | 64.5   | 95       | PG42     | 2 5/16"-16 UN  |

For additional thread size please consult the factory. Add plating suffix to the part number

# VCN SPARE BACKSHELLS

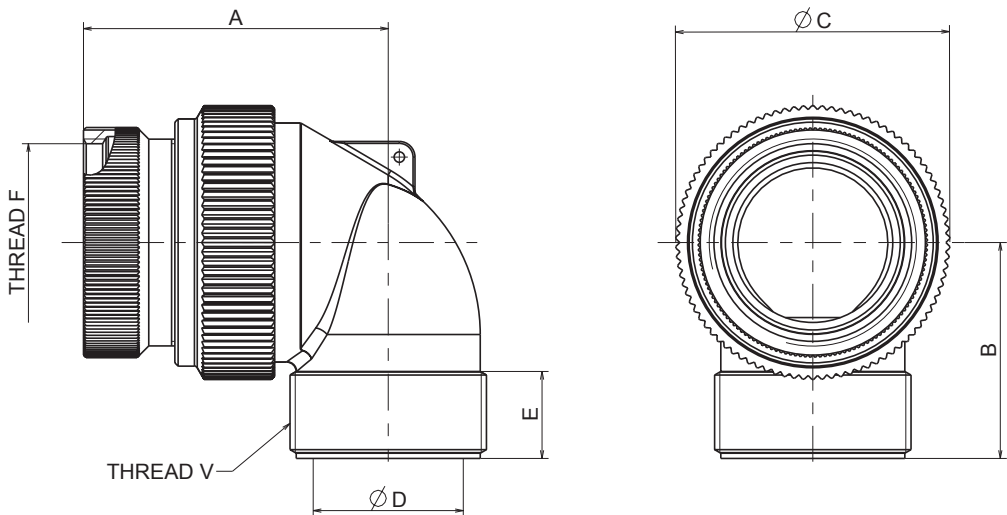


## VCN-90R--

Standard 90° backshell with UNEF external thread.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Part Number   | Shell size | A  | B  | ØC Max. | ØD Max. | E Min. | Thread F       | Thread V        |
|---------------|------------|----|----|---------|---------|--------|----------------|-----------------|
| VCN-90R16STXX | 16S        | 40 | 30 | 30      | 14.7    | 10     | 7/8"-20 UNEF   | 7/8"-20 UNEF    |
| VCN-90R18TXX  | 18         | 47 | 35 | 35      | 17.2    | 10     | 1"-20 UNEF     | 1"-20 UNEF      |
| VCN-90R20TXX  | 20         | 53 | 35 | 37.3    | 20.35   | 10     | 1 1/8"-18 UNEF | 1 3/16"-18 UNEF |
| VCN-90R22TXX  | 22         | 53 | 35 | 42      | 23      | 10     | 1 1/4"-18 UNEF | 1 3/16"-18 UNEF |
| VCN-90R24TXX  | 24         | 52 | 40 | 46      | 25.8    | 10     | 1 3/8"-18 UNEF | 1 7/16"-18 UNEF |
| VCN-90R28TXX  | 28         | 52 | 40 | 51      | 28.7    | 10     | 1 5/8"-18 UNEF | 1 7/16"-18 UNEF |
| VCN-90R32TXX  | 32         | 56 | 45 | 58      | 36.5    | 12     | 1 7/8"-18 UN   | 1 3/4"-18 UNS   |
| VCN-90R36TXX  | 36         | 59 | 50 | 62      | 42.6    | 12     | 2 1/16"-16 UN  | 2 "-18 UNS      |
| VCN-90R40TXX  | 40         | 65 | 55 | 69      | 48.6    | 12     | 2 5/16"-16 UN  | 2 1/4"-16 UN    |

The backshell is supplied with an adapter to be connected to the mating parts of the connector. Add plating suffix to the part number



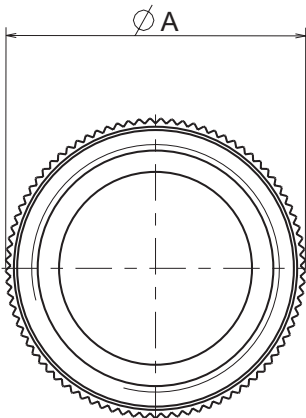
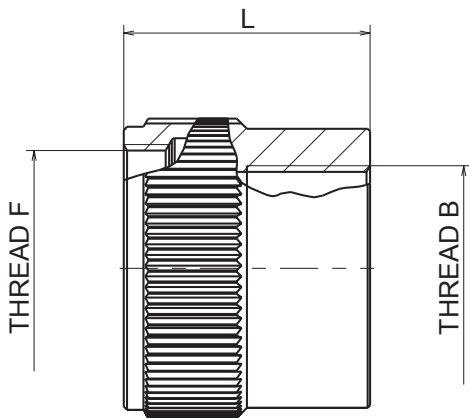
# VBN SPARE BACKSHELLS

## VBN-MXXA--

Adapter with metric internal thread.

Can be used on the 90° backshell.

Supplied with O-Ring



| Part Number    | Shell Size | ØA Max. | L  | Thread B | Thread F        |
|----------------|------------|---------|----|----------|-----------------|
| VBN-M12A16STXX | 165        | 26      | 27 | M12x1.5  | 7/8"-20 UNEF    |
| VBN-M16A16STXX |            |         |    | M16x1.5  |                 |
| VBN-M20A16STXX |            |         |    | M20x1.5  |                 |
| VBN-M16A18TXX  | 18         | 34      | 30 | M16x1.5  | 1"-20 UNEF      |
| VBN-M20A18TXX  |            |         |    | M20x1.5  |                 |
| VBN-M25A18TXX  |            |         |    | M25x1.5  |                 |
| VBN-M20A20TXX  | 20/22      | 36.5    | 27 | M20x1.5  | 1 3/16"-18 UNEF |
| VBN-M25A20TXX  |            | 36.5    | 27 | M25x1.5  |                 |
| VBN-M32A20TXX  |            | 43      | 30 | M32x1.5  |                 |
| VBN-M25A24TXX  | 24/28      | 43      | 27 | M25x1.5  | 1 7/16"-18 UNEF |
| VBN-M32A24TXX  |            | 43      | 27 | M32x1.5  |                 |
| VBN-M40A24TXX  |            | 54      | 38 | M40x1.5  |                 |
| VBN-M25A32TXX  | 32         | 50      | 27 | M25x1.5  | 1 3/4"-18UNS    |
| VBN-M32A32TXX  |            | 50      | 27 | M32x1.5  |                 |
| VBN-M40A32TXX  |            | 54      | 38 | M40x1.5  |                 |
| VBN-M32A36TXX  | 36         | 57.2    | 27 | M32x1.5  | 2" -18UNS       |
| VBN-M40A36TXX  |            |         |    | M40x1.5  |                 |
| VBN-M50A36TXX  |            |         |    | M50x1.5  |                 |
| VBN-M40A40TXX  | 40         | 65      | 27 | M40x1.5  | 2 1/4"-16UN     |
| VBN-M50A40TXX  |            | 65      | 27 | M50x1.5  |                 |
| VBN-M63A40TXX  |            | 69      | 31 | M63x1.5  |                 |

For additional thread size please consult the factory. Add plating suffix to the part number



Dimensions shown in mm  
Specifications and dimensions subject to change

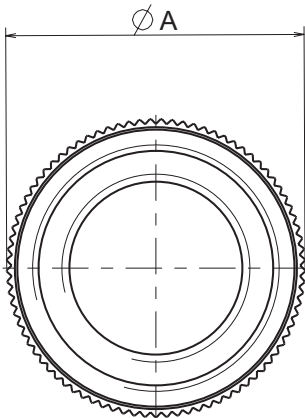
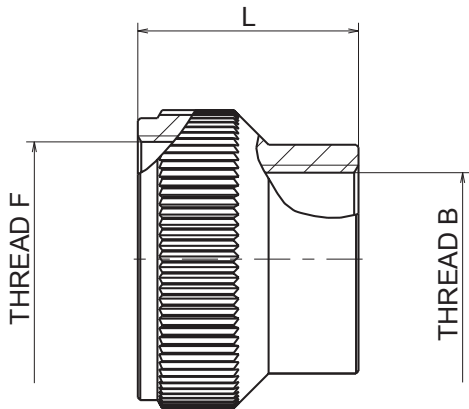
# VCN SPARE BACKSHELLS



## VCN-PGXXA--

Adapter with PG internal thread.

