VGE1
Connectors

Following MIL-DTL-5015 & VG 95234
and validated according to NFF 61030 standard

SOURIAU
Connection Technology

VGE1 Series

SOURIAU is focused on the supply of connection technologies for severe environment. Our Company has a presence in the world's major aerospace/defense programs and is strongly positioned in the railways, geophysical, robotics and instrumentation markets.

The Company has been created by the successive acquisitions of the industrial, aeronautics, defense and space activities of SOURIAU, JUPITER and BURNDY.

Laboratory & Test Center

SOURIAU has its own independent test center recognized by many National Standard Laboratories.

This Center carries-out validation or qualification programs complying with : MIL-Standard - CECC - GSFC - VDE - SCC - EN - CSA - UL.
The laboratory has the capabilities to perform testing in compliance with the above mentioned standards as follows :
• electrical • environmental • mechanical.

Design & Development

SOURIAU continues its strong commitment to invest in design and development to provide innovative solutions.

Our Company is structured into cross-functional teams of scientists, engineers and technicians working closely with customers to bring new products to market.

More than 6% of our sales are invested in new product development.

Quality Assurance

Quality is a key objective for SOURIAU focusing on :

- Total Customer Satisfaction.
- The widespread application of a Quality Assurance system that spans all processes, is consistent throughout the company and meets the requirements of ISO 9001 / ISO 14001 / MIL-STD 790 / NATO AQAP 110 / BOEING D1-9000 / AS-9100.

VGE1 Series

New generation of circular connector for heavy-duty and railways applications…

Summary

VGE1 Series

Completely intermontable with VG 95234 : the MS 5015 reverse bayonet connectors

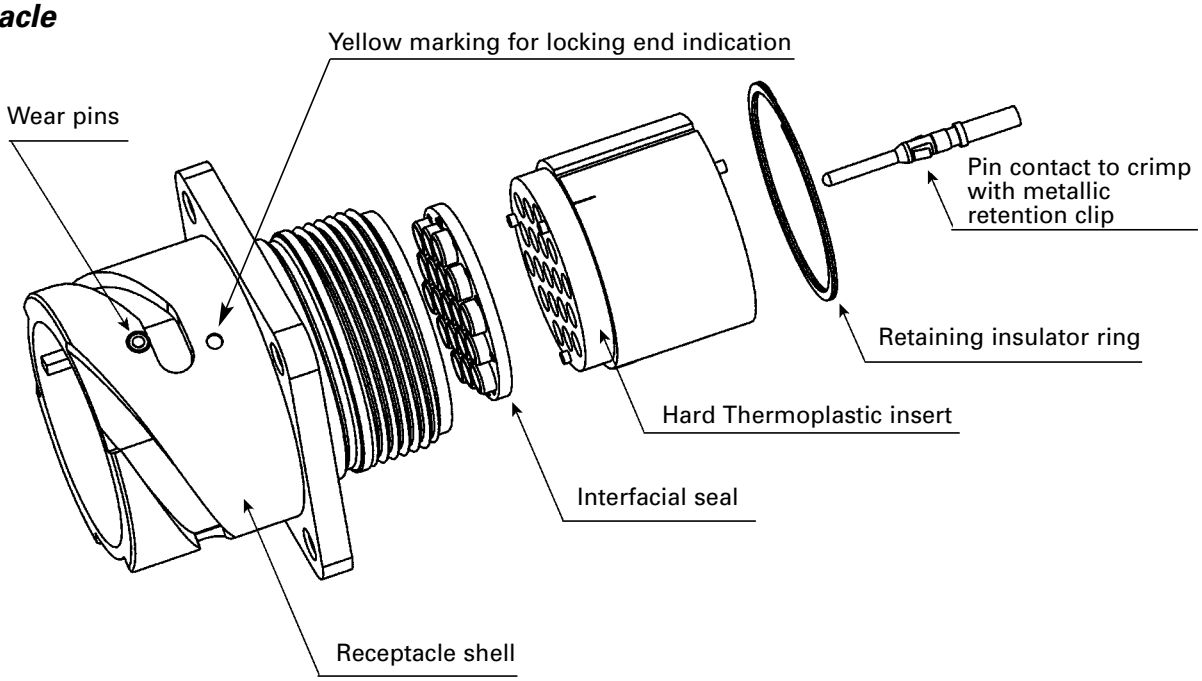
Description

This connector series is an enhanced version of the VG 95234 connector standard but remains completely intermountable with VG 95234 : the MS 5015 reverse bayonet connectors.

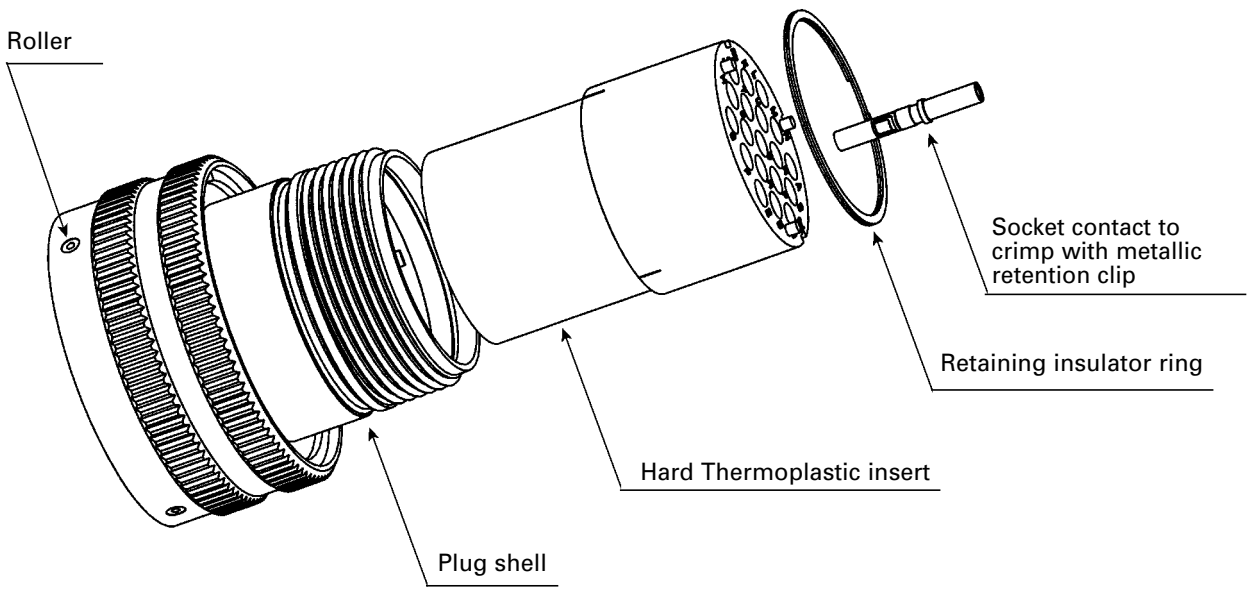
- This connector series is also in conformity with the French railways standard NFF 61030.
- The insulator is in hard thermoplastic, classified UL94VO. It is also classified I2F3 following NFF 16101-16102 standards.
- An interfacial seal is present on the male inserts to extend the creepage distance and to have a better sealing when the connector is mated.
- The insulator is retained into the plug or receptacle shell by a metallic retaining ring which can be removed with a small screwdriver. Once removed, user can defined insulator orientation.
- Contacts gauge 8, 12 or 16 are machined crimp contacts, removable thanks to a clip on the contact.
- No tools are needed to insert contacts into the insulator. An extraction tool is available to extract the contacts. The tool is engaged by the front face of the connector and the contacts are rear released.
- Contacts are crimped thanks to very common toolings.
- The connector is rated IP67 when mated and used with suitable accessories, a grommet or a sealed backshell.
- Backshells can be derivated from VG 95234 standards or SOURIAU VGE1 backshells adapted to the railways market needs.
- This connector can be supplied fully assembled or in component form (please consult us).

