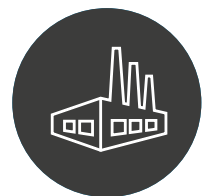




VF2

GROUND CONTACTS CONNECTED TO METAL SHELL

For controller, resolver, encoder
and brushless motor connection



About Us



Radiall has been enabling technology and innovation through collaboration with customers since 1952.

This has resulted in a range of innovative and award-winning products that customers trust for unrivaled repeatability and performance. Radiall's success is built on strong customer relationships and quality components, which have been established since its foundation.

With a focus on simplification and innovation, Radiall has become an industry leader in providing innovative solutions to customers. From connectors to in-house technologies, Radiall's commitment to collaboration and innovation has made it a trusted partner for customers looking to build the future.



The VanSystem brand in the Radiall world distinguishes "heavy duty" connectors for railways and industrial applications.

The name origin is related to VanSystem, an Italian company founded in Milan in 1985 and specialized in the design and production of industrial connectors.

During 30 years of activity the company has gained a strong market position by developing interconnection solutions compliant with the SAE AS 50151 (ex MIL-DTL-5015) standard and tailor-made connectors for the railway, machine tools, automation, construction sites, power supply, extractive industries markets.

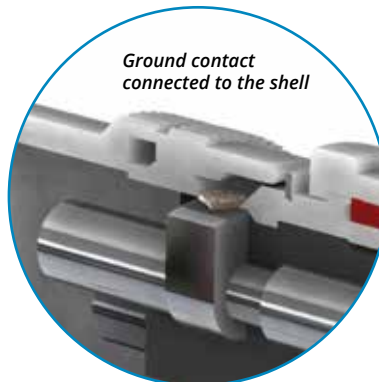
In 2015 Radiall SA took over the company; Radiall Italia was born in 2021, from the merger between VanSystem srl and Radiall Elettronica srl.

Radiall Italia S.r.l. Quality System is qualified according ISO 9001:2015 and ISO/TS 22163:2017 (IRIS)



VF2 - Introduction

Circular Connector for Industrial Application



This series has been designed to meet the requirements of accident-prevention safety in use. VF2 connectors are fully compatible and intermateable with all connectors complying MIL-DTL-5015 specs. The materials and the electrical characteristics are the same used for the standard thread coupling series (CVS).

Features:

- Ground contacts connected to the external metal shell
- Touch proof protected live contacts
- Pre-mating ground contact

Benefits:

- Reliable long-term electrical contacts
- Robust shells with threaded coupling nut

Application: For controller, resolver, encoder and brushless motor connection.



Contacts type	This series can be supplied with both solder or crimp contacts. The standard termination for crimp contacts is: Contacts AWG 16 – 1 ÷ 1,5 mm ² Contacts AWG 12 – 2,5 mm ² Contacts AWG 8 – 4 mm ² Terminations for other section can be supplied on request.
IP protection degree	IP67 when mated (in the mating area only) The gaskets for protection are included in the connector. In order to make the connector water resistant a suitable cable gland or hose adapter of the same IP grade must be used.
Rated temperature	-55°C ÷ +125 °C
Materials / finishes	Contacts: Copper alloy / Silver plating / Gold plating Insulating insert: Chloroprene rubber Shells: Aluminium alloy / electroless Nickel (others finishes on request)



VF2 - Characteristics

VF2	8G	DA	18-10	S	W	M20	CR	CD5	F5	G	N
VF2	Series Code	VF2	Threaded Connector - Chloroprene rubber								
8G	Shell Type	6 (size 10)	Plug connectors – straight backshell								
		6G (size 18, 22)	Plug connectors – straight backshell <i>with grounding terminal connected to shell</i>								
		8 (size 10)	Plug connectors – 90° Elbow								
		8G (size 18, 22)	Plug connectors – 90° Elbow <i>with grounding terminal connected to shell</i>								
		2 (size 18, 22)	Receptacle connectors – front mounting								
		2G (size 10)	Receptacle connectors – front mounting <i>with grounding terminal connected to shell</i>								
DA	Connector Class	-	Without backshell								
		DA	Backshell having an Unef external thread, or internal (M - PG)								
18-10	Insert Arrangement	10SL-3	2+PE, 13A, 500V								
		18-10	3+PE, 23A, 500V								
		22-22	3+PE, 46A, 500V								
S	Contact Gender	S	Socket contacts								
		P	Pin contacts								
X	Polarization Code**	-	No rotation								
		X,Y,Q	Rotation								
M20	Backshell Class or internal thread	-	With Unef external thread								
		M... (<i>internal thread size</i>)	Metric internal threaded								
		PG... (<i>internal thread size</i>)	Pg internal threaded								
		MH...	Supplied with Metric cable gland								
		PH...	Supplied with Pg cable gland (on request)								
CR	Contact Termination	-	Solder termination								
		CR	Crimp termination								
		LC	Less contacts								
CD5	Contact Plating	-	Silver plating								
		CD5	Gold plating								
F5	Shell finish	F5*	Electroless nickel (<i>RoHS compliance</i>)								
		F4	CCF - Green passivation - conductive								
		F7	Black epoxy varnish (<i>RoHS compliance</i>)								
		F16	CCF - Black passivation (<i>RoHS compliance</i>) - conductive								
G	Panel Gasket	-	Supplied without panel gasket								
		G	Supplied with panel gasket								
		G2	Supplied with shielded panel gasket								
N	Modification Code (consult our sales office)	N	Contacts and hole plugs								
		S	Customization								

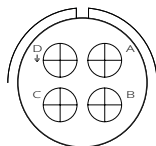
** If required

* Standard version

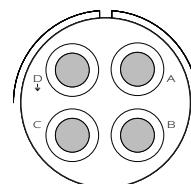
VF2 - Inserts Arrangement



Front view Pin contacts insert



Front view Pin contacts insert



Front view Pin contacts insert

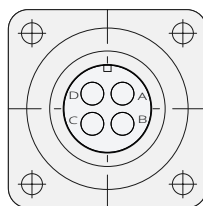
Connectors Type	10SL-3	18-10	22-22
Contacts q.ty	2 + ground contact (C)	3 + ground contact (D)	3 + ground contact (D)
Contacts AWG size	16	12	8
Rated current at 20°C	13A	23A	46A
Maximum current at 20°C	22A	41A	73A
Voltage drop Test according to SAE-AS39029 with silver plated wire	49mV	42mV	26mV
Rated voltage (Service rating A)	500 Vac 700 Vdc	500 Vac 700 Vdc	500 Vac 700 Vdc
Insulating resistance at 500Vdc	5.000 Ω	5.000 Ω	5.000 Ω
Pollution degree according to VDE 0110	2	2	2

Alternate insert positions

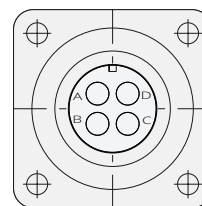
When more than one connector with the same arrangement is mounted on the same panel, it is advisable to orientate the connector. This means to rotate the insert with respect to the polarization key so that the connector can only be mated with the correct mating half.

	X	Y	Q
10SL-3	-	-	-
18-10	120°	240°	-
22-22	110°	250°	-

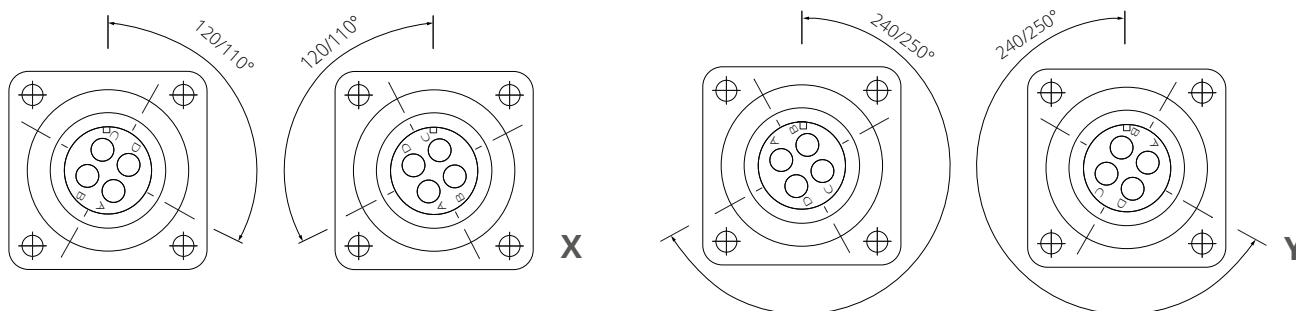
Example: arrangement



Front view mating side
Pin insert
Insert rotation



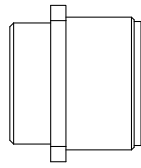
Front view mating side
Socket insert
Insert rotation



VF2 - Product Range

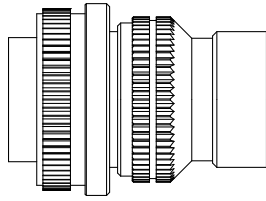
Receptacle connectors

Shell Type 2

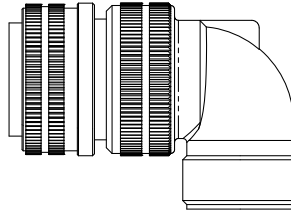


Plug Connectors

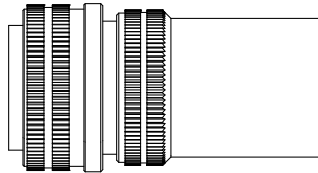
Shell Type 6
Class DA



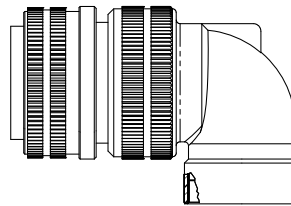
Shell Type 8
Class DA



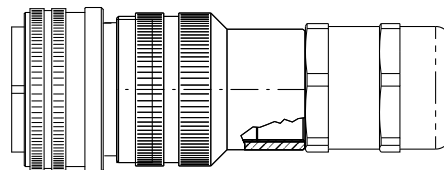
Shell Type 6
Class DA...M
Class DA...PG



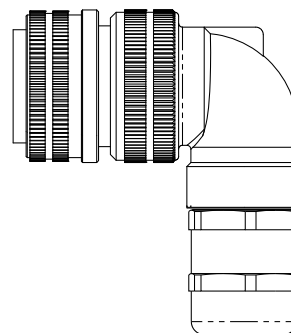
Shell Type 8
Class DA...M
Class DA...PG



Shell Type 6
Class DA...MH...