Can be used on the 90° backshell.



| Part Number    | Shell Size | ØA Max. | L    | Thread B | Thread F        |
|----------------|------------|---------|------|----------|-----------------|
| VCN-PG9A16STXX | 16S        | 26      | 27   | PG9      | 7/8"-20 UNEF    |
| VCN-PG16A18TXX | 18         | 31      | 28.3 | PG16     | 1"-20 UNEF      |
| VCN-PG21A18TXX |            | 34      | 34   | PG21     |                 |
| VCN-PG16A20TXX | 20/22      | 36.5    | 27   | PG16     | 1 3/16"-18 UNEF |
| VCN-PG29A20TXX |            | 43      | 27   | PG29     |                 |
| VCN-PG21A24TXX | 24/28      | 43      | 27   | PG21     | 1 7/16"-18 UNEF |
| VCN-PG29A24TXX |            | 43      | 27   | PG29     |                 |
| VCN-PG36A24TXX |            | 54      | 38   | PG36     |                 |
| VCN-PG29A32TXX | 32         | 50      | 25.3 | PG29     | 1 3/4"-18UNS    |
| VCN-PG36A32TXX |            | 54      | 36.3 | PG36     |                 |
| VCN-PG36A36TXX | 36         | 57.2    | 27   | PG36     | 2" -18UNS       |
| VCN-PG42A36TXX |            |         |      | PG42     |                 |
| VCN-PG42A40TXX | 40         | 65      | 31   | PG42     | 2 1/4"-16UN     |
| VCN-PG48A40TXX |            | 65      | 31   | PG48     |                 |

For additional thread size please consult the factory. Add plating suffix to the part number

Dimensions shown in mm  
Specifications and dimensions subject to change



# VBN SPARE BACKSHELLS

## MGVBN-M-

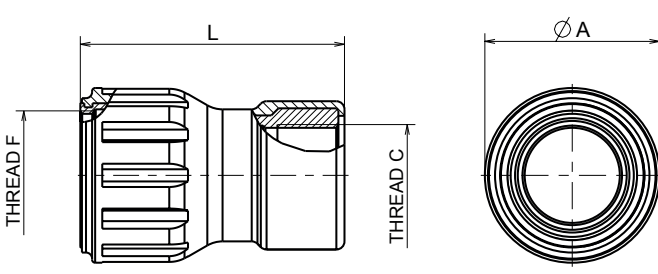


Special straight backshell rubber covered and internal metric thread

It offers improved mechanical protection and electrical insulation.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Ordering Part Number | ØA ±0.5 | L ±1 | Thread F        | Thread C  |
|----------------------|---------|------|-----------------|-----------|
| MGVBN-M20BL18        | 33      | 65   | 1" – 20UNEF     | M20 x 1.5 |
| MGVBN-M25BL20        | 42      | 65   | 1" 1/8 – 20UNEF | M25 x 1.5 |
| MGVBN-M25BL22        | 43      | 65   | 1" 1/4 - 18UNEF | M25 x 1.5 |
| MGVBN-M32BL24        | 46      | 65   | 1" 3/8 – 18UNEF | M32 x 1.5 |
| MGVBN-M32BL28        | 53      | 75   | 1" 5/8 – 18UNEF | M32 x 1.5 |
| MGVBN-M32BL32        | 56      | 78   | 1" 7/8 – 16UN   | M32 x 1.5 |
| MGVBN-M40BL40        | 72      | 90   | 2" 5/16 – 16UN  | M40 x 1.5 |

## VBN-CS1F-

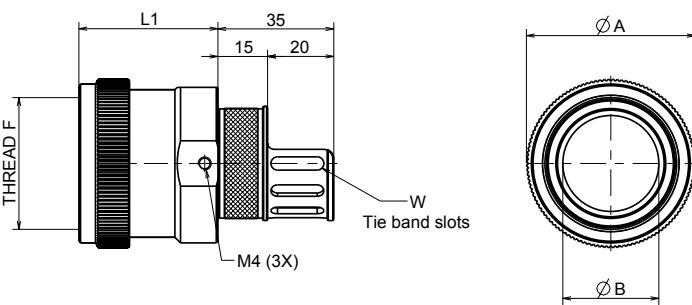


These backshell offers the possibility to fix the wires bundle using tie band; it also foresees a knurled area where shielding braid or heat-shrink tube can be fixed.

Three threaded holes allows connection of ground wires.

Can be used on both plug and receptacle connectors, with or without grommet.

Supplied with O-Ring



| Ordering Part Number | ØA max. | ØB ±0.2 | L1 ±0.3 | Thread F        | W slots   |
|----------------------|---------|---------|---------|-----------------|-----------|
| VBN-CS1F18TXXX       | 35      | 16.4    | 44.5    | 1" – 20UNEF     | 16x4 (#5) |
| VBN-CS1F20TXXX       | 37      | 19.3    | 44.5    | 1" 1/8 – 20UNEF | 16x4 (#5) |
| VBN-CS1F22TXXX       | 42      | 22.0    | 44.5    | 1" 1/4 - 18UNEF | 16x4 (#6) |
| VBN-CS1F28TXXX       | 51      | 29.0    | 42      | 1" 5/8 – 18UNEF | 16x4 (#7) |
| VBN-CS1F32TXXX       | 56      | 34.8    | 43      | 1" 7/8 – 16UN   | 16x4 (#7) |



Dimensions shown in mm  
Specifications and dimensions subject to change

## VCNZ--

Individual wire seal grommet.

Supplied with plastic compression ring.

The grommet foreseen stepped holes with membrane.



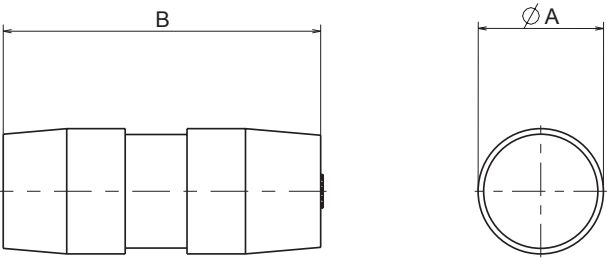
| Shell Size | Insert layout | Male part number | Female part number | Wire O.D. |
|------------|---------------|------------------|--------------------|-----------|
| <b>16S</b> | 16S-1         | VCNZ16S-1P       | VCNZ16S-1S         | 1.0/3.0   |
| <b>18</b>  | 18-19         | VCNZ18-19P       | VCNZ18-19S         | 1.0/3.0   |
| <b>20</b>  | 20-4          | VCNZ20-4P        | VCNZ20-4S          | 2.5/4.5   |
| <b>20</b>  | 20-7          | VCNZ20-7P        | VCNZ20-7S          | 1.0/3.2   |
| <b>20</b>  | 20-15         | VCNZ20-15P       | VCNZ20-15S         | 2.5/4.5   |
| <b>22</b>  | 22-14         | VCNZ22-14P       | VCNZ22-14S         | 1.0/3.0   |
| <b>22</b>  | 22-23         | VCNZ22-23P       | VCNZ22-23S         | 2.5/4.5   |
| <b>24</b>  | 24-10         | VCNZ24-10P       | VCNZ24-10S         | 4.0/6.0   |
| <b>28</b>  | 28-21         | VCNZ28-21P       | VCNZ28-21S         | 0.8/1.8   |
| <b>28</b>  | 28-21         | VCNZ28-21PH      | VCNZ28-21SH        | 1.8/3     |
| <b>32</b>  | 32A-13        | VCNZ32A-13P      | VCNZ32A-13S        | 2.5/4,5   |
| <b>36</b>  | 36-10         | VCNZ36-10P       | VCNZ36-10S         | 0.8/1,8   |
| <b>36</b>  | 36-10         | VCNZ36-10PH      | VCNZ36-10SH        | 1.8/3     |
| <b>36</b>  | 36A-22        | VCNZ36A-22P      | VCNZ36A-22S        | 2.5/4.5   |
| <b>40</b>  | 40A-35        | VCNZ40A-35P      | VCNZ40A-35S        | 2.5/4.5   |
| <b>40</b>  | 40A-60        | VCNZ40A-60P      | VCNZ40A-60S        | 0.8/1.8   |
| <b>40</b>  | 40A-60        | VCNZ40A-60PH     | VCNZ40A-60SH       | 1.8/3     |
| <b>40</b>  | 40A-70        | VCNZ40A-70P      | VCNZ40A-70S        | 1.0/2.0   |
| <b>40</b>  | 40A-70        | VCNZ40A-70PH     | VCNZ40A-70SH       | 2.0/3.0   |

# VBN ACCESSORIES

## INSERT HOLE PLUG

Rubber hole plug; used to close unused cavity of the insulator and prevent dust and dirty entry.