Description

Receptacle



Plug



VGE1 Series

Technical Features

Mechanical

- Mechanical endurance : 500 mating and unmating
- Minimum retention force of the contact in the insulator :
  - 70 N for contacts # 16 (1.6 mm)
  - 90 N for contacts # 12 (2.4 mm)
  - 110 N for contacts # 8 (3.6 mm)

  Minimum values with a maximum displacement of the contact of 0.3 mm (following NFF 61030)
- Retention of the insulator in the shell : (following MIL-C-26482G Series 2 class L standard)
- Bayonet coupling mechanism - Coupling torque : following VG 95234
- Vibrations : following NFF 61030
  Sinus vibrations : 10 - 100 Hz
  Acceleration : 2 g
- Shocks : Acceleration = 30 g
  Duration = 18 ms following NFF 61030
- Impact strength (free fall of the plug). The connector plug is subjected to a free fall test. The height of drop is 0.75 m. No mechanical damage.

Electrical

- Contact resistance :
  - 2.5 mΩ maxi for contact # 16
  - 1.3 mΩ maxi for contact # 12
  - 0.9 mΩ maxi for contact # 8

  following NFF 61030
- Maximum current per contact :
  - 15 Amps for contact # 16
  - 20 Amps for contact # 12
  - 30 Amps for contact # 8
- Withstanding voltage :
  - 2550 Vrms for layouts # 16
  - 3250 Vrms for layouts # 12 and 8
- Insulation resistance :
  - ≥ 5000 MΩ under 500 Vcc
  - ≥ 4000 MΩ under 220 Vcc
- Electrical continuity of the shells : 20 mΩ maximum
- In mated conditions (interfacial seal is compression) minimum creepage distance = minimum insulation distance in the air :
  - 9 mm minimum for layouts with contacts # 16
  - 12 mm minimum for layouts with contacts # 12 or # 8

Environmental

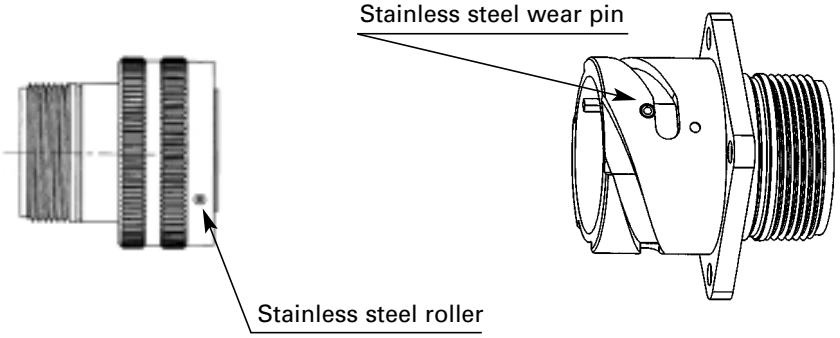
- Climatic category : -40ºC +100ºC
  Dry heat test : +100ºC during 96 h
- Corrosion spray resistance : up to 500 hours salt spray
- Damp heat : 21 days, 40°C, 95% relative humidity
- Water protection : IP67 when connectors are mated and used with a grommet or suitable backshells (immersion under 1 m maxi of water during 30 min)
- Material rated I2F3 following NFF 16101-16102 and UL 94 VO
- Fluid resistance : gas oil, mineral oil, acid bath, basic bath, following NFF 61030

Material

- Shell in aluminium alloy with black zinc cobalt plating
- Insulator : hard thermoplastic with glass fiber
- O'ring and interfacial seal in silicone
- Retaining insulator ring in carbon steel

This full product range is qualified by ALSTOM, RATP and SNCF.

Robustness and high reliability of the locking mechanism



VGE1 Series

Connectors Ordering Information
(without contacts and accessories)

Shells, backshells, contacts and accessories have to be ordered separately

VGE1	B	22	— 14	P	N	- -

Series

Shell type

Rear mounting receptacle	**B**
Plug	**D**
Rear mounting receptacle for PC tails contact # 16	**C**

Shell size : 18 - 20 -22 - 24 - 28 - 32 - 36 - 40

Layouts

Contact type : P - Pin
S - Socket

Insert Orientation : N ; W ; X ; Y ; Z or 0
0 = for insulator not installed in the shell

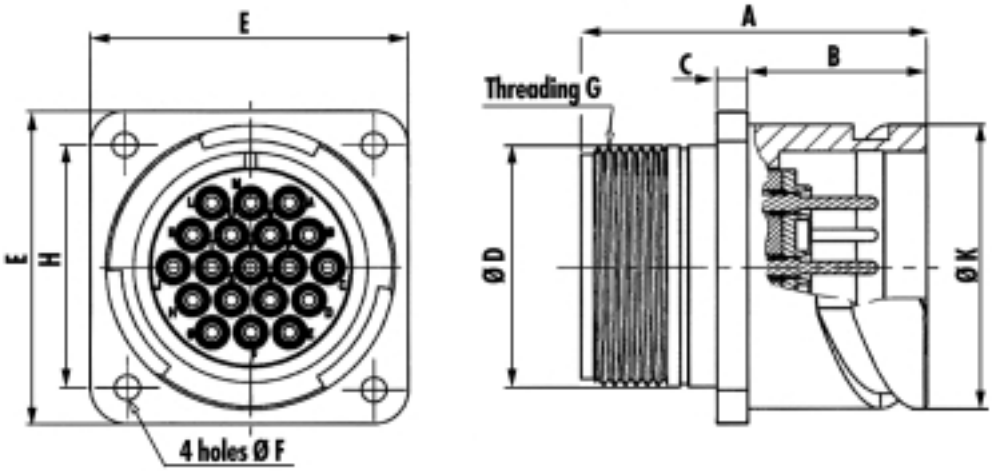
Modification Code :
Please consult us

For information : connector marking
Example 1 : **VGE1 B 22 - 14 P** *Example 2 :* **VGE1 D 28 - 21 S**

Nota : Please consult us if you want to order the connector in component form (shell and insert).