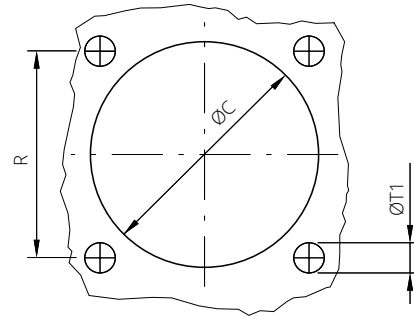
Shell Type 8
Class DA...MH...



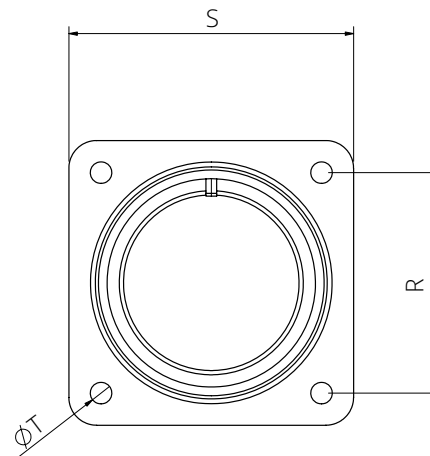
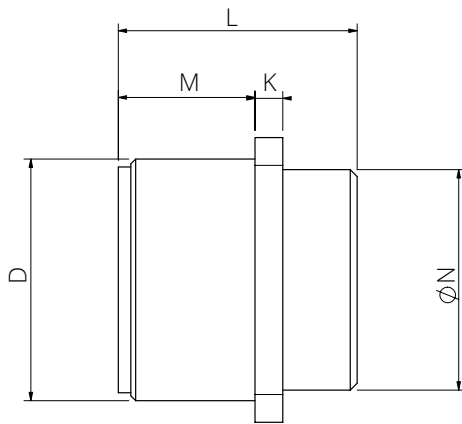
VF2 - Shell Type 2

Receptacle connectors - front mounting - Derived from Mil - DTL - 5015

Supplied with panel gasket



Panel cut out



Shell size	D Connectors Thread in inches	ØN Max	L	K ±0.2	M ±0.2	R ±0.1	S ±0.3	ØT ±0.2	ØT1 Through holes	ØC ±0.2
10SL	5/8"-24 UNEF	15.9	24.6	2.8	9.9	18.2	25.4	3.1	3.4	17
18	1"1/8-18 UNEF	25.6	34.1	4	15.9	27	34.9	3.1	3.4	26.5
22	1"3/8-18 UNEF	32.2	34.3	4	15.9	31.8	41	3.1	3.4	33

Dimensions in mm

RECEPTACLE CONNECTORS

Front mounting - Electroless nickel shell finishes (F5)

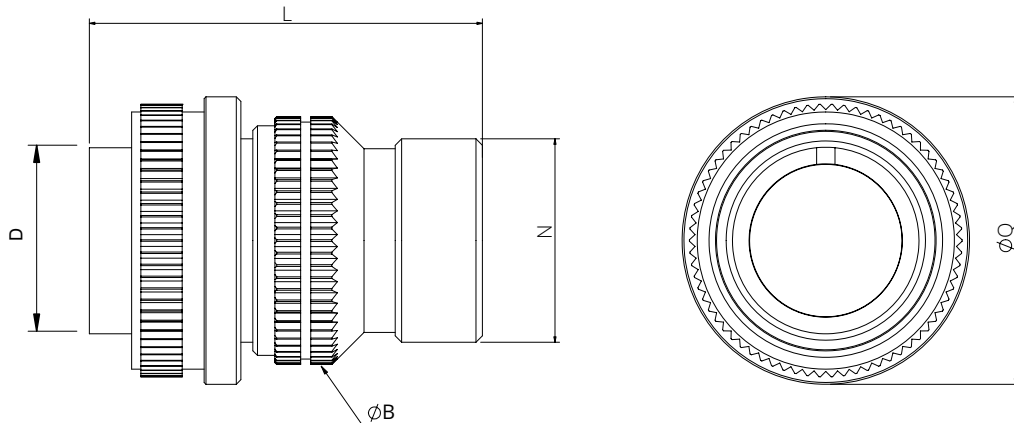
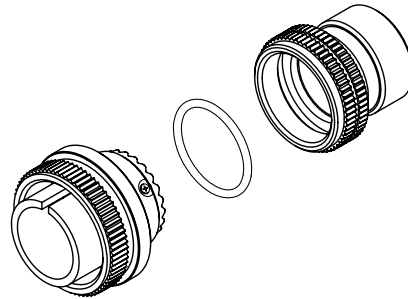
Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370101	VF2 2G 10SL-3P CR F5 G	3	13A	500V	Pin	1 ÷ 1,5	18 ÷ 16	crimp (16)	silver
VS370102	VF2 2G 10SL-3P LC F5 G	3	13A	500V	Pin	-	-	**	-
VS370103	VF2 2 18-10P CR F5 G N844	4	23A	500V	Pin	2,5	-	crimp (12)	silver
VS370104	VF2 2 18-10P CR F5 G N845	4	23A	500V	Pin	1÷2	18÷14	crimp (12)	silver
VS370105	VF2 2 18-10P LC F5 G	4	23A	500V	Pin	-	-	**	-
VS370106	VF2 2 22-22P CR F5 G N846	4	46A	500V	Pin	-	8	crimp (8)	silver
VS370107	VF2 2 22-22P CR F5 G N847	4	46A	500V	Pin	6	10	crimp (8)	silver
VS370108	VF2 2 22-22P CR F5 G N848	4	46A	500V	Pin	4	-	crimp (8)	silver
VS370109	VF2 2 22-22P CR F5 G N849	4	46A	500V	Pin	2,5	-	crimp (8)	silver
VS370110	VF2 2 22-22P LC F5 G	4	46A	500V	Pin	-	-	**	-

** to be purchased separately

VF2 - Shell Type 6 Class DA

Plug Connectors with Straight Backshell - suitable for MS3057...A or C type cable-clamps

Must be used with cable clamp; provided with sealing O-Ring



Shell size	D Connectors Thread in inches	ØQ ±0.2	ØB ±0.2	L max	N Backshell Thread in inches
10SL	5/8"-24 UNEF	22.8	20	36	5/8"-24 UNEF
18	1"1/8-18 UNEF	34.1	30	52	1"-20 UNEF
22	1"3/8-18 UNEF	40.5	37	67.4	1" 3/16-18 UNEF

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS - SOCKET CONTACTS

With Straight Backshell - UNEF external thread - Electroless nickel shell finishes (F5)

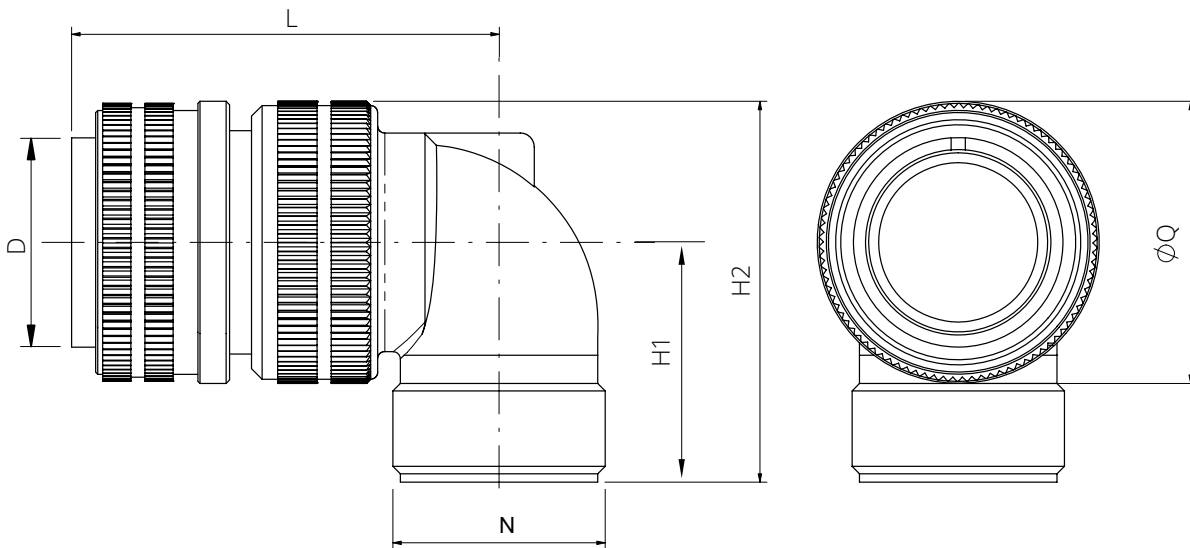
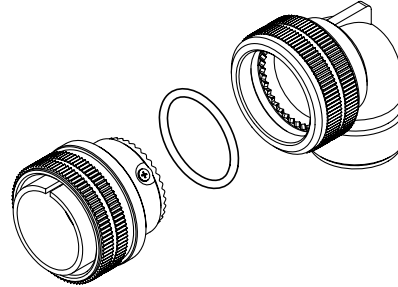
Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370111	VF2 6DA 10SL-3S CR F5	3	13A	500V	Socket	1 ÷ 1,5	18 ÷ 16	crimp (16)	silver
VS370112*	VF2 6GDA 18-10S CR F5	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370113*	VF2 6GDA 22-22S CR F5	4	46A	500V	Socket	8	-	crimp (8)	silver