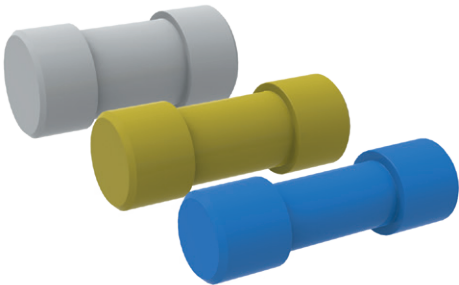
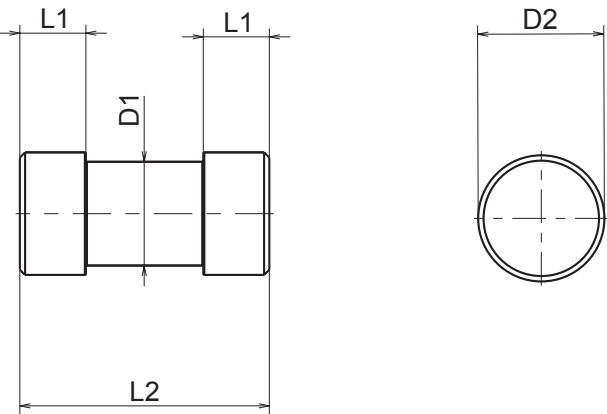
Available for all the contact size



| Contact size | P/N      | ØA  | B    |
|--------------|----------|-----|------|
| 16 / 16S     | 51605-16 | 3.7 | 13.0 |
| 12           | 51605-12 | 5.4 | 15.0 |
| 8            | 51605-8  | 7.5 | 19.0 |

## GROMMET HOLE PLUG

Plastic hole plug used in case the membrane of the grommet holes is pierced incorrectly or damaged.

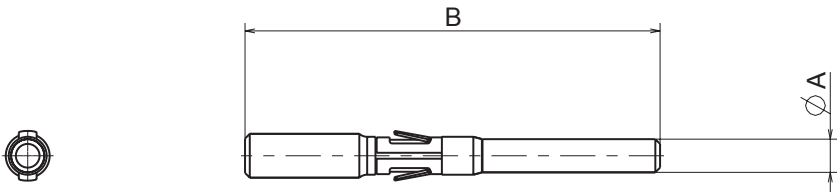


| Contact size | P/N         | D1  | D2  | L1  | L2   | Color  |
|--------------|-------------|-----|-----|-----|------|--------|
| 16 / 16S     | VG95234 B16 | 2.8 | 3.7 | 3.2 | 11.9 | Blue   |
| 12           | VG95234 B12 | 3.7 | 4.6 | 3.2 | 11.9 | Yellow |
| 8            | VG95234 B8  | 5   | 5.8 | 3.2 | 11.9 | White  |

VBN-PDMC- POLARIZATION PIN

The “plastic dummy contacts” are longer than standard male contacts and can be installed in one or more contact cavities instead of standard male contacts, to completely remove the possibility of cross mating.

Cannot be used on 16S-1 arrangement.



| Part Number | Size | ØA  | B  |
|-------------|------|-----|----|
| VBN-PDMC-16 | 16   | 2.8 | 35 |
| VBN-PDMC-12 | 12   | 4.0 | 35 |

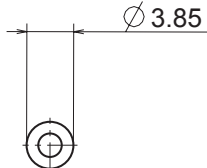
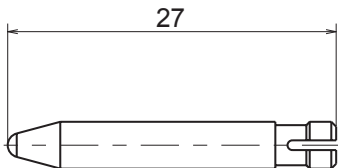
ALIGNMENT PIN VBN-PAP-16

For big size and high density, symmetrical contact arrangements, where very few contacts are being used, additional plastic alignment pin can guarantee a better mating of the contacts.

It is suggested to use two or more of them.

They can be installed from the front of the male insulator.

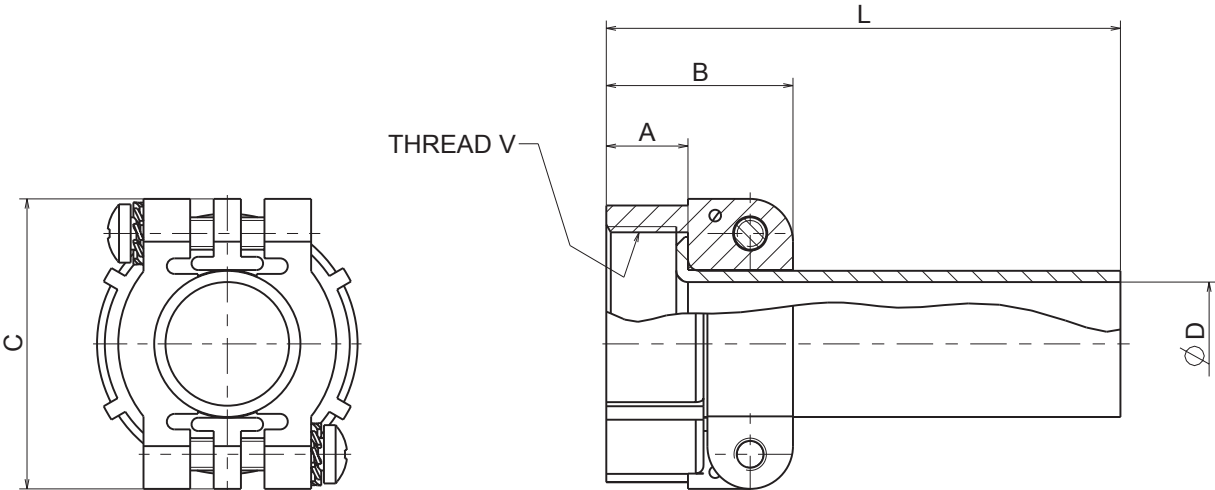
Available only for size 16 cavities.



# VBN ACCESSORIES

## VE3057--AB

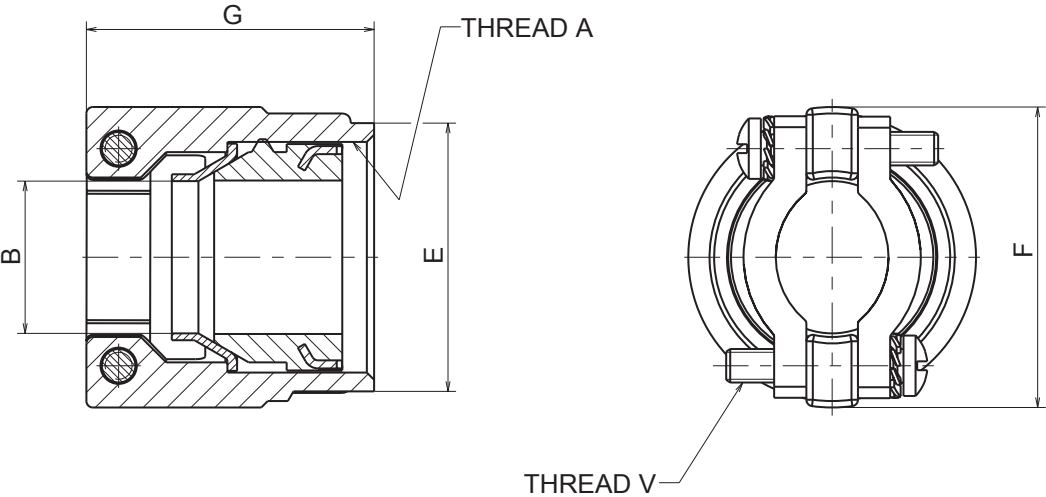
General duty cable clamp with bushing suitable for jacketed or multi-conductor cable or wire bundles protected by shrink tubing.