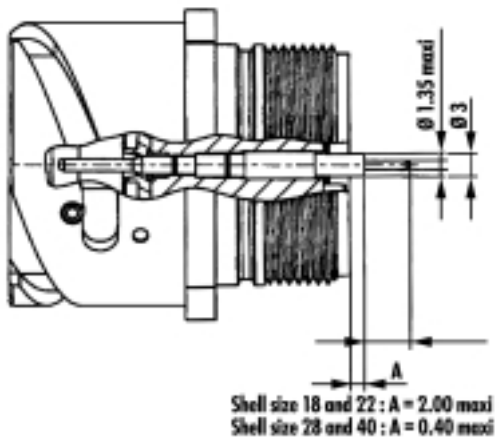
Connector Dimensions

Receptacle

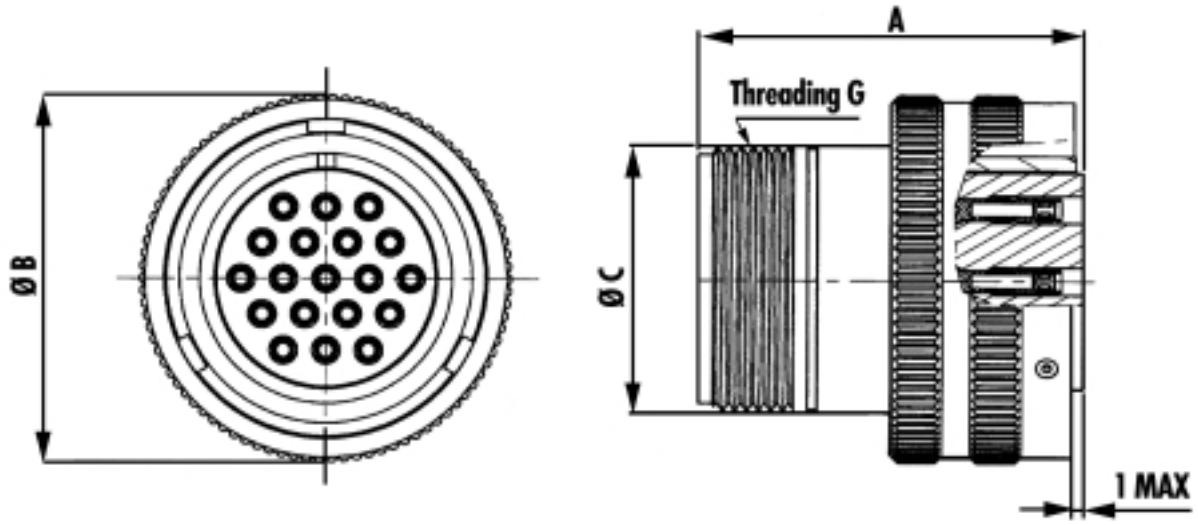


Shell size	A Max	B 0/+0.4	C ±0.2	ØD Max	E ±0.3	ØF 0/+0.15	Threading G Class 2A	H ±0.1	ØK -0.15/0
18	45.50	23.05	4.00	25.50	35.00	3.25	1"x20 UNEF	27.00	30.80
20	45.50	23.05	4.00	28.70	38.00	3.25	1 1/8"x18 UNEF	29.40	34.20
22	45.50	23.05	4.00	31.90	41.00	3.25	1 1/4"x18 UNEF	31.80	37.40
24	48.00	23.05	4.00	35.20	44.50	3.75	1 3/8"x18 UNEF	34.90	40.90
28	48.00	24.05	4.00	41.50	50.80	3.75	1 5/8"x18 UNE	39.70	46.70
32	48.00	24.05	4.00	47.90	57.00	4.35	1 7/8"x16 UN	44.50	53.40
36	48.00	24.05	4.00	52.50	63.50	4.35	2 1/16"x16 UNS	49.20	59.60
40	48.00	24.05	4.00	59.00	70.00	4.35	2 5/16"x16 UN	55.50	65.50

Receptacle with PC tails contact # 16



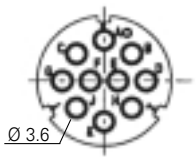
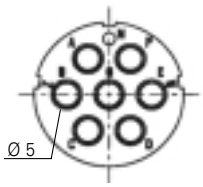
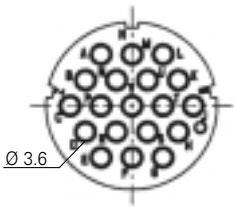
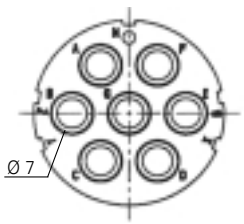
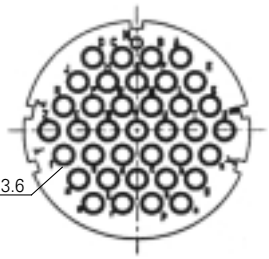
Plug

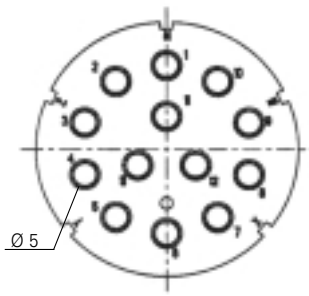
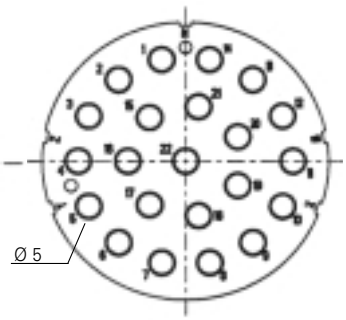
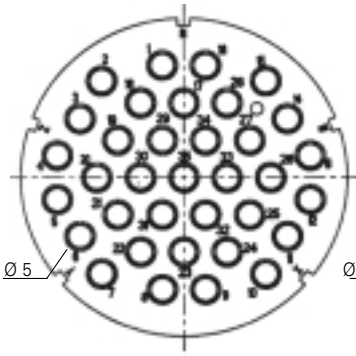
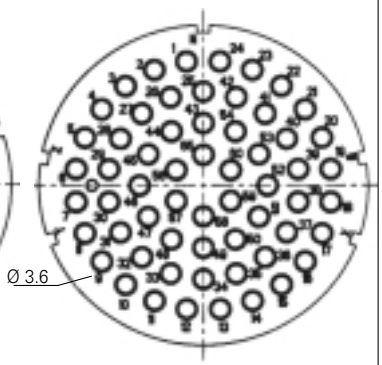


Shell size	A Max	B Max	C Max	Threading G Class 2A
18	45.60	37.30	25.50	1"x 20 UNEF
20	45.60	41.50	28.70	1 1/8"x 18 UNEF
22	45.60	44.00	31.90	1 1/4"x 18 UNEF
24	45.60	48.50	35.20	1 3/8"x 18 UNEF
28	48.10	55.30	41.50	1 5/8"x 18 UNEF
32	48.10	62.00	47.90	1 7/8"x 16 UN
36	48.10	66.80	52.50	2 1/6" x 16 UNS
40	48.10	74.50	59.00	2 5/16"x 16 UN

VGE1 Series

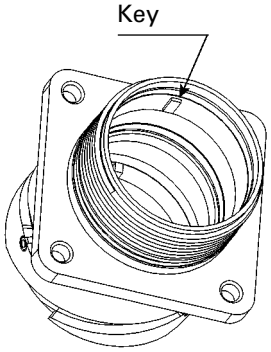
Layouts (marking on front face of female insulator)

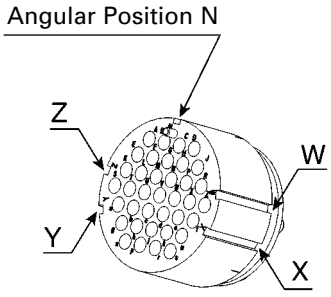
18-19	20-15	22-14	24-10	28-21
				
10 contacts # 16	7 contacts # 12	19 contacts # 16	7 contacts # 8	37 contacts # 16

32 A13	36 A22	40 A35	40 A60
			
13 contacts # 12	22 contacts # 12	35 contacts # 12	60 contacts # 16

Note : *We will develop other layouts following market demand.*

Alternative insert orientation positions





	Angular displacement of insert					Insulator weight (g)	
Layouts	N	W	X	Y	Z	Male	Female
18-19	0	-	120	240	-	10	16
20-15	0	80	-	-	280	13	21
22-14	0	80	-	-	280	16	25
24-10	0	80	110	250	280	19	31
28-21	0	80	110	250	280	27	40
32-A13	0	65	130	230	295	45	75
36-A22	0	80	110	250	280	53	88
40-A35	0	70	130	230	290	61	99
40-A60	0	80	110	250	280	63	100

VGE1 Series

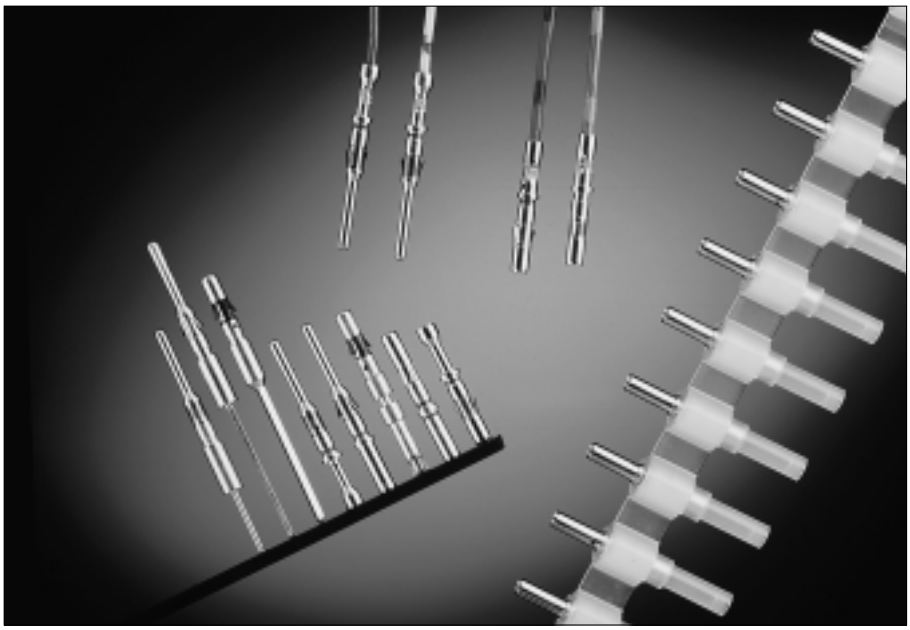
Contacts

Contacts come from our well known TRIM-TRIO Series.

