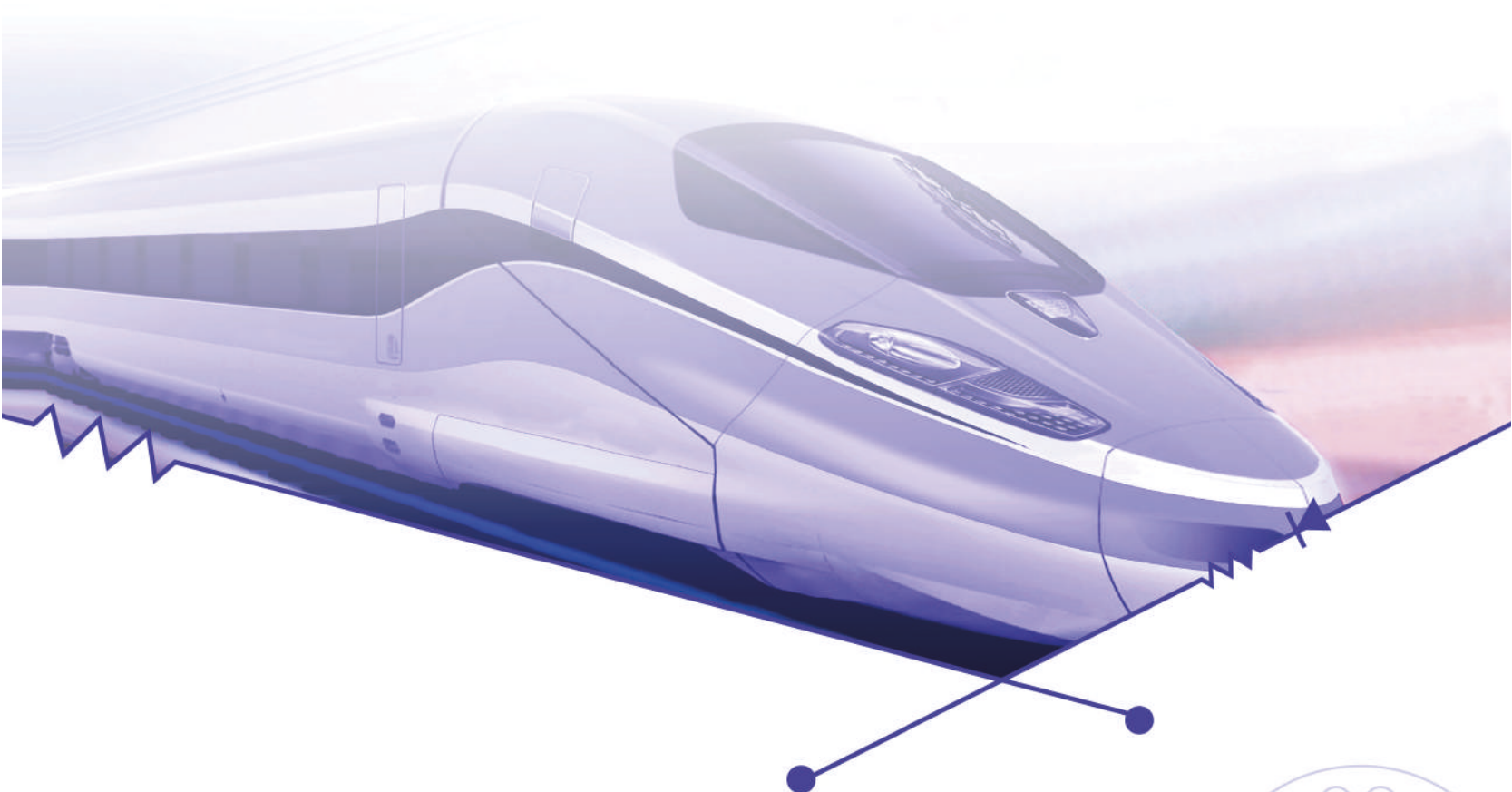




S.C.P. s.a.

Suministros de Conectores
Profesionales, s.a.

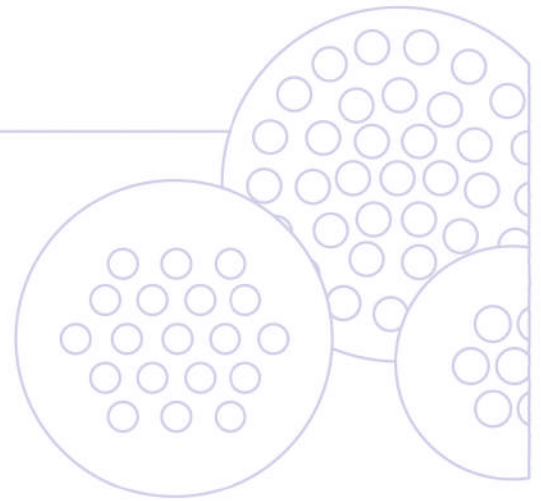


Authorized ITT VEAM CIR Series Distributor



ITT

veam



made in Spain
Assembled
by **SCP**
48 h DELIVERY



made in Spain
Assembled
by **SCP**
48 h DELIVERY

INTERCONNECT SOLUTION

SCP offers a wide range of ITT VEAM FR CIR Connectors, accessories and tools for every interconnect need.



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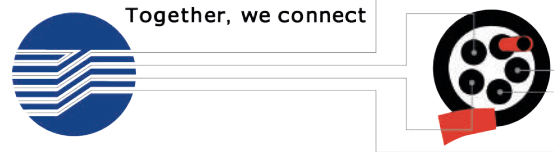


Who is SCP I Sintersa?

SCP Sintersa is a renowned group of companies in Spain in the field of interconnection.

We have a range of services and products developed specifically to solve the needs of electrical interconnections.

The key to our success is the Know-How in design engineering, manufacturing technology, equipment and the most professional and experienced personnel.



Quality Guarantee

- UNE-EN ISO 9001
- UNE-EN9100
- PECAL / AQAP 2110



SCP I Sintersa value added services

SCP (Suministros de conectores Profesionales, S.A.) is an authorized value add distributor for ITT VEAM. SCP is authorized to assemble ITT's CIR Series connectors and provides an average delivery time of two weeks.



ITT VEAM
CIR Series Connectors



Other connectors assembled by SCP



SCP I Sintersa
MIL-C-5015 Connectors
Thread - SCP/MS Series
Bayonet - SCPB – VG95234



Socapex
MIL-DTL-38999
SCPTV Connectors



SCP I Sintersa
MIL-C-26482
SCPT - VG95382 Connectors



Why ITT VEAM and CANNON?

The team at ITT VEAM and Cannon have an extensive, in-depth knowledge of rail from the tracks to the engine to the passenger car and every connection, every wire, every socket that makes for a smooth and efficient ride. As we continue to develop leading-edge technology, we'll continue to bring you the reliability and durability required to push the limits of rail.

As the need for connector technology in everything from high power distribution to sensors grows, we ensure our connectors are developed in alignment with the highly demanding needs of your market by actively participating in standardization bodies and working closely with industry technicians.

It is this type of collaboration that has led us to exceed industry standards and develop ceramic heat-resistive inserts, ROHS compliant corrosion-resistant conductive platings, plus:

- Flame-retardant insulator materials
- Mix of power, signal and data lines within a single robust connector
- Rigid insert, field configurable circular connectors according to NFF 61-030 and EN 45545
- High temperature connectors that meet European fire rail safety regulations
- Shielded solutions for data transmission bundling Ethernet, WTB, MVB and video lines in one connector

ITT VEAM Certifications



ITT Rail Solutions

| | | |
|---|---|---|
| <p>CIR/FRCIR Series</p>  | <p>CIR M12 Series</p>  | <p>CIR 290 Series</p>  |
| <p>VBN Series</p>  | <p>HTB Series</p>  | <p>DRS Series</p>  |
| <p>Power Plate Series</p>  | <p>VRPC Series</p>  | <p>CIR Fiber Optic Series</p>  |



ITT VEAM CIR Series Connectors Product Overview

Features & Benefits

- Bayonet coupling - Reverse Bayonet 5015 style connector
- Vibration 20G's and Shock 50G's
- Military specification VG95234 where applicable
- Manufactured with flame retardant compound compliant to EN45545 - HL3- R22-R23
- Different contacts for signal and power applications
- Solder and crimp contacts from AWG 26 to special version (240 mmq) with silver or gold plating
- Coax, Twinax,PCB,MWW and thermocouple contact options
- Surface plating - up to 500 hours salt spray resistance ROHS compliant
- Available from 1 to 159 poles & 256 different layouts
- From 7.5 to 350 Amps
- IP67 when mated with appropriate accessories
- Available in aluminium alloy, stainless steel and marine bronze
- Different types of accessories (backshell with UNEF, PG and metric thread; adapters for plastic tubes)

Rail Applications

- Switches
- Train Control
- Electric Couplers
- Converters / Inverters
- Battery Chargers
- Brake/Speed Sensors
- Power Distribution
- Automatic Doors
- Intervehicle
- HVAC
- Signaling

ITT VEAM CIR/FRCIR Configurations

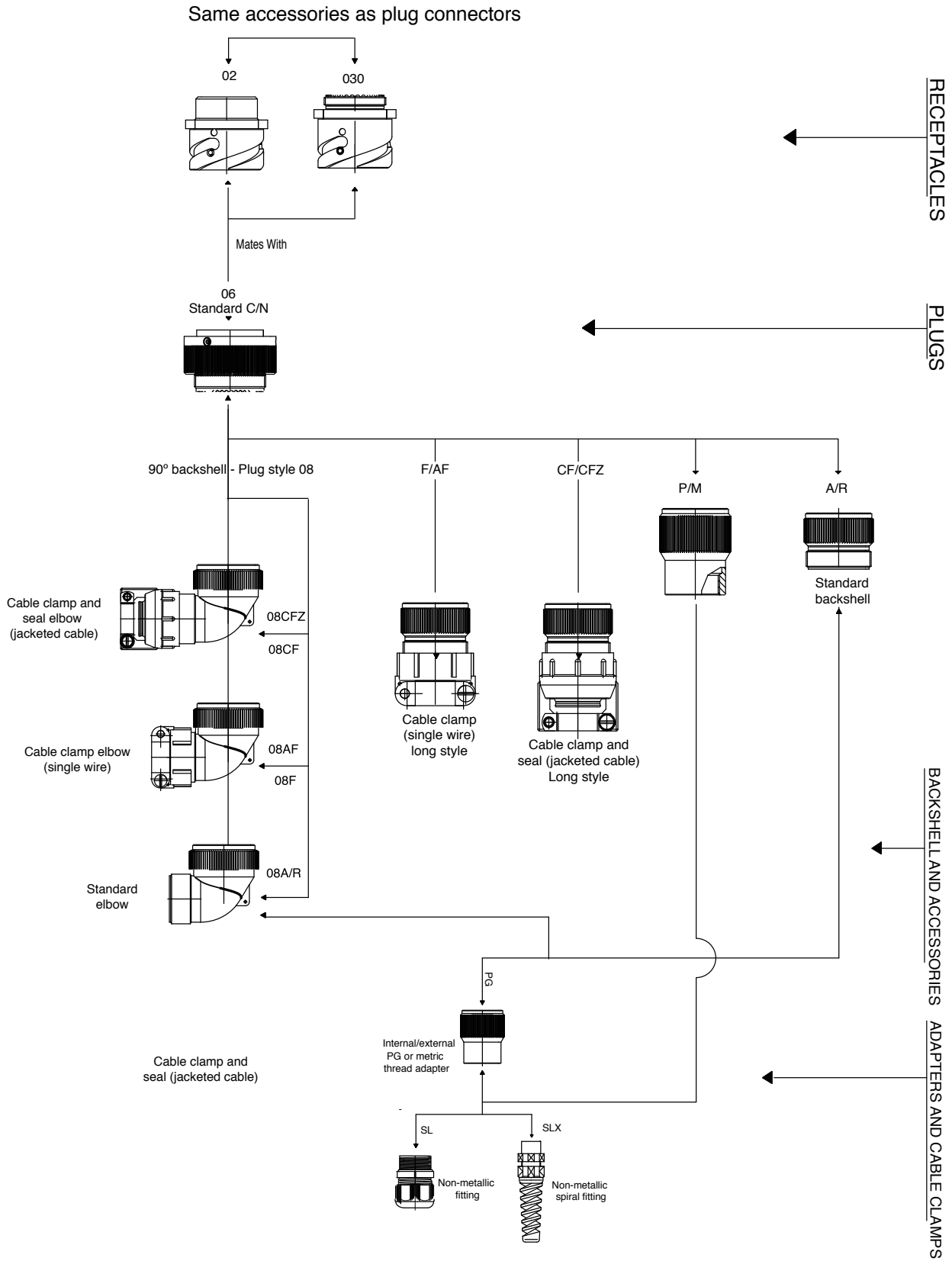
- Shell Styles
 - 01 Inline Receptacle
 - Front or Rear Panel Mount Square Flange Receptacle
 - 070 Jam Nut Receptacle with Rear Threads
 - 06 Straight Plug
 - 06GG Straight Plug With Rubber Covered Coupling Nut

General Specifications

1. Quick coupling and uncoupling 120° coupling nut rotation.
2. High shock 50 g's and vibration resistance 20 g's - Lockwires not required.
3. No coupling threads to gall or bind due to wear or contamination
4. Audible, Visual, and Tactile indication of full coupling.
5. Waterproof to 10 meters (33 ft.) 16 Hours (14.22 PSI)
6. 2,000 couplings min.
7. Elastomer temperature ranges:
 - - 55° C. to + 125° C. Neoprene
 - - 55° C. to + 200° C. Silicone
 - - 25° C. to + 200° C. Viton® Dupont
 - - 40° C. to + 125° C. FR (flame retardant)

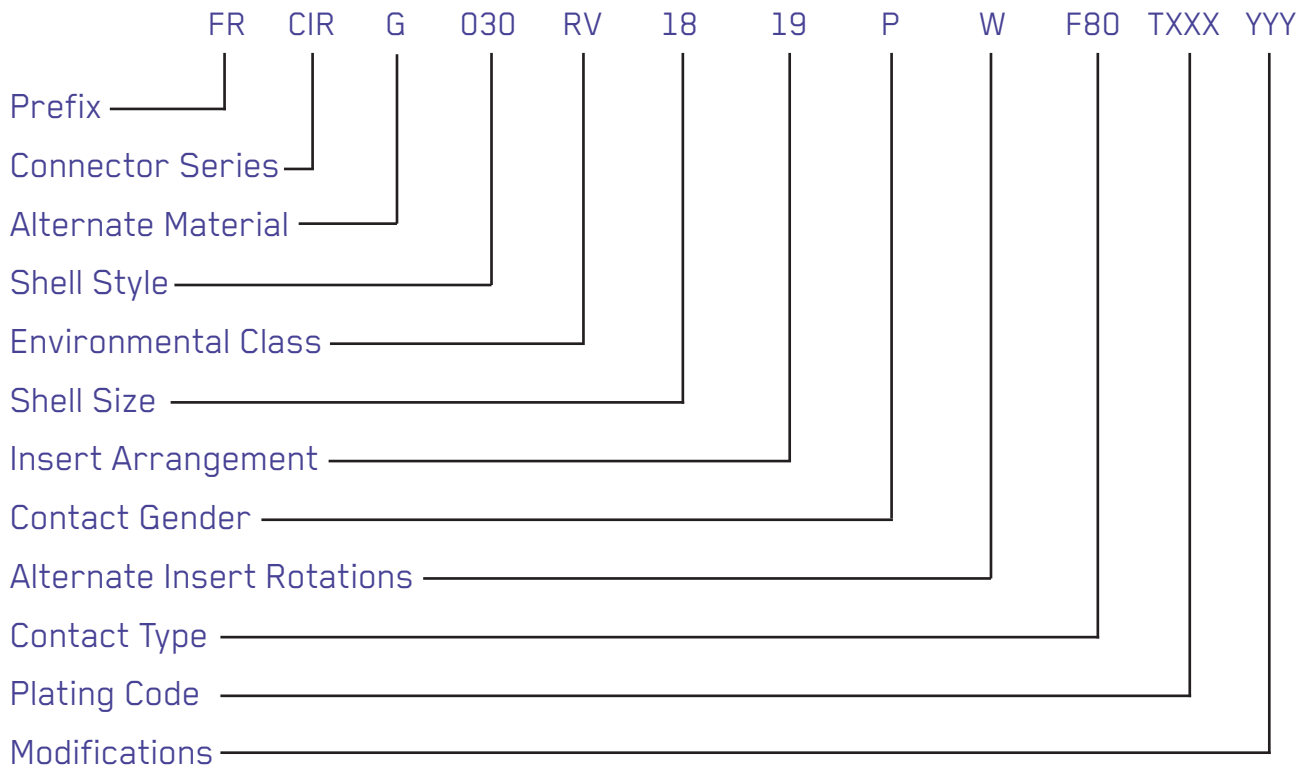
| Shells |
|---|
| Material: Aluminum alloy. Options include stainless steel, bronze and plastic composite. |
| SCP Available Finish: Epoxyurethane Varnish (T39). Additional ITT Finish: Non-cadmium (Green-T100), (Black-T108) Electroless Nickel (T29), and Cadmium-olive drab (T3), Hard Black Anodize (T89) |
| Inserts |
| Material: Polychloroprene (Neoprene). Options include silicone, fluorocarbon (Viton*) and FR (Flame Retardant) rubber. |
| SCP Available Material: FR (Flame Retardant) rubber. |
| Contacts |
| Material: Copper alloy or thermocouple alloys. |
| Finish: Silver (T9) and gold (standard - T12, heavy -T112) plating. |
| Additional Information |
| ITT VEAM CIR Series Connectors are produced in accordance with NATO Standard VG95234, which is based on MIL-DTL-5015 for physical size, layout and environmental requirements. |





veam CIR Series Connectors Part Number Generation

Standard Part Number Generation - Line Configurator



PREFIX

FR.....Flame retardant materials

CONNECTOR SERIES

CIR...Bayonet coupling

ALTERNATE MATERIAL

G.....Plug with RFI grounding
 V.....Fluoroelastomers
 P.....Plastic connector shells
 SP.....Plastic receptacle shell without ramp rings

SHELL STYLE

01/010.....In-line receptacle-Round flange with flats
 020/00.....Front panel mount receptacle, rear thread
 02.....Front panel mount receptacle, no rear thread
 03.....Rear panel mount receptacle, no rear thread
 030.....Rear panel mount receptacle, rear thread
 038.....Rear/Front mount receptacle with 90° backshells
 05.....Dummy receptacle
 07.....Single hole mount jamnut receptacle, no rear thread
 070.....Single hole mount jamnut receptacle, rear thread
 078.....Single hole mount jamnut receptacle with 90° backshells
 TB.....Thru-bulkhead receptacle
 06.....Straight plug connector
 065.....Straight plug connector with heavy duty coupling nut
 26/064PP....Panel plug
 08.....90 degree plug connector

ENVIRONMENTAL CLASS

Different classes are based on the type of backshell, sealing capability and accessories. Reference pages 27-39

SHELL SIZE

10SL, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36, 40

INSERT ARRANGEMENT

Defined by the quantity and size of the contacts.
 For the layouts refer to pages 14 - 26
 For the service rating and other electrical data refer to page 10

CONTACT GENDER

P.....Male contacts
 S.....Female contacts
 PS.....Thru-bulkhead contacts (female-male)
 PP.....Thru-bulkhead contacts (male-male)

ALTERNATE INSERT POSITION

Please consult the factory or reference pages 35 and 36 of ITT VEAM CIR Catalog

CONTACT TYPE

F80.....Crimp for AWG and metric wire (used in F80 insert)
 CR.....Crimp for metric wire (used in metric insert)
 CR1.....Crimp for AWG wire (used in metric insert)
 PC.....Pneumatic contacts
 VO.....Contacts not supplied
 NO SUFFIX.....Solder (standard class)

PLATING CODE OF SHELLS

T29.....Electroless Nickel
 T39.....Black epoxyurhetanic varnish
 T89.....Black hard anodize
 T100.....Zinc/cobalt Ecogreen
 T108.....Zinc/cobalt Ecoblack
 Other plating available. Please consult the factory.