* G = Grounding contact connected to the shell

VF2 - Shell Type 8 Class DA

Plug Connectors with 90° Elbow - suitable for MS3057...A or C type cable-clamps

Must be used with cable clamp; provided with sealing O-Ring



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	H1 max	H2 max	N Backshell Thread in inches
10SL	5/8"-24 UNEF	22.8	45.5	27	38.4	3/4"-20 UNEF
18	1"1/8-18 UNEF	34.1	57.5	31	48.1	1"-20 UNEF
22	1"3/8-18 UNEF	40.5	74.9	35	55.3	1" 3/16-18 UNEF

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS - SOCKET CONTACTS

With 90° Elbow - UNEF external thread - Electroless nickel shell finishes (F5)

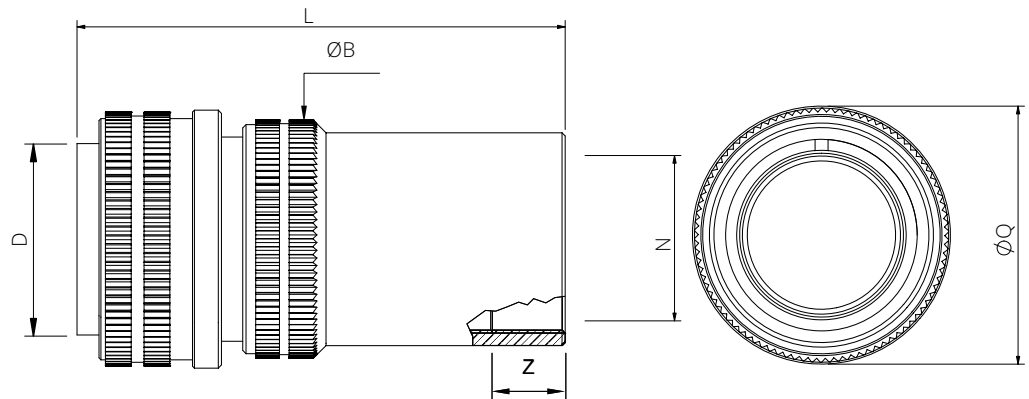
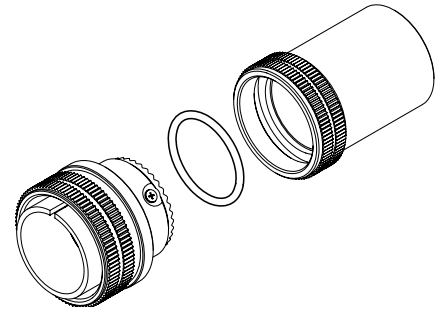
Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire Section mm ²	AWG	Contact Type (size)	Contact plated
VS370114	VF2 8DA 10SL-3S CR F5	3	13A	500V	Socket	1 ÷ 1,5	18 ÷ 16	crimp (16)	silver
VS370115*	VF2 8GDA 18-10S CR F5	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370116*	VF2 8GDA 22-22S CR F5	4	46A	500V	Socket	8	-	crimp (8)	silver

* G = Grounding contact connected to the shell

VF2 - Shell Type 6 Class DA...M

Plug Connectors with Straight Backshell - Metric internal threaded

Must be used with cable clamp; provided with sealing O-Ring



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	ØB ±0.2	N Backshell Thread	Z min
10SL	5/8"-24 UNEF	22.8	68	20	M12	8
18	1"1/8-18 UNEF	34.1	76	30	M20	12
22	1"3/8-18 UNEF	40.5	88.4	37	M25	16

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS

With Straight Backshell - Metric internal thread - Electroless nickel shell finishes (F5)

Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370117	VF2 6DA 10SL-3S M12 CR F5	3	13A	500V	Socket	1 ÷ 1,5	18 ÷ 16	crimp (16)	silver
VS370118	VF2 6DA 10SL-3S M12 LC F5	3	13A	500V	Socket	-	-	**	-
VS370119*	VF2 6GDA 18-10S M20 CR F5 N844	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370120*	VF2 6GDA 18-10S M20 CR F5 N845	4	23A	500V	Socket	1 ÷ 2	18 ÷ 14	crimp (12)	silver
VS370121*	VF2 6GDA 18-10S M20 LC F5	4	23A	500V	Socket	-	-	**	-
VS370122*	VF2 6GDA 22-22S M25 CR F5 N846	4	46A	500V	Socket	-	8	crimp (8)	silver
VS370123*	VF2 6GDA 22-22S M25 CR F5 N847***	4	46A	500V	Socket	6	10	crimp (8)	silver
VS370124*	VF2 6GDA 22-22S M25 CR F5 N848	4	46A	500V	Socket	4	-	crimp (8)	silver
VS370125*	VF2 6GDA 22-22S M25 CR F5 N849***	4	46A	500V	Socket	2,5	-	crimp (8)	silver
VS370126*	VF2 6GDA 22-22S M25 LC F5	4	46A	500V	Socket	-	-	**	-

* G = Grounding contact connected to the shell

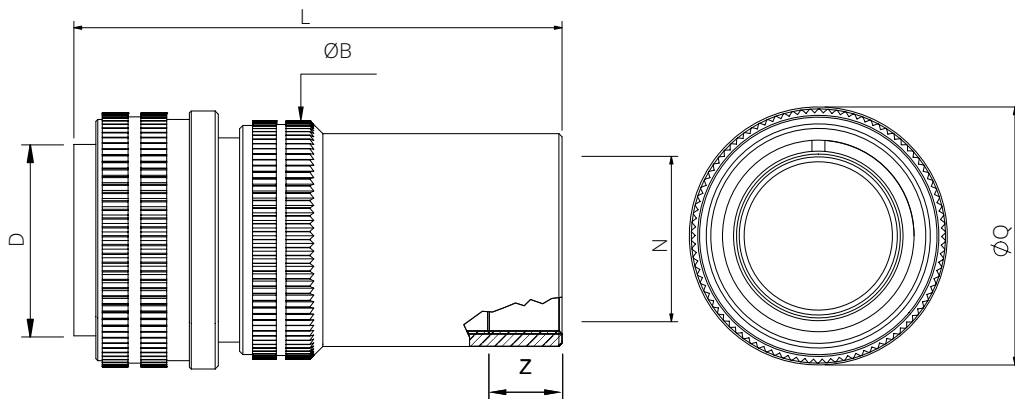
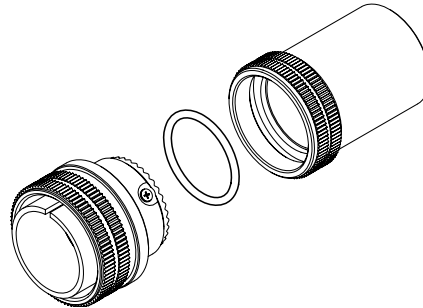
*** Grounding contact with crimp adaptor

** to be purchased separately

VF2 - Shell Type 6 Class DA...PG

Plug Connectors with Straight Backshell - PG internal threaded

Must be used with cable clamp; provided with sealing O-Ring



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	ØB ±0.2	N Backshell Thread	Z min
10SL	5/8"-24 UNEF	22.8	68	20	PG9	8
18	1"1/8-18 UNEF	34.1	76	30	PG16	12
22	1"3/8-18 UNEF	40.5	88.4	37	PG21	12

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS

With Straight Backshell - PG internal thread - Electroless nickel shell finishes (F5)

Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370127	VF2 6DA 10SL-3S PG9 CR F5	3	13A	500V	Socket	1 ÷ 1,5	18 ÷ 16	crimp (16)	silver
VS370128	VF2 6DA 10SL-3S PG9 LC F5	3	13A	500V	Socket	-	-	**	-
VS370129*	VF2 6GDA 18-10S PG16 CR F5 N844	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370130*	VF2 6GDA 18-10S PG16 CR F5 N845	4	23A	500V	Socket	1 ÷ 2	18 ÷ 14	crimp (12)	silver
VS370131*	VF2 6GDA 18-10S PG16 LC F5	4	23A	500V	Socket	-	-	**	-
VS370132*	VF2 6GDA 22-22S PG21 CR F5 N846	4	46A	500V	Socket	-	8	crimp (8)	silver
VS370133*	VF2 6GDA 22-22S PG21 CR F5 N847***	4	46A	500V	Socket	6	10	crimp (8)	silver
VS370134*	VF2 6GDA 22-22S PG21 CR F5 N848	4	46A	500V	Socket	4	-	crimp (8)	silver
VS370135*	VF2 6GDA 22-22S PG21 CR F5 N849***	4	46A	500V	Socket	2,5	-	crimp (8)	silver
VS370136*	VF2 6GDA 22-22S PG21 LC F5	4	46A	500V	Socket	-	-	**	-

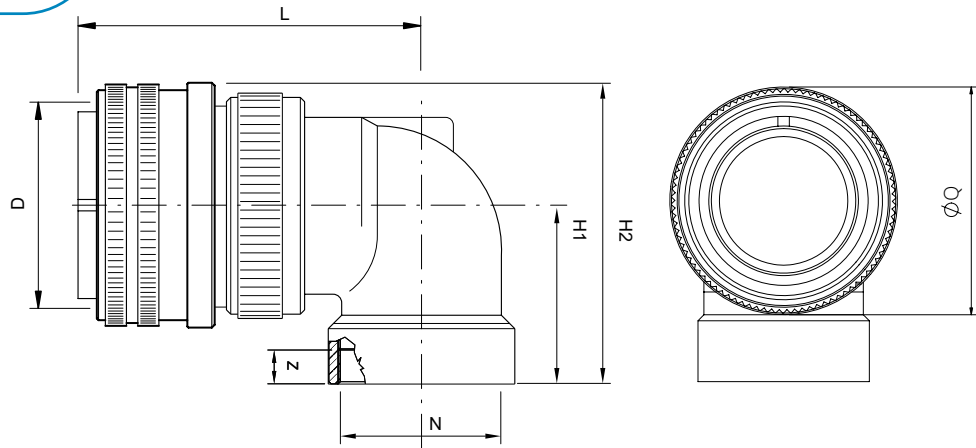
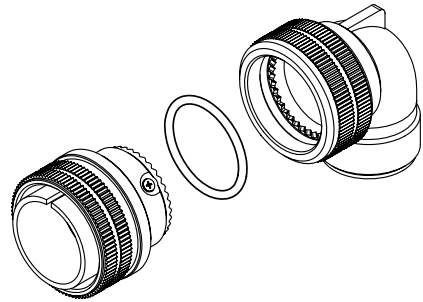
* G = Grounding contact connected to the shell