They are precision solid machined crimp snap-in pins and sockets for heavy duty top performance requirements.

Springs on both contacts are made of spring-tempered, heat treated, beryllium copper.

The socket inner spring supplies high contact pressure to ensure low-resistance contact between pin and socket. The socket contact features closed entry to prevent probe damage. Crimp barrels have insulation grips for vibration support and are provided with a cable stop and inspection hole.



Construction

- Contact body :
  High conductive copper alloy
- Outer spring :
  Tempered, heat treated, beryllium copper
- Inner spring socket :
  Tempered, heat treated, plated beryllium copper

Plating table

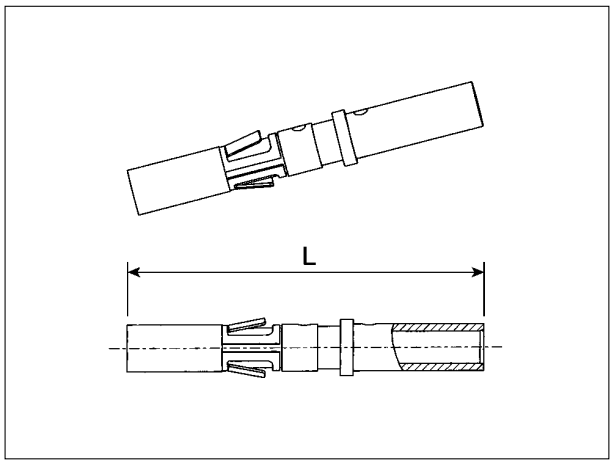
Au = Gold plated : minimum of 0.4 µ of Gold all over, over nickel coating
Ag = Silver plated 5 µ of silver all over

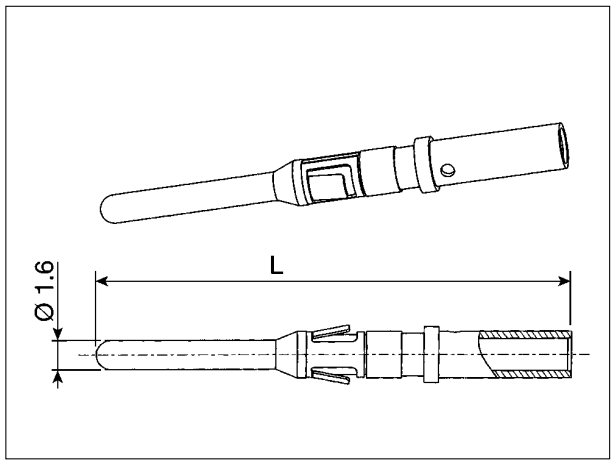
Performance characteristics

	Contacts # 16	Contacts # 12	Contacts # 8
Maximum current rating	15 Amps	20 Amps	30 Amps
Contact resistance	≤ 2.5 mΩ	≤ 1.3 mΩ	≤ 0.9 mΩ

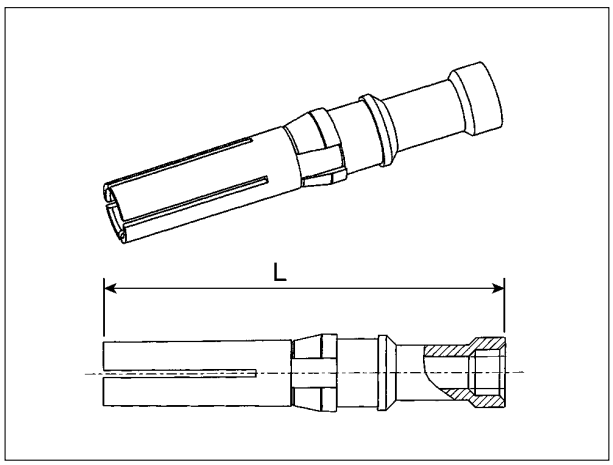
Contacts Dimensions

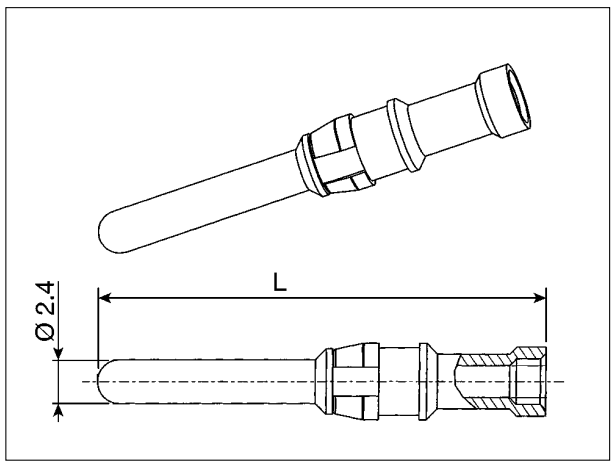
Contacts # 16 (1.6 mm)



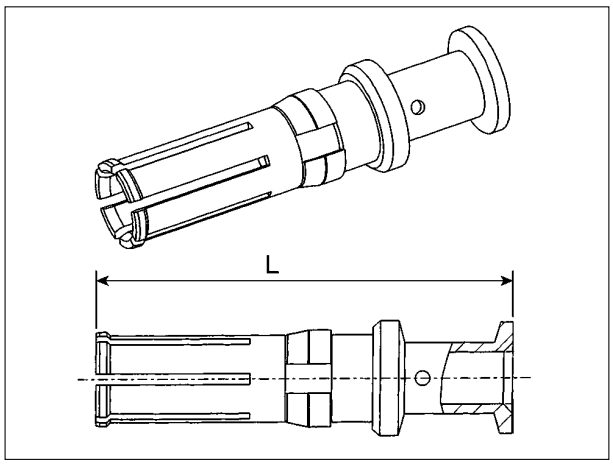


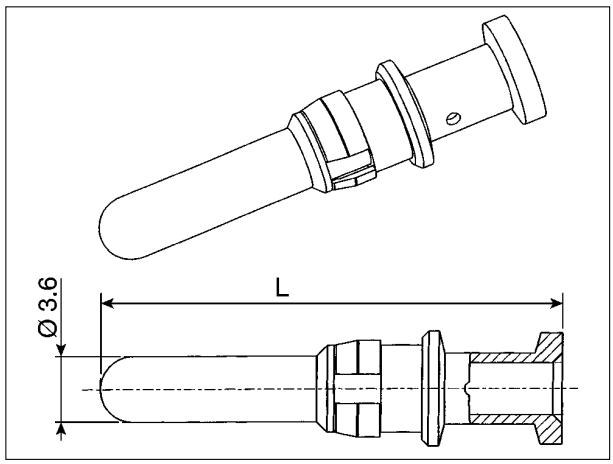
Contacts # 12 (2.4 mm)





Contacts # 8 (3.6 mm)