MODIFICATIONS

VO.....Supplied less contacts
 Consult factory



Electrical Data

Insert Arrangement Service Rating

| Service Rating | Operating Voltage DC* | Operating Voltage AC* |
|----------------|-----------------------|-----------------------|
| I | 250 V | 200 V |
| A | 700 V | 500 V |
| D | 1250 V | 900 V |
| E | 1750 V | 1250 V |
| B | 2450 V | 1750 V |
| C | 4200 V | 3000 V |

Dielectric Strength*

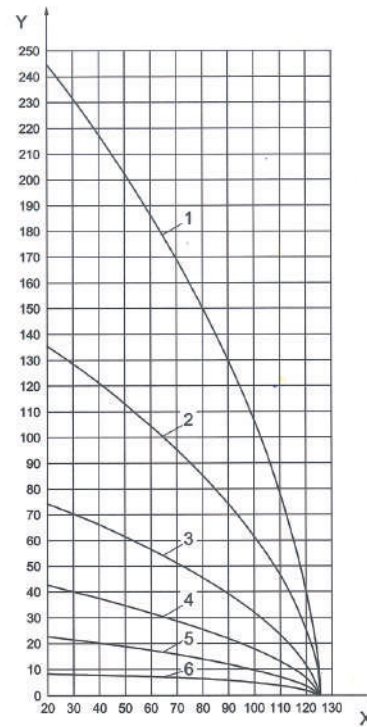
| Service Rating | Minimum Flashover ac rms | Test Voltage ac rms "***" |
|----------------|--------------------------|---------------------------|
| I | 1.400 V | 1.000 V |
| A | 2.800 V | 2.000 V |
| D | 3.600 V | 2.800 V |
| E | 4.500 V | 3.500 V |
| B | 5.700 V | 4.500 V |
| C | 8.500 V | 7.000 V |

Contact Rating

| Contact Size | Max Current | Rated & Tested Current | Potential Drop Millivolts Max |
|--------------|-------------|------------------------|-------------------------------|
| 20 | 7.5 A | 7.5 A | 83 |
| 18 | 10 A | 7.5A | 83 |
| 16 (S) | 22 A | 13 A | 74 |
| 12 | 41 A | 23 A | 63 |
| 8 | 73 A | 46 A | 65 |
| 4 | 135 A | 80 A | 58 |
| 0 | 245 A | 150 A | 53 |
| 4/0* | 350 A | 225 A | 53 |

Applicable for short time
 ACCORDING TO MIL-C-39029A (TEST WITH NICKEL PLATED WIRES)

Rated Current



- Key
- Contact size 500; 0
 - Contact size 160; 4
 - Contact size 60; 100; 8
 - Contact size 25; 25A; 12
 - Contact size 15S; 16S; 15; 16
 - Contact size 10

X Ambient temperature in °C
 Y Rated current in A

* At Sea Level Conditions

* According to MIL-DTL-5015 the connectors do not show any signs of breakdown when the test voltage indicated in the table is applied for one minute between the two closest contacts and between the shell and any of the contacts to the shells



Mechanical Data

Backshell / Clamp Torque Forces

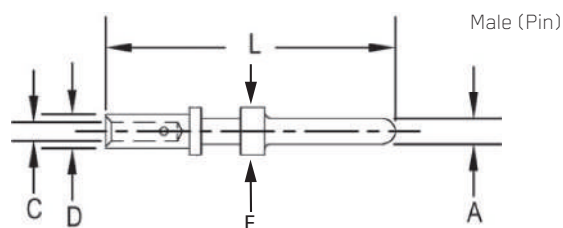
| Recommended Torque Forces Connector Backshells/Clamps (Nm) | | |
|---|------|------|
| Size | Min | Max |
| 10SL | 1.5 | 2.5 |
| 14S | 4.4 | 5.4 |
| 16 | 6.4 | 7.4 |
| 16S | 6.4 | 7.4 |
| 18 | 6.9 | 7.8 |
| 20 | 7.8 | 9.8 |
| 20 | 7.8 | 9.8 |
| 22 | 9.8 | 11.8 |
| 24 | 10.8 | 14.7 |
| 28 | 13.7 | 18.6 |
| 32 | 14.7 | 20.6 |
| 36 | 18.6 | 26.5 |
| 40 | 20.6 | 39.2 |

CIR Coupling - Torque Values per VG95234

| Shell Size | Allowable Coupling Torque Closing & Opening Nm max | Opening Nm min. |
|------------|---|-----------------|
| 10SL | 1.7 | 0.15 |
| 14S | 3.6 | 0.35 |
| 16S | 5.5 | 0.46 |
| 16 | 5.5 | 0.46 |
| 18 | 8.0 | 0.58 |
| 20 | 9.0 | 0.7 |
| 22 | 11.0 | 0.8 |
| 24 | 14.0 | 0.8 |
| 28 | 17.0 | 0.92 |
| 32 | 19.0 | 1.03 |
| 36 | 23.0 | 1.03 |
| 40* | 24.0 | 1.5 |

* Size 40 it is not required from VG 95234

Contact Dimensions - Male F80 Crimp

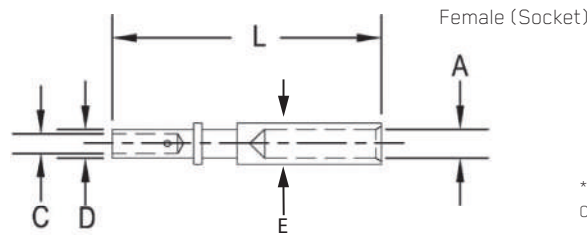


*When ordering add suffix: T9 for Silver • T12 for Gold - For other platings, consult our Customer Service Department.

| VEAM Part Number | Contact Size | Wire Size (AWG) | Wire Size mm ² | A | | C | | D | | E | | L | |
|------------------|--------------|-----------------|---------------------------|------|------|------|------|------|------|-----|------|-------|------|
| | | | | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch |
| 27911-13 | 16S | 20-26 | .15/.6 | 1.58 | 0.06 | 1.3 | 0.05 | 1.93 | 0.07 | 3.2 | 0.13 | 26.6 | 1.05 |
| 27911 | 16S | 16-18 | 1/1.15 | 1.58 | 0.06 | 1.7 | 0.07 | 2.6 | 0.1 | 3.2 | 0.1 | 26.6 | 1.05 |
| 27913 | 16 | 16-18 | 1/1.15 | 1.58 | 0.06 | 1.7 | 0.07 | 2.6 | 0.1 | 3.2 | 0.13 | 31.75 | 1.25 |
| 27913-13 | 16 | 20-26 | .15/.6 | 1.58 | 0.06 | 1.3 | 0.05 | 1.93 | 0.07 | 3.2 | 0.13 | 31.75 | 1.25 |
| 27913-15 | 16 | 18 | 1 | 1.58 | 0.06 | 1.5 | 0.06 | 2.6 | 0.1 | 3.2 | 0.13 | 31.75 | 1.25 |
| 27913-20 | 16 | 14-16 | 2 | 1.58 | 0.06 | 2 | 0.08 | 2.9 | 0.11 | 3.2 | 0.13 | 31.75 | 1.25 |
| 27913-26 | 16 | 12-14 | 3 | 1.58 | 0.06 | 2.5 | 0.1 | 3.8 | 0.15 | 3.2 | 0.13 | 31.75 | 1.25 |
| 27914-12 | 12 | - | .15/.75 | 2.38 | 0.09 | 1.2 | 0.5 | 2.6 | 0.1 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27914-20 | 12 | 14-18 | 1/2 | 2.38 | 0.09 | 2 | 0.08 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27914-22 | 12 | - | 2.5 | 2.38 | 0.09 | 2.2 | 0.09 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27914-26 | 12 | 12-14 | 3 | 2.38 | 0.09 | 2.5 | 0.1 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27914-30 | 12 | - | 4 | 2.38 | 0.09 | 3 | 0.12 | 4.8 | 0.19 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27914-8 | 12 | 8 | 9 | 2.38 | 0.09 | 4.55 | 0.18 | 6.8 | 0.27 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27914-38 | 12 | - | 5 | 2.38 | 0.09 | 3.6 | 0.14 | 4.8 | 0.19 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27915 | 8 | - | 9 | 3.6 | 0.14 | 4.5 | 0.13 | 6.8 | 0.27 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27915-50 | 8 | - | 10 | 3.6 | 0.14 | 5 | 0.19 | 7 | 0.28 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27915-20 | 8 | 14-18 | 1 | 3.6 | 0.14 | 2 | 0.08 | 3.8 | 0.15 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27915-26 | 8 | 12 | 3 | 3.6 | 0.14 | 2.5 | 0.1 | 3.8 | 0.15 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27915-26-62 | 8 | 12-14 | 2/3 | 3.6 | 0.14 | 2.5 | 0.1 | 6.2 | 0.24 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27915-30 | 8 | - | 4 | 3.6 | 0.14 | 3 | 0.12 | 4.8 | 0.19 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27915-38 | 8 | - | 6 | 3.6 | 0.14 | 3.6 | 0.14 | 4.8 | 0.19 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27915-58 | 8 | 6 | 13 | 3.6 | 0.14 | 5.8 | 0.23 | 7.8 | 0.31 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27916 | 4 | 4 | 21 | 5.7 | 0.22 | 7.2 | 0.28 | 9.5 | 0.37 | 11 | 0.43 | 41.25 | 1.62 |
| 27916-22 | 4 | - | 3 | 5.7 | 0.22 | 2.2 | 0.9 | 3.8 | 0.15 | 11 | 0.43 | 41.25 | 1.62 |
| 27917V | 0 | 1/0 (0) | 53 | 9.06 | 0.36 | 11.5 | 0.45 | 14.4 | 0.56 | 15 | 0.59 | 46.5 | 1.83 |
| 27917-45 | 0 | 8 | 9 | 9.06 | 0.36 | 4.5 | 0.18 | 6.8 | 0.27 | 15 | 0.59 | 44.5 | 1.75 |
| 27917-50 | 0 | - | 10 | 9.06 | 0.36 | 5 | 0.19 | 7 | 0.28 | 15 | 0.59 | 44.5 | 1.75 |
| 27917-62 | 0 | - | 16 | 9.06 | 0.36 | 6.2 | 0.24 | 9.5 | 0.37 | 15 | 0.59 | 44.5 | 1.75 |
| 27917-78 | 0 | - | 25 | 9.06 | 0.36 | 7.8 | 0.31 | 9.5 | 0.37 | 15 | 0.59 | 44.5 | 1.75 |
| 27917-90 | 0 | - | 35 | 9.06 | 0.36 | 9 | 0.35 | 14.4 | 0.56 | 15 | 0.59 | 44.5 | 1.75 |
| 27917-107 | 0 | - | 50 | 9.06 | 0.36 | 10.7 | 0.42 | 14.4 | 0.56 | 15 | 0.59 | 44.5 | 1.75 |
| 27917 | 0 | 1/0 (0) | 53 | 9.06 | 0.36 | 11.5 | 0.45 | 14.4 | 0.56 | 15 | 0.59 | 44.5 | 1.75 |



Contact Dimensions - Female F80 Crimp



*When ordering add suffix: T9 for Silver • T12 for Gold - For other platings, consult our Customer Service Department.

| VEAM Part Number | Contact Size | Wire Size (AWG) | Wire Size mm ² | A | | C | | D | | E | | L | |
|------------------|--------------|-----------------|---------------------------|------|------|------|------|------|------|------|------|------|------|
| | | | | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch |
| 27961 | 16S | 16-18 | 1/1.5 | 1.65 | 0.06 | 1.7 | 0.07 | 2.6 | 0.1 | 3.2 | 0.13 | 26.6 | 1.05 |
| 27961-13 | 16S | 20-26 | .15/0.6 | 1.65 | 0.06 | 1.3 | 0.05 | 1.93 | 0.07 | 3.2 | 0.13 | 26.6 | 1.05 |
| 27963 | 16 | 16-18 | 1/1.5 | 1.65 | 0.06 | 1.7 | 0.07 | 2.6 | 0.1 | 3.2 | 0.13 | 36.5 | 1.44 |
| 27963-13 | 16 | 20-26 | .15/0.6 | 1.65 | 0.06 | 1.3 | 0.05 | 1.93 | 0.07 | 3.2 | 0.13 | 36.5 | 1.44 |
| 27963-15 | 16 | 18 | 1 | 1.65 | 0.06 | 1.5 | 0.06 | 2.6 | 0.1 | 3.2 | 0.13 | 36.5 | 1.44 |
| 27963-20 | 16 | 14-16 | 2 | 1.65 | 0.06 | 2 | 0.08 | 2.9 | 0.11 | 3.2 | 0.13 | 36.5 | 1.44 |
| 27963-26 | 16 | - | 3 | 1.65 | 0.06 | 2.5 | 0.1 | 3.8 | 0.15 | 3.2 | 0.13 | 36.5 | 1.44 |
| 27964-20 | 12 | 14-16-18 | 1/2 | 2.48 | 0.10 | 2.0 | 0.08 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27964-22 | 12 | - | 2.5 | 2.48 | 0.10 | 2.2 | 0.09 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27964-8 | 12 | 8 | 9 | 2.48 | 0.10 | 4.55 | 0.18 | 6.8 | 0.27 | 4.8 | 0.19 | 42.5 | 1.67 |
| 27964-12 | 12 | 20-22 | .15/.75 | 2.48 | 0.1 | 1.2 | 0.05 | 0.1 | 0.27 | 4.8 | 0.19 | 42.5 | 1.67 |
| 27964-22 | 12 | - | 2.5 | 2.48 | 0.1 | 2.2 | 0.09 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27964-26 | 12 | 12 | 3 | 2.48 | 0.1 | 2.5 | 0.1 | 3.8 | 0.15 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27964-30 | 12 | - | 4 | 2.48 | 0.1 | 3 | 0.12 | 4.8 | 0.19 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27964-38 | 12 | 10 | 6 | 2.48 | 0.1 | 3.6 | 0.14 | 4.8 | 0.19 | 4.8 | 0.19 | 37.5 | 1.48 |
| 27935-50 | 8 | - | 10 | 3.7 | 0.15 | 5 | 0.19 | 6.8 | 0.27 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935 | 8 | 8 | 9 | 3.7 | 0.15 | 4.5 | 0.18 | 6.8 | 0.27 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935-20 | 8 | 14-18 | 1/2 | 3.7 | 0.15 | 2 | 0.08 | 3.8 | 0.15 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935-26 | 8 | 12-14 | 3 | 3.7 | 0.15 | 2.5 | 0.1 | 3.2 | 0.13 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935-26-62 | 8 | 12-14 | 2/3 | 3.7 | 0.15 | 3.5 | 0.1 | 6.2 | 0.24 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935-30 | 8 | - | 4 | 3.7 | 0.15 | 3 | 0.12 | 4.8 | 0.19 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935-38 | 8 | 10 | 6 | 3.7 | 0.15 | 3.6 | 0.14 | 4.8 | 0.19 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27935-58 | 8 | 6 | 13.2 | 3.7 | 0.15 | 5.8 | 0.23 | 7.8 | 0.31 | 7.8 | 0.31 | 40.7 | 1.6 |
| 27936 | 4 | 4 | 21 | 5.8 | 0.23 | 7.2 | 0.28 | 9.5 | 0.37 | 11 | 0.43 | 41.2 | 1.62 |
| 27936-22 | 4 | - | 2.5 | 5.8 | 0.23 | 2.2 | 0.09 | 3.8 | 0.15 | 11 | 0.43 | 41.2 | 1.62 |
| 27937 | 0 | 0 | 53 | 9.17 | 0.36 | 11.5 | 0.45 | 14.4 | 0.56 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937-45 | 0 | 8 | 9 | 9.17 | 0.36 | 4.5 | 0.18 | 6.8 | 0.27 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937-50 | 0 | - | 10 | 9.17 | 0.36 | 5 | 0.19 | 7 | 0.28 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937-62 | 0 | - | 16 | 9.17 | 0.36 | 6.2 | 0.24 | 9.5 | 0.37 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937-78 | 0 | - | 25 | 9.17 | 0.36 | 7.8 | 0.31 | 9.5 | 0.37 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937-90 | 0 | - | 35 | 9.17 | 0.36 | 9 | 0.35 | 14.4 | 0.56 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937-107 | 0 | - | 50 | 9.17 | 0.36 | 10.7 | 0.42 | 14.4 | 0.56 | 15.1 | 0.59 | 44.5 | 1.75 |
| 27937V | 0 | 1/0 (0) | 53 | 9.17 | 0.36 | 11.5 | 0.45 | 14.4 | 0.56 | 15.1 | 0.59 | 46.5 | 1.83 |

VEAM CIR Series Connectors

Inserts by Shell Sizes

Insert Arrangements Listed by Shell Sizes and Arrangement Numbers

| Insert Arrangements | Total Contact | Contact Size | | | | | Service Rating | |
|---------------------|---------------|--------------|---|---|----|----|----------------|---|
| | | 0 | 4 | 8 | 12 | 16 | | |
| 10SL-3 | 3 | | | | | 3 | A | |
| 10SL-4 | 2 | | | | | 2 | A | |
| 10SL-55 (TC) | 3 | | | | | 3 | I | |
| 14S-1 | 3 | | | | | 3 | A | |
| 14S-2 | 4 | | | | | 4 | I | |
| 14S-5 | 5 | | | | | 5 | I | |
| 14S-6 | 6 | | | | | 6 | I | |
| 14S-7 | 3 | | | | | 3 | I | |
| 14S-9 | 2 | | | | | 2 | A | |
| 14S-10(14S-2x100°) | 4 | | | | | 4 | I | |
| 14S-12(14S-1x100°) | 3 | | | | | 3 | A | |
| 14-SA-7* | 7 | | | | | 7 | I | |
| 16S-1 | 7 | | | | | 7 | A | |
| 16S-4 | 2 | | | | | 2 | D | |
| 16S-5 | 3 | | | | | 3 | A | |
| 16S-8 | 5 | | | | | 5 | A | |
| 16-2 | 1 | | | | 1 | | E | |
| 16-7 | 3 | | | 1 | | 2 | A | |
| 16-9 | 4 | | | | 2 | 2 | A | |
| 16-10 | 3 | | | | 3 | | A | |
| 16-11 | 2 | | | | 2 | | A | |
| 16-12 | 1 | | 1 | | | | A | |
| 16-13 (TC) | 2 | | | | 2 | | A | |
| 16-52 (TC) | 2 | | | | 2 | | A | |
| 16A-10 | 10 | ALL SIZE 18 | | | | | | A |
| 18-1 | 10 | | | | | 10 | * | |
| 18-3 | 2 | | | | 2 | | D | |
| 18-4 | 4 | | | | | 4 | D | |
| 18-5 | 3 | | | | 2 | 1 | D | |
| 18-06 | 6 | | | | 4 | 2 | A | |
| 18-6 | 1 | | 1 | | | | D | |
| 18-8 | 8 | | | | 1 | 7 | A | |
| 18-9 | 7 | | | | 2 | 5 | I | |
| 18-10 | 4 | | | | 4 | | A | |
| 18-11 | 5 | | | | 5 | | A | |
| 18-12 | 6 | | | | | 6 | A | |
| 18-13 | 4 | | | 1 | 3 | | A | |
| 18-14 | 2 | | 1 | | | 1 | A | |
| 18-16 | 1 | | | | 1 | | C | |
| 18-17(18-9x100°) | 7 | | | | 2 | 5 | I | |
| 18-19 | 10 | | | | | 10 | A | |
| 18-20 | 5 | | | | | 5 | A | |
| 18-22 | 3 | | | | | 3 | D | |
| 18-24(18-1x250°) | 10 | | | | | 10 | * | |
| 18-30(18-20x110°) | 5 | | | | | 5 | A | |
| 18-31(18-20x260°) | 5 | | | | | 5 | A | |
| 18-61* | 1 | COAX SIZE 4 | | | | | | D |

| Insert Arrangements | Total Contacts | Contact Size | | | | | Service Rating | |
|---------------------|----------------|-----------------------|---|---|----|----|----------------|---|
| | | 0 | 4 | 8 | 12 | 16 | | |
| 20-2 | 1 | 1 | | | | | D | |
| 20-3 | 3 | | | | 3 | | D | |
| 20-4 | 4 | | | | 4 | | D | |
| 20-7 | 8 | | | | | 8 | * | |
| 20-8 | 6 | | | 2 | | 4 | I | |
| 20-11 | 13 | | | | | 13 | I | |
| 20-15 | 7 | | | | 7 | | A | |
| 20-16 | 9 | | | | 2 | 7 | A | |
| 20-17 | 6 | | | | 5 | 1 | A | |
| 20-18 | 9 | | | | 3 | 6 | A | |
| 20-19 | 3 | | | 3 | | | A | |
| 20-21 | 9 | | | | 1 | 8 | A | |
| 20-22 | 6 | | | 3 | | 3 | A | |
| 20-23 | 2 | | | 2 | | | A | |
| 20-24 | 4 | | | 2 | | 2 | A | |
| 20-25(20-11x100°) | 13 | | | | | 13 | I | |
| 20-27 | 14 | | | | | 14 | A | |
| 20-29 | 17 | | | | | 17 | A | |
| 20-30(20-11x250°) | 13 | | | | | 13 | I | |
| 20-33 | 11 | | | | | 11 | A | |
| 20A-7 | 7 | ALL SIZE 18 | | | | | | D |
| 20A-8 | 8 | | | 2 | | 6 | I | |
| 20A-9 | 9 | | | | 9 | | * | |
| 20A-11 | 11 | 5 SIZE 20 | | 1 | | 5 | A | |
| 20A-29* | 29 | 25 SIZE 18, 4 SIZE 12 | | | | | | I |
| 20A-48 | 19 | | | | | 19 | I | |
| 22-1 | 2 | | | 2 | | | D | |
| 22-2 | 3 | | | 3 | | | D | |
| 22-4 | 4 | | | 2 | 2 | | A | |
| 22-5 | 6 | | | | 2 | 4 | D | |
| 22-6 | 3 | | | 2 | | 1 | D | |
| 22-7 | 1 | 1 | | | | | E | |
| 22-8 | 2 | | | | 2 | | E | |
| 22-9 | 3 | | | | 3 | | E | |
| 22-11 | 2 | | | | | 2 | B | |
| 22-12 | 5 | | | 2 | | 3 | D | |
| 22-14 | 19 | | | | | 19 | A | |
| 22-15 | 6 | | | | 5 | 1 | * | |
| 22-17 | 9 | | | | 1 | 8 | * | |
| 22-18 | 8 | | | | | 8 | * | |
| 22-19 | 14 | | | | | 14 | A | |
| 22-21 | 3 | 1 | | | | 2 | A | |
| 22-22 | 4 | | | 4 | | | A | |
| 22-23 | 8 | | | | 8 | | * | |
| 22-27 | 9 | | | 1 | | 8 | * | |
| 22-28 | 7 | | | | 7 | | A | |
| 22-34 | 5 | | | | 3 | 2 | D | |
| 22A-9 | 9 | | | | | 9 | A | |
| 22A-10 | 10 | | | | | 10 | A | |
| 22A-16* | 16 | | | | | 16 | I | |
| 22A-37 | 37 | ALL SIZE 18 | | | | | | A |
| 22B-10* | 10 | | | 2 | | 8 | A | |