| Part Number    | Used with conn. size | A    | B    | C  | ØD   | L    | Thread V        |
|----------------|----------------------|------|------|----|------|------|-----------------|
| VE3057-8ABTXX  | 16-16S               | 10.5 | 24   | 28 | 11.1 | 72.2 | 7/8"-20 UNEF    |
| VE3057-10ABTXX | 18                   | 10.5 | 28.5 | 33 | 14.3 | 69   | 1"-20 UNEF      |
| VE3057-12ABTXX | 20-22                | 10.5 | 24   | 35 | 15.9 | 66   | 1 3/16"-18 UNEF |
| VE3057-16ABTXX | 24-28                | 10.5 | 26   | 43 | 19.1 | 63   | 1 7/16"-18 UNEF |
| VE3057-20ABTXX | 32                   | 12.5 | 28   | 51 | 23.8 | 62   | 1 3/4"-18 UNS   |
| VE3057-24ABTXX | 36                   | 14   | 29.4 | 58 | 31.8 | 60   | 2"-18 UNS       |
| VE3057-28ABTXX | 40                   | 14   | 42.8 | 65 | 35   | 57   | 2 1/4"-16 UN    |

## FRVE3057--C

Waterproof cable clamp providing concentric clamping over the cable jacket.

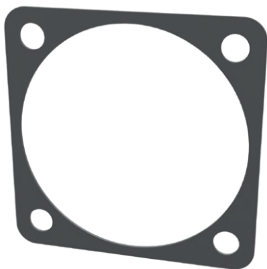


| Part Number     | Used With size | Thread A        | B     |        | E $\pm 0.4$ | F $\pm 0.2$ | G $+0.5-0$ | Thread V    |
|-----------------|----------------|-----------------|-------|--------|-------------|-------------|------------|-------------|
|                 |                |                 | Open  | Closed |             |             |            |             |
| FRVE3057-8CTXX  | 16-16S         | 7/8"-20 UNEF    | 13.48 | 8      | 25.4        | 28.1        | 32.3       | 6-32 UNC    |
| FRVE3057-10CTXX | 18             | 1"-20 UNEF      | 15.87 | 9.6    | 28.5        | 31          | 35.3       | 6-32 UNC    |
| FRVE3057-12CTXX | 20-22          | 1 3/16"-18 UNEF | 19    | 11.3   | 33.3        | 37.3        | 35.7       | 8-32 UNC    |
| FRVE3057-18CTXX | 24-28          | 1 7/16"-18 UNEF | 23.8  | 15.5   | 39.6        | 42          | 38.5       | 8-32 UNC    |
| FRVE3057-20CTXX | 32             | 1 3/4"-18 UNS   | 31.75 | 23.4   | 47.6        | 54          | 44.8       | .250-20 UNC |
| FRVE3057-24CTXX | 36             | 2"-18 UNS       | 35    | 23.4   | 53.9        | 57.1        | 51.6       | .250-20 UNC |
| FRVE3057-28CTXX | 40             | 2 1/4"-16 UN    | 41.25 | 29.9   | 60.3        | 63.5        | 51.6       | .250-20 UNC |

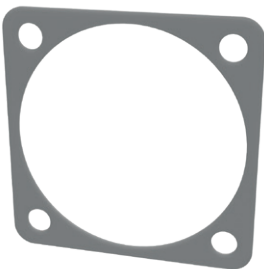
VBN ACCESSORIES

SQUARE PANEL GASKET  
 FOR FRONT MOUNTING RECEPTACLE

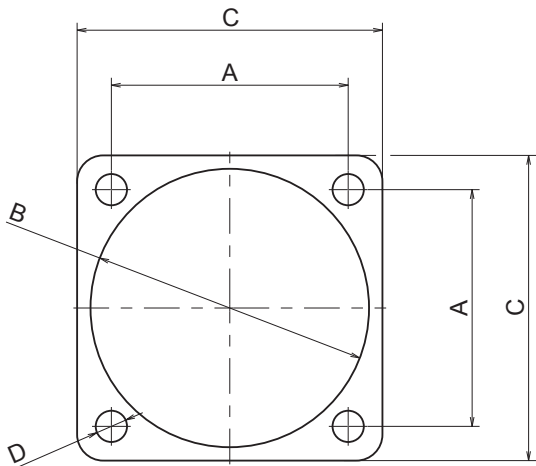
Used on front panel mounting receptacle (type VBN2)



Non-conductive square gasket ("N" type").  
 Chloroprene rubber.  
 Protection degree: IP67



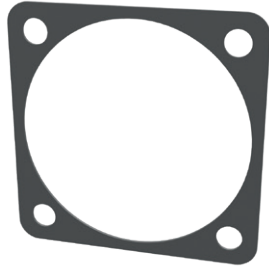
Conductive square gasket ("NS" type).  
 Silicone rubber with conductive filler  
 Protection degree: IP65



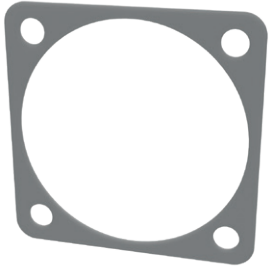
| Size   | A ±0.2 | B +1 -0 | C ±0.5 | D +0.5 -0 | "N" type (non-conductive)<br>according to VG spec | "NS" type (conductive) ac-<br>cording to VG spec |
|--------|--------|---------|--------|-----------|---------------------------------------------------|--------------------------------------------------|
| 16-16S | 24     | 25.3    | 32.5   | 4.2       | VG95234 DA-16-1                                   | VG95234 DA-16-2                                  |
| 18     | 27     | 28.4    | 35     | 4.2       | VG95234 DA-18-1                                   | VG95234 DA-18-2                                  |
| 20     | 29.4   | 31.6    | 38     | 4.2       | VG95234 DA-20-1                                   | VG95234 DA-20-2                                  |
| 22     | 31.8   | 34.8    | 41     | 4.2       | VG95234 DA-22-1                                   | VG95234 DA-22-2                                  |
| 24     | 34.9   | 38      | 44.5   | 4.2       | VG95234 DA-24-1                                   | VG95234 DA-24-2                                  |
| 28     | 39.7   | 44.3    | 50.8   | 5.1       | VG95234 DA-28-1                                   | VG95234 DA-28-2                                  |
| 32     | 44.5   | 50.7    | 57     | 5.1       | VG95234 DA-32-1                                   | VG95234 DA-32-2                                  |
| 36     | 49.2   | 57      | 63.5   | 5.1       | VG95234 DA-36-1                                   | VG95234 DA-36-2                                  |
| 40     | 55.5   | 61.9    | 70     | 5.6       | 16968                                             | 16968/1                                          |

**SQUARE PANEL GASKET  
FOR REAR MOUNTING RECEPTACLE**

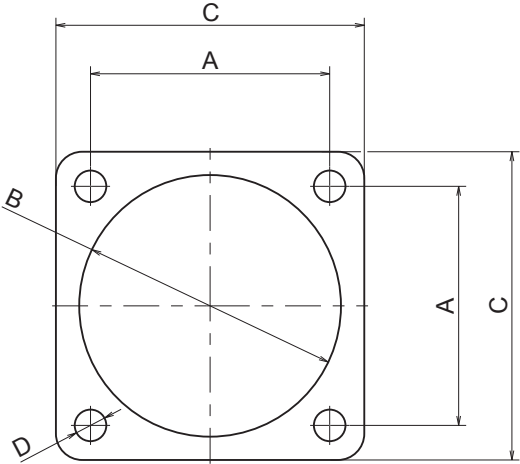
Used on rear panel mounting receptacle (type VBN3)



Non-conductive square gasket ("N" type).  
Chloroprene rubber.  
Protection degree: IP67



Conductive square gasket ("NS" type).  
Silicone rubber with conductive filler  
Protection degree: IP65