*** Grounding contact with crimp adaptor

** to be purchased separately

VF2 - Shell Type 8 Class DA...M

Plug Connectors with 90° Elbow - Metric internal threaded



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	H1 max	H2 max	Z min	N Backshell Thread
18	1"1/8-18 UNEF	34.1	57.5	31	48.1	10	M20
22	1"3/8-18 UNEF	40.5	74.9	35	55.3	12	M25

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS - SOCKET CONTACTS

With 90° Elbow - Metric internal threaded - Electroless nickel shell finishes (F5)

Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370139*	VF2 8GDA 18-10S M20 CR F5 N844	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370140*	VF2 8GDA 18-10S M20 CR F5 N845	4	23A	500V	Socket	1,5	-	crimp (12)	silver
VS370141*	VF2 8GDA 18-10S M20 LC F5	4	23A	500V	Socket	-	-	**	-
VS370142*	VF2 8GDA 22-22S M25 CR F5 N846	4	46A	500V	Socket	-	8	crimp (8)	silver
VS370143*	VF2 8GDA 22-22S M25 CR F5 N847***	4	46A	500V	Socket	6	10	crimp (8)	silver
VS370144*	VF2 8GDA 22-22S M25 CR F5 N848	4	46A	500V	Socket	4	-	crimp (8)	silver
VS370145*	VF2 8GDA 22-22S M25 CR F5 N849***	4	46A	500V	Socket	2,5	-	crimp (8)	silver
VS370146*	VF2 8GDA 22-22S M25 LC F5	4	46A	500V	Socket	-	-	**	-

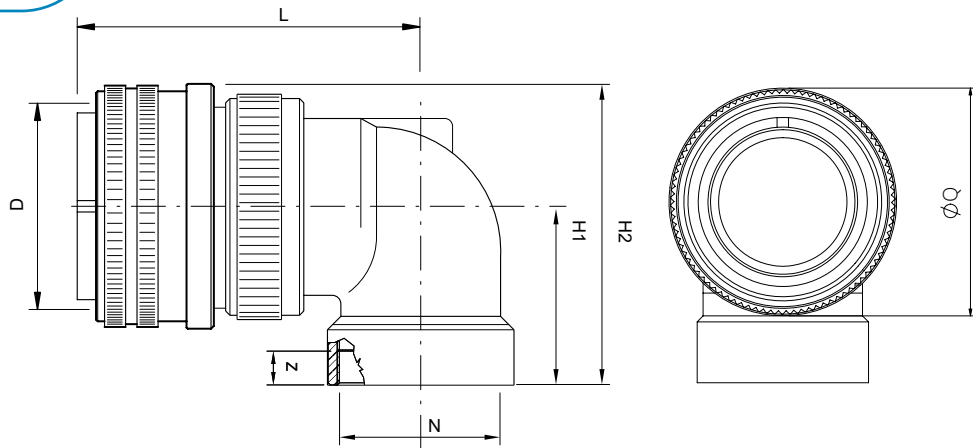
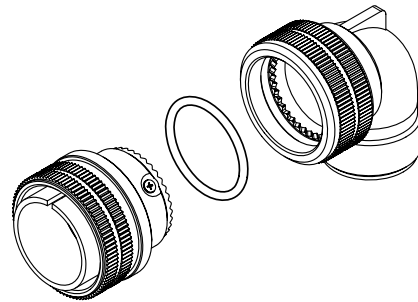
* G = Grounding contact connected to the shell

*** Grounding contact with crimp adaptor

** to be purchased separately

VF2 - Shell Type 8 Class DA...PG

Plug Connectors with 90° Elbow - PG internal threaded



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	H1 max	H2 max	Z min	N Backshell Thread
18	1"1/8-18 UNEF	34.1	57.5	31	48.1	9	PG16
22	1"3/8-18 UNEF	40.5	74.9	35	55.3	9	PG21

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS – SOCKET CONTACTS

With 90° Elbow – PG internal threaded – Electroless nickel shell finishes (F5)

Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370149*	VF2 8GDA 18-10S PG16 CR F5 N844	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370150*	VF2 8GDA 18-10S PG16 CR F5 N845	4	23A	500V	Socket	1,5	-	crimp (12)	silver
VS370151*	VF2 8GDA 18-10S PG16 LC F5	4	23A	500V	Socket	-	-	**	-
VS370152*	VF2 8GDA 22-22S PG21 CR F5 N846	4	46A	500V	Socket	-	8	crimp (8)	silver
VS370153*	VF2 8GDA 22-22S PG21 CR F5 N847***	4	46A	500V	Socket	6	10	crimp (8)	silver
VS370154*	VF2 8GDA 22-22S PG21 CR F5 N848	4	46A	500V	Socket	4	-	crimp (8)	silver
VS370155*	VF2 8GDA 22-22S PG21 CR F5 N849***	4	46A	500V	Socket	2,5	-	crimp (8)	silver
VS370156*	VF2 8GDA 22-22S PG21 LC F5	4	46A	500V	Socket	-	-	**	-

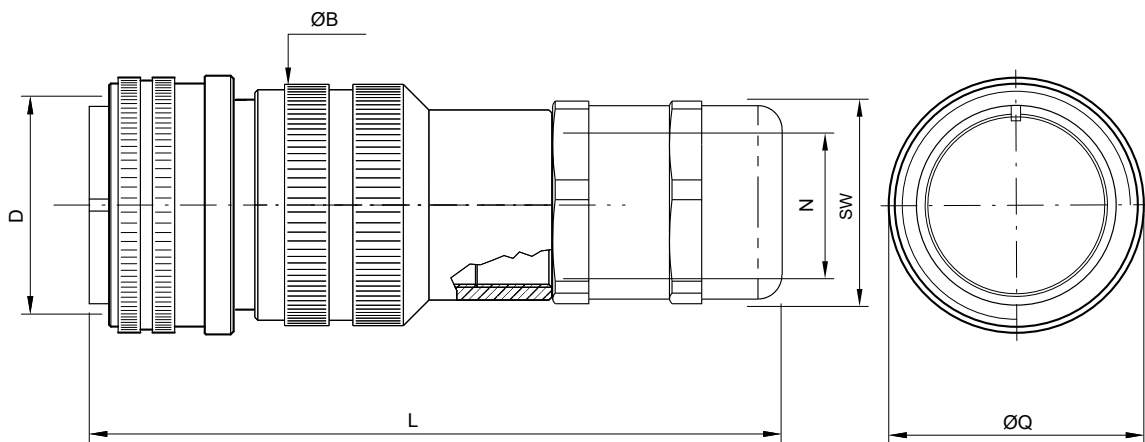
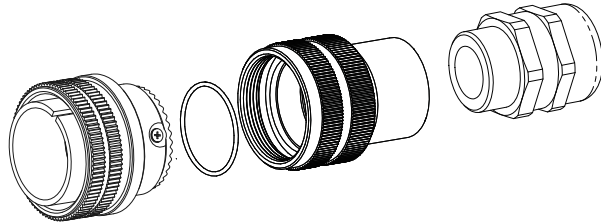
* G = Grounding contact connected to the shell

*** Grounding contact with crimp adaptor

** to be purchased separately

VF2 - Shell Type 6 Class DA...MH...

Plug Connectors with Straight Backshell - Supplied with Metric cable gland



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	ØB ±0.2	Metric Thread	ØN Clamping range mm	SW
10SL	5/8"-24 UNEF	22.8	88	20	M12	3.5-7	16
18	1"1/8-18 UNEF	34.1	104.5	30	M20	7-13	24
22	1"3/8-18 UNEF	40.5	118.9	37	M25	9-17	29

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS

With Straight Backshell - Supplied with Metric cable gland - Electroless nickel shell finishes (F5)

Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370157	VF2 6DA 10SL-3S MH12 CR F5	3	13A	500V	Socket	1 ÷ 1,5	18 ÷ 16	crimp (16)	silver
VS370158	VF2 6DA 10SL-3S MH12 LC F5	3	13A	500V	Socket	-	-	**	-
VS370159*	VF2 6GDA 18-10S MH20 CR F5 N844	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370160*	VF2 6GDA 18-10S MH20 CR F5 N845	4	23A	500V	Socket	1,5	-	crimp (12)	silver
VS370161*	VF2 6GDA 18-10S MH20 LC F5	4	23A	500V	Socket	-	-	**	-
VS370162*	VF2 6GDA 22-22S MH25 CR F5 N846	4	46A	500V	Socket	-	8	crimp (8)	silver
VS370163*	VF2 6GDA 22-22S MH25 CR F5 N847***	4	46A	500V	Socket	6	10	crimp (8)	silver
VS370164*	VF2 6GDA 22-22S MH25 CR F5 N848	4	46A	500V	Socket	4	-	crimp (8)	silver
VS370165*	VF2 6GDA 22-22S MH25 CR F5 N849***	4	46A	500V	Socket	2,5	-	crimp (8)	silver
VS370166*	VF2 6GDA 22-22S MH25 LC F5	4	46A	500V	Socket	-	-	**	-