veam CIR Series Connectors

VEAM CIR Series Connectors

Inserts by Shell Sizes

Insert Arrangements Listed by Shell Sizes and Arrangement Numbers

| Insert Arrangements | Total Contacts | Contact Sizes | | | | | Service Rating | |
|---------------------|----------------|---------------|---|---|----|------------|----------------|---|
| | | 0 | 4 | 8 | 12 | 16 | | |
| 24-2 | 7 | | | | 7 | | D | |
| 24-2 (GM) | 7 | | | | 7 | | D | |
| 24-5 | 16 | | | | | 16 | A | |
| 24-06 | 6 | | | 4 | | 2 | D | |
| 24-6 | 8 | | | | 8 | | * | |
| 24-6 (HM) | 8 | | | | 8 | | * | |
| 24-7 | 16 | | | | 2 | 14 | A | |
| 24-9 | 2 | | 2 | | | | A | |
| 24-10 | 7 | | | | 7 | | A | |
| 24-11 | 9 | | | 3 | 6 | | A | |
| 24-11 (EM) | 9 | | | 3 | 6 | | A | |
| 24-12 | 5 | | 2 | | 3 | | A | |
| 24-013 | 13 | | | | 6 | 7 | A | |
| 24-19 | 12 | | | | | 12 | A | |
| 24-20 | 11 | | | | 2 | 9 | D | |
| 24-21 | 10 | | | 1 | | 9 | D | |
| 24-22 | 4 | | | 4 | | | D | |
| 24-27 | 7 | | | | | 7 | E | |
| 24-28 | 24 | | | | | 24 | I | |
| 24-67 | 19 | | | | 19 | | A | |
| 24A-1 | 1 | 1 | | | | | B | |
| 24A-2* (US) | 2 | | | | 2 | | HV | |
| 24A-6 (US) | 6 | | | 2 | 4 | | D | |
| 24A-7 | 7 | | | | 7 | | D | |
| 24A-8* | 8 | | | | | 8 | HV | |
| 24A-11 (US) | 11 | | | 2 | | 9 | A | |
| 24A-16* | 16 | | | 1 | | 15 | E | |
| 24A-24* | 12 | | | | 12 | | A | |
| 24A-25 | 25 | | | | | 25 | I | |
| 24A-28 | 28 | | | | | 28 | I | |
| 24A-55 | 55 | ALL SIZE 20 | | | | | | I |
| 24T-2 | 2 | | 1 | 1 | | | D | |
| 28-1 | 9 | | | 3 | 6 | | * | |
| 28-2 | 14 | | | | 2 | 12 | D | |
| 28-3 | 3 | | | 3 | | | E | |
| 28-5 | 5 | | 2 | | 1 | 2 | D | |
| 28-6 | 3 | | 3 | | | | D | |
| 28-9 | 12 | | | | 6 | 6 | D | |
| 28-10 | 7 | | 2 | 2 | 3 | | * | |
| 28-11 | 22 | | | | 4 | 18 | A | |
| 28-12 | 26 | | | | | 26 | A | |
| 28-13 (28-12X100°) | 26 | | | | | 26 | A | |
| 28-15 | 35 | | | | | 35 | A | |
| 28-16 | 20 | | | | | 20 | A | |
| 28-17 | 15 | | | | | 15 | * | |
| 28-18 | 12 | | | | | 12 | * | |
| 28-19 | 10 | | | | 4 | 6 | * | |
| 28-20 | 14 | | | | 10 | 4 | A | |
| 28-21 | 37 | | | | | 37 | A | |
| 28-22 | 6 | | 3 | | | 3 | D | |
| 28-31* | 31 | | | 6 | | 25 SIZE 20 | I | |
| 28-51 | 12 | | | | 12 | | D | |
| 28-59 | 17 | | | | 7 | 10 | A | |
| 28-72 | 72 | ALL SIZE 20 | | | | | | I |

| Insert Arrangement | Total Contacts | Contact Size | | | | | Service Rating | |
|--------------------|----------------|------------------------|---|------|------------|----|----------------|---|
| | | 0 | 4 | 8 | 12 | 16 | | |
| 28A-7 | 7 | | 2 | 1-4M | 4 | | A | |
| 28A-9 | 9 | | 4 | | | 5 | A | |
| 28A-10* | 10 | | | | 10 | | D | |
| 28A-14 | 14 | | | | 14 | | D | |
| 28A-16* | 16 | | | 4 | | 12 | A | |
| 28A-29* | 29 | | | 2 | | 27 | A | |
| 28A-31* | 31 | | | 6 | 25 SIZE 20 | | I | |
| 28A-35 | 35 | | | | | 35 | A | |
| 28A-63 (CR) | 28 | | | | 9 | 19 | * | |
| 28B-7* | 7 | | | 7 | | | A | |
| 28B-35 | 35 | | | | | 35 | A | |
| 28P-3* | 3 | | | 3 | | | C | |
| 32-1 | 5 | 2 | | | 3 | | * | |
| 32-2 | 5 | | 3 | | | 2 | E | |
| 32-5 | 2 | 2 | | | | | D | |
| 32-6 | 23 | | 2 | 3 | 2 | 16 | A | |
| 32-7 | 35 | | | | 7 | 28 | * | |
| 32-8 | 30 | | | | 6 | 24 | A | |
| 32-9 | 14 | | 2 | | | 12 | D | |
| 32-13 | 23 | | | | 5 | 18 | D | |
| 32-15 | 8 | 2 | | | 6 | | D | |
| 32-16 (32-6x100°) | 23 | | 2 | 3 | 2 | 16 | A | |
| 32-17 | 4 | | 4 | | | | D | |
| 32-22 | 54 | | | | | 54 | A | |
| 32-31 | 31 | | | 8 | | 31 | A | |
| 32-59 | 42 | | | 2 | | 40 | A | |
| 32-68 | 16 | | 4 | | | 12 | A | |
| 32-76 | 19 | | | | 19 | | A | |
| 32-101 | 101 | ALL SIZE 20 | | | | | | I |
| 32A-1 | 1 | SIZE 4/0 | | | | | | B |
| 32A-2* | 2 | 1 SIZE 4/0 | | | | 1 | | D |
| 32A-3 | 3 | | 3 | | | | B | |
| 32A-5 (GM) | 5 | | 5 | | | | A | |
| 32A-6 | 6 | | 2 | | 4 | | E | |
| 32A-7 | 7 | | 3 | | 4 | | D | |
| 32A-8 | 8 | | | 8 | | | A | |
| 32A-10* | 10 | | 2 | 8 | | | A | |
| 32A-13 | 13 | | | | 13 | | D | |
| 32A-14* | 14 | | | | | 14 | HV | |
| 32A-22 | 22 | 2 | | | | 20 | A | |
| 32A-25 | 25 | | | | 25 | | A | |
| 32A-27 | 27 | | | 10 | | 17 | A | |
| 32A-28 | 28 | | | | 28 | | A | |
| 32A-30 | 30 | | | 10 | | 20 | A | |
| 32A-31* | 31 | | | | 18 | 13 | A | |
| 32A-40 | 40 | | | | | 40 | A | |
| 32A-48 | 48 | | | | | 48 | I | |
| 32A-55 | 55 | | | | | 55 | A | |
| 32A-69 (CR) | 61 | 20 Size 16, 41 Size 20 | | | | | | A |
| 32B-5 (GM) | 5 | | 5 | | | | A | |
| 32B-22* | 22 | | 2 | | | 20 | A | |
| 32D-2* | 2 | 1 SIZE 4/0 | | | | 1 | | A |



VEAM CIR Series Connectors

Inserts by Shell Sizes

Insert Arrangements Listed by Shell Sizes and Arrangement Numbers

| Insert Arrangements | Total Contacts | Contact Sizes | | | | | Service Rating | |
|---------------------|----------------|-----------------------------------|---|----|------------|----|----------------|---|
| | | 0 | 4 | 8 | 12 | 16 | | |
| 36-3 | 6 | 3 | | | 3 | | D | |
| 36-5 | 4 | 4 | | | | | A | |
| 36-6 | 6 | 2 | 4 | | | | A | |
| 36-7 | 47 | | | | 7 | 40 | A | |
| 36-8 | 47 | | | | 1 | 46 | A | |
| 36-9 | 31 | | 1 | 2 | 14 | 14 | A | |
| 36-10 | 48 | | | | | 48 | A | |
| 36-11 (36-10X100°) | 48 | | | | | 48 | A | |
| 36-12 (36-10X250°) | 48 | | | | | 48 | A | |
| 36-15 | 35 | | | | | 35 | * | |
| 36-16 (36-7X100°) | 47 | | | | 7 | 40 | A | |
| 36-17 (36-7X250°) | 47 | | | | 7 | 40 | A | |
| 36-18 (36-9X100°) | 31 | | 1 | 2 | 14 | 14 | A | |
| 36-54 | 39 | | | 8 | | 31 | A | |
| 36-66 | 56 | | | | 4 | 52 | A | |
| 36-74 | 44 | | | 1 | | 43 | A | |
| 36-77 | 7 | | 7 | | | | D | |
| 36-78 * | 14 | | | 12 | | 2 | D | |
| 36A-1 | 1 | SIZE 4/0 | | | | | | C |
| 36A-2 | 2 | 2 | | | | | A | |
| 36A-10 | 10 | | 2 | 8 | | | A | |
| 36A-12 | 12 | | 2 | 10 | | | A | |
| 36A-22 | 22 | | | | 22 | | D | |
| 36A-48 | 48 | | | | | 48 | I | |
| 36A-51 | 6 | 3 | 2 | | | 1 | D | |
| 36A-61 | 6 | | 2 | | 4 | | E | |
| 36A-72 | 72 | 4 SIZE 12, 16 SIZE 16, 52 SIZE 18 | | | | | | I |
| 36B-6 | 6 | | | 3 | 1 | 2 | B | |
| 36B-10 * | 10 | | 2 | 8 | | | A | |
| 36B-12 | 12 | | 3 | 3 | 3 | 3 | D | |
| 36B-61 | 6 | | 2 | | 4 | | E | |
| 36B-78 | 14 | | | 12 | | 2 | D | |
| 36B-90 | 1 | SPECIAL | | | | | | D |
| 36D-78 | 14 | | | 10 | | 4 | D | |
| 40-9 | 47 | | | 1 | 22 | 24 | A | |
| 40-10 | 29 | | 4 | 9 | | 16 | A | |
| 40-19 | 19 | | 2 | | 17 | | A | |
| 40-55 | 55 | | | 1 | 19 | 35 | I | |
| 40-56 | 85 | | | | | 85 | A | |
| 40-58 * | 58 | | | 1 | 19 | 38 | I | |
| 40-63 | 61 | | | | | 61 | A | |
| 40A-2 | 2 | | | 1 | 1 SIZE 4/0 | | D | |
| 40A-3 | 5 | 3 | | | 2 | | E | |
| 40A-4 | 6 | 4 | | | 2 | | A | |
| 40A-5 (GM) | 5 | 5 | | | | | A | |
| 40A-7 | 7 | 5 | | | 2 | | A | |
| 40A-8 | 8 | 4 | | | | 4 | E | |
| 40A-10 | 8 | | 4 | | | 4 | D | |
| 40A-11* | 11 | 5 | | | | 6 | A | |
| 40A-14 | 14 | | 8 | | | 6 | A | |
| 40A-19 | 19 | | 2 | 17 | | | A | |
| 40A-20 | 20 | | | 2 | 18 | | D | |

| Insert Arrangements | Total Contacts | Contact Sizes | | | | | Service Rating | |
|---------------------|----------------|---------------|---|----|----|----|----------------|---|
| | | 0 | 4 | 8 | 12 | 16 | | |
| 40A-21 | 21 | | 1 | | 20 | | * | |
| 40A-24 | 24 | | | 8 | 16 | | D | |
| 40A-25 | 25 | | 1 | | 24 | | A | |
| 40A-27 | 27 | | 2 | | 25 | | A | |
| 40A-29 * | 29 | | | 6 | 18 | 5 | A | |
| 40A-30 | 30 | | 1 | | 29 | | A | |
| 40A-31 | 31 | | | | 31 | | D | |
| 40A-34 * | 34 | | | 1 | 33 | | I | |
| 40A-35 | 35 | | | | 35 | | D | |
| 40A-38 | 38 | | | | 38 | | A | |
| 40A-47 | 47 | | | 1 | 22 | 24 | A | |
| 40A-56 | 85 | | | | | 85 | A | |
| 40A-60 | 60 | | | | | 60 | A | |
| 40A-62 | 62 | | | 2 | | 60 | A | |
| 40A-100 | 100 | ALL SIZE 18 | | | | | | A |
| 40A-130 | 130 | 114 SIZE 18 | | 4 | 12 | | I | |
| 40A-150 | 150 | ALL SIZE 18 | | | | | | I |
| 40B-4 | 4 | 4 | | | | | E | |
| 40B-5 | 5 | 3 | 1 | | 1 | | A | |
| 40B-19 | 19 | | | 19 | | | A | |
| 40B-37 | 37 | | | | 37 | | A | |
| 40B-90 | 3 | 1 SPECIAL | | | 2 | | D | |
| 40D-4 | 4 | | | | 4 | | C | |
| 40D-37 | 37 | | | | | 37 | A | |
| 40T-159* | 159 | ALL SIZE 20 | | | | | | I |

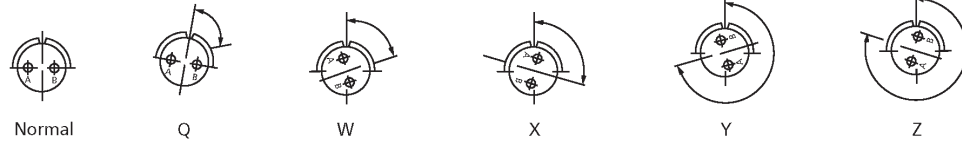


veam CIR Series Connectors

VEAM CIR Series Connectors

Insert Rotations - Alternate Positions

Alternate Positions of Insert Arrangements (Key Stationary - Insert Rotated) Front View of Pin Insert



| Insert Type | Degrees for Alternate Positions | | | | |
|-------------|---------------------------------|----|-----|-----|-----|
| | Q | W | X | Y | Z |
| 10SL-3 | 180 | - | - | - | - |
| 14S-2 | - | - | 120 | 240 | - |
| 14S-5 | - | - | 110 | - | - |
| 14S-6 | - | 90 | - | - | - |
| 14S-7 | - | 90 | 180 | 270 | - |
| 14S-9 | - | 70 | 145 | 215 | 290 |

| | | | | | |
|-------|---|----|-----|-----|-----|
| 16S-1 | - | 80 | - | - | 280 |
| 16S-4 | - | 35 | 110 | 250 | 325 |
| 16S-5 | - | 70 | 145 | 215 | 290 |
| 16S-8 | - | - | 170 | 265 | - |

| | | | | | |
|--------|---|----|-----|-----|-----|
| 16-7 | - | 80 | 110 | 250 | 280 |
| 16-9 | - | 35 | 110 | 250 | 325 |
| 16-10 | - | 90 | 180 | 270 | - |
| 16-11 | - | 35 | 110 | 250 | 325 |
| 16-13 | - | 35 | 110 | 250 | 325 |
| 16A-10 | - | 35 | 112 | 235 | 315 |

| | | | | | |
|-------|---|----|-----|-----|-----|
| 18-1 | - | 70 | 145 | 215 | 290 |
| 18-3 | - | 35 | 110 | 250 | 325 |
| 18-4 | - | 35 | 110 | 250 | 325 |
| 18-5 | - | 80 | 110 | 250 | 280 |
| 18-8 | - | 70 | - | - | 290 |
| 18-9 | - | 80 | 110 | 250 | 280 |
| 18-10 | - | - | 120 | 240 | - |
| 18-11 | - | - | 170 | 265 | - |
| 18-12 | - | 80 | - | - | 280 |
| 18-13 | - | 80 | 110 | 250 | 280 |
| 18-14 | - | 80 | 110 | 250 | 280 |
| 18-19 | - | - | 120 | 240 | - |
| 18-20 | - | 90 | 180 | 270 | - |
| 18-22 | - | 70 | 145 | 215 | 290 |

| | | | | | |
|-------|---|----|-----|-----|-----|
| 20-3 | - | 70 | 145 | 215 | 290 |
| 20-4 | - | 45 | 110 | 250 | - |
| 20-7 | - | 80 | 110 | 250 | 280 |
| 20-8 | - | 80 | 110 | 250 | 280 |
| 20-15 | - | 80 | - | - | 280 |
| 20-16 | - | 80 | 110 | 250 | 280 |
| 20-17 | - | 90 | 180 | 270 | - |
| 20-18 | - | 35 | 110 | 250 | 325 |
| 20-19 | - | 90 | 180 | 270 | - |
| 20-21 | - | 35 | 110 | 250 | 325 |

| Insert Type | Degrees for Alternate Positions | | | | |
|-------------|---------------------------------|----|-----|-----|-----|
| | Q | W | X | Y | Z |
| 20-22 | - | 80 | 110 | 250 | 280 |
| 20-23 | - | 35 | 110 | 250 | 325 |
| 20-24 | - | 35 | 110 | 250 | 325 |
| 20-27 | - | 35 | 110 | 250 | 325 |
| 20-29 | - | 80 | - | - | 280 |
| 20-33 | - | - | - | - | 280 |
| 20A-8 | - | 35 | 110 | 250 | 325 |
| 20A-9 | - | - | 110 | 250 | - |
| 20A-29 | - | 45 | - | 210 | - |
| 20A-48 | - | - | 80 | 280 | - |

| | | | | | |
|--------|---|----|-----|-----|-----|
| 22-1 | - | 35 | 110 | 250 | 325 |
| 22-2 | - | 70 | 145 | 215 | 290 |
| 22-4 | - | 35 | 110 | 250 | 325 |
| 22-5 | - | 35 | 110 | 250 | 325 |
| 22-6 | - | 80 | 110 | 250 | 280 |
| 22-8 | - | 35 | 110 | 250 | 325 |
| 22-9 | - | 70 | 145 | 215 | 290 |
| 22-11 | - | 35 | 110 | 250 | 325 |
| 22-12 | - | 80 | 110 | 250 | 280 |
| 22-14 | - | 80 | - | - | 280 |
| 22-15 | - | 80 | 110 | 250 | 280 |
| 22-17 | - | 80 | 110 | 250 | 280 |
| 22-18 | - | 80 | 110 | 250 | 280 |
| 22-19 | - | 80 | 110 | 250 | 280 |
| 22-21 | - | 80 | 110 | 250 | 280 |
| 22-22 | - | - | 110 | 250 | - |
| 22-23 | - | 35 | - | 250 | - |
| 22-27 | - | 80 | - | 250 | 280 |
| 22-28 | - | 80 | - | - | 280 |
| 22-34 | - | 80 | 110 | 250 | 280 |
| 22A-9 | - | 60 | 135 | 250 | 305 |
| 22A-10 | - | - | 120 | 240 | - |
| 22A-16 | - | 80 | 110 | 250 | 280 |
| 22A37 | - | 80 | 112 | 250 | 280 |
| 22B-10 | - | 45 | 110 | 250 | 315 |

| | | | | | |
|-------|---|----|-----|-----|-----|
| 24-2 | - | 80 | - | - | 280 |
| 24-5 | - | 80 | 110 | 250 | 280 |
| 24-06 | - | 40 | - | - | 320 |
| 24-6 | - | 80 | 110 | 250 | 280 |
| 24-7 | - | 80 | 110 | 250 | 280 |

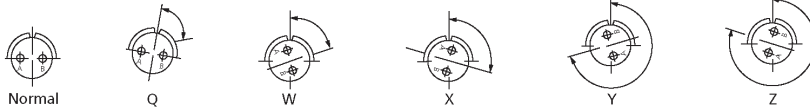
| Insert Type | Degrees for Alternate Positions | | | | |
|-------------|---------------------------------|----|-----|-----|-----|
| | Q | W | X | Y | Z |
| 24-9 | - | 35 | 110 | 250 | 325 |
| 24-10 | - | 80 | - | - | 280 |
| 24-11 | - | 35 | 110 | 250 | 325 |
| 24-12 | - | 80 | 110 | 250 | 280 |
| 24-20 | - | 80 | 110 | 250 | 280 |
| 24-21 | - | 80 | 110 | 250 | 280 |
| 24-22 | - | 45 | 110 | 250 | - |
| 24-27 | - | 80 | - | - | 280 |
| 24-28 | - | 80 | 110 | 250 | 280 |
| 24-67 | - | 80 | - | - | 335 |
| 24A-2 | - | 35 | 110 | 250 | 325 |
| 24A-6 | - | 42 | 134 | 262 | 339 |
| 24A-7 | - | 80 | - | - | 280 |
| 24A-11 | - | 35 | 110 | 250 | 325 |
| 24A-25 | - | 80 | 110 | 250 | 280 |
| 24A-28 | - | 65 | 146 | 235 | - |
| 24A-55 | - | 80 | 110 | 250 | 280 |

| | | | | | |
|--------|----|-----|-----|-----|-----|
| 28-1 | - | 80 | 110 | 250 | 280 |
| 28-2 | - | 35 | 110 | 250 | 325 |
| 28-3 | - | 70 | 145 | 215 | 290 |
| 28-5 | - | 35 | 110 | 250 | 325 |
| 28-6 | - | 70 | 145 | 215 | 290 |
| 28-9 | - | 80 | 110 | 250 | 280 |
| 28-10 | - | 80 | 110 | 250 | 280 |
| 28-11 | - | 80 | 110 | 250 | 280 |
| 28-12 | - | 90 | 180 | 270 | - |
| 28-15 | - | 80 | 110 | 250 | 280 |
| 28-16 | - | 80 | 110 | 250 | 280 |
| 28-17 | - | 80 | 110 | 250 | 280 |
| 28-18 | - | 70 | 145 | 215 | 290 |
| 28-19 | - | 80 | 110 | 250 | 280 |
| 28-20 | - | 80 | 110 | 250 | 280 |
| 28-21 | - | 80 | 110 | 250 | 280 |
| 28-22 | - | 70 | 145 | 215 | 290 |
| 28-51 | 23 | 80 | 135 | 195 | - |
| 28-59 | - | 35 | 110 | 250 | 325 |
| 28-72 | - | 72 | 144 | 216 | 288 |
| 28A-7 | - | 60 | 166 | 270 | 320 |
| 28A-9 | - | 110 | 250 | 260 | 280 |
| 28A-10 | - | 80 | 135 | 195 | - |
| 28A-14 | - | 35 | 90 | - | - |
| 28A-16 | - | 65 | 135 | 225 | 275 |
| 28A-31 | - | 35 | - | 260 | 310 |
| 28A-35 | - | 80 | 110 | 250 | 280 |
| 28B-7 | - | 80 | - | - | 280 |
| 28B-35 | - | 80 | 110 | 250 | 280 |
| 28P-3 | - | 70 | 145 | 215 | 290 |