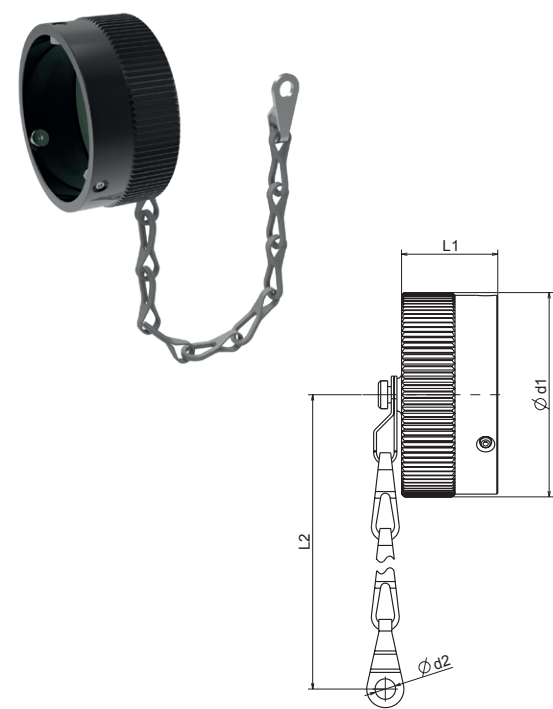
| Size   | A ±0.2 | B +3 -0 | C ±0.5 | D +0.5 -0 | "N" type (non-conductive)<br>according to VG spec | "NS" type (conductive)<br>according to VG spec |
|--------|--------|---------|--------|-----------|---------------------------------------------------|------------------------------------------------|
| 16-16S | 24.6   | 27.4    | 32.5   | 4.2       | VG95234 DH-16-1                                   | VG95234 DH-16-2                                |
| 18     | 27     | 30.8    | 35     | 4.2       | VG95234 DH-18-1                                   | VG95234 DH-18-2                                |
| 20     | 29.4   | 34.2    | 38     | 4.2       | VG95234 DH-20-1                                   | VG95234 DH-20-2                                |
| 22     | 31.8   | 37.4    | 41     | 4.2       | VG95234 DH-22-1                                   | VG95234 DH-22-2                                |
| 24     | 34.9   | 40.9    | 44.5   | 4.2       | VG95234 DH-24-1                                   | VG95234 DH-24-2                                |
| 28     | 39.7   | 46.7    | 50.8   | 5.1       | VG95234 DH-28-1                                   | VG95234 DH-28-2                                |
| 32     | 44.5   | 53.4    | 57     | 5.1       | VG95234 DH-32-1                                   | VG95234 DH-32-2                                |
| 36     | 49.2   | 59.6    | 63.5   | 5.1       | VG95234 DH-36-1                                   | VG95234 DH-36-2                                |
| 40     | 55.5   | 65.5    | 69.9   | 5.1       | 46739-40                                          | 46739-40-1                                     |

# VCN ACCESSORIES

## FRCIR--TF

Metal dust cap with stainless steel chain and  
Flame Retardant gasket  
Used on receptacle.

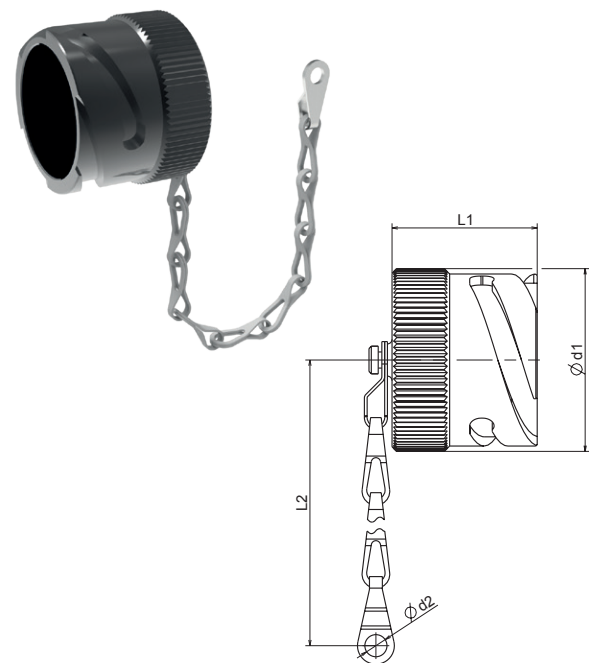
| Part Number   | Used on<br>conn. size | D1<br>Max. | D2<br>+0.5-0 | L1<br>±0.2 | L2<br>Approx. |
|---------------|-----------------------|------------|--------------|------------|---------------|
| FRCIR16STFTxx | 16S                   | 33         | 4.4          | 16         | 127           |
| FRCIR18TFTxx  | 18                    | 37.5       | 4.4          | 20.7       | 127           |
| FRCIR20TFTxx  | 20                    | 41         | 4.4          | 20.7       | 127           |
| FRCIR22TFTxx  | 22                    | 44         | 4.4          | 20.7       | 127           |
| FRCIR24TFTxx  | 24                    | 47.5       | 4.4          | 20.7       | 127           |
| FRCIR28TFTxx  | 28                    | 54.5       | 5.6          | 20.7       | 190           |
| FRCIR32TFTxx  | 32                    | 61         | 5.6          | 20.7       | 190           |
| FRCIR36TFTxx  | 36                    | 67.5       | 5.6          | 20.7       | 175           |
| FRCIR40TFTxx  | 40                    | 73         | 5.6          | 20.7       | 190           |



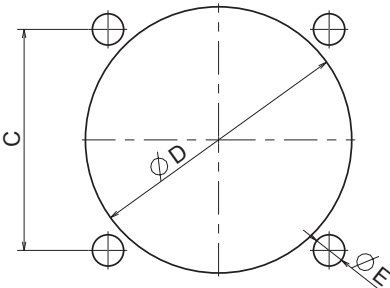
## CIR-TV

Metal dust cap with stainless steel chain.  
Used on plug.

| Part Number | Used on<br>conn. size | D1<br>Max. | D2<br>+0.5-0 | L1<br>±0.2 | L2<br>Approx. |
|-------------|-----------------------|------------|--------------|------------|---------------|
| CIR16STVTxx | 16S                   | 30         | 4.4          | 23.5       | 127           |
| CIR18TVTxx  | 18                    | 33.5       | 4.4          | 31.5       | 127           |
| CIR20TVTxx  | 20                    | 37         | 4.8          | 31.5       | 140           |
| CIR22TVTxx  | 22                    | 40         | 4.8          | 31.5       | 140           |
| CIR24TVTxx  | 24                    | 43.5       | 4.8          | 31.5       | 140           |
| CIR28TVTxx  | 28                    | 49.5       | 4.8          | 31.5       | 190           |
| CIR32TVTxx  | 32                    | 56         | 5.6          | 31.5       | 190           |
| CIR36TVTxx  | 36                    | 62.5       | 5.6          | 31.5       | 190           |
| CIR40TVTxx  | 40                    | 67.7       | 5.6          | 31.5       | 190           |



PANEL CUT-OUT



VEAM3 Rear mounting panel cut-out dimensions

| Shell Size | C ±0.1 | D    | ØE +0.1 -0 |
|------------|--------|------|------------|
| 16S        | 24.6   | 28.3 | 4.5        |
| 18         | 27     | 31.7 | 4.5        |
| 20         | 29.4   | 35   | 4.5        |
| 22         | 31.8   | 38.3 | 4.5        |
| 24         | 34.9   | 41.8 | 4.5        |
| 28         | 39.7   | 47.6 | 5.5        |
| 32         | 44.5   | 54.3 | 5.5        |
| 36         | 49.2   | 60.5 | 5.5        |
| 40         | 55.5   | 66.4 | 5.5        |