Length L = see table page 12

Contacts Part Numbers

Contact size	Contact type	Contact diameter	Contact Part number	Cable			Protection	Contact dimensions (mm)
				Section of the conductor		Wire insulator diameter (maxi)*		
		mm		mm²	AWG	mm		L
#16	Male	1.6	RM16M23K	0.52 – 1.50	20-16	3	Au	26.2
#16	Female	1.6	RC16M23K	0.52 – 1.50	20-16	3	Au	18.2
#16	Male	1.6	RM14M30K	2.50	14	3	Au	26.2
#16	Female	1.6	RC14M30K	2.50	14	3	Au	18.2
#12	Male	2.4	8291 1437 NA	0.50	20	4.9	Ag	26.8
#12	Female	2.4	8291 1436 A	0.50	20	4,9	Ag	24.3
#12	Male	2.4	8291 1435 NA	0.75 – 1.00	18	4,9	Ag	26.8
#12	Female	2.4	8291 1434 A	0.75 – 1.00	18	4,9	Ag	24.3
#12	Male	2.4	8291 1463 NA	1.50	16	4,9	Ag	24.8
#12	Female	2.4	8291 1462 A	1.50	16	4,9	Ag	22.3
#12	Male	2.4	8291 1465 NA	2.50	14	4,9	Ag	24.8
#12	Female	2.4	8291 1464 A	2.50	14	4,9	Ag	22.3
#12	Male	2.4	8291 1437 NK	0.50	20	4,9	Au	26.8
#12	Female	2.4	8291 1436 K	0.50	20	4,9	Au	24.3
#12	Male	2.4	8291 1435 NK	0.75 – 1.00	18	4,9	Au	26.8
#12	Female	2.4	8291 1434 K	0.75 – 1.00	18	4,9	Au	24.3
#12	Male	2.4	8291 1463 NK	1.50	16	4,9	Au	24.8
#12	Female	2.4	8291 1462 K	1.50	16	4,9	Au	22.3
#12	Male	2.4	8291 1465 NK	2.50	14	4,9	Au	24.8
#12	Female	2.4	8291 1464 K	2.50	14	4,9	Au	22.3
#8	Male	3.6	8291 3601 A	1.50	16	6.5	Ag	25.5
#8	Female	3.6	8291 3600 A	1.50	16	6.5	Ag	25,5
#8	Male	3.6	8291 3603 A	2.50	14	6.5	Ag	25.5
#8	Female	3.6	8291 3602 A	2.50	14	6.5	Ag	25,5
#8	Male	3.6	8291 3605 A	4.00	12	6.5	Ag	25.5
#8	Female	3.6	8291 3604 A	4.00	12	6.5	Ag	25,5
#8	Male	3.6	8291 3607 A	6.00	10	6.5	Ag	25.5
#8	Female	3.6	8291 3606 A	6.00	10	6.5	Ag	25,5

Note : *Dimensions are not contractual and may be subject to modifications.*

NB : RM/RC contacts size 16 included in the Trim-Trio catalog are compatible with VGE1 connector. Trim-Trio catalog can be down loaded on our web site : ww.souriau.com

***** *Allowable by the insert*

Please consult us

Accessories

Backshells ordering information

Series	VGE1	J	S	18	— 00	00	
	VGE1	C	S	22	— 14	00	M
Backnut		R					
Cable clamp		C					
Backshell for PMA tube		S					
Cable clamp with sealing gland		J					
Cable clamp with sealing gland (trumpet)		K					
Cable clamp with sealing gland for shielding		T					
S - Straight backshell **E -** Elbow backshell							
Shell size : 18 - 20 - 22 - 24 - 28 - 32 - 36 - 40							
Layout (if grommet needed) or 00 (without grommet)							
Adaptor type : 10 - long **00** - short							
Grommet type : M for male or L for female (if grommet needed)							

P/N example : Short backshell with male grommet for shell size 40 connector
VGE1 J S 40 A 35 00 M
VGE1 J S 40 A 60 00 M

P/N example : Long backshell without grommet for shell size 40 connector
VGE1 J S 40-00 10
VGE1 J S 40-00 10

Adaptor ordering information

Series	VGE1	P	S	18	— 00	00
P - Adaptor with PG outlet						
S - Adaptor for straight backshell						
Shell size : 18 - 20 - 22 - 24 - 28 - 32 - 36 - 40						
Adaptor type : 10 - long **00** - short						

Accessories

Grommet

Grommet are delivered with a conical ring

Layout	Grommet type	Part number	Wire insulator diameter (mm)	
			Mini	Maxi *
18-19	male	VGE1M18-1900	1,2	2,95
18-19	female	VGE1L18-1900	1,2	2,95
20-15	male	VGE1M20-1500	1,2	3,6
20-15	female	VGE1L20-1500	1,2	3,6
22-14	male	VGE1M22-1400	1,2	2,95
22-14	female	VGE1L22-1400	1,2	2,95
24-10	male	VGE1M24-1000	4,2	6,2
24-10	female	VGE1L24-1000	4,2	6,2
28-21	male	VGE1M28-2100	1,2	2,95
28-21	female	VGE1L28-2100	1,2	2,95
32A13	male	VGE1M32A1300	1,2	3,6
32A13	female	VGE1L32A1300	1,2	3,6
36A22	male	VGE1M36A2200	1,2	3,6
36A22	female	VGE1L36A2200	1,2	3,6
40A35	male	VGE1M40A3500	1,2	3,6
40A35	female	VGE1L40A3500	1,2	3,6
40A60	male	VGE1M40A6000	1,2	2,95
40A60	female	VGE1L40A6000	1,2	2,95

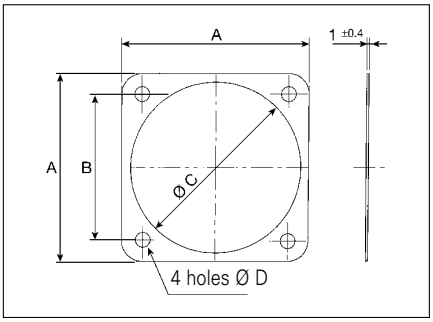
* Please consult us if your wire has an insulation diameter over these values, we will propose you another grommet.

Grommet filler plug

Contact size	Part number	Color	Photo
# 16 # 12	8500-479	blue	

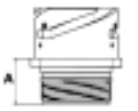
Panel gasket

Shell size	Part number	Dimensions			
		A ± 0.5	B ± 0.2	C 0/+0.3	Ø D 0/+0.3
18	VGE1G18	35	27	30.8	4.2
20	VGE1G20	38	29.4	34.2	4.2
22	VGE1G22	41	31.8	37.4	4.2
24	VGE1G24	44.5	34.9	40.9	4.2
28	VGE1G28	50.8	39.7	46.7	5.1
32	VGE1G32	57	44.5	53.4	5.1
36	VGE1G36	63.5	49.2	59.6	5.1
40	VGE1G40	69.9	55.5	65.5	5.1



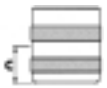
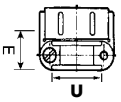
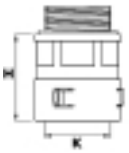
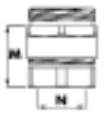
VGE1 Series

Synoptic of straight backshells



Receptacle

Plug

										
Description	Backnut	Cable clamp	Backshell for PMA tube	Backshell for PMA tube	Cable clamp with sealing gland	Cable clamp with sealing gland	Cable clamp with sealing gland (trumpet shape to avoid cable wound)	Cable clamp with sealing gland (trumpet shape to avoid cable wound)	Cable clamp with sealing gland for shielding	Cable clamp with sealing gland for shielding
Ref	VGE1 RS****00	VGE1 CS****00	VGE1 SS****10	VGE1 SS****00	VGE1 JS****10	VGE1 JS****00	VGE1 KS****10	VGE1 KS****00	VGE1 TS****10	VGE1 TS****00

Synoptic of adaptors

		
Description	Long adaptor with PG outlet	Short adaptor with PG outlet
Ref	VGE1 PS**0010	VGE1 PS**0000