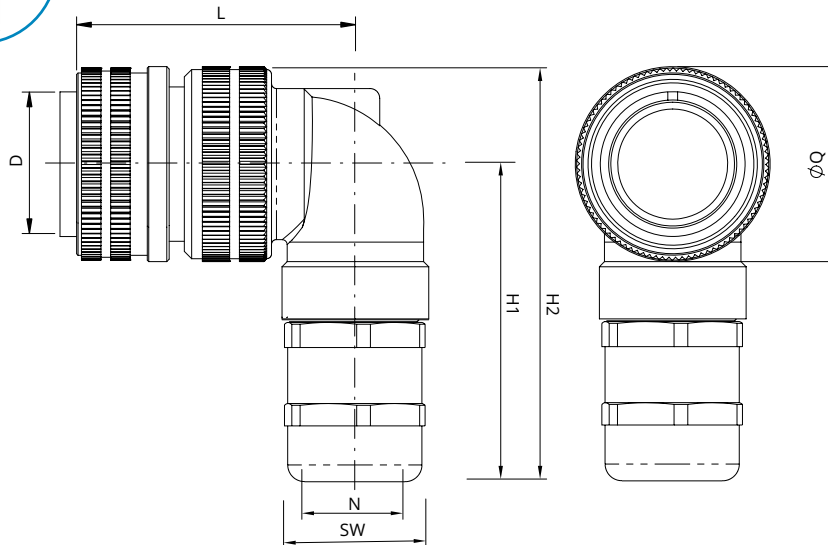
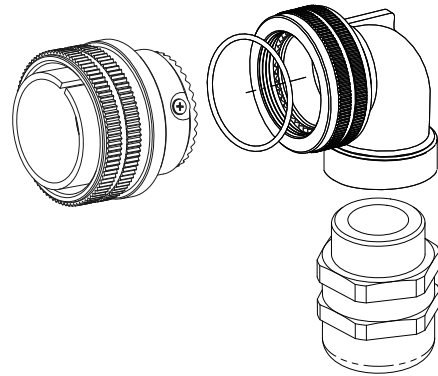
* G = Grounding contact connected to the shell

*** Grounding contact with crimp adaptor

** to be purchased separately

VF2 - Shell Type 8 Class DA...MH...

Plug Connectors with 90° Elbow - Supplied with Metric cable gland



Shell size	D Connectors Thread in inches	ØQ ±0.2	L max	H1 max	H2 max	Metric Thread	ØN Clamping range mm	SW
18	1"1/8-18 UNEF	34.1	57.5	59.5	76.6	M20	7-13	24
22	1"3/8-18 UNEF	40.5	74.9	65.5	85.8	M25	9-17	29

Dimensions in mm

Dimension "L" can be different from the value indicated according to backshells accessories, wires size and some special insert configurations.

PLUG CONNECTORS

With 90° Elbow – Supplied with Metric cable gland – Electroless nickel shell finishes (F5)

Part Number	Short Description	N° Poles	Rated Current	Rated Voltage	Contact Gender	Wire section mm ²	AWG	Contact Type (size)	Contact plated
VS370169*	VF2 8GDA 18-10S MH20 CR F5 N844	4	23A	500V	Socket	2,5	-	crimp (12)	silver
VS370170*	VF2 8GDA 18-10S MH20 CR F5 N845	4	23A	500V	Socket	1,5	-	crimp (12)	silver
VS370171*	VF2 8GDA 18-10S MH20 LC F5	4	23A	500V	Socket	-	-	**	-
VS370172*	VF2 8GDA 22-22S MH25 CR F5 N846	4	46A	500V	Socket	-	8	crimp (8)	silver
VS370173*	VF2 8GDA 22-22S MH25 CR F5 N847***	4	46A	500V	Socket	6	10	crimp (8)	silver
VS370174*	VF2 8GDA 22-22S MH25 CR F5 N848	4	46A	500V	Socket	4	-	crimp (8)	silver
VS370175*	VF2 8GDA 22-22S MH25 CR F5 N849***	4	46A	500V	Socket	2,5	-	crimp (8)	silver
VS370176*	VF2 8GDA 22-22S MH25 LC F5	4	46A	500V	Socket	-	-	**	-

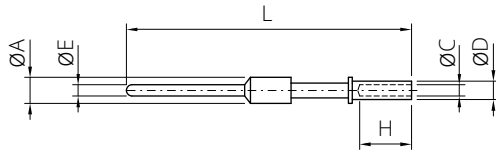
* G = Grounding contact connected to the shell

*** Grounding contact with crimp adaptor

** to be purchased separately

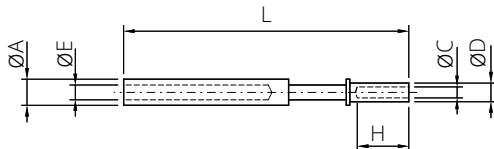
VF2 - ST Contacts

Pin CONTACTS - Crimp - Silver Plated (Gold plated contacts on request , add CD5 on the description)



Contact Size	Part Number	Short Description	Wire section (mm ²)	AWG cable size	ØA	ØC	ØD	ØE	H	L
16S	VS701604	ST485 16SP	1÷1.5	18÷16	3.2	1.7	2.6	1.58	6.5	26.6
16S	VS701655	ST485 16S-11P	0.25÷0.5	22-20	3.2	1.1	2.15	1.58	6.5	26.6
16S	VS701605	ST485 16S-12P	0.6	20	3.2	1.2	2.6	1.58	6.5	26.6
16S	VS701607	ST485 16S-15P	1	18	3.2	1.5	2.6	1.58	6.5	26.6
16S	VS701656	ST485 16S-17P	0.75÷1.5	16	3.2	1.75	2.62	1.58	6.5	26.6
16S	VS701608	ST485 16S-20P	2	14	3.2	2	2.9	1.58	6.5	26.6
16S	VS701609	ST485 16S-26P	3	12	3.2	2.5	3.8	1.58	7	27
12	VS701657	ST485 12-11P	0.5	22-20	4.8	1.1	3	2.38	8.5	37.5
12	VS701617	ST485 12-12P	0.6	20	4.8	1.2	2.6	2.38	8.5	37.5
12	VS701618	ST485 12-15P	0.75÷1	18	4.8	1.5	3.4	2.38	8.5	37.5
12	VS701619	ST485 12-20P	1÷2	18÷14	4.8	2	3.8	2.38	6.5	37.5
12	VS701620	ST485 12-22P	2.5	-	4.8	2.2	3.8	2.38	8.5	37.5
12	VS701621	ST485 12P	3	12	4.8	2.5	3.8	2.38	8.5	37.5
12	VS701622	ST485 12-30P	4	-	4.8	3	4.8	2.38	8.5	37.5
12	VS701623	ST485 12-38P	6	-	4.8	3.6	4.8	2.38	8	37.5
8	VS701624	ST485 8P	-	8	7.8	4.55	6.8	3.6	12.2	40.7
8	VS701625	ST485 8-15P**	1	18	7.8	1.5	3.4	3.6	8.5	40.7
8	VS701626	ST485 8-18P**	1÷2	18÷14	7.8	1.8	3.8	3.6	8.5	40.7
8	VS701646	ST485 8-22P	2.5	-	7.8	2.2	3.8	3.6	12.2	40.7
8	VS701647	ST485 8-26P	3	12	7.8	2.5	3.8	3.6	12.2	40.7
8	VS701627	ST485 8-30P	4	-	7.8	3	4.8	3.6	8.3	40.7
8	VS701628	ST485 8-38P	6	10	7.8	3.6	6.8	3.6	12.2	40.6
8	VS701629	ST485 8-50P	10	-	7.8	5	6.8	3.6	12.2	40.7

Socket CONTACTS - Crimp - Silver Plated



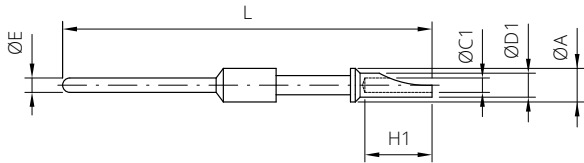
Contact Size	Part Number	Short Description	Wire section (mm ²)	AWG cable size	ØA	ØC	ØD	ØE	H	L
16S	VS701504	ST485 16SS	1÷1.5	18÷16	3.2	1.7	2.6	1.68	6.35	27
16S	VS701555	ST485 16S-11S	0.25÷0.5	22-20	3.2	1.1	2.15	1.68	6.5	26.6
16S	VS701505	ST485 16S-12S	0.6	20	3.2	1.2	2.6	1.68	6.5	26.6
16S	VS701507	ST485 16S-15S	1	18	3.2	1.5	2.6	1.68	6.5	26.6
16S	VS701556	ST485 16S-17S	0.75÷1.5	16	3.2	1.75	2.62	1.68	6.5	26.6
16S	VS701508	ST485 16S-20S	2	14	3.2	2	2.9	1.68	6.5	27
16S	VS701509	ST485 16S-26S	3	12	3.2	2.5	3.8	1.68	7	27
12	VS701557	ST485 12-11S	0.5	22-20	4.8	1.1	3	2.48	8.5	37.5
12	VS701517	ST485 12-12S	0.6	20	4.8	1.2	2.6	2.48	8.5	37.5
12	VS701518	ST485 12-15S	0.75÷1	18	4.8	1.5	3.4	2.48	8.5	37.5
12	VS701519	ST485 12-20S	1÷2	18÷14	4.8	2	3.8	2.48	6.5	37.5
12	VS701520	ST485 12-22S	2.5	-	4.8	2.2	3.8	2.48	8.5	37.5
12	VS701521	ST485 12S	3	12	3.2	2.5	3.8	2.48	8.5	37.5
12	VS701522	ST485 12-30S	4	-	4.8	3	4.8	2.48	8.5	37.5
12	VS701523	ST485 12-38S	6	-	4.8	3.6	4.8	2.48	8.5	37.5
8	VS701524	ST485 8S	-	8	7.8	4.55	6.8	3.7	12.2	40.7
8	VS701525	ST485 8-15S**	1	18	7.8	1.5	3.4	3.7	8.5	40.7
8	VS701526	ST485 8-18S**	1÷2	18÷14	7.8	1.8	3.8	3.7	8.5	40.7
8	VS701546	ST485 8-22S	2.5	-	7.8	2.2	3.8	3.7	12.2	40.7
8	VS701547	ST485 8-26S	3	12	7.8	2.5	3.8	3.7	12.2	40.7
8	VS701527	ST485 8-30S	4	-	7.8	3	4.8	3.7	8.3	40.7
8	VS701528	ST485 8-38S	6	10	7.8	3.6	6.8	3.7	12.2	40.7
8	VS701529	ST485 8-50S	10	-	7.8	5	7	3.7	11.5	40.7