VEAM CIR Series Connectors

Insert Rotations - Alternate Positions



Alternate Positions of Insert Arrangements (Key Stationary - Insert Rotated)
Front View of Pin Insert

| Insert Type | Degrees for Alternate Positions | | | | |
|-------------|---------------------------------|----|-----|-----|-----|
| | Q | W | X | Y | Z |
| 32-1 | - | 80 | 110 | 250 | 280 |
| 32-2 | - | 70 | 145 | 215 | 290 |
| 32-5 | - | 80 | 110 | 250 | 325 |
| 32-6 | - | 80 | 110 | 25 | 280 |
| 32-7 | - | 80 | 125 | 235 | 280 |
| 32-8 | - | 80 | 125 | 235 | 280 |
| 32-9 | - | 80 | 110 | 250 | 280 |
| 32-13 | - | 80 | 110 | 250 | 280 |
| 32-15 | 80 | 35 | 110 | 250 | 280 |
| 32-17 | - | 45 | 110 | 250 | - |
| 32-22 | - | 80 | 110 | 250 | 280 |
| 32-31 | - | 80 | 125 | 215 | 280 |
| 32-59 | - | 36 | 108 | 252 | 324 |
| 32-68 | - | 65 | 135 | 225 | 275 |
| 32-76 | - | 80 | 110 | 250 | 280 |
| 32-101 | - | 30 | 142 | - | - |
| 32A-3 | - | 22 | 44 | 75 | 98 |
| 32A-5 | - | 90 | 180 | 270 | - |
| 32A-8 | - | 35 | 122 | - | 315 |
| 32A-13 | - | 65 | 130 | 230 | 295 |
| 32A-14 | - | 35 | 90 | - | - |
| 32A-22 | - | 55 | 135 | 230 | 295 |
| 32A-25 | - | 60 | 120 | - | - |
| 32A-27 | - | 30 | 115 | 285 | 335 |
| 32A-30 | - | 65 | - | - | - |
| 32A-40 | - | 35 | 130 | - | - |
| 32A-48 | - | 80 | 125 | 235 | 280 |
| 32A-55 | - | 80 | 110 | 250 | 280 |
| 32B-22 | - | 35 | 110 | 250 | 325 |
| 32D-2 | - | 80 | 110 | - | - |

| Insert Type | Degrees for Alternate Positions | | | | |
|-------------|---------------------------------|-----|-----|-----|-----|
| | Q | W | X | Y | Z |
| 40-9 | - | 65 | 125 | 225 | 310 |
| 40-10 | - | 65 | 125 | 225 | 310 |
| 40-19 | - | 35 | 110 | 250 | 325 |
| 40-56 | 150 | 72 | 144 | 216 | 288 |
| 40-58 | - | 80 | - | - | - |
| 40-63 | - | 80 | 110 | 250 | 280 |
| 40A-2 | - | 35 | 110 | 250 | 325 |
| 40A-3 | - | 70 | 145 | 215 | 290 |
| 40A-4 | - | 50 | 120 | 240 | 325 |
| 40A-5 | - | 33 | - | - | 270 |
| 40A-7 | - | 108 | - | - | - |
| 40A-8 | - | 35 | 110 | 250 | 325 |
| 40A-14 | - | 80 | 135 | 195 | - |
| 40A-20 | - | 50 | 110 | 250 | 280 |
| 40A-21 | - | 50 | 130 | 260 | 280 |
| 40A-24 | - | 27 | - | - | - |
| 40A-25 | - | 50 | 130 | 260 | 280 |
| 40A-27 | - | 45 | 110 | 250 | 315 |
| 40A-30 | - | 30 | - | - | 295 |
| 40A-31 | - | 80 | 110 | 250 | 280 |
| 40A-35 | - | 70 | 130 | 230 | 290 |
| 40A-37 | - | 80 | 110 | 250 | 280 |
| 40A-38 | - | 37 | 74 | 285 | 322 |
| 40A-47 | - | 65 | 125 | 225 | 310 |
| 40A-56 | - | 72 | 144 | 216 | 288 |
| 40A-60 | - | 80 | 110 | 250 | 280 |
| 40A-62 | - | 80 | 130 | 230 | 280 |
| 40A-100 | - | 30 | 105 | 230 | 315 |
| 40A-130 | - | 45 | 113 | - | 309 |
| 40B-4 | - | 45 | 110 | - | - |
| 40B-19 | - | 35 | 105 | 225 | 325 |
| 40B-37 | - | 30 | 135 | - | - |
| 40D-4 | - | 45 | 110 | - | - |
| 40D-37 | - | 80 | 110 | 250 | 280 |

| | | | | | |
|--------|---|-----|-----|-----|-----|
| 36-3 | - | 70 | 145 | 215 | 290 |
| 36-5 | - | - | 120 | 240 | - |
| 36-6 | - | 35 | 110 | 250 | 325 |
| 36-7 | - | 80 | 110 | 250 | 280 |
| 36-8 | - | 80 | 110 | 250 | 280 |
| 36-9 | - | 80 | 125 | 235 | 280 |
| 36-10 | - | 80 | 125 | 235 | 280 |
| 36-15 | - | 60 | 125 | 245 | 305 |
| 36-54 | - | 67 | - | - | - |
| 36-66 | - | 110 | 250 | 260 | 280 |
| 36-77 | - | - | 90 | - | - |
| 36-78 | - | 35 | 106 | 254 | 325 |
| 36A-2 | - | 35 | 110 | 250 | 325 |
| 36A-10 | - | 45 | 110 | 250 | 315 |
| 36A-22 | - | 80 | 110 | 250 | 280 |
| 36A-48 | - | 65 | - | - | - |
| 36A-51 | - | 45 | 135 | 225 | 315 |
| 36A-61 | - | 80 | - | - | 280 |
| 36A-72 | - | - | 110 | - | - |
| 36B-78 | - | 35 | 106 | 254 | 325 |
| 36D-78 | - | 35 | 106 | 254 | 325 |
| 36B-12 | - | 45 | 110 | 150 | 290 |



veam CIR Series Connectors

Contact Arrangements

Contact Legend



Standard Contact / Current Rating / Wire Size / MM²

| | | | | | | | | |
|------------------|-------|-------|-------|---------|------|------|-------|-------|
| Standard Contact | 20 | 18 | 16 | 12 | 8 | 4 | 0 | 4/0 |
| Current Rating | 7.5 A | 7.5 A | 13 A | 23 A | 46 A | 80 A | 150 A | 225 A |
| Wire Size (AWG) | 20-22 | 18-20 | 16-18 | 12-14 | 8 | 4 | 0 | 4/0 A |
| MM ² | 0.52 | 0.82 | 1.3 | 3.3-2.1 | 8.6 | 21 | 56 | 107 |

Front View of Male Insert by Insert Arrangement*

| Insert Arrangement - 1 Contacts | | | | | |
|---------------------------------|--------------------|--------------------|----------------------|--------------------|--------------------|
| 16-2 | 16-12 | 18-6 | 18-16 | 18-61 | 20-2 |
| Service Rating - E | Service Rating - A | Service Rating - D | Service Rating - C | Service Rating - D | Service Rating - D |
| | | | | | |
| | | | | Consult ITT | |
| 22-7 | 24A-1 | 32A-1 | 36A-1 | | |
| Service Rating - E | Service Rating - B | Service Rating - B | Service Rating - C | | |
| | | | | | |
| | | | with rear protection | | |
| Insert Arrangement 2 Contacts | | | | | |
| 10SL-4 ☺ | 14S-9 | 16S-4 | 16-11 | 16-13* | 16-52* |
| Service Rating - A | Service Rating - A | Service Rating - D | Service Rating - A | Service Rating - A | Service Rating - A |
| | | | | | |
| 18-3 | 18-14 | 20-23 | 22-1 | 22-8 | 22-11 |
| Service Rating - D | Service Rating - A | Service Rating - A | Service Rating - D | Service Rating - E | Service Rating - B |
| | | | | | |

☺ Insert on stock

*Drawings not to scale

* Valid only for thermocouple application



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 2 Contacts | | | | | |
|-------------------------------|-------------------------------|--------------------|--------------------|-------------------------------------|---------------------|
| 24A-2P (FT) | 24-9 | 32A-2 | 32D-2 | 32-5 | 36A-2 |
| Service Rating 4200V DC | Service Rating - A | Service Rating - D | Service Rating - A | Service Rating - D | Service Rating - A |
| Consult ITT | | | | | |
| 40A-2 | | | | | |
| Service Rating -D | | | | | |
| | | | | | |
| Insert Arrangement 3 Contacts | | | | | |
| 10SL-3 ☺ | 10SL-55 | 14S-1 | 14S-7 ☺ | 14S-12 | 16S-5 |
| Service Rating - A | Service Rating - I | Service Rating - A | Service Rating - A | Service Rating - A 14S-7 rotated | Service Rating - A |
| | Only thermocouple version | | | | |
| 16-7 | 16-10 | 18-5 | 18-22 | 20-3 | 20-19 |
| Service Rating -A | Service Rating - A | Service Rating - A | Service Rating - D | Service Rating - D | Service Rating - A |
| | | | | | |
| 22-2 ☺ | 22-6 | 22-9 | 22-21 | 28-3 | 28P-3 |
| Service Rating -D | Service Rating - D | Service Rating -E | Service Rating - A | Service Rating - E | Service Rating - C |
| | | | | | with protection |

☺ Insert on stock

*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 3 Contacts | | | | | |
|-------------------------------|-------------------------------------|--------------------|--------------------|-------------------------------------|-------------------------------------|
| 28-6 | 32A-3 | | | | |
| Service Rating - D | Service Rating - B | | | | |
| | | | | | |
| Insert Arrangement 4 Contacts | | | | | |
| 14S-2 ☺ | 14S-10 | 16-9 | 18-4 ☺ | 18-10 | 18-13 |
| Service Rating - I | Service Rating - I 14S-2 rotated | Service Rating - A | Service Rating - D | Service Rating - A | Service Rating - A |
| | | | | | |
| 20-4 | 20-24 | 22-4 | 22-22 ☺ | 24-22 | 32-17 |
| Service Rating - D | Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - D | Service Rating - D |
| | | | | | |
| 36-5 | 40D-4 | 40B-4 ☺ | | | |
| Service Rating - A | Service Rating - C | Service Rating - C | | | |
| | | | | | |
| Insert Arrangement 5 Contacts | | | | | |
| 14S-5 ☺ | 16S-8 | 18-11 ☺ | 18-20 | 18-30 | 18-31 |
| Service Rating - I | Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A 18-20 rotated | Service Rating - A 18-20 rotated |
| | | | | | |

☺ Insert on stock

*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 5 Contacts | | | | | |
|-----------------------------------|---|---|---|---|--|
| 22-12 Service Rating - D | 22-34 Service Rating - D | 24-12 Service Rating - A | 28-5 Service Rating -D | 28A-5GM Service Rating - A special for ground systems | 32-1 Service Rating - A-E; B,C,D,E=D |
| 32-2 Service Rating- E | 32A-5GM Service Rating - A special for ground systems | 32B-5GM Service Rating - A special for ground systems | 40A-3 Service Rating -E | 40A-5GM Service Rating - A special for ground systems | 40B-5 Service Rating - A |
| Insert Arrangement 6 Contacts | | | | | |
| 14S-6 ☺ Service Rating - I | 18-06 Service Rating - A | 18-12 Service Rating -A | 20-8 Service Rating - I | 20-17 Service Rating - A | 20-22 Service Rating- A |
| 22-5 Service Rating -D | 22-15 Service Rating - D=E; A,B,C,E,F=A | 24-06 Service Rating - D | 24A-6* Service Rating - D Consult ITT | 28A-6 Service Rating - A | 28-22 Service Rating- D |
| 36-3 Service Rating- D | 36-6 Service Rating - A | 36B-6 Service Rating - B | 36A-51 Service Rating - D | 36A-61 Service Rating - E | |

☺ Insert on stock
*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 6 Contacts | | | | | |
|-------------------------------|---|--------------------|---|-------------------------------------|--------------------------------|
| 36B-61 | 40A-4 | | | | |
| Service Rating - E | Service Rating - A | | | | |
| | | | | | |
| Insert Arrangement 7 Contacts | | | | | |
| 14SA-7 | 16S-1 ☺ | 18-9 | 18-17 | 20A-7 | 20-15 |
| Service Rating - I | Service Rating - A | Service Rating - I | Service Rating - I 18-9 rotated | Service Rating - D | Service Rating - A |
| | | | | | |
| 22-28 | 24-2 (GM) | 24-10 ☺ | 24-27 | 24A-7 | 28A-7 |
| Service Rating - A | Service Rating - D | Service Rating - A | Service Rating - E | Service Rating - D | Service Rating - A |
| | special for ground system | | | | |
| 28B-7 | 28-10 | 32A-7 | 36-77 | 40A-7 | |
| Service Rating - A | Service Rating - G=D; BAL.=A | Service Rating - D | Service Rating - D | Service Rating - A | |
| | | | | | |
| Insert Arrangement 8 Contacts | | | | | |
| 18-8 ☺ | 20-7 | 20A-8 ☺ | 22-18 | 24-6 (HM) | 22-23 |
| Service Rating - A | Service Rating - A,B,H, G=N; C,D,F F=A | Service Rating - I | Service Rating - A,B,F,G, H=D; C,D,E=A | Service Rating - A,G,H=D; BAL.=A | Service Rating- H=D; BAL.=A |
| | | | | special for ground system | |

☺ Insert on stock
*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 8 Contacts | | | | | |
|--------------------------------|---|--------------------|---|-------------------------------------|--------------------------------|
| 24A-8 (FT) | 32-15 | 32A-8 | 40A-8 | 40A-10 | |
| Service Rating - HV=15KV | Service Rating - D | Service Rating - A | Service Rating - E | Service Rating - D | |
| | | | | | |
| Insert Arrangement 9 Contacts | | | | | |
| 20-16 | 20-18 | 20-21 | 20A-9 | 22A-9 | 22-17 |
| Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - J=D; BAL.=A | Service Rating - 1,2,3=D; BAL.=A | Service Rating - A=D;BAL.=A |
| | | | | | |
| 24-11 (EM) | 28-1 | 28A-9 | | | |
| Service Rating - A | Service Rating - A,J,E=D; BAL.=A | Service Rating - A | | | |
| special for ground system | | | | | |
| Insert Arrangement 10 Contacts | | | | | |
| 16A-10 | 18-1 ☺ | 18-19 | 18-24 | 22A-10 | 22B-10 |
| Service Rating - A | Service Rating - B,C,F,G=A; BAL.=I | Service Rating - A | Service Rating - B,C,F,G=A; BAL.=I 18-1 rotated | Service Rating - A | Service Rating - A |
| | | | | | |
| 24-21 | 28-19 | 28A-10 | 36A-10 | 36B-10 | |
| Service Rating - D | Service Rating - H,M=B; Δ R=Π-RAI =Δ | Service Rating - D | Service Rating - A | Service Rating - A | |
| | | | | | |

☺ Insert on stock
*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 11 Contacts | | | | | |
|--------------------------------|-------------------------------------|---|--------------------|--------------------|--------------------|
| 20-33 ☺ | 20A-11 | 24A-11 | 24-20 | | |
| Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - D | | |
| | | | | | |
| Insert Arrangement 12 Contacts | | | | | |
| 24-19 | 28-9 | 28-18 | 28-51 | 36A-12 | 36B-12 |
| Service Rating - A | Service Rating - D | Service Rating - M = C; G, H, J, K, L = D A, B = A; BAL = I | Service Rating - D | Service Rating - A | Service Rating - D |
| | | | | | |
| Insert Arrangement 13 Contacts | | | | | |
| 20-11 | 20-25 | 20-30 | 24-013 | 32A-13 ☺ | |
| Service Rating - I | Service Rating - I 20-11 rotated | Service Rating - I 20-11 rotated | Service Rating - A | Service Rating - D | |
| | | | | | |
| Insert Arrangement 14 Contacts | | | | | |
| 20-27 ☺ | 22-19 ☺ | 28-2 | 28A-14 | 28-20 | 32-9 |
| Service Rating - A | Service Rating - A | Service Rating - D | Service Rating - D | Service Rating - A | Service Rating - D |
| | | | | | |
| 36-78 | 36B-78 | 36D-78 | 40A-14 | | |
| Service Rating - D | Service Rating - D | Service Rating - D | Service Rating - A | | |
| | | | | | |

☺ Insert on stock

*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 15 Contacts | | | | | | |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|
| 28-17 | | | | | | |
| Service Rating -R=B;M,N,P=D ; BAL.=A | | | | | | |
| | | | | | | |
| Insert Arrangement 16 Contacts | | | | | | |
| 22A-16 | 24-5 | 24-7 | 28A-16 | 32-68 | | |
| Service Rating - I | Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A | | |
| | | | | | | |
| Insert Arrangement 17 Contacts | | | | | | |
| 20-29 | | 28-59 | | | | |
| Service Rating - A | | Service Rating - A | | | | |
| | | | | | | |
| Insert Arrangement 19 Contacts | | | | | | |
| 20A-48 ☺ | 22-14 ☺ | 24-67 ☺ | 32-76 | 40-19 | 40A-19 | |
| Service Rating - I | Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A | |
| | | | | | | |
| 40B-19 | | | | | | |
| Service Rating - A | | | | | | |
| | | | | | | |

☺ Insert on stock
*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 20 Contacts | | Insert Arrangement 21 Contacts | | |
|--------------------------------|-----------------------------|------------------------------------|--------------------|--------------------|
| 28-16 | 40A-20 | 40A-21 | | |
| Service Rating - A | Service Rating - D | Service Rating - 21=D;BAL=A | | |
| | | | | |
| Insert Arrangement 22 Contacts | | | | |
| 28-11 | 32A-22 | 32B-22 | 36A-22 | |
| Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - D | |
| | | | | |
| Insert Arrangement 23 Contacts | | Insert Arrangement 24 Contacts | | |
| 32-6 | 32-13 | 32-16 | 24-28 ☺ | 40A-24 |
| Service Rating - A | Service Rating - D | Service Rating - A 32-6 rotated | Service Rating - I | Service Rating - D |
| | | | | |
| Insert Arrangement 25 Contacts | | | | |
| 24A-25 | 32A-25 | 40A-25 | | |
| Service Rating - I | Service Rating - A | Service Rating - A | | |
| | | | | |
| Insert Arrangement 26 Contacts | | | | |
| 28-12 ☺ | 28-13 | | | |
| Service Rating - A | Service Rating - A 28-12 | | | |
| | | | | |

☺ Insert on stock
 *Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 27 Contacts | | Insert Arrangement 28 Contacts | | |
|--------------------------------|--------------------|--------------------------------|--------------------|------------------------------------|
| 32A-27 | 40A-27 | 24A-28 | ☺ | |
| Service Rating - A | Service Rating - A | Service Rating - I | | |
| | | | | |
| Insert Arrangement 29 Contacts | | | | |
| 40-10 | | | | |
| Service Rating - A | | | | |
| | | | | |
| Insert Arrangement 30 Contacts | | | | |
| 32-8 | 32A-30 | 40A-30 | | |
| Service Rating - A | Service Rating - A | Service Rating - A | | |
| | | | | |
| Insert Arrangement 31 Contacts | | | | |
| 28A-31 | 32-31 | 32A-31 | 36-9 | 36-18 |
| Service Rating - I | Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A 36-9 rotated |
| | | | | |
| Insert Arrangement 31 Contacts | | Insert Arrangement 34 Contacts | | |
| 40A-31 | | 40A-34 | | |
| Service Rating - D | | Service Rating - I | | |
| | | | | |

☺ Insert on stock

*Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 35 Contacts | | | | | |
|--------------------------------|---------------------|---------------------------------|---|-----------------------------------|--------------------|
| 28-15 | 28A-35 | 28B-35 | 32-7 | 36-15 ☺ | 40A-35 ☺ |
| Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A, B, h, j, l; BAL = A | Service Rating - A M = D; BAL = A | Service Rating - D |
| | | | | | |
| Insert Arrangement 37 Contacts | | | Insert Arrangement 38 Contacts | | |
| 22A-37 | 28-21 ☺ | 40B-37 | 40D-37 | 40A-38 | |
| Service Rating - A | Service Rating - A | Service Rating - A | Service Rating - A with protect | Service Rating - A | |
| | | | | | |
| Insert Arrangement 39 Contacts | | Insert Arrangement 40 Contacts | | Insert Arrangement 42 Contacts | |
| 36-54 | | 32A-40 | | 32-59 | |
| Service Rating - A | | Service Rating - A | | Service Rating - A | |
| | | | | | |
| Insert Arrangement 44 Contacts | | | | | |
| 36-74 | | | | | |
| Service Rating - A | | | | | |
| | | | | | |
| Insert Arrangement 47 Contacts | | | | | |
| 36-7 | 36-8 | 36-16 | 36-17 | 40-9 | 40A-47 |
| Service Rating - AS | Service Rating - AS | Service Rating - A 36-7 rotated | Service Rating - A 36-7 rotated | Service Rating - AS | Service Rating - A |
| | | | | | |

☺ Insert on stock *Drawings not to scale



Contact Legend



Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 48 Contacts | | | | |
|--------------------------------|--------------------|-------------------------------------|--|-------------------------------------|
| 32A-48 ☺ | 36-10 ☺ | 36-11 | 36-12 | 36A-48 |
| Service Rating - I | Service Rating - A | Service Rating - A 36-10 rotated | Service Rating - A 36-10 rotated Contact ITT for drawing | Service Rating - I |
| | | | | |
| Insert Arrangement 54 Contacts | | Insert Arrangement 55 Contacts | | |
| 32-22 | | 24A-55 | 32A-55 ☺ | |
| Service Rating - A | | Service Rating - I | Service Rating - A | |
| | | | | |
| Insert Arrangement Contacts 56 | | Insert Arrangement 60 Contacts | | |
| 36-66 | | 40A-60 | | |
| Service Rating - A | | Service Rating - A | | |
| | | | | |
| Insert Arrangement Contacts 61 | | Insert Arrangement Contacts 62 | | Insert Arrangement Contacts 72 |
| 40-63 | ☺ | 40A-62A | | 28-72 |
| Service Rating - A | | Service Rating - A | | Service Rating - I |
| | | | | |
| Insert Arrangement Contacts 85 | | Insert Arrangement Contacts 100 | | Insert Arrangement Contacts 101 |
| 40-56 ☺ | 40A-56 | 40A-100 | | 32-101 |
| Service Rating - A | Service Rating - A | Service Rating - A, contact size 18 | | Service Rating - I, contact size 20 |
| | | | | |