Dimensions

	Shell 18		Shell 20		Shell 22		Shell 24		Shell 28		Shell 32		Shell 36		Shell 40	
	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet
	**** = 18-19	**** = 18-00	**** = 20-15	**** = 20-00	**** = 22-14	**** = 22-00	**** = 24-10	**** = 24-00	**** = 28-21	**** = 28-00	**** = 32A13	**** = 32A00	**** = 36A22	**** = 36A00	**** = 40A35 40A60	**** = 40A00
A	22.5		22.5		22.5		22.5		24		24		24		24	
B	45.6		45.6		45.6		45.6		48.1		48.1		48.1		48.1	
C	18		18		18		18		17		17		17		17	
D	44		44		44		44		47							
E	28,5		28,5		26		26		23							
F	48,6		48,6		48,6		48,6		58		48		48		48	
G	34		34		34		34		33		33		33		33	
H	35,5		35,5		38,5		38,5		38.5		38.5		52		46	
K	PMA17		PMA17		PMA23		PMA23		PMA29		PMA29		PMA36		PMA48	
M	23		23		31		31		31.5		31.5		37.5		45	
N	7/12		9/14		10/18		10/18		14/24		14/24		22/30		25/35	
P	30		31,5		38,5		38,5		45		45		51.5		57	
S	33,5		33,5		43		43		52		52					
T	8/12,5		10/14,5		13,5/18		13,5/18		17/24		17/24					
U	4/15,5		7/15,5		9/15,5		8,5/19,5		9,5/19,5							
	PG13,5		PG16		PG 21		PG21		PG29		PG29		PG36		PG42	

Note : *Dimensions are not contractual and may be subject to modifications.*

⇒ All backshells are compatible with a grommet and a conical ring.

⇒ All backshells are IP67 except cable clamp without grommet and backnut.

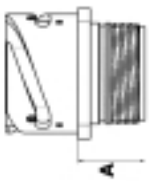
⇒ For cable or PMA tube diameter not included in the above chart please consult us.

Example of rear dimensions calculation
of a shell size 18 connector with a sealing gland
cable clamp backshell without grommet and with a long adaptor
Backshell P/N : VGE1 JS 18 00 10

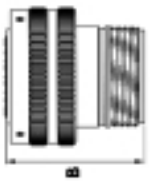
Rear dimensions receptacle + backshell :
A + F + M = 94,1 mm

VGE1 Series

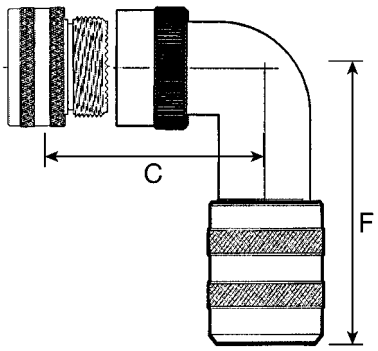
Synoptic of elbow backshells

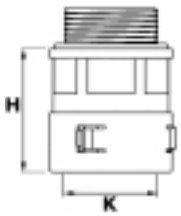
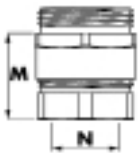
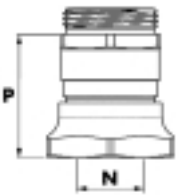


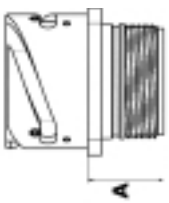
Receptacle



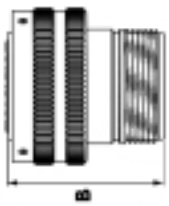
Plug



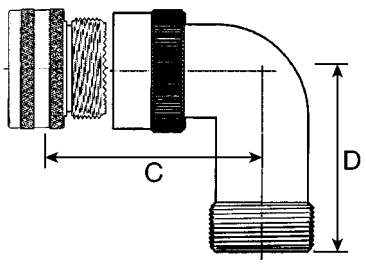
	+	+	+	+
				
Description	Backshell for PMA tube	Cable clamp with sealing gland	Cable clamp with sealing gland (trumpet shape to avoid cable wound)	Cable clamp with sealing gland for shielding
Part number	VGE1 SE****00	VGE1 JE****00	VGE1 KE****00	VGE1 TE****00



Receptacle



Plug



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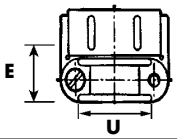
	
Description	Cable clamp
Part number	VGE1 CE****00

Dimensions

	Shell 18		Shell 20		Shell 22		Shell 24		Shell 28		Shell 32		Shell 36		Shell 40	
	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet	with grommet	without grommet
	**** = 18-19	**** = 18-00	**** = 20-15	**** = 20-00	**** = 22-14	**** = 22-00	**** = 24-10	**** = 24-00	**** = 28-21	**** = 28-00	**** = 32A13	**** = 32A00	**** = 36A22	**** = 36A00	**** = 40A35 40A60	**** = 40A40
A	22,5		22,5		22,5		22,5		24		24		24		24	
B	45,6		45,6		45,6		45,6		48,1		48,1		48,1		48,1	
C	44		43,5		43,5		46		41							
D	26		25,5		17,5		20		18							
E	28,5		28,5		26		26		23							
F	43		44		44		49		46		59		60			
H	35,5		35,5		38,5		38,5		38,5		38,5		46			
K	PMA17		PMA17		PMA23		PMA23		PMA29		PMA36		PMA36			
M	23		23		31		31		31,5		31,5		37.5			
N	7/12		9/14		10/18		10/18		14/24		14/24		22/30			
P	30		31,5		38,5		38,5		45		45		51,5			
S	33,5		33,5		43		43		52		52					
T	8/12,5		10/14,5		13,5/18		13,5/18		17/24		17/24					
U	4/15,5		7/15,5		9/15,5		8,5/19,5		9,5/19,5							
	PG13,5		PG16		PG 21		PG21		PG29		PG29		PG36		PG42	

Note : *Dimensions are not contractual and may be subject to modifications.*

⇒ All backshells are compatible with a grommet and a conical ring.

⇒ All backshells are IP67 except cable clamp without grommet and backnut.

⇒ For cable or PMA tube diameter not included in the above chart please consult us.

Tooling Data

Contact size	Contact type	Contact Ø mm	Contact Part number	Contact Size		Crimp tool	Locator	Extraction tool
				mm²	AWG			
#16	Male	1.6	RM16M23K	0.52 - 1.50	20-16	MH860 (M22520/7-01)	MH86164G	RX2025GE1
#16	Female	1.6	RC16M23K	0.52 - 1.50	20-16	MH860 (M22520/7-01)	MH86164G	RX2025GE1
#16	Male	1.6	RM14M30K	2.50	14	AF8 (M22520/3-1)	TP1142 (selector on 8)	RX2025GE1
#16	Female	1.6	RC14M30K	2.50	14	AF8 (M22520/3-1)	TP1142 (selector on 8)	RX2025GE1
#12	Male	2.4	8291 1437 NA	0.50	20	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1436 A	0.50	20	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1435 NA	0.75 - 1.00	18	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1434 A	0.75 - 1.00	18	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1463 NA	1.50	16	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1462 A	1.50	16	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1465 NA	2.50	14	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1464 A	2.50	14	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1437 NK	0.50	20	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1436 K	0.50	20	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1435 NK	0.75 - 100	18	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1434 K	0.75 - 100	18	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1463 NK	1.50	16	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1462 K	1.50	16	M317	VGE10077A	5106.021.09.24
#12	Male	2.4	8291 1465 NK	2.50	14	M317	VGE10077A	5106.021.09.24
#12	Female	2.4	8291 1464 K	2.50	14	M317	VGE10077A	5106.021.09.24
#8	Male	3.6	8291 3601 A	1.50	16	M317	VGE10078A	5106.021.09.36
#8	Female	3.6	8291 3600 A	1.50	16	M317	VGE10078A	5106.021.09.36
#8	Male	3.6	8291 3603 A	2.50	14	M317	VGE10078A	5106.021.09.36
#8	Female	3.6	8291 3602 A	2.50	14	M317	VGE10078A	5106.021.09.36
#8	Male	3.6	8291 3605 A	4.00	12	M317	VGE10078A	5106.021.09.36
#8	Female	3.6	8291 3604 A	4.00	12	M317	VGE10078A	5106.021.09.36
#8	Male	3.6	8291 3607 A	6.00	10	M317	VGE10078A	5106.021.09.36
#8	Female	3.6	8291 3606 A	6.00	10	M317	VGE10078A	5106.021.09.36