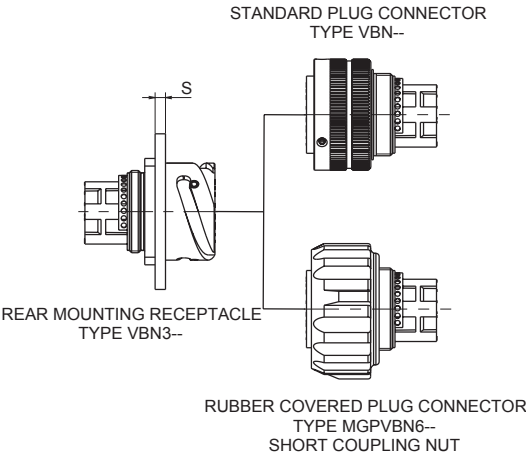
VEAM2 Front mounting panel cut-out dimensions

| Shell Size | C ±0.1 | D    | ØE +0.1 -0 |
|------------|--------|------|------------|
| 16S        | 24.6   | 23   | 3.4        |
| 18         | 27     | 26.5 | 3.4        |
| 20         | 29.4   | 30   | 3.4        |
| 22         | 31.8   | 33   | 3.4        |
| 24         | 34.9   | 36   | 3.9        |
| 28         | 39.7   | 42   | 3.9        |
| 32         | 44.5   | 48.5 | 4.5        |
| 36         | 49.2   | 55   | 4.5        |
| 40         | 55.5   | 61   | 4.5        |

PANEL THICKNESS FOR REAR MOUNTING RECEPTACLE

| Connector size | S Max. |          |
|----------------|--------|----------|
|                | VEAM6  | MGPVEAM6 |
| 16S            | 7.2    |          |
| 18             | 7.5    | 6.3      |
| 20             | 7.5    | 6.3      |
| 22             | 7.5    | 6.3      |
| 24             | 7.5    | 6.3      |
| 28             | 8.2    | 7        |
| 32             | 7.5    | 6.3      |
| 36             | 7.5    | 6.3      |
| 40             | 7.5    | 6.3      |

The panel dimension doesn't include the bolt head.



Dimensions shown in mm  
Specifications and dimensions subject to change

# VBN APPLICATION NOTES

## BACKSHELL TORQUE VALUES

| Shell Size | Max. Backshell to Connector Tightening Torque (Nm) |
|------------|----------------------------------------------------|
| 16S        | 7.4                                                |
| 18         | 7.8                                                |
| 20         | 9.8                                                |
| 22         | 11.8                                               |
| 24         | 14.7                                               |
| 28         | 18.6                                               |
| 32         | 20.6                                               |
| 36         | 26.5                                               |
| 40         | 39.2                                               |

The above values are based upon the most densely populated contact arrangements with cables at the maximum limit for the grommet. The values are for guidance only.

## FIXING SCREW TORQUE VALUES

| Thread | Max. torque for screw at the flanges (Nm) |
|--------|-------------------------------------------|
| M3     | 1.2 ±0.2                                  |
| M4     | 1.4 ±0.2                                  |
| M5     | 2.0 ±0.2                                  |

The above values are based upon the most densely populated contact arrangements with cables at the maximum limit for the grommet. The values are for guidance only.

# VCN APPLICATION NOTES



## Setting for authorized crimp tools

### PIN CONTACTS

| Male Part number | Contact size | Cable   |     | Crimping tool (see note) | Crimping die | Selector number | Tool position | Removal tool |
|------------------|--------------|---------|-----|--------------------------|--------------|-----------------|---------------|--------------|
|                  |              | DIN mm2 | AWG |                          |              |                 |               |              |
| 51513-16S-12     | 16S          | 0.5     |     | VM8 or CT8N(M)           | VH435        | 3               | Green         | ET16VCBN     |
|                  |              | 0.75    |     |                          |              | 4               |               |              |
|                  |              |         | 20  |                          |              | 3               |               |              |
| 51513-16S-20     | 16S          | 1       |     | VM8 or CT8N(M)           | VH435        | 5               | Green         | ET16VCBN     |
|                  |              | 1.5     |     |                          |              | 6               |               |              |
|                  |              |         | 14  |                          |              |                 |               |              |
| 51513-16S-26     | 16S          | 2.5/3   |     | VM8 or CT8N(M)           | VH435        | 7               | Green         | ET16VCBN     |
|                  |              |         | 12  |                          |              | 8               |               |              |
| 51513-16-12      | 16           | 0.5     |     | VM8 or CT8N(M)           | VH435        | 3               | Blue          | ET16VCBN     |
|                  |              | 0.75    |     |                          |              | 4               |               |              |
|                  |              |         | 20  |                          |              | 3               |               |              |
| 51513-16-20      | 16           | 1       |     | VM8 or CT8N(M)           | VH435        | 5               | Blue          | ET16VCBN     |
|                  |              | 1.5     |     |                          |              | 6               |               |              |
|                  |              |         | 14  |                          |              |                 |               |              |
| 51513-16-26      | 16           | 2.5/3   |     | VM8 or CT8N(M)           | VH435        | 7               | Blue          | ET16VCBN     |
|                  |              |         | 12  |                          |              | 8               |               |              |
| 51513-12         | 12           | 2.5/3   |     | CT8N (M)                 | VH435        | 7               | Red           | ET12VCBN     |
|                  |              |         | 12  |                          |              |                 |               |              |
| 51513-12-12      | 12           | 0.5     |     | CT8N (M)                 | VH435        | 3               | Red           | ET12VCBN     |
|                  |              | 0.75    |     |                          |              | 4               |               |              |
|                  |              |         | 20  |                          |              | 3               |               |              |
| 51513-12-20      | 12           | 1       |     | CT8N (M)                 | VH435        | 7               | Red           | ET12VCBN     |
|                  |              | 1.5     |     |                          |              |                 |               |              |
|                  |              | 2       |     |                          |              | 8               |               |              |
|                  |              |         | 14  |                          |              |                 |               |              |
|                  |              |         | 16  |                          |              |                 |               |              |
| 51513-12-30      | 12           | 4       |     | CT8N (M)                 | VH435        | 8               | Red           | ET12VCBN     |
|                  |              | 6       |     |                          |              | 8               |               |              |
| 51513-8          | 8            |         |     | MP-F80-VGE (H)           | 44519-8T70   |                 |               | ET8VCBN      |
|                  |              |         | 8   | HT45 (M)                 | 51589-52T70  |                 |               |              |
|                  |              |         |     | B50 (E)                  |              |                 |               |              |
| 51513-8-20       | 8            | 1.0/2.0 |     | MP-F80-VGE (H)           | 44519-8-1T70 |                 |               | ET8VCBN      |
| 51513-8-26       | 8            | 3       |     | MP-F80-VGE (H)           | 44519-425T70 |                 |               | ET8VCBN      |
|                  |              |         | 12  |                          |              |                 |               |              |
|                  |              | 3       |     | HT45 (M)                 | 51589-32T70  |                 |               |              |
|                  |              |         | 12  |                          |              |                 |               |              |
|                  |              | 3       |     | B50 (E)                  |              |                 |               |              |
| 51513-8-30       | 8            |         |     | MP-F80-VGE (H)           | 44519-44T70  |                 |               | ET8VCBN      |
|                  |              | 4       |     | HT45 (M)                 | 51589-37T70  |                 |               |              |
|                  |              |         |     | B50 (E)                  |              |                 |               |              |
| 51513-8-38       | 8            |         |     | MP-F80-VGE (H)           | 44519-126T70 |                 |               | ET8VCBN      |
|                  |              | 6       |     | HT45 (M)                 | 51589-37T70  |                 |               |              |
|                  |              |         |     | B50 (E)                  |              |                 |               |              |
| 51513-8-50       | 8            |         |     | MP-F80-VGE (H)           | 44519-8T70   |                 |               | ET8VCBN      |
|                  |              | 10      |     | HT45 (M)                 | 51589-52T70  |                 |               |              |
|                  |              |         |     | B50 (E)                  |              |                 |               |              |

Note: Manual= (M) Hydraulic= (H) Electrical= (E)