☺ Insert on stock *Drawings not to scale



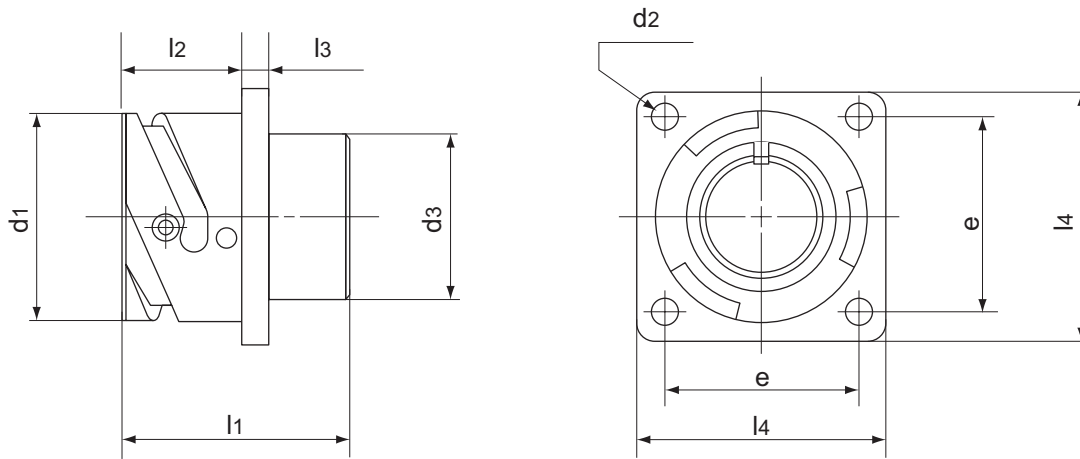


Front View of Male Insert by Insert Arrangement*

| Insert Arrangement 130 Contacts | Insert Arrangement 150 Contacts | Insert Arrangement 159 Contacts |
|---|-------------------------------------|-------------------------------------|
| 40A-130 | 40A-150 | 40T-159 |
| Service Rating - I, 4 contacts size 12, 12 contacts size 16, 114 contacts size 18 | Service Rating - I, contact size 18 | Service Rating - A, contact size 20 |
| | | |



Receptacle with through mounting holes. For threaded and countersunk mounting holes, reference pages 46 and 47.



| Shell Size | d1 +0 -0.15 | d2 H13 | d3 max | e ±0.1 | l1 max | l2 +0,4 -0 | l3 ±0,2 | l4 ±0,3 |
|------------|-------------------|-------------|--------------|--------------|--------------|------------------|-------------|--------------|
| 10SL | 18,2 0.72 | 3.2 0.12 | 15.9 0.62 | 18,2 0.72 | 25 0.98 | 14.2 0.56 | 2,8 0.11 | 25,4 1.00 |
| 14S | 24,6 0.97 | 3.2 0.12 | 19.2 0.75 | 23 0.90 | 25 0.98 | 14.2 0.56 | 3,2 0.12 | 30 1.18 |
| 16S | 27,4 1.08 | 3.2 0.12 | 22.4 0.88 | 24,6 0.97 | 25 0.98 | 14.2 0.56 | 3,2 0.12 | 32,5 1.28 |
| 16 | 27,4 1.08 | 3.2 0.12 | 22.4 0.88 | 24,6 0.97 | 34.1 1.34 | 19 0.75 | 3,2 0.12 | 32,5 1.28 |
| 18 | 30,8 1.21 | 3.2 0.12 | 25.6 1.00 | 27 1.06 | 34.1 1.34 | 19 0.75 | 4 0.16 | 35 1.38 |
| 20 | 34,2 1.35 | 3.2 0.12 | 29 1.14 | 29,4 1.16 | 34.1 1.34 | 19 0.75 | 4 0.16 | 38 1.50 |
| 22 | 37,4 1.47 | 3.2 0.12 | 32.2 1.27 | 31,8 1.25 | 34.1 1.34 | 19 0.75 | 4 0.16 | 41 1.61 |
| 24 | 40,9 1.61 | 3.7 0.14 | 35.3 1.39 | 34,9 1.37 | 36 1.42 | 20.6 0.81 | 4 0.16 | 44,5 1.75 |
| 28 | 46,7 1.84 | 3.7 0.14 | 41.4 1.63 | 39,7 1.56 | 36 1.42 | 20.6 0.81 | 4 0.16 | 50,8 2.00 |
| 32 | 53,4 2.10 | 4.3 0.17 | 47.8 1.88 | 44,5 1.75 | 37.6 1.48 | 22.2 0.87 | 4 0.16 | 57 2.24 |
| 36 | 59,6 2.35 | 4.3 0.17 | 54.1 2.13 | 49,2 1.94 | 37.6 1.48 | 22.2 0.87 | 4 0.16 | 63,5 2.50 |
| 40 | 65,5 2.58 | 4.3 0.17 | 59 2.32 | 55,5 2.18 | 37.6 1.48 | 22.2 0.87 | 4 0.16 | 69,9 2.75 |

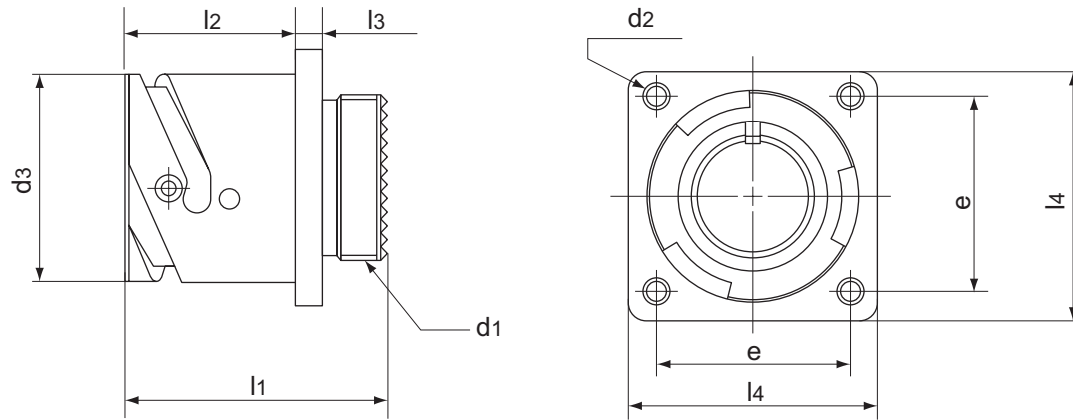
*Drawings not to scale



veam CIR Series Connectors

CIR030

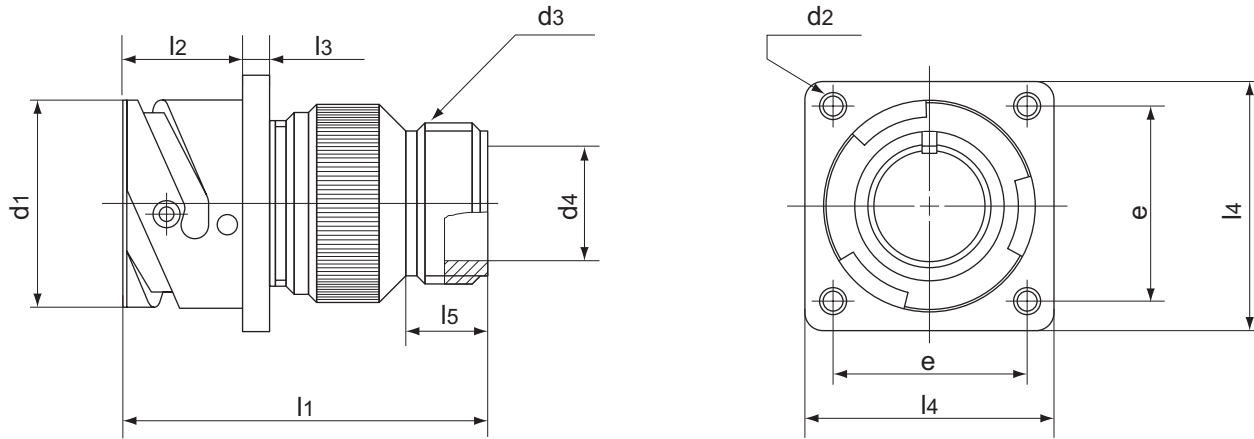
Receptacle with threaded mounting holes and threaded back end. For through mounting holes, reference pages 46 and 47.



| Shell Size | d1 Thread in inches | d2 - | d3 +0 -0.15 | e ±0.1 | l1 ±0.3 | l2 +0,4 -0" | l3 ±0,2 | l4 ±0,3 |
|------------|------------------------|---------|-------------------|--------------|--------------|-------------------|-------------|--------------|
| 10SL | 5/8-24 UNEF-2A | M4 | 18.2 0.72 | 18.2 0.72 | 27.6 1.09 | 18.2 0.72 | 2.8 0.11 | 25.4 1 |
| 14S | 3/4-20 UNEF-2A | M4 | 24.6 0.97 | 23 0.90 | 27.6 1.09 | 18.2 0.72 | 3.2 0.12 | 30. 1.18 |
| 16S | 7/8-20 UNEF-2A | M4 | 27.4 1.08 | 24.6 0.97 | 27.6 1.09 | 18.2 0.72 | 3.2 0.12 | 32.5 1.28 |
| 16 | 7/8-20 UNEF-2A | M4 | 27.4 1.08 | 24.6 0.97 | 27.6 1.09 | 23.05 0.91 | 3.2 0.12 | 32.5 1.28 |
| 18 | 1"-20 UNEF-2A | M4 | 30.8 1.21 | 27 1.06 | 33.8 1.33 | 23.05 0.90 | 4 0.16 | 35 1.38 |
| 20 | 1" 1/8-18 UNEF-2A | M4 | 34.2 1.35 | 29.4 1.16 | 33.8 1.33 | 23.05 0.91 | 4 0.16 | 38 1.50 |
| 22 | 1" 1/4-18 UNEF-2A | M4 | 37.4 1.47 | 31.8 1.25 | 33.8 1.33 | 23.05 0.91 | 4 0.16 | 41 1.61 |
| 24 | 1" 3/8-18 UNEF-2A | M4 | 40.9 1.61 | 34.9 1.37 | 33.8 1.33 | 23.05 0.91 | 4 0.16 | 44.5 1.75 |
| 28 | 1" 5/8-18 UNEF-2A | M5 | 46.7 1.84 | 39.7 1.56 | 35.7 1.4 | 24.05 0.95 | 4 0.16 | 50.8 2.00 |
| 32 | 1" 7/8-16 UNS-2A | M5 | 53.4 2.10 | 44.5 1.75 | 37.3 1.47 | 24.05 0.95 | 4 0.16 | 57 2.24 |
| 36 | 2" 1/16-16 UNS-2A | M5 | 59.6 2.35 | 49.2 1.94 | 37.3 1.47 | 24.05 0.95 | 4 0.16 | 63.5 2.50 |
| 40 | 2" 5/16-16 UN-2A | M5 | 65.5 2.58 | 55.5 2.18 | 37.2 1.46 | 24.05 0.95 | 4 0.16 | 69.9 2.75 |



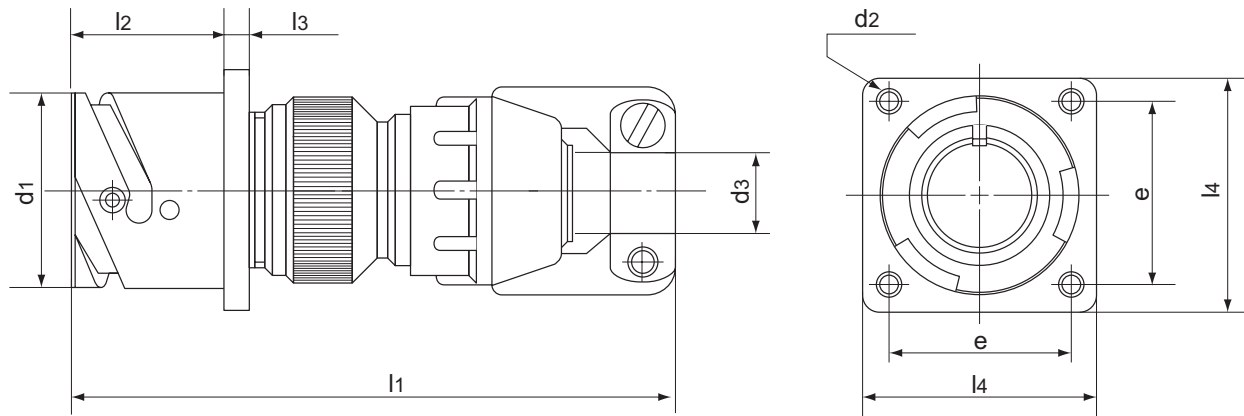
Receptacle with threaded mounting holes and backshell. R type has an individual wire sealing grommet. For through mounting holes, reference pages 46 and 47.



| Shell Size | d1 +0 -0,15 | d2 | d3 Thread in inches | d4 +0,1 -0 | e | l1 max. | l2 +0,4 -0 | l3 ±0,2 | l4 ±0,3 | l5 min. |
|------------|-------------------|----|---------------------------|------------------|--------------|------------|------------------|-------------|--------------|--------------|
| 10SL | 18,2 0.72 | M4 | 5/8-24 UNEF-2A | 10,4 0.41 | 18,2 0.72 | 46 1.81 | 18,2 0.72 | 2,8 0.11 | 25,4 1.00 | 9,5 0.37 |
| 14S | 24,6 0.97 | M4 | 3/4-20 UNEF-2A | 13,2 0.52 | 23 0.90 | 50 2.00 | 18,2 0.72 | 3,2 0.13 | 30 1.18 | 9,5 0.37 |
| 16S | 27,4 1.08 | M4 | 7/8-20 UNEF-2A | 16,2 0.64 | 24,6 0.97 | 50 2.00 | 18,2 0.72 | 3,2 0.13 | 32,5 1.28 | 9,5 0.37 |
| 16 | 27,4 1.08 | M4 | 7/8-20 UNEF-2A | 16,2 0.64 | 24,6 0.97 | 58 2.28 | 23.05 0.91 | 3,2 0.13 | 32,5 1.28 | 9,5 0.37 |
| 18 | 30,8 1.21 | M4 | 1"-20 UNEF-2A | 19,2 0.75 | 27 1.06 | 58 2.28 | 23.05 0.91 | 4 0.16 | 35 1.38 | 9,5 0.37 |
| 20 | 34,2 1.35 | M4 | 1 1/3-16-18 UNEF-2A | 22 0.87 | 29,4 1.16 | 58 2.28 | 23.05 0.91 | 4 0.16 | 38 1.50 | 9,5 0.37 |
| 22 | 37,4 1.47 | M4 | 1 1/3-16-18 UNEF-2A | 24,5 0.96 | 31,8 1.25 | 59 2.32 | 23.05 0.91 | 4 0.16 | 41 1.61 | 9,5 0.37 |
| 24 | 40,9 1.61 | M4 | 1 7/16-18 UNEF-2A | 27,8 1.109 | 34,9 1.37 | 59 2.32 | 23.05 0.91 | 4 0.16 | 44,5 1.75 | 9,5 0.37 |
| 28 | 46,7 1.84 | M5 | 1 7/16-18 UNEF-2A | 31,2 1.23 | 39,7 1.56 | 67 2.64 | 24,05 0.95 | 4 0.16 | 50,8 2.00 | 9,5 0.37 |
| 32 | 53,4 2.10 | M5 | 1 3/4-18 UNS-2A | 37,8 1.49 | 44,5 1.75 | 71 2.79 | 24,05 0.95 | 4 0.16 | 57 2.24 | 11 0.43 |
| 36 | 59,6 2.35 | M5 | 2"-18 UNS-2A | 45 1.77 | 49,2 1.94 | 71 2.79 | 24,05 0.95 | 4 0.16 | 63,5 2.50 | 11,8 0.46 |
| 40 | 65,5 2.58 | M5 | 2 1/4-16 UN-2A | 51,2 2.01 | 55,5 2.18 | 86 3.38 | 24,05 0.95 | 4 0.16 | 69,9 2.75 | 11,8 0.46 |



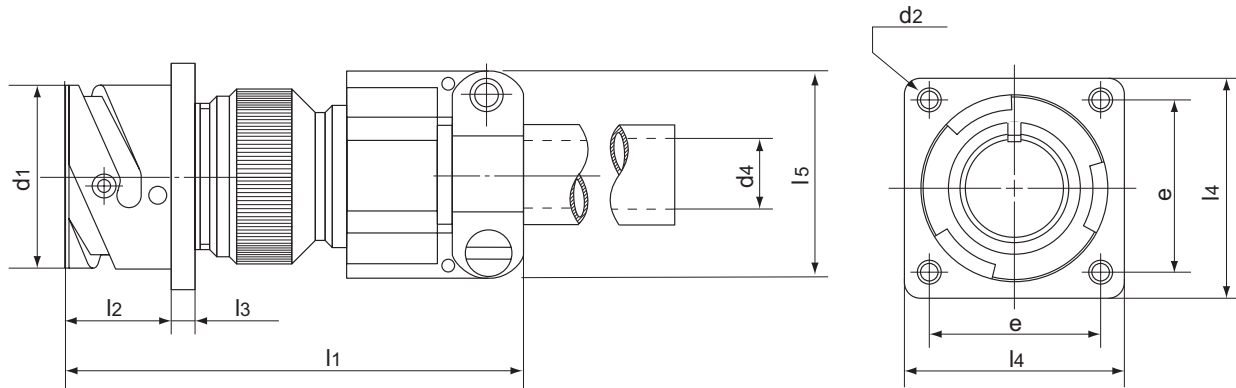
Receptacle with threaded mounting holes and a cable clamp for jacketed cables. CFZ type also has an individual wire sealing grommet. For through mounting holes, reference pages 46 and 47.



| Shell Size | d1 +0 -0,15 | d2 - | d3 Closed | e | l1 max. | l2 +0,4 -0 | l3 ±0,2 | l4 ±0,3 |
|------------|-------------------|---------|---------------|--------------|-------------|------------------|-------------|--------------|
| 10SL | 18,2 0.72 | M4 | 2,38 .094 | 18,2 0.72 | 76 2.99 | 18,2 0.72 | 2,8 0.11 | 25,4 1.00 |
| 14S | 24,6 0.97 | M4 | 6,35 .25 | 23 0.90 | 80 3.15 | 18,2 0.72" | 3,2 0.12 | 30 1.18 |
| 16S | 27,4 1.08 | M4 | 8,0 .315 | 24,6 0.97 | 80 3.15 | 18,2 0.72 | 3,2 0.12 | 32,5 1.28 |
| 16 | 27,4 1.08 | M4 | 8,0 .315 | 24,6 0.97 | 88 3.46 | 23,05 0.91 | 3,2 0.12 | 32,5 1.28 |
| 18 | 30,8 1.21 | M4 | 9,6 .375 | 27 1.06 | 91 3.58 | 23,05 0.91 | 4 0.16 | 35 1.38 |
| 20 | 34,2 1.35 | M4 | 11,3 .445 | 29,4 1.16 | 91 3.58 | 23,05 0.91 | 4 0.16 | 38 1.50 |
| 22 | 37,4 1.47 | M4 | 11,3 .445 | 31,8 1.25 | 92 3.62 | 23,05 0.91 | 4 0.16 | 41 1.61 |
| 24 | 40,9 1.61 | M4 | 15,5 .610 | 34,9 1.37 | 95 3.74 | 23,05 0.91 | 4 0.16 | 44,5 1.75 |
| 28 | 46,7 1.84 | M5 | 15,5 .610" | 39,7 1.56 | 103 4.05 | 24,05 0.95 | 4 0.16 | 50,8 2.00 |
| 32 | 53,4 2.10 | M5 | 23,4 .921 | 44,5 1.75 | 113 4.45 | 24,05 0.95 | 4 0.16 | 57 2.24 |
| 36 | 59,6 2.35 | M5 | 23,4 .921 | 49,2 1.94 | 120 4.72 | 24,05 0.95 | 4 0.16 | 63,5 2.50 |
| 40 | 65,5 2.58 | M5 | 29,9 1.177 | 55,5 2.18 | 135 5.31 | 24,05 0.95 | 4 0.16 | 69,9 2.75 |



Receptacle with threaded mounting holes, individual wire sealing grommet and cable-clamp with bushing. AF type has no grommet. For through mounting holes, reference pages 46 and 47.