Note : Crimping tools : Daniels

VGE1 Series

Tooling Data

• **For contact # 16**

Crimping tool MH860 and locator MH 861646

Extraction tool RX 2025 GE1

• **For contact # 12**

Crimping tool M317 and locator VGE1 0077A

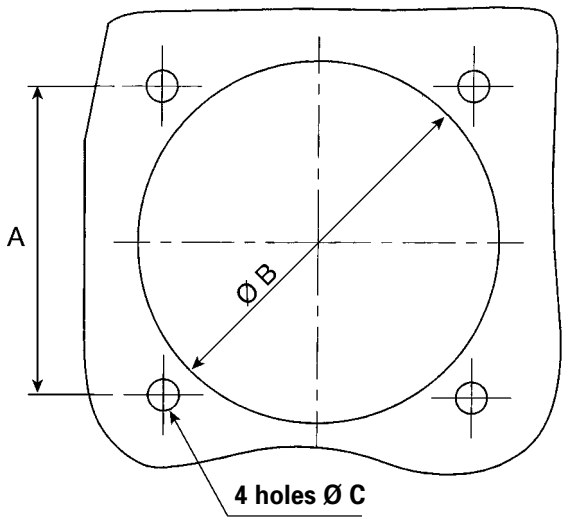
Extraction tool 51 06 021 0924

• **For contact # 8**

Crimping tool M317 and locator VGE1 0078A

Extraction tool 51 06 021 0936

Panel Cutout



Shell size	A ± 0.15	B 0/+0.3	C ± 0.10	Maximum thickness of the panel for rear mounting
18	27	31,2	3,4	3
20	29,4	34,6	3,4	3
22	31,8	37,8	3,4	3
24	34,9	41,3	3,9	3
28	39,7	47,1	3,9	3
32	44,5	53,8	4,5	3
36	49,2	60	4,5	3
40	55,5	66,4	4,5	3

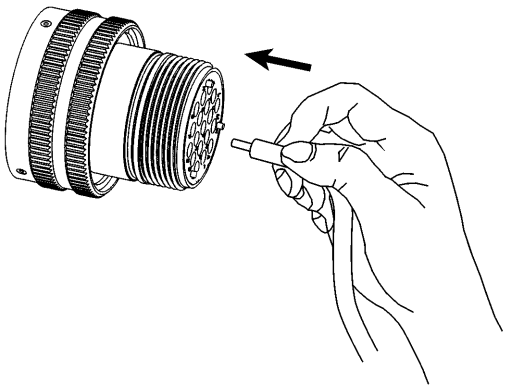
Note : The above panel cut-out enables front mounting of all receptacles.

Wiring Instruction

1 - Cable preparation

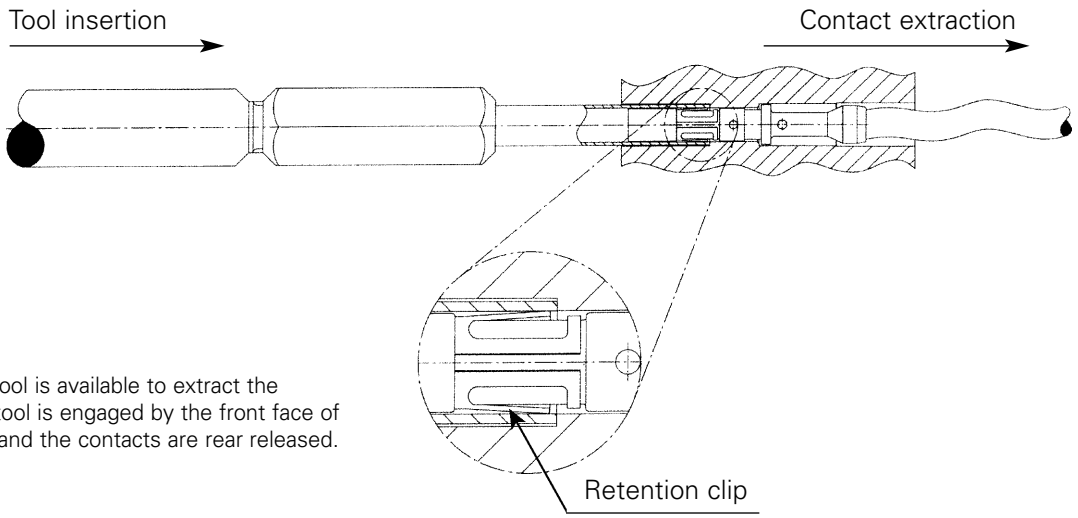
Length of wire stripping
- Contact # 16 L = 7 mm
- Contact # 12 L = 9 mm
- Contact # 8 L = 9 mm

2 - Contact insertion



Take the crimped wire, insert the contact into the cavity and then push it until the mechanical stop.
Pull slightly on the wire to be sure that the contact is in the right position.

3 - Contact extraction



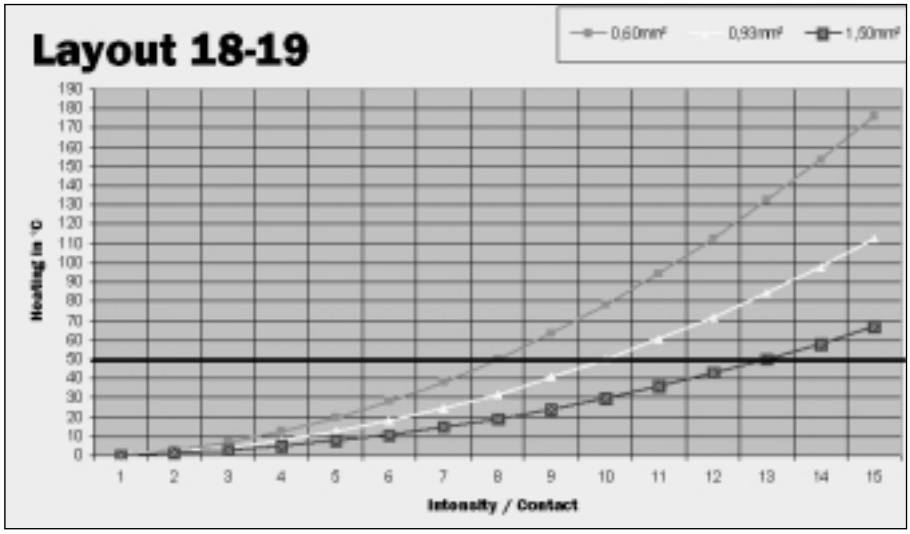
An extraction tool is available to extract the contacts. The tool is engaged by the front face of the connector and the contacts are rear released.