Dimensions shown in mm

Specifications and dimensions subject to change

# VBN APPLICATION NOTES

## Setting for authorized crimp tools SOCKET CONTACTS

| Female Part number | Contact size | Cable   |     | Crimping tool (see note) | Crimping die | Selector number | Tool position | Removal tool |
|--------------------|--------------|---------|-----|--------------------------|--------------|-----------------|---------------|--------------|
|                    |              | DIN mm2 | AWG |                          |              |                 |               |              |
| 51511-16S-12       | 16S          | 0.5     |     | VM8 or CT8N(M)           | VH435        | 3               | Green         | ET16VBN      |
|                    |              | 0.75    |     |                          |              | 4               |               |              |
|                    |              |         | 20  |                          |              | 3               |               |              |
| 51511-16S-20       | 16S          | 1       |     | VM8 or CT8N(M)           | VH435        | 5               | Green         | ET16VBN      |
|                    |              | 1.5     |     |                          |              | 6               |               |              |
|                    |              |         | 14  |                          |              |                 |               |              |
| 51511-16S-26       | 16S          | 2.5/3   |     | VM8 or CT8N(M)           | VH435        | 7               | Green         | ET16VBN      |
|                    |              |         | 12  |                          |              | 8               |               |              |
| 51511-16-12        | 16           | 0.5     |     | VM8 or CT8N(M)           | VH435        | 3               | Red           | ET16VBN      |
|                    |              | 0.75    |     |                          |              | 4               |               |              |
|                    |              |         | 20  |                          |              | 3               |               |              |
| 51511-16-20        | 16           | 1       |     | VM8 or CT8N(M)           | VH435        | 5               | Red           | ET16VBN      |
|                    |              | 1.5     |     |                          |              | 6               |               |              |
|                    |              |         | 14  |                          |              |                 |               |              |
| 51511-16-26        | 16           | 2.5/3   |     | VM8 or CT8N(M)           | VH435        | 7               | Red           | ET16VBN      |
|                    |              |         | 12  |                          |              | 8               |               |              |
| 51511-12           | 12           | 2.5/3   |     | CT8N (M)                 | VH435        | 7               | Red           | ET12VBN      |
|                    |              |         | 12  |                          |              |                 |               |              |
| 51511-12-12        | 12           | 0.5     |     | CT8N (M)                 | VH435        | 3               | Red           | ET12VBN      |
|                    |              | 0.75    |     |                          |              | 4               |               |              |
|                    |              |         | 20  |                          |              | 3               |               |              |
| 51511-12-20        | 12           | 1       |     | CT8N (M)                 | VH435        | 7               | Red           | ET12VBN      |
|                    |              | 1.5     |     |                          |              |                 |               |              |
|                    |              | 2       |     |                          |              | 8               |               |              |
|                    |              |         | 14  |                          |              |                 |               |              |
|                    |              |         | 16  |                          |              |                 |               |              |
|                    |              |         | 18  |                          |              | 7               |               |              |
| 51511-12-30        | 12           | 4       |     | CT8N (M)                 | VH435        | 8               | Red           | ET12VBN      |
| 51511-12-38        | 12           | 6       |     | CT8N (M)                 | VH435        | 8               | Red           | ET12VBN      |
| 51511-8            | 8            |         | 8   | MP-F80-VGE (H)           | 44519-8T70   |                 |               | ET8VBN       |
|                    |              |         |     | HT45 (M)                 | 51589-52T70  |                 |               |              |
|                    |              |         |     | B50 (E)                  |              |                 |               |              |
| 51511-8-20         | 8            | 1.0/2.0 |     | MP-F80-VGE (H)           | 44519-8-1T70 |                 |               | ET8VBN       |
| 51511-8-26         | 8            | 3       |     | MP-F80-VGE (H)           | 44519-425T70 |                 |               | ET8VBN       |
|                    |              |         | 12  |                          |              |                 |               |              |
|                    |              | 3       |     | HT45 (M)                 | 51589-32T70  |                 |               |              |
|                    |              |         | 12  |                          |              |                 |               |              |
|                    |              | 3       |     | B50 (E)                  |              |                 |               |              |
|                    |              |         | 12  |                          |              |                 |               |              |
| 51511-8-30         | 8            |         |     | MP-F80-VGE (H)           | 44519-44T70  |                 |               | ET8VBN       |
|                    |              | 4       |     | HT45 (M)                 | 51589-37T70  |                 |               |              |
|                    |              |         |     | B50 (E)                  |              |                 |               |              |
| 51511-8-38         | 8            |         |     | MP-F80-VGE (H)           | 44519-126T70 |                 |               | ET8VBN       |
|                    |              | 6       |     | HT45 (M)                 | 51589-37T70  |                 |               |              |
|                    |              |         |     | B50 (E)                  |              |                 |               |              |
| 51511 -8-50        | 8            |         |     | MP-F80-VGE (H)           | 44519-8T70   |                 |               | ET8VBN       |
|                    |              | 10      |     | HT45 (M)                 | 51589-52T70  |                 |               |              |
|                    |              |         |     | B50 (E)                  |              |                 |               |              |

Note: Manual= (M) Hydraulic= (H) Electrical= (E)

## Setting for approved crimp tools

### PIN CONTACTS

| Male Part number | Contact size | Cable   |          | Crimping tool | Crimping die | Selector number | Tool position | Removal tool |
|------------------|--------------|---------|----------|---------------|--------------|-----------------|---------------|--------------|
|                  |              | DIN mm2 | NF F mm2 |               |              |                 |               |              |
| 51513-16S-12     | 16S          | 0.5     |          | FT8           | TH685        | 6               | Blue          | ET16VBN      |
|                  |              |         | 0.60     |               |              | 7               |               |              |
|                  |              | 0.75    |          |               |              |                 |               |              |
| 51513-16S-20     | 16S          |         | 0.93     | FT8           | TH685        | 7               | Blue          | ET16VBN      |
|                  |              | 1       |          |               |              | 7               |               |              |
|                  |              | 1.5     | 1.34     |               |              |                 |               |              |
|                  |              |         | 1.82     |               |              | 8               |               |              |
| 51513-16S-26     | 16S          | 2.5     |          | FT8           | TH685        | 8               | Blue          | ET16VBN      |
|                  |              |         | 2.61     |               |              |                 |               |              |
| 51513-16-12      | 16           | 0.5     |          | FT8           | TP1517       | 6               |               | ET16VBN      |
|                  |              |         | 0.60     |               |              | 7               |               |              |
|                  |              | 0.75    |          |               |              |                 |               |              |
| 51513-16-20      | 16           |         | 0.93     | FT8           | TP1517       | 7               |               | ET16VBN      |
|                  |              | 1       |          |               |              | 7               |               |              |
|                  |              | 1.5     | 1.34     |               |              |                 |               |              |
|                  |              |         | 1.82     |               |              | 8               |               |              |
| 51513-16-26      | 16           | 2.5     |          | FT8           | TP1517       | 8               |               | ET16VBN      |
|                  |              |         | 2.61     |               |              |                 |               |              |
| 51513-12         | 12           | 2.5     |          | FT8           | TP1519       | 8               |               | ET12VBN      |
|                  |              |         | 2.61     |               |              |                 |               |              |
| 51513-12-12      | 12           | 0.5     |          | FT8           | TP1519       | 7               |               | ET12VBN      |
|                  |              |         | 0.60     |               |              |                 |               |              |
|                  |              | 0.75    |          |               |              |                 |               |              |
| 51513-12-20      | 12           |         | 0.93     | FT8           | TP1519       | 8               |               | ET12VBN      |
|                  |              | 1       |          |               |              |                 |               |              |
|                  |              | 1.5     | 1.34     |               |              |                 |               |              |
|                  |              |         | 1.82     |               |              |                 |               |              |
| 51513-12-30      | 12           | 4       |          | FT8           | TP1519       | 8               |               | ET12VBN      |
| 51513-12-38      | 12           | 6       |          | FT8           | TP1519       | 8               |               | ET12VBN      |
| 51513-8-20       | 8            |         | 0.93     | M317          | TP1520       | 4               |               | ET8VBN       |
|                  |              | 1.0     |          |               |              |                 |               |              |
|                  |              | 1.5     | 1.34     |               |              |                 |               |              |
|                  |              |         | 1.82     |               |              |                 |               |              |
| 51513-8-26       | 8            | 2.5     |          | M317          | TP1520       | 4               |               | ET8VBN       |
|                  |              |         | 2.61     |               |              |                 |               |              |
| 51513-8-30       | 8            | 4.0     |          | M317          | TP1520       | 5               |               | ET8VBN       |
| 51513-8-38       | 8            | 6.0     |          | M317          | TP1520       | 5               |               | ET8VBN       |