** On request (please consult our Sales Office)

Dimensions in mm

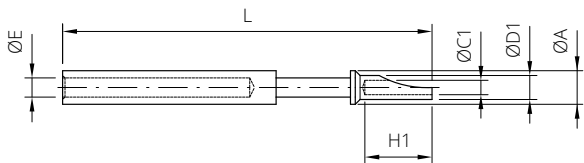
VF2 - ST Contacts

Pin CONTACTS - Solder - Silver Plated (Gold plated contacts on request , add CD5 on the description)



Contact size	Part Number	Short Description	AWG Cable size	ØA	ØC1	ØC2	ØD1	ØD2	ØE	H1	H2	L
16S	VS702001	ST385 16SP	18÷16	3.2	1.8	-	2.6	-	1.58	5.5	-	25.7
12	VS702003	ST385 12P	12	4.8	2.9	-	3.7	-	2.38	8	-	36.6
8	VS702004	ST385 8P	8	7.8	-	5.3	-	6.6	3.6	-	12.6	36.6

Socket CONTACTS - Solder - Silver Plated



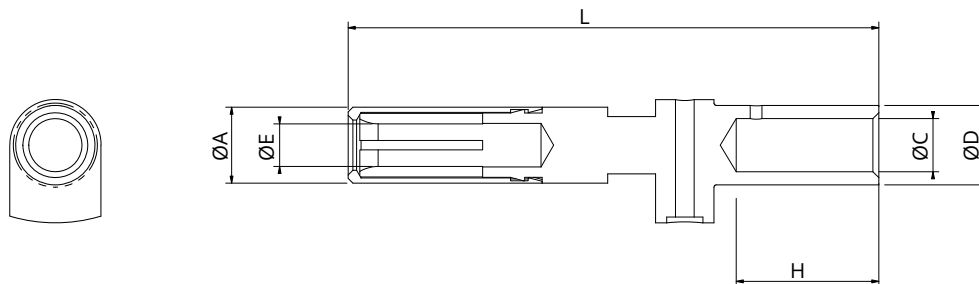
Contact size	Part Number	Short Description	AWG Cable size	ØA	ØC1	ØC2	ØD1	ØD2	ØE	H1	H2	L
16S	VS702011	ST385 16SS	18÷16	3.2	1.8	-	2.6	-	1.65	5.5	-	25.4
12	VS702013	ST385 12S	12	4.8	2.9	-	3.7	-	2.48	8	-	36.6
8	VS702014	ST385 8S	8	7.8	-	5.25	-	6.55	3.7	-	12.7	36.6

Dimensions in mm

VF2 - ST Contacts

Socket CONTACTS - Crimp - Silver Plated - For grounding contact connected to the shell

(Gold plated contacts on request , add CD5 on the description)

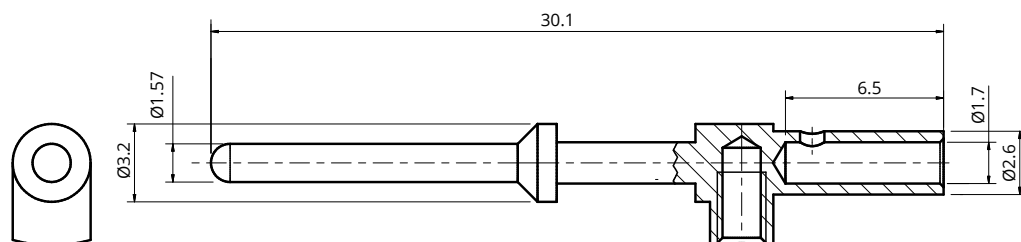


Contact Size	Part Number	Short Description	Wire section (mm ²)	AWG cable size	ØA	ØC	ØD	ØE	H	L
12	VS702101	VF485 18-10S N844	2,5	-	4.8	2.2	3.8	2.48	8.5	39.9
12	VS702102	VF485 18-10S N845	1÷2	18÷14	4.8	2	3.8	2.48	8.5	39.9
8	VS702103	VF485 22-22S N846	-	8	7.8	4.55	6.8	3.7	12.2	45.4
8	VS702104	VF485 22-22S N847*	6	10	7.8	3.6	6.8	3.7	12.2	43
8	VS702105	VF485 22-22S N848	4	-	7.8	3	4.8	3.7	8.5	43
8	VS702106	VF485 22-22S N849*	2,5	-	7.8	2.2	3.8	3.7	8.5	43

* Contacts supplied with crimp adapters

Pin CONTACTS - Crimp - Silver Plated - For grounding contact connected to the shell

(Gold plated contacts on request , add CD5 on the description)



Contact Size	Part Number	Short Description	Wire section (mm ²)	AWG cable size
16S	VS702107	VF485 10SL-3P	1÷1.5	18÷16

Dimensions in mm

VF2 - Accessories For Connectors

CONTACT CRIMP TOOLS



Contact size	Short Description	mm ² section	AWG section	Manual crimp tool	Locator /Die	Insertion tool	Removal tool	Guide pin	Stripping length mm
16S	ST485 16SP/S	1÷1.5	18÷16	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-16	GP-784-16	6.3
16S	ST485 16S-11P/S	0.25÷0.5	22-20	CRT-784/1	LOC-784	CTIN-784-18	CTES-784-16	GP-784-16	6.3
16S	ST485 16S-12P/S	0.6	20	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-16	GP-784-16	6.3
16S	ST485 16S-15P/S	1	18	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-16	GP-784-16	6.3
16S	ST485 16S-17P/S	0.75÷1.5	16	**	**	**	**	**	6.3
16S	ST485 16S-20P/S	2	14	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-16	GP-784-16	6.3
16S	ST485 16S-26P/S	3	12	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-16	GP-784-16	6.8
12	ST485 12-11P/S	0.5	22-20	**	**	**	**	**	8.3
12	ST485 12-12P/S	0.6	20	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-12	GP-784-12	8.3
12	ST485 12-15P/S	0.75÷1	18	CRT-784/1	LOC-784	CTIN-784-16	CTES-784-12	GP-784-12	8.3
12	ST485 12-20P/S	1÷2	18÷14	CRT-784/1	LOC-784	CTIN-784-12	CTES-784-12	GP-784-12	6.5
12	ST485 12-22P/S	2.5	-	CRT-784/1	LOC-784	CTIN-784-12	CTES-784-12	GP-784-12	8.3
12	ST485 12P/S	3	12	CRT-784/1	LOC-784	CTIN-784-12	CTES-784-12	GP-784-12	8.3
12	ST485 12-30P/S	4	-	CRT-784/1	LOC-784	CTIN-784-12/1	CTES-784-12	GP-784-12	8.3
12	ST485 12-38P/S	6	-	CRT-784/1	LOC-784	CTIN-784-12/1	CTES-784-12	GP-784-12	8
8	ST485 8P/S	-	8	CRT-HT45	CDI-ME2	CTIN-784-8	CTES-784-8	-	12
8	ST485 8-15P/S	1	18	**	**	**	**	-	**
8	ST485 8-18P/S	1÷2	18÷14	**	**	**	**	-	**
8	ST485 8-22P/S	2.5	-	CRT-HT45	VS61137	CTIN-784-12	CTES-784-8	-	12
8	ST485 8-26P/S	3	12	**	-	-	-	-	**
8	ST485 8-30P/S	4	-	CRT-HT45	CDI-ME1	CTIN-784-12/1	CTES-784-8	-	8
8	ST485 8-38P/S	6	10	CRT-HT45	CDI-ME2	CTIN-784-12/1	CTES-784-8	-	12
8	ST485 8-50P/S	10	-	CRT-HT45	CDI-ME2	CTIN-784-8	CTES-784-8	-	12

For grounding contact

Contact size	Short Description	mm ² section	AWG section	Manual crimp tool	Locator /Die	Insertion tool	Removal tool	Guide pin	Stripping length mm
16S	VF485 10SL-3P	1÷1.5	18÷16	**	**	**	**	**	6.3
12	VF485 18-10S N844	2,5	-	CRT-HT45	VS61138	CTIN-784-12	CTES-784-12	GP-784-12	8.3
12	VF485 18-10S N845	1÷2	18÷14	CRT-784/1	LOC-784	CTIN-784-12	CTES-784-12	GP-784-12	8.3
8	VF485 22-22S N846	-	8	CRT-HT45	CDI-ME2	CTIN-784-8	CTES-784-8	-	12
8	VF485 22-22S N847*	6	10	CRT-HT45	CDI-ME2	CTIN-784-12/1	CTES-784-8	-	12
8	VF485 22-22S N848	4	-	CRT-HT45	VS61138	CTIN-784-12/1	CTES-784-8	-	8.3
8	VF485 22-22S N849*	2,5	-	CRT-HT45	VS61137	CTIN-784-12	CTES-784-8	-	8.3

* With adapters

** On request (please consult our Sales Office)

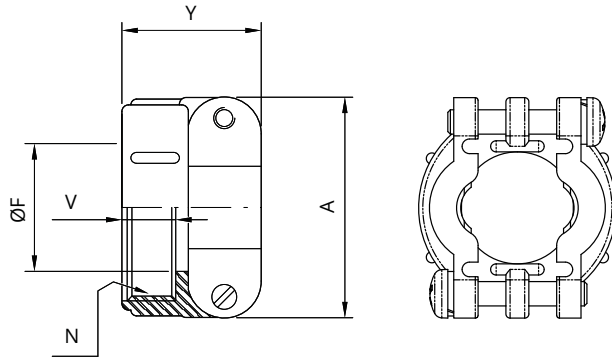
VF2 - Accessories

Cable Clamp A type

MS 3057 - ...A Cable Clamp

These cable-clamps keep the cable in the connector axial position and guarantee an excellent mechanical strain relief. They are not waterproof and are generally supplied separately except for class F connectors.

To be used with Backshell Class DA (pages 8 and 9).