| Shell Size | d1 +0 -0,15 | d2 - | d4 max.* | e ±0,1 | l1 max. | l2 +0,4 -0 | l3 ±0,2 | l4 ±0,3 | l5 max. |
|------------|-------------------|---------|--------------|--------------|-------------|------------------|-------------|--------------|--------------|
| 10SL | 18,2 0.72 | M4 | 5,6 0.22 | 18,2 0.72 | 67 2.64 | 18,2 0.72 | 2,8 0.11 | 25,4 1.00 | 22,7 0.89 |
| 14S | 24,6 0.97 | M4 | 7,9 0.31 | 23 0.90 | 72 2.83 | 18,2 0.72 | 3,2 0.12 | 30 1.18 | 27,5 1.08 |
| 16S | 27,4 1,08 | M4 | 11 0.43 | 24,6 0.97 | 75 2.95 | 18,2 0.72 | 3,2 0.12 | 32,5 1.28 | 30 1.18 |
| 16 | 27,4 1,08 | M4 | 11 0.43 | 24,6 0.97 | 82 3.23 | 23,05 0.91 | 3,2 0.12 | 32,5 1.28 | 30 1.18 |
| 18 | 30,8 1.21 | M4 | 14,2 0.56 | 27 1.06 | 82 3.23 | 23,05 0.91 | 4 0.16 | 35 1.38 | 32,2 1.27 |
| 20 | 34,2 1.35 | M4 | 15,8 0.62 | 29,4 1.16 | 82 3.23 | 23,05 0.91 | 4 0.16 | 38 1.50 | 37,5 1.48 |
| 22 | 37,4 1.47 | M4 | 15,8 0.62 | 31,8 1.25 | 83 3.27 | 23,05 0.91 | 4 0.16 | 41 1.61 | 37,5 1.48 |
| 24 | 40,9 1.61 | M4 | 19 0.75 | 34,9 1.37 | 85 3.35 | 23,05 0.91 | 4 0.16 | 44,5 1.75 | 43,3 1.70 |
| 28 | 46,7 1.84 | M5 | 19 0.75 | 39,7 1.56 | 93 3.66 | 24,05 0.95 | 4 0.16 | 50,8 2.00 | 43,3 1.70 |
| 32 | 53,4 2.10 | M5 | 23,8 0.94 | 44,5 1.75 | 99 3.90 | 24,05 0.95 | 4 0.16 | 57 2.24 | 51,7 2.03 |
| 36 | 59,6 2.35 | M5 | 31,7 1.25 | 49,2 1.94 | 100 3.94 | 24,05 0.95 | 4 0.16 | 63,5 2.50 | 58 2.28 |
| 40 | 65,5 2.58 | M5 | 34,9 1.37 | 55,5 2.18 | 128 5.04 | 24,05 0.95 | 4 0.16 | 69,9 2.75 | 68.5 2.70 |

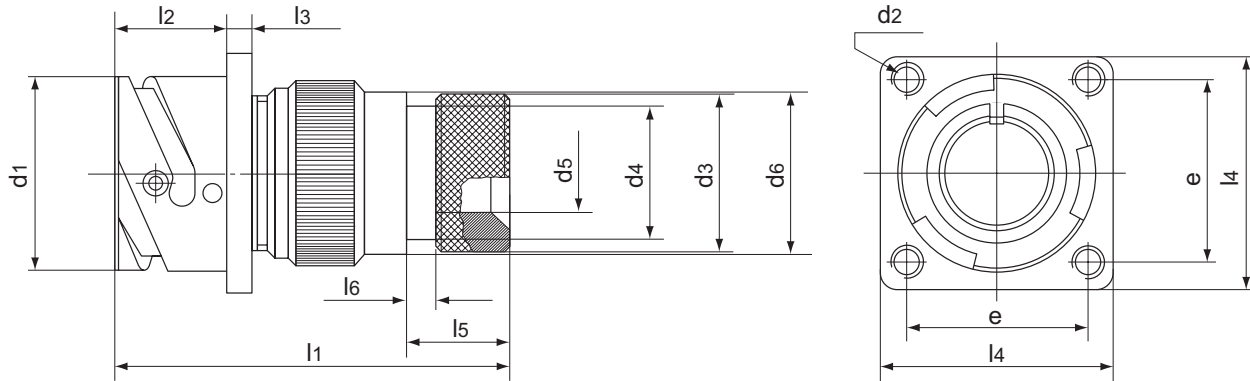
*permissible outside diameter of cable



veam CIR Series Connectors

CIR030G/AG

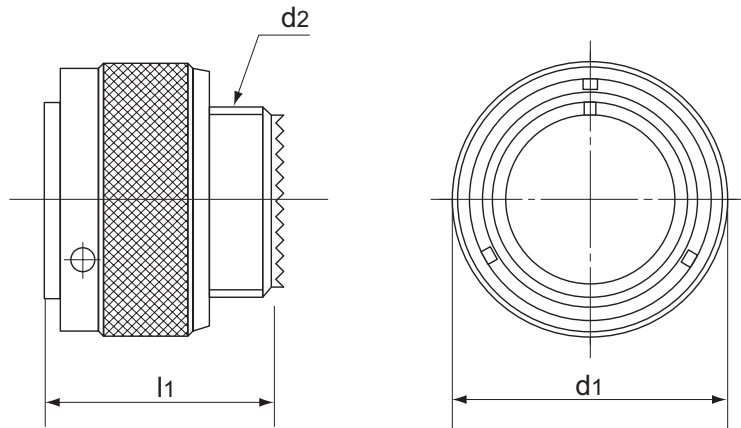
Receptacle with threaded mounting holes, individual wire sealing grommet and backshell for heat shrinkable tubing. AG type has no grommet. For through mounting holes, reference pages 46 and 47.



| Shell Size | d1 +0 -0,15 | d2 - | d3 ±0,2 | d4 max. | d5 ±0,1 | d6 ±0,2 | e ±0,1 | l1 max. | l2 +0,4 -0 | l3 ±0,2 | l4 ±0,3 | l5 ±0,1 | l6 ±0,1 |
|------------|-------------------|---------|--------------|--------------|--------------|--------------|--------------|------------|------------------|-------------|--------------|--------------|-------------|
| 10SL | 18,2 0.72 | M4 | 15,5 0.61 | 13,3 0.52 | 7,9 0.31 | 17 0.67 | 18,2 0.72 | 50 1.97 | 18,2 0.72 | 2,8 0.11 | 25,4 1.00 | 11,7 0.46 | 3,5 0.14 |
| 14S | 24,6 0.97 | M4 | 19,1 0.75 | 17 0.67 | 10,8 0.42 | 20,1 0.79 | 23 0.90 | 50 1.97 | 18,2 0.72 | 3,2 0.12 | 30 1.18 | 11,7 0.46 | 3,5 0.14 |
| 16S | 27,4 1.08 | M4 | 23,9 0.94 | 21,9 0.86 | 13,7 0.54 | 23,5 0.92 | 24,6 0.97 | 50 1.97 | 18,2 0.72 | 3,2 0.12 | 32,5 1.28 | 11,7 0.46 | 3,5 0.14 |
| 16 | 27,4 1.08 | M4 | 23,9 0.94 | 21,9 0.86 | 13,7 0.54 | 23,5 0.92 | 24,6 0.97 | 60 2.36 | 23,5 0.92 | 3,2 0.12 | 32,5 1.28 | 11,5 0.45 | 3,5 0.14 |
| 18 | 30,8 1.21 | M4 | 23,9 0.94 | 21,9 0.86 | 14,8 0.58 | 26,5 1.04 | 27 1.06 | 60 2.36 | 23,5 0.92 | 4 0.16 | 35 1.38 | 11,5 0.45 | 3,5 0.14 |
| 20 | 34,2 1.35 | M4 | 29,6 1.16 | 26,2 1.03 | 18,9 0.74 | 30,2 1.19 | 29,4 1.16 | 65 2.56 | 23,5 0.92 | 4 0.16 | 38 1.50 | 12,4 0.49 | 3,5 0.14 |
| 22 | 37,4 1.47 | M4 | 29,6 1.16 | 26,2 1.03 | 21 0.83 | 33,6 1.32 | 31,8 1.25 | 65 2.56 | 23,5 0.92 | 4 0.16 | 41 1.61 | 12,4 0.49 | 3,5 0.14 |
| 24 | 40,9 1.61 | M4 | 37,8 1.49 | 34,5 1.36 | 24,8 0.98 | 36,1 1.42 | 34,9 1.37 | 65 2.56 | 23,5 0.92 | 4 0.16 | 44,5 1.75 | 12,7 0.50 | 3,5 0.14 |
| 28 | 46,7 1.84 | M5 | 37,8 1.49 | 34,5 1.36 | 27,2 1.07 | 41,4 1.63 | 39,7 1.56 | 65 2.56 | 24,05 0.95 | 4 0.16 | 50,8 2.00 | 12,7 0.50 | 3,5 0.14 |
| 32 | 53,4 2.10 | M5 | 47,8 1.88 | 43,6 1.72 | 33,5 1.32 | 48,6 1.91 | 44,5 1.75 | 70 2.75 | 24,05 0.95 | 4 0.16 | 57 2.24 | 15,2 0.60 | 3,5 0.14 |
| 36 | 59,6 2.35 | M5 | 47,8 1.88 | 43,6 1.72 | 38,7 1.52 | 54,8 2.16 | 49,2 1.94 | 75 2.95 | 24,05 0.95 | 4 0.16 | 63,5 2.50 | 15,2 0.60 | 3,5 0.14 |
| 40 | 5,5 2.58" | M5 | 57,8 2.27 | 52,6 2.07 | 48,2 1.90 | 60,9 2.40 | 55,5 2.18 | 77 3.03 | 24,05 0.95 | 4 0.16 | 69,9 2.75 | 15,2 0.60 | 3,5 0.14 |



Plug without accessories. CIRG type has "RFI" shield spring (for shielding characteristics see page Electrical Data section).



Important

Connectors are supplied (as in the picture) only when accessories are ordered separately. Consult factory.

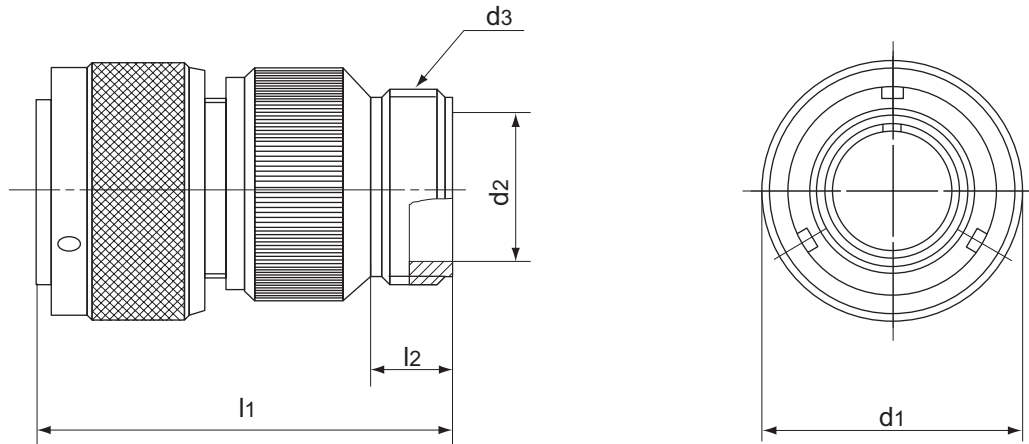
| Shell Size | d1 max. | d2 Thread in inches | l1 ± 0,3 |
|------------|--------------|---------------------|--------------|
| 10SL | 22,8 0.90 | 5/8 - 24 UNEF-2A | 24,6 0.97 |
| 14S | 29,2 1.15 | 3/4 - 20 UNEF-2A | 24,6 0.97 |
| 16S | 32 1.26 | 7/8 - 20 UNEF-2A | 24,6 0.97 |
| 16 | 32 1.26 | 7/8 - 20 UNEF-2A | 34,1 1.34 |
| 18 | 36,5 1.44 | 1" - 20 UNEF-2A | 34,1 1.34 |
| 20 | 39,9 1.57 | 1"1/8 - 18 UNEF-2A | 34,1 1.34 |
| 22 | 43,1 1.70 | 1"1/4 - 18 UNEF-2A | 34,1 1.34 |
| 24 | 46,6 1.83 | 1"3/8 - 18 UNEF-2A | 35,7 1.40 |
| 28 | 53,4 2.10 | 1"5/8 - 18 UNEF-2A | 35,7 1.40 |
| 32 | 60,1 2.37 | 1"7/8 - 16 UN-2A | 37,3 1.47 |
| 36 | 66,3 2.61 | 2" 1/16 - 16 UN-2A | 37,3 1.47 |
| 40 | 72,5 2.85 | 2"5/16 - 16 UN-2A | 37,3 1.47 |



veam CIR Series Connectors

CIR06A/R

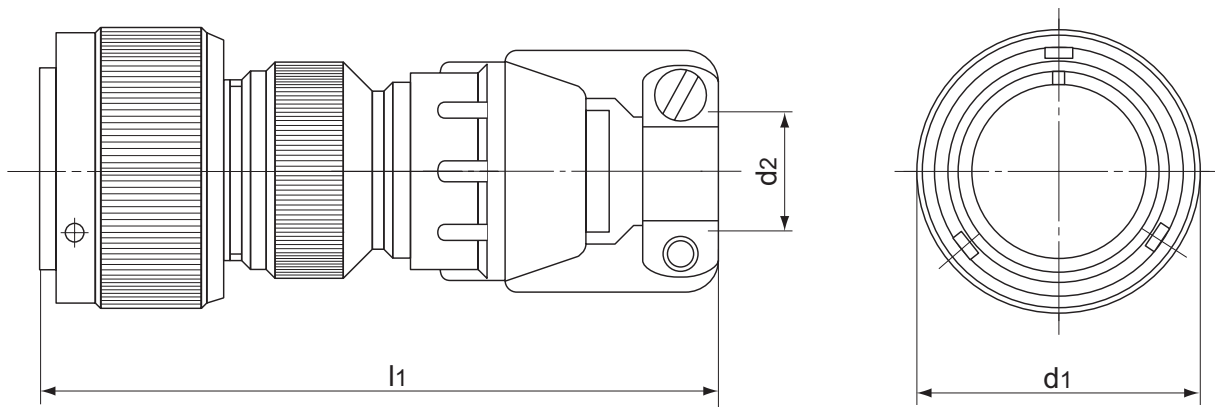
Straight plug with backshell. CIRG type has "RFI" shield spring (for shielding characteristics see Electrical Data section). R type has an individual wire sealing grommet.



| Shell Size | d1 max. | d2 +0,1 -0 | d3 Thread in inches | l1 max. | l2 min. |
|------------|--------------|--------------|---------------------|------------|--------------|
| 10SL | 22,8 0.90 | 10,4 0.41 | 5/8 -24 UNEF-2A | 43 1.69 | 9,5 0.37 |
| 14S | 29,2 1.15 | 13,2 0.52 | 3/4 -20 UNEF-2A | 47 1.85 | 9,5 0.37 |
| 16S | 32 1.26 | 16,2 0.64 | 7/8 -20 UNEF-2A | 47 1.85 | 9,5 0.37 |
| 16 | 32 1.26 | 16,2 0.64 | 7/8 -20 UNEF-2A | 58 2.28 | 9,5 0.37 |
| 18 | 36,5 1.44 | 19,2 0.75 | 1" -20 UNEF-2A | 58 2.28 | 9,5 0.37 |
| 20 | 39,9 1.57 | 22 0.87 | 1"3/16 -18 UNEF-2A | 58 2.28 | 9,5 0.37 |
| 22 | 43,1 1.70 | 24,5 0.96 | 1"3/16 -18 UNEF-2A | 59 2.32 | 9,5 0.37 |
| 24 | 46,6 1.83 | 27,8 1.09 | 1"7/16 -18 UNEF-2A | 61 2.40 | 9,5 0.37 |
| 28 | 53,4 2.10 | 31,2 1.23 | 1"7/16 -18 UNEF-2A | 67 2.64 | 9,5 0.37 |
| 32 | 60,1 2.37 | 37,8 1.49 | 1"3/4 -18 UNS-2A | 71 2.79 | 11 0.43 |
| 36 | 66,3 2.61 | 45 1.77 | 2" -18 UNS-2A | 71 2.79 | 11,8 0.46 |
| 40 | 72,5 2.85 | 51,2 2.01 | 2"1/4 -16 UN-2A | 86 3.38 | 11,8 0.46 |



Straight plug with cable clamp and seal for jacketed cables. CFZ type also has an individual wire sealing grommet.

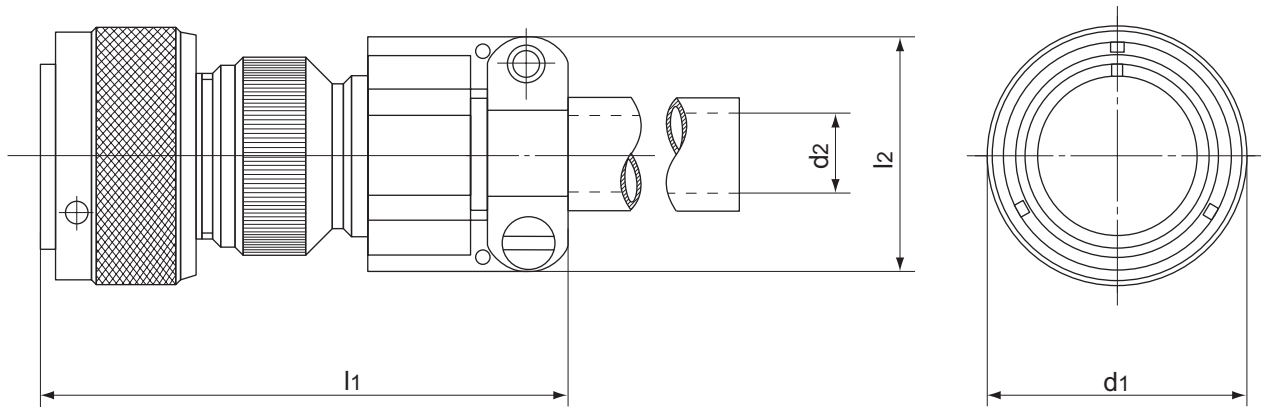


| Shell Size | d1 max. | d2 Closed | l1 max. |
|------------|--------------|---------------|-------------|
| 10SL | 22,8 0.90 | 2,38 .094 | 73 2.87 |
| 14S | 29,2 1.15 | 6,35 .25 | 77 3.03 |
| 16S | 32 1.26 | 8,0 .315 | 77 3.03 |
| 16 | 32 1.26 | 8,0 .315 | 88 3.46 |
| 18 | 36,5 1.44 | 9,6 .378 | 91 3.58 |
| 20 | 39,9 1.57 | 11,3 .445" | 91 3.58 |
| 22 | 43,1 1.70 | 11,3 .445 | 92 3.62 |
| 24 | 46,6 1.83 | 15,5 .610" | 97 3.82 |
| 28 | 53,4 2.10 | 15,5 .610 | 103 4.05 |
| 32 | 60,1 2.37 | 23,4 .921 | 113 4.45 |
| 36 | 66,3 2.61 | 23,4 .921 | 120 4.72 |
| 40 | 72,5 2.85 | 29,9 1.177 | 135 5.31 |

veam CIR Series Connectors

CIR06F/AF

Straight plug with an individual wire sealing grommet and cable clamp with bushing. AF type has no grommet.

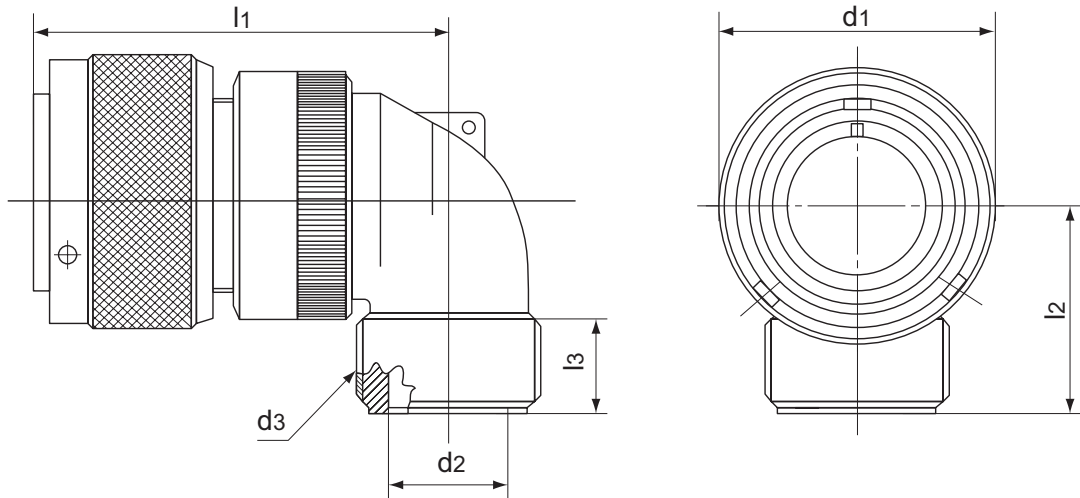


| Shell Size | d1 max. | d2* max. | l1 max. | l2 max. |
|------------|--------------|--------------|-------------|--------------|
| 10SL | 22,8 0.90 | 5,6 0.22 | 64 2.52 | 22,7 0.89 |
| 14S | 29,2 1.15 | 7,9 0.31 | 69 2.72 | 27,5 1.08 |
| 16S | 32 1.26 | 11 0.43 | 71 2.79 | 30 1.18 |
| 16 | 32 1.26 | 11 0.43 | 82 3.23 | 30 1.18 |
| 18 | 36,5 1.44 | 14,2 0.56 | 82 3.23 | 32,2 1.27 |
| 20 | 39,9 1.57 | 15,8 0.62 | 82 3.23 | 37,5 1.48 |
| 22 | 43,1 1.70 | 15,8 0.62 | 83 3.27 | 37,5 1.48 |
| 24 | 46,6 1.83 | 19 0.75 | 87 3.42 | 43,3 1.70 |
| 28 | 53,4 2.10 | 19 0.75 | 93 3.66 | 43,3 1.70 |
| 32 | 60,1 2.37 | 23,8 0.94 | 99 3.90 | 51,7 2.03 |
| 36 | 66,3 2.61 | 31,7 1.25 | 100 3.94 | 58 2.28 |
| 40 | 72,5 2.85 | 34,9 1.37 | 128 5.04 | 68,5 2.70 |

* max permissible outside diameter of cable



Right angle (90° elbow) plug. R type has an individual wire sealing grommet. CIRG type also has a RFI shield spring (for shielding characteristics, see page Electrical Data section).