# VBN APPLICATION NOTES

## Setting for approved crimp tools

### SOCKET CONTACTS

| Female Part number | Contact size | Cable   |          | Crimping tool | Crimping die | Selector number | Tool position | Removal tool |
|--------------------|--------------|---------|----------|---------------|--------------|-----------------|---------------|--------------|
|                    |              | DIN mm2 | NF F mm2 |               |              |                 |               |              |
| 51511-16S-12       | 16S          | 0.5     |          | FT8           | TH685        | 6               | Red           | ET16VBN      |
|                    |              |         | 0.60     |               |              | 7               |               |              |
|                    |              | 0.75    |          |               |              |                 |               |              |
| 51511-16S-20       | 16S          |         | 0.93     | FT8           | TH685        | 7               | Red           | ET16VBN      |
|                    |              | 1       |          |               |              | 7               |               |              |
|                    |              |         | 1.34     |               |              |                 |               |              |
|                    |              | 1.5     |          |               |              | 8               |               |              |
| 51511-16S-26       | 16S          | 2.5     |          | FT8           | TH685        | 8               | Red           | ET16VBN      |
|                    |              |         | 2.61     |               |              |                 |               |              |
| 51511-16-12        | 16           | 0.5     |          | FT8           | TP1518       | 6               |               | ET16VBN      |
|                    |              |         | 0.60     |               |              | 7               |               |              |
|                    |              | 0.75    |          |               |              |                 |               |              |
| 51511-16-20        | 16           |         | 0.93     | FT8           | TP1518       | 7               |               | ET16VBN      |
|                    |              | 1       |          |               |              | 7               |               |              |
|                    |              |         | 1.34     |               |              |                 |               |              |
|                    |              | 1.5     |          |               |              | 8               |               |              |
| 51511-16-26        | 16           | 2.5     |          | FT8           | TP1518       | 8               |               | ET16VBN      |
|                    |              |         | 2.61     |               |              |                 |               |              |
| 51511-12           | 12           | 2.5     |          | FT8           | TP1519       | 8               |               | ET12VBN      |
|                    |              |         | 2.61     |               |              |                 |               |              |
| 51511-12-12        | 12           | 0.5     |          | FT8           | TP1519       | 7               |               | ET12VBN      |
|                    |              |         | 0.60     |               |              |                 |               |              |
|                    |              | 0.75    |          |               |              |                 |               |              |
| 51511-12-20        | 12           |         | 0.93     | FT8           | TP1519       | 8               |               | ET12VBN      |
|                    |              | 1       |          |               |              |                 |               |              |
|                    |              |         | 1.34     |               |              |                 |               |              |
|                    |              | 1.5     |          |               |              |                 |               |              |
| 51511-12-30        | 12           | 4       |          | FT8           | TP1519       | 8               |               | ET12VBN      |
| 51511-12-38        | 12           | 6       |          | FT8           | TP1519       | 8               |               | ET12VBN      |
| 51511-8-20         | 8            |         | 0.93     | M317          | TP1520       | 4               |               | ET8VBN       |
|                    |              | 1.0     |          |               |              |                 |               |              |
|                    |              |         | 1.34     |               |              |                 |               |              |
|                    |              | 1.5     |          |               |              |                 |               |              |
| 51511-8-26         | 8            | 2.5     |          | M317          | TP1520       | 4               |               | ET8VBN       |
|                    |              |         | 2.61     |               |              |                 |               |              |
| 51511-8-30         | 8            | 4.0     |          | M317          | TP1520       | 5               |               | ET8VBN       |
| 51511-8-38         | 8            | 6.0     |          | M317          | TP1520       | 5               |               | ET8VBN       |

# ADDITIONAL VEAM SOLUTIONS FOR RAIL INFRASTRUCTURE AND ROLLING STOCK APPLICATIONS



## CIR/FRCIR Series



- Available with 1-159 poles, 256 layouts, 2,000 mating cycles
- Flame retardant (EN45545 HL3 - NFPA 130)
- Aluminium shells up to 500h salt spray resistance
- Stainless steel & marine bronze available



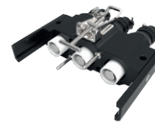
## DSR Series

- Double start ratchet threaded coupling mechanism with 5 Keyways
- Flame retardant (EN45545 HL3 - NFPA130)
- High shock resistance

## CIR M12 Series



- 1 way and 4 way versions, 3 types of contacts: 2, 4 & 8-pole
- Performance up to Category 7, supports communication speed up to 10Gbps
- Flame retardant (EN45545 HL3 - NFPA 130)



## Power Plate Series

- 2-3-4 pole versions, highly customizable according cable, current and voltage requirements
- Operating voltage according to EN50124-1
- Fast and easy coupling system with two screws or with latch mechanism

## CIR290 Series



- Available with 3 to 101 poles, from 7.5 to 350 A, 2,000 mating cycles
- Flame retardant (EN45545 HL3 - NFPA 130)
- Aluminium shells up to 500h salt spray resistance



## VRPC Series

- Available with 3,6,12 way layouts, machined or stamped contacts
- Smoke & fire resistance per NFF16-101 & NFF16-102
- IP20 or IP67
- Rear removable cable support or Rear backshells

## HTB Series



- High temperature bayonet connector, tested at 800°C for 30 minutes
- Exceeds the standard ISO 834-1
- Creates a REI 0 fire barrier according EN13501-2 / EN 1363-1



## CIR Fiber Optic Series

- Available with 4 to 22 multimode or singlemode fibers
- Supports communication speed up to beyond 10Gbps
- Customized harnessing service on request

# VBN PRODUCT SAFETY INFORMATION

THIS NOTE MUST BE READ IN CONJUNCTION WITH THE PRODUCT DATA SHEET/CATALOG. FAILURE TO OBSERVE THE ADVICE IN THIS INFORMATION SHEET AND THE OPERATING CONDITIONS SPECIFIED IN THE PRODUCT DATA SHEET/ CATALOG COULD RESULT IN HAZARDOUS SITUATIONS.

## ► 1. MATERIAL CONTENT AND PHYSICAL FORM

Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups.

- a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.
- b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials. Contact materials vary with type of connector and also application and are usually manufactured from either: Copper, copper alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

## ► 2. FIRE CHARACTERISTICS AND ELECTRIC SHOCK HAZARD

There is no fire hazard when the connector is correctly wired and used within the specified parameters. Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionization and burning. Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local overheating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the product Data Sheet/ Catalog are exceeded and can cause breakdown of insulation and hence electric shock. If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires and leakage currents through carbonization of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

## ► 3. HANDLING

Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers. Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/ use and rejected if found to be damaged.

## ► 4. DISPOSAL

Incineration of certain materials may release noxious or even toxic fumes.

## ► 5. APPLICATION

Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30 V ac or 42.5 V dc are potentially hazardous and care should be taken to ensure that such voltages cannot be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf,

or any other undesired conducting particles. Circuit resistance and continuity check should be made to make certain that there are no high resistance joints or spurious conducting paths.

Always use the correct application tools as specified in the Data Sheet/ Catalog. Do not permit untrained personnel to wire, assemble or tamper with connectors. For operation voltage please see appropriate national regulations.

## IMPORTANT GENERAL INFORMATION

### (i) Air and creepage paths/Operating voltage.

The admissible operating voltages depend on the individual applications and the valid national and other applicable safety regulations. For this reason the air and creepage path data are only reference values. Observe reduction of air and creepage paths due to PC board and/or harnessing.

### (ii) Temperature

All information given are temperature limits. The operation temperature depends on the individual application.

### (iii) Other important information

Cannon continuously endeavors to improve their products. Therefore, Cannon products may deviate from the description, technical data and shape as shown in this catalog and data sheets.

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# Connect with the experts

ITT's Cannon brand is a world leader in the design and manufacture of highly engineered connector solutions for multiple end markets.



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ITT is a focused multi-industrial company that designs and manufactures highly engineered critical components and customized technology solutions. ITT's Cannon brand is a leading global manufacturer of connector products serving international customers in aerospace, defense, medical, industrial and transportation end markets. ITT's Connector business, which also includes the Veam and BIW Connector Systems brand, manufactures and supplies a variety of connectors and interconnects that make it possible to transfer data, signal and power in an increasingly connected world.

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