Finishes : F5 Electroless nickel (*RoHS compliance*)

Shell size	Part Number	Short Description	Y max	V ±0.2	A max	ØF max cable Ø	N Thread in inches
10SL (Shell Type: 6)	VS705231	MS 3057-4A F5	20.6	10.5	22.5	8	5/8"-24 UNEF
10SL (Shell Type: 8)	VS705232	MS 3057-6A F5	22.2	10.5	28	11	3/4"-20 UNEF
18	VS705234	MS 3057-10A F5	25	10.5	32	15.8	1"-20 UNEF
22	VS705235	MS 3057-12A F5	25	10.5	37.5	19	1" 3/16-18 UNEF

Dimensions in mm

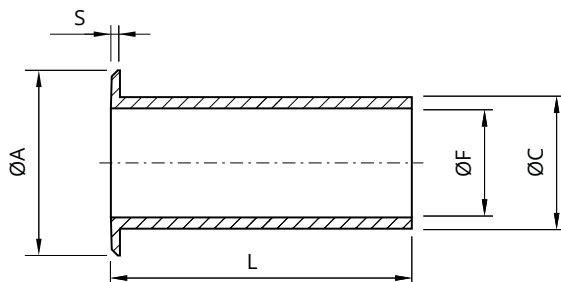
Bushing for Cable Clamp A type

MS 3420 - ... Bushing

They are made of elastomeric rubber and used with cable clamp MS3057 - ...A to protect the cable.

In the same cable-clamp it is possible to assemble more than one bushing (inside each other) so to achieve diameters much smaller than the nominal.

Available in chloroprene rubber.



Shell size	Part Number chloroprene rubber	Short Description chloroprene rubber	For Cable gland	ØA ±0.2	ØF max cable Ø	ØC ±0.2	S ±0.2	L ±0.2
10SL (Shell Type: 6)	VS705401	MS 3420-4	MS 3057-4A	12.8	5.6	7.6	1.6	69.8
10SL (Shell Type: 8)	VS705402	MS 3420-6	MS 3057-6A	15.7	7.9	10.8	1.6	66.8
18	VS705404	MS 3420-10	MS 3057-10A	22	14.2	15.6	1.6	60.3
22	VS705405	MS 3420-12	MS 3057-12A	27	15.8	18.8	1.6	57.1

On request: V = Fluoride Rubber S = Silicone Rubber

Dimensions in mm

VF2 - Accessories

Cable Clamp C type

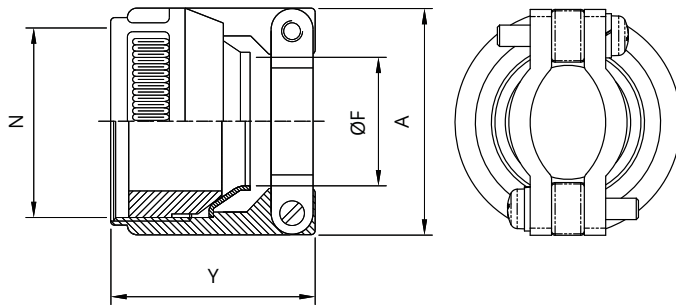
MS 3057 - ...C Cable Clamp

IP67

Besides guaranteeing an excellent mechanical strain relief keeping the cable in the centre of the connector, these cable-clamps are provided with an internal conical rubber bushing ensuring waterproof protection. The screws in stainless steel have elastic rose-cut antivibration head.

Available with gasket in chloroprene rubber.

To be used with Backshell Class DA (pages 8 and 9).



Finishes : F5 Electroless nickel (RoHS compliance)

Shell size	Part Number chloroprene rubber	Short Description chloroprene rubber	Y max	A max	ØF cable min max	N Thread in inches
10SL (Shell Type: 6)	VS705281	MS 3057-4C F5	33.4	23	7.9 2.4	5/8"-24 UNEF
10SL (Shell Type: 8)	VS705282	MS 3057-6C F5	32.3	26	11.2 5.8	3/4"-20 UNEF
18	VS705284	MS 3057-10C F5	35	32	15.9 9.6	1"-20 UNEF
22	VS705285	MS 3057-12C F5	35.7	37.5	19 11.3	1" 3/16-18 UNEF

Gasket on request: V = Fluoride Rubber - S = Silicone Rubber

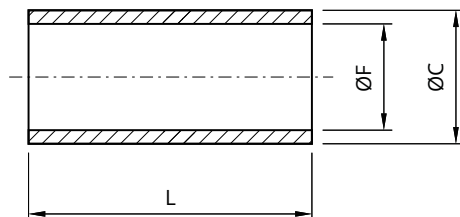
Dimensions in mm

Bushing for Cable Clamp C type

MS 3420 - ...A Bushing

They are made of elastomeric rubber and used with cable clamp MS 3057 - ...C to protect the cable. They allow using cables with diameter smaller than the nominal.

Available in chloroprene rubber.



Shell size	Part Number chloroprene rubber	Short Description chloroprene rubber	For Cable gland	ØF max cable Ø	ØC ±0.2	L ±0.2
10SL (Shell Type: 6)	VS705421	MS 3420-4A	MS 3057-4C	5.6	7.8	50.8
10SL (Shell Type: 8)	VS705422	MS 3420-6A	MS 3057-6C	7.9	11	50.8
18	VS705424	MS 3420-10A	MS 3057-10C	11.1	15.8	50.8
22	VS705425	MS 3420-12A	MS 3057-12C	13.7	18.9	50.8

On request: V = Fluoride Rubber S = Silicone Rubber

Dimensions in mm

VF2 - Accessories

Cable gland - PG (DIN40430) or metric threaded



PG or metric threaded cable glands



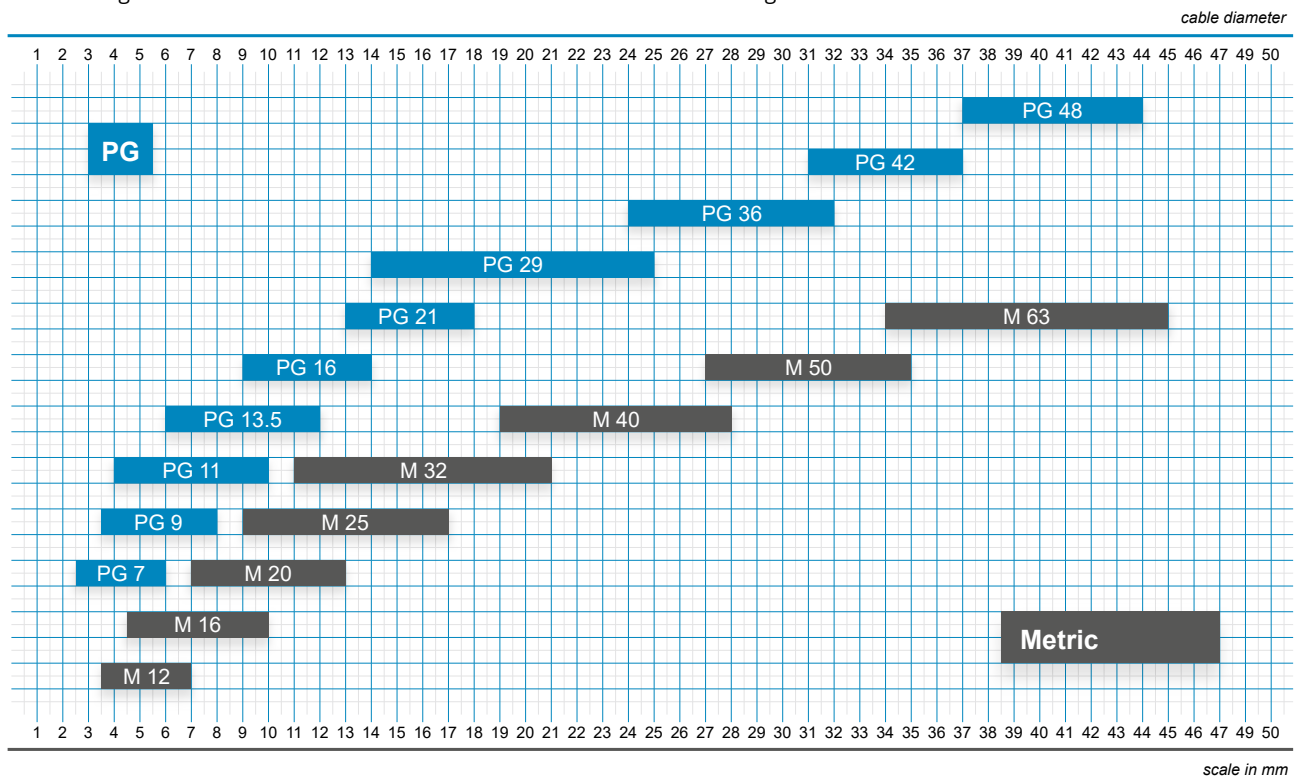
Cable glands with protection for spiral-shaped cables

These glands guarantee an excellent strain relief resistance with waterproof protection (IP67). The body is in plastic material (Polyamide or black coloured Nylon – Operating temperature -20 °C to + 80 °C) or metallic material (Brass with nickel finish – operating temperature -30 °C to +100 °C).

They both prevent the cable from twisting when coupling the connectors. The plastic version is provided with an anti-vibration system to prevent the gland from becoming loose. Compared to other cable retention systems this solution is more economical.