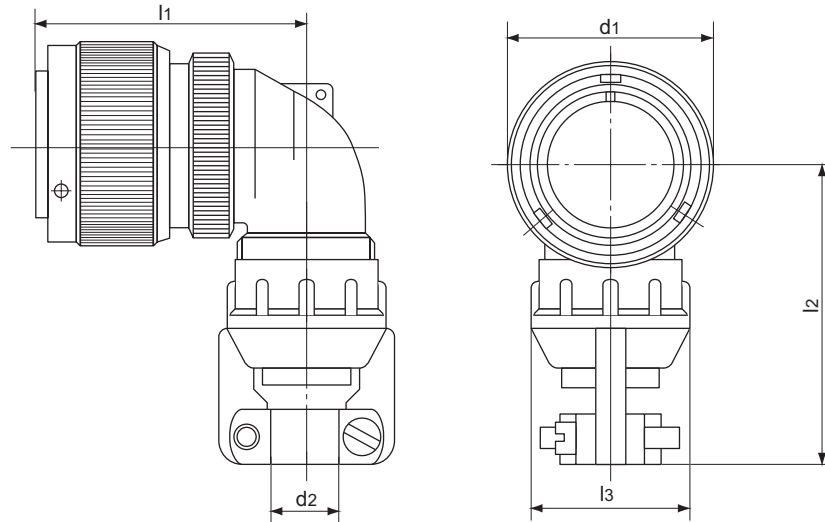
| Shell Size | d1 max. | d2 +0,2 -0,1 | d3 Thread in inches | l1 max. | l2 max. | l3 min. |
|------------|--------------|---------------|---------------------|------------|------------|--------------|
| 10SL | 22,8 0.90 | 10,5 0.41 | 5/8 -24 UNEF-2A | 45 1.77 | 30 1.18 | 9,4 0.37 |
| 14S | 29,2 1.15 | 11,5 0.45 | 3/4 -20 UNEF-2A | 47 1.85 | 30 1.18 | 9,4 0.37 |
| 16S | 32 1.26 | 14,7 0.59 | 7/8 -20 UNEF-2A | 48 1.89 | 30 1.18 | 9,4 0.37 |
| 16 | 32 1.26 | 14,7 0.59 | 7/8 -20 UNEF-2A | 57 2.24 | 30 1.18 | 9,4 0.37 |
| 18 | 36,5 1.44 | 17,2 0.68 | 1" -20 UNEF-2A | 58 2.28 | 35 1.38 | 9,4 0.37 |
| 20 | 39,9 1.57 | 20,35 0.80 | 1"3/16 -18 UNEF-2A | 61 2.40 | 35 1.38 | 9,4 0.37 |
| 22 | 43,1 1.70 | 23 0.90 | 1"3/16 -18 UNEF-2A | 61 2.40 | 35 1.38 | 9,4 0.37 |
| 24 | 46,6 1.83 | 25,8 1.01 | 1"7/16 -18 UNEF-2A | 66 2.60 | 40 1.57 | 9,4 0.37 |
| 28 | 53,4 2.10 | 28,7 1.13 | 1"7/16 -18 UNEF-2A | 66 2.60 | 40 1.57 | 9,4 0.37 |
| 32 | 60,1 2.37 | 36,5 1.44 | 1"3/4 -18 UNS-2A | 72 2.83 | 45 1.77 | 11 0.43 |
| 36 | 66,3 2.61 | 42,6 1.68 | 2" -18 UNS-2A | 75 2.95 | 50 1.97 | 12,6 0.50 |
| 40 | 72,5 2.85 | 48,6 1.91 | 2"1/4 -16 UN-2A | 78 3.07 | 55 2.16 | 12,6 0.50 |



veam CIR Series Connectors

CIR08CF/CFZ

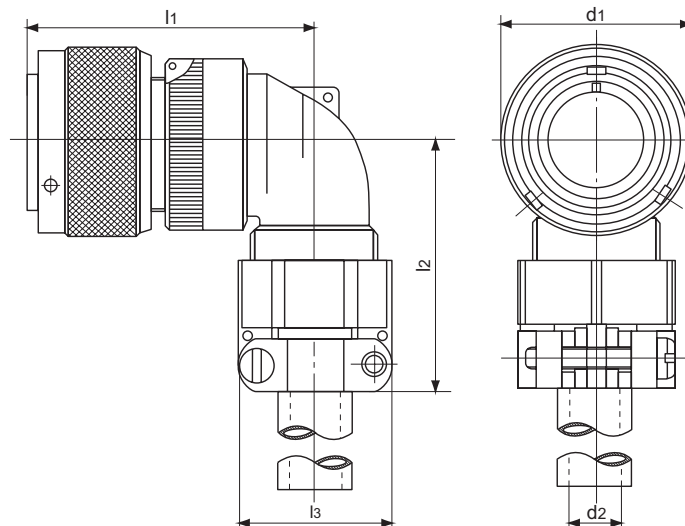
Right angle (90° elbow) plug with a cable clamp for jacketed cables. CFZ type also has an individual wire sealing grommet.



| Shell Size | d1 max. | d2 | | l1 max. | l2 max. | l3 ± 0,2 |
|------------|--------------|----------------|---------------|------------|-------------|--------------|
| | | Open | Closed | | | |
| 10SL | 22,8 0.90 | 7,93 .312 | 2,38 .094 | 45 1.77 | 61 2.40 | 22,6 0.89 |
| 14S | 29,2 1.15 | 11,12 .438 | 6,35 .25 | 47 1.85 | 61 2.40 | 25,8 1.01 |
| 16S | 32 1.26 | 13,48 .531 | 8,0 .315 | 48 1.89 | 61 2.40 | 28,1 1.11 |
| 16 | 32 1.26 | 13,48 .531 | 8,0 .315 | 57 2.24 | 61 2.40 | 28,1 1.11 |
| 18 | 36,5 1.44 | 15,87 .625 | 9,6 .378 | 58 2.28 | 68 2.68 | 31 1.22 |
| 20 | 39,9 1.57 | 19,0 .748 | 11,3 .445 | 61 2.40 | 68 2.68 | 37,3 1.47 |
| 22 | 43,1 1.70 | 19,0 .748 | 11,3 .445 | 61 2.40 | 68 2.68 | 37,3 1.47 |
| 24 | 46,6 1.83 | 23,8 .938 | 15,5 .610 | 66 2.60 | 76 2.99 | 42 1.65 |
| 28 | 53,4 2.10 | 23,8 .938 | 15,5 .610 | 66 2.60 | 76 2.99 | 42 1.65 |
| 32 | 60,1 2.37 | 31,75 1.250 | 23,4 .921 | 72 2.83 | 87 3.42 | 54 2.12 |
| 36 | 66,3 2.61 | 35,0 1.378 | 23,4 .921 | 75 2.95 | 98 3.86 | 57,1 2.25 |
| 40 | 72,5 2.85 | 41,25 1.625 | 29,9 1.177 | 78 3.07 | 103 4.05 | 63,5 2.50 |



Right angle (90° elbow) plug with an individual wire sealing grommet and a cable clamp with a bushing. AF type has no grommet.



| Shell Size | d1 max. | d2* max. | l1 max. | l2 max. | l3 max. |
|------------|--------------|--------------|------------|------------|--------------|
| 10SL | 22,8 0.90 | 5,6 0.22 | 45 1.77 | 42 1.65 | 22,7 0.89 |
| 14S | 29,2 1.15 | 7,9 0.31 | 47 1.85 | 42 1.65 | 27,5 1.08 |
| 16S | 32 1.26 | 11 0.43 | 48 1.89 | 45 1.77 | 30 1.18 |
| 16 | 32 1.26 | 11 0.43 | 57 2.24 | 45 1.77 | 30 1.18 |
| 18 | 36,5 1.44 | 14,2 0.56 | 58 2.28 | 53 2.09 | 32,2 1.27 |
| 20 | 39,9 1.57 | 15,8 0.62 | 61 2.40 | 53 2.09 | 37,5 1.48 |
| 22 | 43,1 1.70 | 15,8 0.62 | 61 2.40 | 53 2.09 | 37,5 1.48 |
| 24 | 46,6 1.83 | 19 0.75 | 66 2.60 | 58 2.28 | 43,3 1.70 |
| 28 | 53,4 2.10 | 19 0.75 | 66 2.60 | 58 2.28 | 43,3 1.70 |
| 32 | 60,1 2.37 | 23,8 0.94 | 72 2.83 | 66 2.60 | 51,7 2.03 |
| 36 | 66,3 2.61 | 31,7 1.25 | 75 2.95 | 69 2.72 | 58 2.28 |
| 40 | 72,5 2.85 | 34,9 1.37 | 78 3.07 | 95 3.74 | 68,5 2.70 |

* max permissible outside diameter of cable



Crimp Reduction Sleeves

Used to reduce the size of the contact crimp bucket to accept smaller gauge wires.

NOTE: Add suffix T9 for silver plating, T12 for gold plating. For other options, consult Customer Service Department.



| VEAM Part Number | From Wire Size AWG | To Wire Size AWG |
|------------------|--------------------|---------------------|
| 45378 | 16 | 20 |
| 45370 | 16 | 22 |
| 47227-16-24 | 16 | 24 |
| 47227-16-0.12 | 16 | 0.12mm ² |
| 45372 | 12 | 16 |
| LV242999-142 | 12 | 18 |
| LV242999-152 | 12 | 20 |
| LV242999-172 | 10 | 16 |
| LV242999-12 | 8 | 10 |
| 46661 | 8 | 12 |
| LV242999-122 | 8 | 14 |
| LV242999-132 | 8 | 16 |
| 45374 | 8 | 6 mm ² |
| 46263 | 8 | 4 mm ² |
| 47227-8-2.5 | 8 | 2.5 mm ² |
| 47227 | 8 | 1.5 mm ² |
| LV242999-32 | 8 SP | 12 |
| 46269 | 4 | 6 |
| 46660 | 4 | 8 |
| LV242999-192 | 4 | 10 |
| 46662 | 0 | 6 |
| 46665 | 4 | 16 mm ² |
| 46666 | 4 | 10 mm ² |
| 46667 | 4 | 6 mm ² |
| 47227-2-4 | 2 | 4 |
| 47227-0-8 | 0 | 8 |
| 47227-8-10 | 8 | 10 |
| 47227-4-4 | 4 | 4 mm ² |

| VEAM Part Number | From Wire Size AWG | To Wire Size AWG |
|------------------|---------------------|---------------------|
| 45373 | 0 | 2 |
| LV242999-82 | 0 | 4 |
| LV242999-92 | 0 | 6 |
| LV242999-102 | 0 | 8 |
| 46664 | 0 | 16 mm ² |
| 47227-53-20 | 0 | 20 mm ² |
| 45375 | 0 | 25 mm ² |
| 45376 | 0 | 35 mm ² |
| 47227-7025 | 2/0 | 25 mm ² |
| 47227-6-1.5 | 6 mm ² | 1.5 mm ² |
| 47227-6-2.5 | 6 mm ² | 2.5 mm ² |
| 45379 | 10 mm ² | 12 AWG |
| 47227-16-2.5 | 16 mm ² | 2.5 mm ² |
| 47227-16-4 | 16 mm ² | 4 mm ² |
| 47227-16-6 | 16 mm ² | 6 |
| 47227-16-10 | 16 mm ² | 10 mm ² |
| 47227-25-6 | 25 mm ² | 6 mm ² |
| 47227-25-10 | 25 mm ² | 10 mm ² |
| 47227-25-16 | 25 mm ² | 16 mm ² |
| 47227-50-25 | 50 mm ² | 25 mm ² |
| 47227-95-70 | 95 mm ² | 70 mm ² |
| 47227-150-70 | 150 mm ² | 70 mm ² |
| 47227-150-95 | 150 mm ² | 95 mm ² |
| 46266 | 50 din 500 | 16 mm ² |
| 46264 | 50 din 500 | 35 mm ² |

Contact Hole Plugs

Used to fill a grommet or insert cavity in lieu of a contact to maintain the environmental seal.

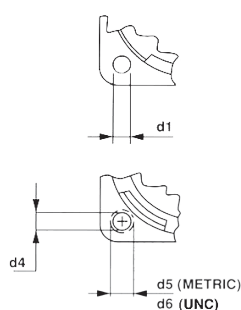


| Contact Size | | Hole Plugs for Grommet | Color | Hole Plugs for Insert | Color |
|------------------------------|---------|------------------------|--------|-----------------------|--------|
| AWG | DIN | | | | |
| 20 | 10 | 10-101033-11 | Red | 46808-20 | Red |
| 16S, 16 | 15, 15S | 10-101033-12 | Blue | 46808-16 | Blue |
| 16S, 16 High Density Inserts | | 10-101033-11 | Red | LMB-G-3 | Blue |
| 12 | 25 | 10-101033-13 | Yellow | 10-101033-13 | Yellow |
| 8 | 60, 100 | 10-101033-14 | White | 10-305045 | White |
| 4 | 160 | 10-101033-15* | Green | 10-305045-4 | White |
| 0 | 500 | 10-101033-16 | Black | 10-305045-0 | White |
| 0- Ground | | | | 10-305045-01 | White |

* for 28-6 and 40-10 arrangements please order the special hole plug 10-101033-15/mod

Mounting Hole Options

Through Mounting Holes



| Shell Size | d1 | |
|------------|-----|---------------|
| | H13 | + .004 inches |
| 10SL | 3.2 | 0.126 |
| 14S | 3.2 | 0.126 |
| 16S, 16 | 3.2 | 0.126 |
| 18 | 3.2 | 0.126 |
| 20 | 3.2 | 0.126 |
| 22 | 3.2 | 0.126 |
| 24 | 3.7 | 0.146 |
| 28 | 3.7 | 0.146 |
| 32 | 4.3 | 0.169 |
| 36 | 4.3 | 0.169 |
| 40 | 4.3 | 0.169 |

Receptacle Identification CIR030/CIR038/CIRTB

| Through mounting holes types | Threaded mounting holes types (d5) |
|------------------------------|------------------------------------|
| CIR 030FP | CIR 030 |
| CIR 030AFP | CIR 030A |
| CIR 030CFPP | CIR 030CF |
| CIR 030CFZFP | CIR 030CFZ |
| CIR 030FFP | CIR 030F |
| CIR 030GFP | CIR 030G |
| CIR 030G2FP | CIR 030G2 |
| CIR 030LCFFP | CIR 030LCF |
| CIR 030LCFZFP | CIR 030LCFZ |
| CIR 030RFP | CIR 030R |
| CIR 030RVFP | CIR 030RV |
| CIR 030SBFP | CIR 030SB |
| CIR 030YMFP | CIR 030YM |
| CIR 038FFP | CIR 038F |
| CIR 038RFP | CIR 030R |
| CIRTBFP | CIRTB |

For every flanged receptacle, a choice of mounting hole types exists. These tables identify the prefix part numbers of the types available



Mounting Hole Options

Table 2: Threaded Mounting Holes

| Shell Size | d6 thread | | d5 thread | d4 minor dia. of d5 | |
|--------------------------------|-----------|--------|-----------|---------------------|------------|
| | mm | inches | | mm | inches |
| 10SL, 14S, 16S, 16, 18, 20, 22 | 8-32 UNC | | M4 | 3.2 - 3.4 | .126- .134 |
| 24 CIR030 | 10-24UNC | | M4 | 4.13- 4.33 | .126- .134 |
| 24 CIR020 | 10-24UNC | | M5 | 3.7-3.9 | .145-.153 |
| 28 | 10-24UNC | | M5 | 3.7-3.9 | .145-.153 |
| 32 | 1/4-20UNC | | M5 | 4.2-4.4 | .165-.173 |
| 36 | 1/4-20UNC | | M5 | 4.2-4.4 | .165-.173 |
| 40 | 1/4-20UNC | | M5 | 4.2-4.4 | .165-.173 |

Mounting hole code CIR030 = metric thread, CIR030UN = US (inch) thread, CIR030FP = thru holes

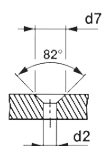
Receptacle Identification :CIR00/CIR020 - Threaded Holes

| Through mounting holes types | Threaded mounting holes types (d5) | Threaded mounting holes types (d6) |
|------------------------------|------------------------------------|------------------------------------|
| CIR 00A | CIR 00AFF | CIR 00AUN |
| CIR 00CF | CIR 00CFFF | CIR 00CFUN |
| CIR 00CFZ | CIR 00CFZFF | CIR 00CFZUN |
| CIR 00F | IR 00FFF | CIR 00FUN |
| CIR 00G | CIR 00GFF | CIR 00GUN |
| CIR 00G2 | CIR 00G2FF | CIR 00G2UN |
| CIR 00LCF | CIR 00LCFFF | CIR 00LCFUN |
| CIR 00LCFZ | CIR 00LCFZFF | CIR 00LCFZUN |
| CIR 00LF | CIR 00LFFF | CIR 00LFUN |
| CIR 00R | CIR 00RFF | CIR 00RUN |
| CIR 00LR | CIR 00LRFF | CIR 00LRUN |
| CIR 00RV | CIR 00RVFF | CIR 00RVUN |
| CIR 00SB | CIR 00SBFF | CIR 00SBUN |
| CIR 020R | CIR 020RFF | CIR 020RUN |
| CIR 020YM | CIR 020YMFF | CIR 020YMUN |

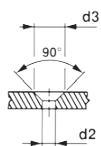
Table 3: Threaded Mounting Holes

| Shell Size | d2 (H13 mm) | | d3 | | d7 | |
|--------------------------------|-------------|--------|-----|--------|-----|--------|
| | mm | inches | mm | inches | mm | inches |
| 10SL, 14S, 16S, 16, 18, 20, 22 | 3.2 | .126 | 6.5 | .256 | 6 | .248 |
| 24 | 3.7 | .146 | 7.5 | .295 | 7.5 | .295 |
| 28 (90 degree) | 3.7 | .146 | 7.5 | .295 | n/a | n/a |
| 28 (82 degree) | 4.2 | .165 | n/a | n/a | 7.3 | .287 |
| 32 | 4.3 | .169 | 8 | .315 | 8.6 | .339 |
| 36 | 4.3 | .169 | 8.5 | .335 | 8.6 | .339 |
| 40 | 4.3 | .169 | 8.5 | .335 | 8.6 | .339 |

Countersunk Mounting Holes For UNC Screws



Countersunk Mounting Holes For Metric Screws



Receptacle Identification :CIR00/CIR020 Chamfered Holes

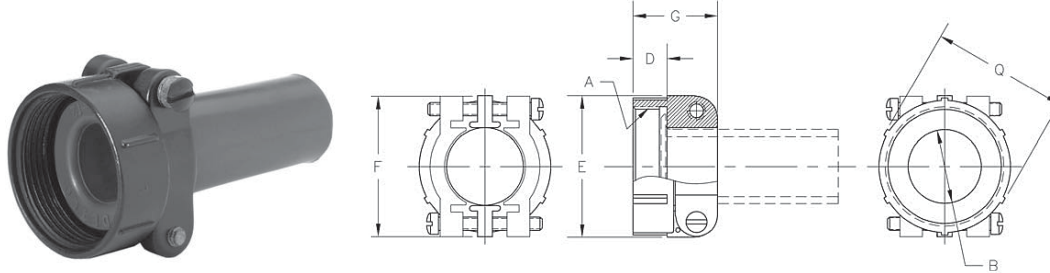
| For use with metric screws (d3) Countersunk mounting holes | For use with UN screws (d7) Countersunk mounting holes |
|--|--|
| CIR 00AFS | CIR 00AFSM |
| CIR 00CFFS | CIR 00CFFSM |
| CIR 00CFZFS | CIR 00CFZFSM |
| CIR 00FFS | CIR 00FFSM |
| CIR 00GFS | CIR 00GFMS |
| CIR 00G2FS | CIR 00G2FSM |
| CIR 00LCFFS | CIR 00LCFFSM |
| CIR 00LCFZFS | CIR 00LCFZFSM |
| CIR 00LFFS | CIR 00LFFSM |
| CIR 00RFS | CIR 00RFMS |
| CIR 00LRFS | CIR 00LRFSM |
| CIR 00RVFS | CIR 00RVFSM |
| CIR 00SBFS | CIR 00SBFSM |
| CIR 020RFS | CIR 020RFSM |
| CIR 020YMFS | CIR 020YMFSM |

For every flanged receptacle, a choice of mounting hole types exists. These tables identify the prefix part numbers of the types available



Cable Clamp- MS 3057-XXA

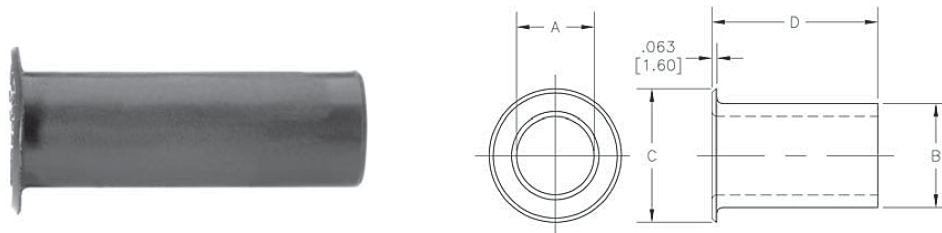
Concentric cable clamps. They insure strain relief and central location of the cable. Can be used with bushing MS 3420.



| Shell Size | Clamp Part Number | A Thread Class 2B Inch | B Diameter mm inches | D mm inches | G mm inches | E-F-Q mm inches | Bushing Part Number |
|------------|-------------------|------------------------|----------------------|-------------|-------------|-----------------|---------------------|
| 10SL | MS3057-4A | .625-24UNEF | 8 .32 | 10.5 .41 | 20.6 .81 | 22.0 .87 | MS3420-4 |
| 14S | MS3057-6A | .750-20UNEF | 11.0 .43 | 10.5 .41 | 22.2 .87 | 27 1.06 | MS3420-6 |
| 16S & 16 | MS3057-8A | .875-20UNEF | 14.2 .56 | 10.5 .41 | 24 .95 | 28 1.1 | MS3420-8 |
| 18 | MS3057-10A | 1.000-20UNEF | 15.8 .62 | 10.5 .41 | 28.5 1.12 | 33 1.3 | MS3420-10 |
| 20 & 22 | MS3057-12A | 1.187-18UNEF | 19 .75 | 10.5 .41 | 24 .95 | 35 1.38 | MS3420-12 |
| 24 & 28 | MS3057-16A | 1.437-18UNEF | 23.8 .94 | 10.5 .41 | 26 1.02 | 43 1.69 | MS3420-16 |
| 32 | MS3057-20A | 1.750-18UNS | 31.7 1.25 | 12.5 .49 | 28 1.1 | 51 2.01 | MS3420-20 |
| 36 | MS3057-24A | 2.000-18UNS | 35.0 1.38 | 14 .55 | 29.4 1.16 | 58 2.28 | MS3420-24 |
| 40 | MS3057-28A | 2.250-16UN | 41.2 1.62 | 14 .55 | 42.8 1.68 | 65 2.56 | MS3420-28 |

Bushing MS 3420-XX

Bushing of synthetic rubber to be used with cable clamps MS 3057 A for protection of the cable or wires. These bushings can be telescoped for smaller cable diameters.