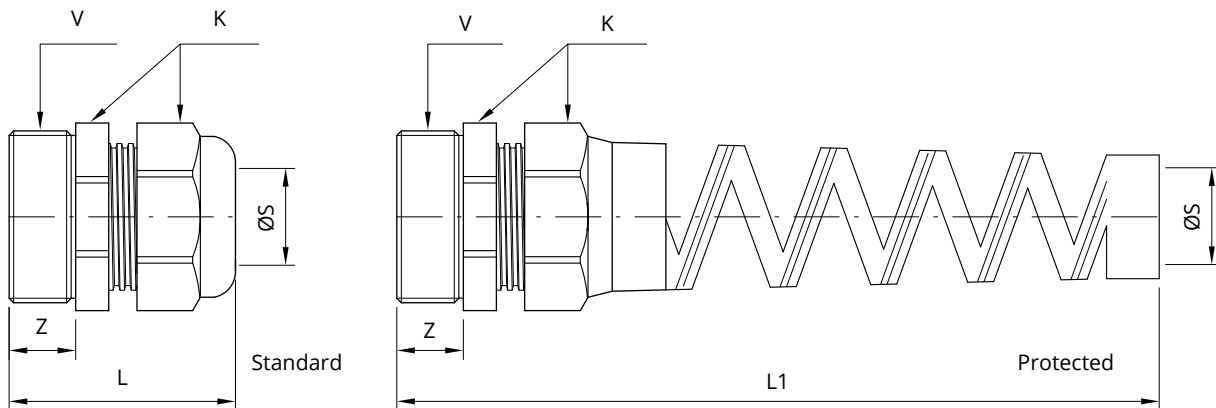
These adapters are available with PG or metric thread and can be used with connector classes DA...PG and DA...M. Glands with protection for spiral-shaped cables are available on request. They eliminate possible damage caused by the cable bending on the cable-connector interface. Therefore these are often used with cables where a small conductor can be easily damaged.

Comparison of clamping ranges PG / Metric glands
The following table shows the cable dimensions to be used with PG or Metric glands.



VF2 - Accessories

Cable gland - PG (DIN40430) or metric threaded



Metallic cable glands

Part Number	Short Description	V	ØS Clamping range	K	Z	L
VS705002	AL PG9 M	PG 9	3-8	19	8	36
VS705005	AL PG16 M	PG 16	8-14	27	10	44
VS705006	AL PG21 M	PG 21	11-18	33	11	49
VS705011	AL M12 M	M12x1.5	3.5-7	15	8	30
VS705013	AL M20 M	M20x1.5	7-13	25	9	37
VS705014	AL M25 M	M25x1.5	9-17	30	10	40

Plastic cable glands

Part Number	Short Description	V	ØS Clamping range	K	Z	L
VS705022	AL PG9 P	PG 9	3.5-8	19	8	36
VS705025	AL PG16 P	PG 16	9-14	27	10	44
VS705026	AL PG21 P	PG 21	13-18	33	11	49
VS705031	AL M12 P	M12x1.5	3.5-7	15	8	30
VS705033	AL M20 P	M20x1.5	7-13	25	9	37
VS705034	AL M25 P	M25x1.5	9-17	30	10	40

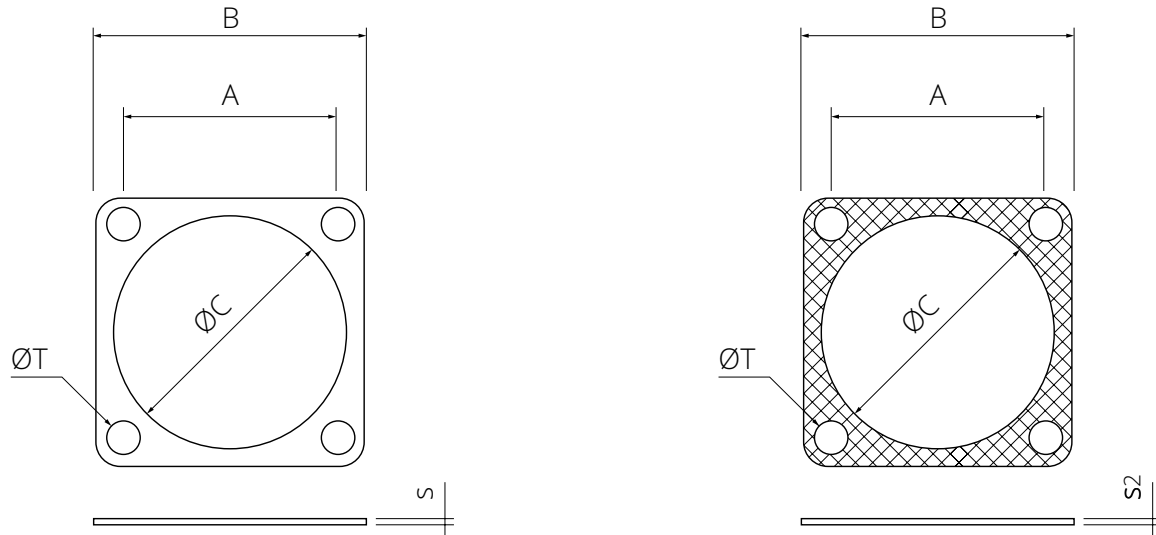
Plastic Protected cable glands

Part Number	Short Description	V	ØS Clamping range	K	Z	L1
VS705042	AL PG9 PP	PG 9	3.5-8	19	8	73.5
VS705045	AL PG16 PP	PG 16	9-14	27	10	111.5
VS705046	AL PG21 PP	PG 21	13-18	33	11	129
VS705051	AL M12 PP	M12x1.5	3.5-7	15	8	64
VS705053	AL M20 PP	M20x1.5	7-13	25	9	101
VS705054	AL M25 PP	M25x1.5	9-17	30	10	125

Dimensions in mm

VF2 - Accessories

Panel Gasket



These gaskets are used to make front mounting panel connectors water resistant.

Available in two versions:

- gasket C215 – non conductive chloroprene rubber gasket (IP67 protection).
- gasket C215R – conductive chloroprene rubber gasket with embedded metal screen (IP65 protection).
These gaskets guarantee watertightness and RFI shielding

Part Number	Short Description	Shell size	A	B	ØC	S	ØT
Non conductive							
VS412400	C215-10	10SL	18.2	25.4	16.3	1±0.3	4.3
VS412403	C215-18	18	27	35	28.6	1±0.3	5.1
VS412405	C215-22	22	31.8	41.2	34.9	1±0.3	5.1
Conductive						S2	
VS412412	C215R-10	10SL	18.2	25.4	16.3	0.5±0.2	4.3
VS412415	C215R-18	18	27	35	28.6	0.5±0.2	5.1
VS412417	C215R-22	22	31.8	41.2	34.9	0.5±0.2	5.1

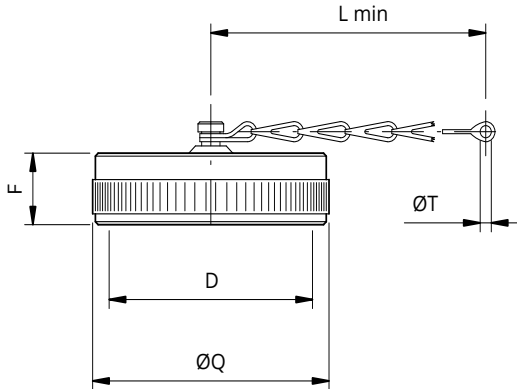
Dimensions in mm

VF2 - Accessories

Caps

Caps with chain for Shell Type 2 Connectors

Provided with sealing gasket. Chain and lugs are in stainless steel.



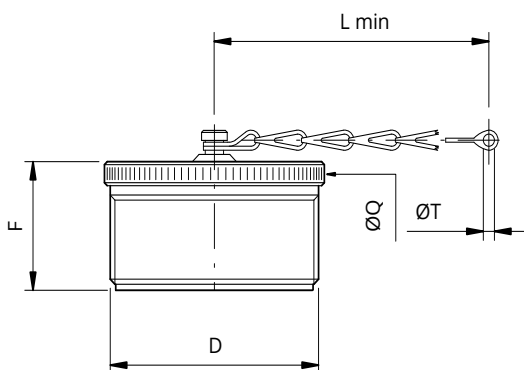
Finishes : F5 Electroless nickel (*RoHS compliance*)

Shell size	Part Number	Short Description	D Thread in inches	ØQ	F	L min	ØT
10SL	VS150137	CVS 043-10SL F5	5/8"-24 UNEF	24	13.1	108	4.3
18	VS150141	CVS 043-18 F5	1"1/8-18 UNEF	34	13.1	123	4.3
22	VS150143	CVS 043-22 F5	1"3/8-18 UNEF	41	13.1	123	4.3

Dimensions in mm

Caps with chain for Shell Type 6/8 Connectors

These caps have no sealing gasket because mated with connectors generally provided with front gasket. Chain and lugs are in stainless steel.



Finishes : F5 Electroless nickel (*RoHS compliance*)

Shell size	Part Number	Short Description	D Thread in inches	ØQ	F	L min	ØT
10SL	VS150237	CVS 042-10SL F5	5/8"-24 UNEF	18	16.5	108	4.3
18	VS150241	CVS 042-18 F5	1"1/8-18 UNEF	30	21.4	123	4.3
22	VS150243	CVS 042-22 F5	1"3/8-18 UNEF	37	21.4	138	4.3

Dimensions in mm

Information regarding the use of the product within recommended safety limits

To use the connectors described in this catalogue according to the necessary safety requirements we suggest you apply the following criteria:

- use the connectors and connected cables within their electrical and environmental limits
- follow the characteristics of each version (shell, class and type of strain relief) and carefully choose the appropriate connector for the required use
- make sure to respect the procedures regarding the correct assembly of connectors and the crimping of contacts
- any connector damaged during shipment, storage, assembly or use should be replaced
- never uncouple the connectors when under power
- always protect the parts against shock when the circuit is under power
- always check the circuit before putting it under power
- consult Radiall Italia Srl if in doubt
- the user must take final responsibility for electrical safety Radiall Italia Srl reserves the right to amend the specifications of this catalogue without issuing prior notice.

For the instructions concerning assembly and crimping of contacts please consult the appropriate tools manuals.

We recommend to respect the following general rules:

- to be used always the tools recommended by Radiall Italia Srl's catalogue or manuals
- to be applied the suggested norms for tool maintenance and calibration

DO NOT USE ALTERNATIVE GREASES OR OILS which could damage the insert and affect the functionality of the connector. Radiall Italia Srl reserves the right to amend the specifications of this catalogue without issuing prior notice.

The data defined in this document are given as an indication. In the effort to improve our products, we reserve the right to make any change judged necessary.



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