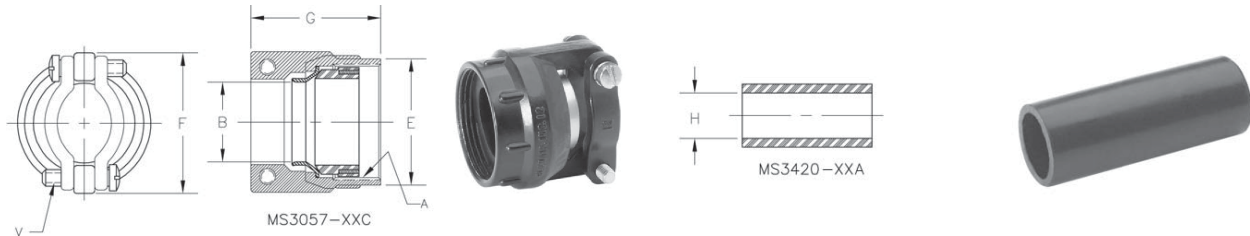
| Bushing Part Number | Used With Cable Clamp | A Diameter mm inches | B Diameter mm inches | C Diameter mm inches | D mm inches |
|---------------------|-----------------------|----------------------|----------------------|----------------------|-------------|
| MS3420-4 | MS3057-4A | 5.58 .22 | 7.7 .3 | 12.8 .5 | 69.8 2.75 |
| MS3420-6 | MS3057-6A | 7.92 .312 | 10.8 .43 | 15.7 .62 | 66.8 2.63 |
| MS3420-8 | MS3057-8A | 11.09 .437 | 14 .55 | 18.8 .74 | 63.5 2.5 |
| MS3420-10 | MS3057-10A | 14.27 .562 | 15.6 .61 | 22.6 .89 | 60.3 2.37 |
| MS3420-12 | MS3057-12A | 15.87 .625 | 18.8 .74 | 27.6 1.08 | 57.1 2.25 |
| MS3420-16 | MS3057-16A | 19.05 .75 | 23.5 .93 | 33.3 1.31 | 53.9 2.12 |
| MS3420-20 | MS3057-20A | 23.79 .937 | 31.5 1.24 | 40.5 1.59 | 50.8 2 |
| MS3420-24 | MS3057-24A | 31.75 1.25 | 34.7 1.37 | 46.9 1.85 | 47.6 1.87 |
| MS3420-28 | MS3057-28A | 34.92 1.374 | 41 1.61 | 52.9 2.08 | 44.4 1.75 |

Cable Clamp FRVE 3057 - C

Waterproof clamp for jacketed cables. Provides mechanical strain relief plus concentric clamping over a wide range of cable sizes. A rubber gland seal ensures a waterproof seal on the cable jacket.

FRVE3057-XXC

MS3420-XXA



*"C" Style Clamp With Gland, Cable Clamp Part Number Base FRVE-3057-XXC

*For "C" Style Clamp Bushing, Part Number Base MS3420-XXA

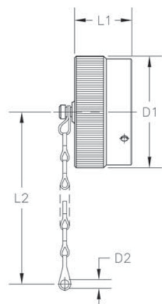
| Shell Size | Clamp Part Number* | A Thread Class 2B inches | B approx Open mm / in | B approx Closed mm / in | E +/- .4 .016 mm / in | F +/- .2 .008 mm / in | G + .5 .02 mm in | V Thread Class 2A inches | Bushing Part Number* | H Open mm in |
|------------|--------------------|--------------------------|-----------------------|-------------------------|-----------------------|-----------------------|------------------|--------------------------|----------------------|--------------|
| 10SL | - 4C | .625-4UNEF | 7.93 .312 | 2.38 .094 | 19 .748 | 22.6 .89 | 32.3 1.272 | 6-32 UNC | -4A | 5.56 .219 |
| 14S | - 6C | .750-20UNEF | 11.13 .438 | 6.35 .25 | 25.8 1.016 | 25.8 1.016 | 32.3 1.272 | 6-32 UNC | -6A | 7.93 .312 |
| | | | | | | | | | -4A | 5.56 .219 |
| 16S /16 | - 8C | .875-20UNEF | 13.48 | 8 .315 | 25.4 1 | 28.1 1.106 | 35.3 1.39 | 6-32 UNC | -8A | 11.1 .437 |
| | | | | | | | | | -6A | 7.93 .312 |
| 18 | - 10C | 1.000-20UNEF | .531 | 9.6 .375 | 28.5 1.122 | 31 1.22 | 35.7 1.405 | 6-32 UNC | -10A | 11.1 .137 |
| | | | | | | | | | -6A | 7.93 .312 |
| 20 / 22 | - 12C | 1.187-18UNEF | 15.87 .625 | 11.3 .445 | 33.3 1.311 | 37.3 1.468 | 38.5 1.516 | 8-32 UNC | -12A | 13.7 .541 |
| | | | | | | | | | -8A | 11.1 .437 |
| 24 / 28 | - 16C | 1.437-18UNEF | 19 .748 | 15.5 .61 | 39.6 1.559 | 42 1.653 | 44.8 1.764 | 8-32 UNC | -16A | 19 .748 |
| | | | | | | | | | -12A | 13.7 .541 |
| | | | | | | | | | -8A | 11.1 .437 |
| 32 | - 20C | 1.750-18UNS | 31.75 1.250 | 23.4 .921 | 47.6 1.874 | 54 2.126 | 51.6 2.031 | .250-20 UNC | -20A | 23.8 .937 |
| | | | | | | | | | -16A | 19 .748 |
| | | | | | | | | | -12A | 13.7 .541 |
| 36 | - 24C | 2.000-18UNS | 35 1.378 | 23.4 9.21 | 53.9 2.122 | 57.1 2.248 | 51.6 2.031 | .250-20 UNC | -24A | 28.5 1.12 |
| | | | | | | | | | -18A | 23.8 .937 |
| | | | | | | | | | -16A | 19 .748 |
| 40 | - 28C | 2.250-16UN | 41.25 1.625 | 29.9 1.177 | 60.3 2.374 | 63.5 2.5 | 51.6 2.031 | .250-20 UNC | -28A | 31.7 1.25 |
| | | | | | | | | | -20A | 23.8 .937 |
| | | | | | | | | | -16A | 19 .748 |
| 44 | -32C | 2.500-16UN | 47.63 1.875 | 34.9 1.374 | 66.6 2.622 | 71.4 2.811 | 55.6 2.189 | .250-20 UNC | -32A | 41.2 1.62 |
| | | | | | | | | | -28A | 31.7 1.25 |



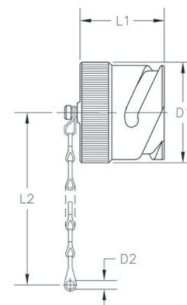
Metal Dust Caps with Chain

Protective metal caps which seal the front of plugs or receptacles. Include a chain for retention of the cap at the required location. Other methods of attachment are available.

CIRTF



CIRTV



TF Caps (for receptacles CIR00, 01, 020, 030, 05, 070, TB)

TV Caps (for plugs CIR06, 08)

| Type | Part Number | D1 (max) | | D2 | | L1 (max) | | L2 (approx) | |
|------|-------------|----------|--------|--------------------|-------------------------|----------|--------|-------------|--------|
| | | mm | inches | mm + .5 / - .25 | inches + .02 / - .01 | mm | inches | mm | inches |
| TF | CIR10SLTF | 23.5 | .93 | 4.4 | .173 | 16.5 | .65 | 127 | 5 |
| TF | CIR14STF | 30.5 | 1.2 | 4.4 | .173 | 16.5 | .65 | 127 | 5 |
| TF | CIR16STF | 33 | 1.3 | 4.4 | .173 | 16.5 | .65 | 127 | 5 |
| TF | CIR16TF | 33 | 1.3 | 4.4 | .173 | 21.0 | .83 | 127 | 5 |
| TF | CIR18TF | 37.5 | 1.48 | 4.4 | .173 | 21.0 | .83 | 127 | 5 |
| TF | CIR20TF | 41 | 1.61 | 4.4 | .173 | 21.0 | .83 | 127 | 5 |
| TF | CIR22TF | 44 | 1.73 | 4.4 | .173 | 21.0 | .83 | 127 | 5 |
| TF | CIR24TF | 47.5 | 1.87 | 4.4 | .173 | 21.0 | .83 | 127 | 5 |
| TF | CIR28TF | 54.5 | 2.15 | 5.6 | .220 | 21.0 | .83 | 190 | 7.48 |
| TF | CIR32TF | 61 | 2.4 | 5.6 | .220 | 21.0 | .83 | 190 | 7.48 |
| TF | CIR36TF | 67.5 | 2.66 | 5.6 | .220 | 21.0 | .83 | 175 | 6.89 |
| TF | CIR40TF | 73 | 2.87 | 5.6 | .220 | 21.0 | .83 | 190 | 7.48 |
| TV | CIR10SLTV | 21 | .83 | 4.4 | .173 | 24.0 | .94 | 127 | 5 |
| TV | CIR14STV | 27.5 | 1.08 | 4.4 | .173 | 24.0 | .94 | 127 | 5 |
| TV | CIR16STV | 30 | 1.18 | 4.4 | .173 | 24.0 | .94 | 127 | 5 |
| TV | CIR16TV | 30 | 1.18 | 4.4 | .173 | 32.0 | 1.26 | 127 | 5 |
| TV | CIR18TV | 33.5 | 1.32 | 4.4 | .173 | 32.0 | 1.26 | 127 | 5 |
| TV | CIR20TV | 37 | 1.45 | 4.8 | .189 | 32.0 | 1.26 | 140 | 5.5 |
| TV | CIR22TV | 40 | 1.57 | 4.8 | .189 | 32.0 | 1.26 | 140 | 5.5 |
| TV | CIR24TV | 43.5 | 1.71 | 4.8 | .189 | 32.0 | 1.26 | 140 | 5.5 |
| TV | CIR28TV | 49.5 | 1.95 | 4.8 | .189 | 32.0 | 1.26 | 190 | 7.5 |
| TV | CIR32TV | 56 | 2.2 | 5.6 | .220 | 32.0 | 1.26 | 190 | 7.5 |
| TV | CIR36TV | 62.5 | 2.46 | 5.6 | .220 | 32.0 | 1.26 | 190 | 7.5 |
| TV | CIR40TV | 67.7 | 2.66 | 5.6 | .220 | 32.0 | 1.26 | 190 | 7.5 |



Protective Plastic Caps

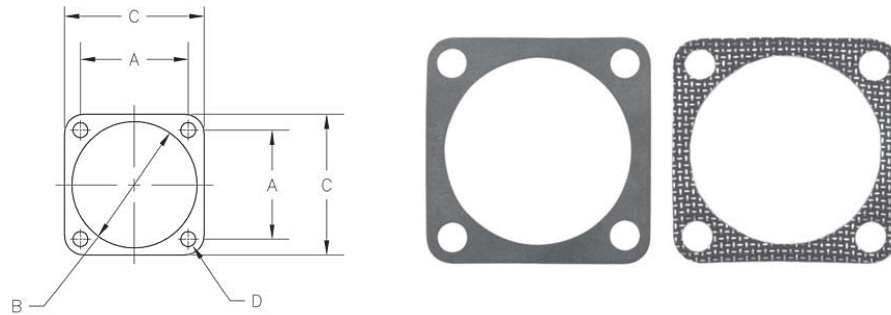
Protective vinyl caps are available upon request to guard against entry of moisture, dirt and other foreign matter to the contact area during shipment.



| Shell Size | Part Numbers | | | | |
|------------|---|-------------------------|-----------------------------|----------------------|----------------------|
| | For Receptacles CIR 00, 01, 020, 030, 070, TB | For Plugs CIR 06, 08 | For Plugs CIR 06GG, 08GG | For Plugs CIR 065 | For Plugs CIR 064 |
| 10SL | 27 | 35 | 45 | 35 | 35 |
| 14S | 41 | 42 | 51 | 51 | 45 |
| 16S /16 | 42 | 45 | 55 | 51 | 48 |
| 18 | 45 | 51 | 57 | 53 | 53 |
| 20 | 51 | 55 | 57 | 56 | 56 |
| 22 | 53 | 56 | 45 | 57 | 57 |
| 24 | 56 | 57 | 65 | 58 | 58 |
| 28 | 58 | 65 | 71 | 66 | 66 |
| 32 | 66 | 71 | 76 | 76 | 75 |
| 36 | 71 | 76 | 81 | 78 | 78 |
| 40 | 76 | 81 | 82 | 81 | 81 |



Sealing Gaskets



| Size | A +/- | | B rear mount + | | B front mount + | | C +/- | | D + | |
|---------|-------|--------|----------------|--------|-----------------|--------|-------|--------|-----|--------|
| | mm | inches | mm | inches | mm | inches | mm | inches | mm | inches |
| 10SL | 18.2 | 18.716 | 18.2 | .716 | 15.7 | .625 | 25.4 | 1 | 4.2 | 1.65 |
| 14S | 23 | .905 | 24.6 | .968 | 22.1 | .874 | 30 | 1.181 | 4.2 | .165 |
| 16S /16 | 24.6 | .968 | 27.4 | 1.079 | 25.3 | 1 | 32.5 | 1.279 | 4.2 | .165 |
| 18 | 27 | 1.063 | 30.8 | 1.212 | 28.4 | 1.126 | 35 | 1.378 | 4.2 | .165 |
| 20 | 29.4 | 1.157 | 34.2 | 1.346 | 31.6 | 1.248 | 38 | 1.496 | 4.2 | .165 |
| 22 | 31.8 | 1.252 | 37.4 | 1.472 | 34.8 | 1.374 | 41 | 1.614 | 4.2 | .165 |
| 24 | 34.9 | 1.374 | 40.9 | 1.610 | 38 | 1.5 | 44.5 | 1.752 | 4.2 | .165 |
| 28 | 39.7 | 1.563 | 46.7 | 1.838 | 44.3 | 1.75 | 50.8 | 2 | 5.2 | .204 |
| 32 | 44.5 | 1.752 | 53.4 | 2.102 | 50.7 | 1.996 | 57 | 2.244 | 5.2 | .204 |
| 36 | 49.2 | 1.937 | 59.6 | 2.346 | 57 | 2.188 | 62.5 | 2.5 | 5.2 | .204 |
| 40 | 55.6 | 2.189 | 65.7 | 2.586 | 61.9 | 2.437 | 69.9 | 2.752 | 5.2 | .204 |

| Shell Size | REAR PANEL MOUNT (O30): Part # Base 46739-XX | | | | | | FRONT PANEL MOUNT (CIR00 & CIR020) | | | | | |
|------------|--|------|-------|------|------|-------|------------------------------------|---------|----------|---------|---------|----------|
| | N | NS | SC | S* | F | FR | N | NS | SC | S | F | FR |
| 10SL | 10 | 10/1 | 10/2C | 10/2 | 10/3 | 10/FR | 16950 | 16950/1 | 16950/2C | 16950/2 | 16950/3 | 16950/FR |
| 14S | 14 | 14/1 | 14/2C | 14/2 | 14/3 | 14/FR | 16952 | 16952/1 | 16952/2C | 16952/2 | 16952/3 | 16952/FR |
| 16S /16 | 16 | 16/1 | 16/2C | 16/2 | 16/3 | 16/FR | 16953 | 16953/1 | 16953/2C | 16953/2 | 16953/3 | 16953/FR |
| 18 | 18 | 18/1 | 18/2C | 18/2 | 18/3 | 18/FR | 16954 | 16954/1 | 16954/2C | 16954/2 | 16954/3 | 16954/FR |
| 20 | 20 | 20/1 | 20/2C | 20/2 | 20/3 | 20/FR | 16955 | 16955/1 | 16955/2C | 16955/2 | 16955/3 | 16955/FR |
| 22 | 22 | 22/1 | 22/2C | 22/2 | 22/3 | 22/FR | 16956 | 16956/1 | 16956/2C | 16956/2 | 16956/3 | 16956/FR |
| 24 | 24 | 24/1 | 24/2C | 24/2 | 24/3 | 24/FR | 16957 | 16957/1 | 16957/2C | 16957/2 | 16957/3 | 16957/FR |
| 28 | 28 | 28/1 | 28/2C | 28/2 | 28/3 | 28/FR | 16958 | 16958/1 | 16958/2C | 16958/2 | 16958/3 | 16958/FR |
| 32 | 32 | 32/1 | 32/2C | 32/2 | 32/3 | 32/FR | 16959 | 16959/1 | 16959/2C | 16959/2 | 16959/3 | 16959/FR |
| 36 | 36 | 36/1 | 36/2C | 36/2 | 36/3 | 36/FR | 16960 | 16960/1 | 16960/2C | 16960/2 | 16960/3 | 16960/FR |
| 40 | 40 | 40/1 | 40/2C | 40/2 | 40/3 | 40/FR | 16968 | 16968/1 | 16968/2C | 16968/2 | 16968/3 | 16968/FR |

Note-

- Type FR- Flame retardant: (thickness 1+-0.4). Consult Factory
- Type N - Neoprene: (thickness 1+-0.4) Consult Factory
- Type S - Silicone: (thickness 1+-0.4) Consult Factory
- Type NS - Silicone Conductive. Consult Factory - Thickness - 0.5 ±0.2
- Type F - Viton*: Consult Factory - thickness 1+-0.4
- Type SC - Silicone, black, conductive, nickel graphite filler. Consult Factory
- Tin plated for RFI shielding. - Thickness - 0.5 ± 0.2 mm. Consult Factory

Operating Temperatures

- -55° C. to 125° C. - Neoprene
- -55° C. to 200° C. - Silicone
- -25° C. to 200° C. - Viton*
- -40° C. to 125° C. - Flame Retardant.

*Trademark Dupont



Crimp Contact Assembly Tools

Crimp Contact Assembly Tools



Guide Pins



A43240 Removal Kit



Consult Factory or reference CIR Assembly Guide for tooling and assembly information.

Crimp Tools - Manual & Pneumatic

Turret



AF8 Manual CrimpTool



Consult Factory or reference CIR Assembly Guide for tooling and assembly information.

Si necesitan información, pregunten referencias a:

Teléfono: +34 91 355 60 06

Email: info@scp-sa.es

WARNING:

Tooling & 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.

Product Safety Information

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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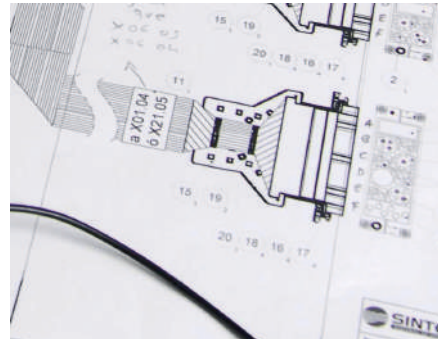
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The process at SCP | Sintersa

Design and Engineering

- Advanced technical know-how
- Engineering support for production processes
- Change Management
- Electrical test Program
- Advanced software tools such as CATIA and HarnWare
- Test benches



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- Wide range of products
- Complete stock of pieces parts
- Assembly tools
- Experienced personnel



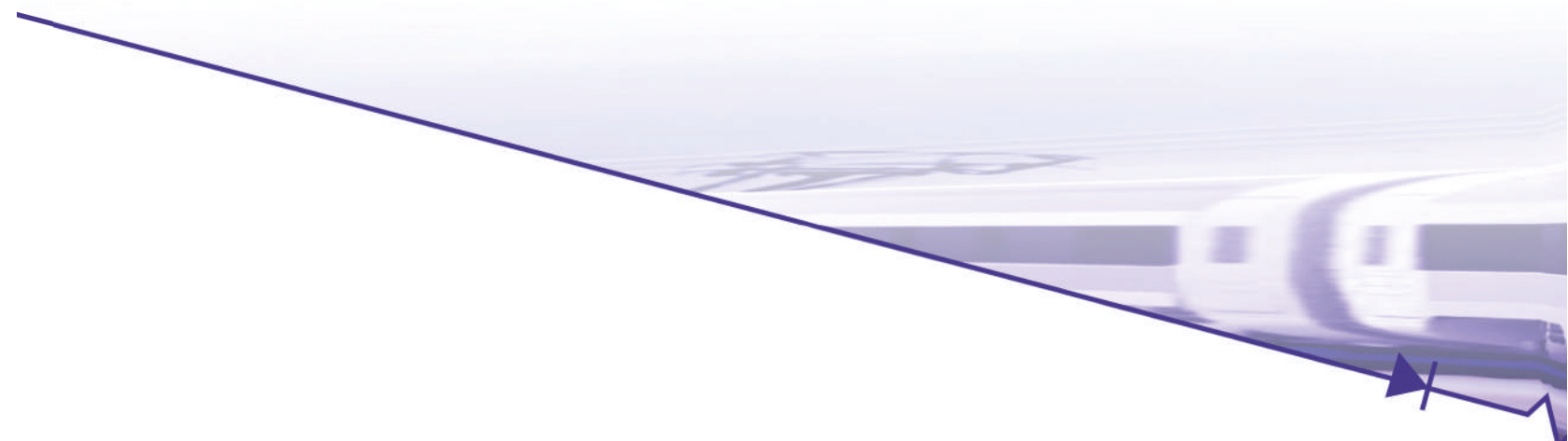
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