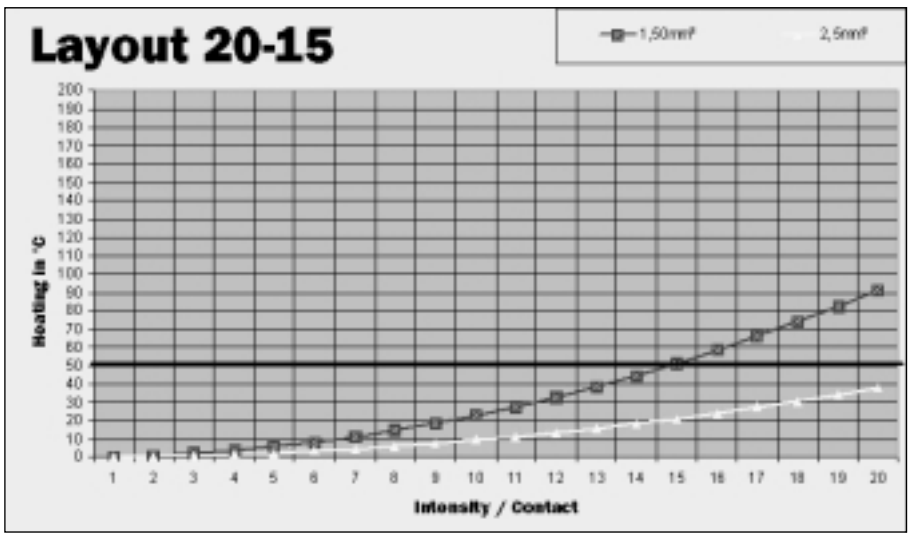
Note : Full wiring instruction form available upon request.

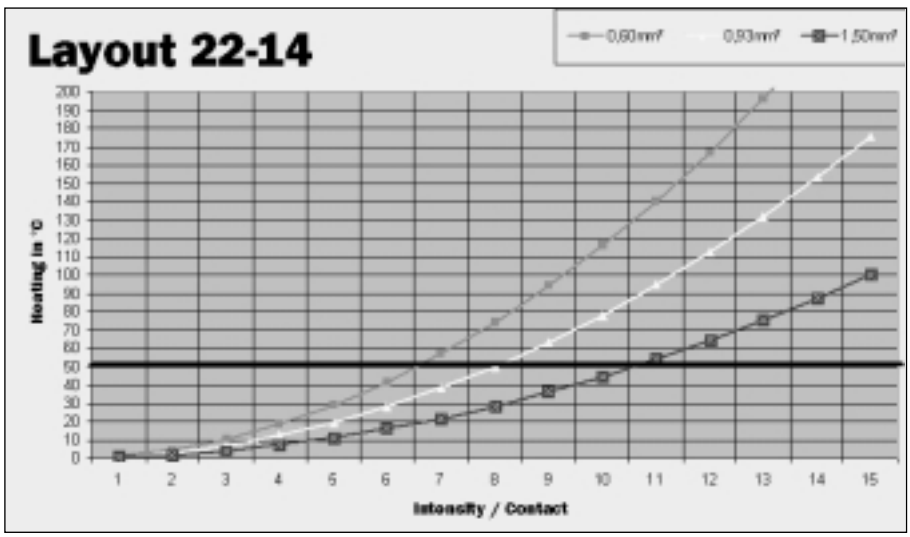
4 - Crimping

The choice of the crimping tools we recommand on page 20, has been done to respect the NFF 61030 specifications : simultaneous cruciform stamping with 4 stamps comprising 2 impressions.

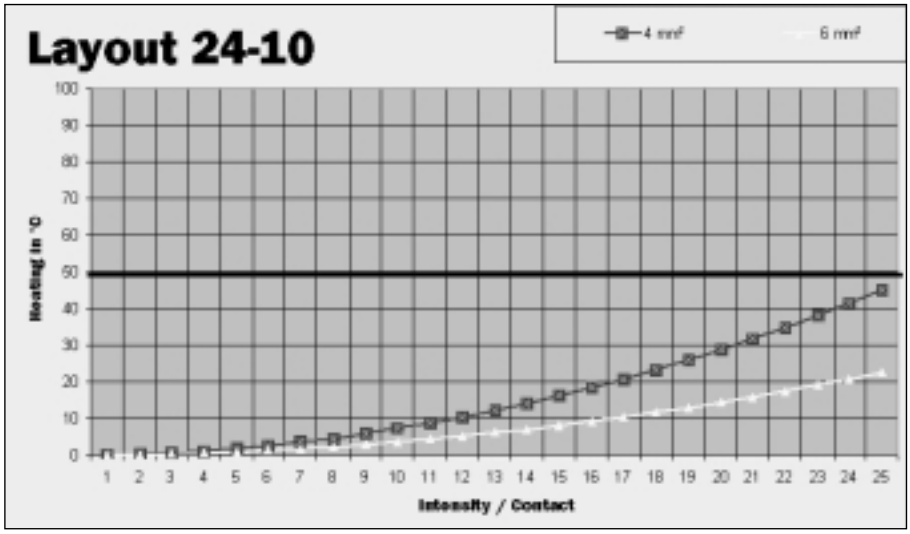
Appendix 1 : Heating curves of VGE1 connector function of intensity and conductor section

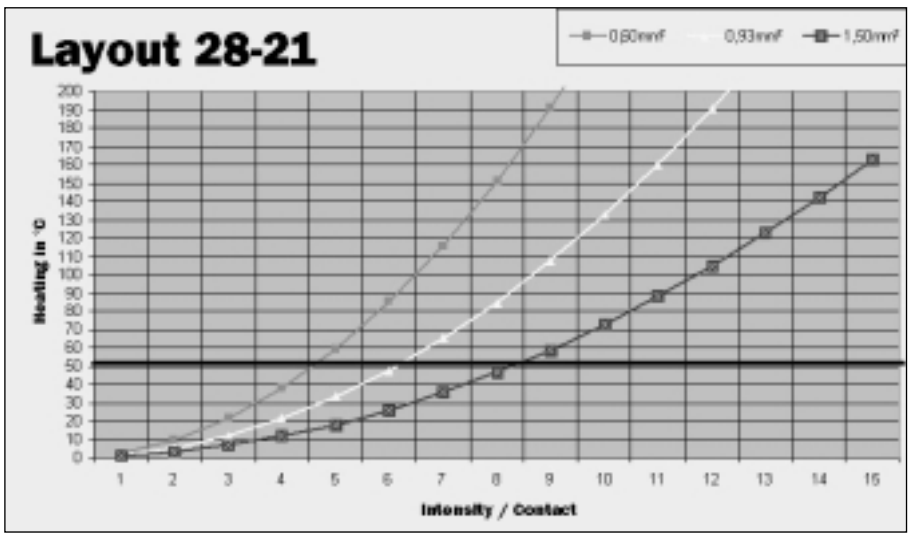


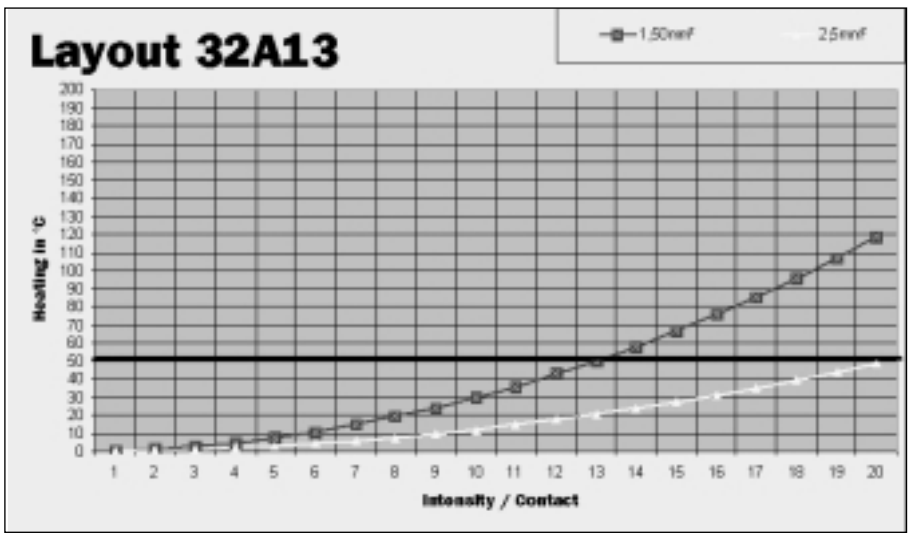




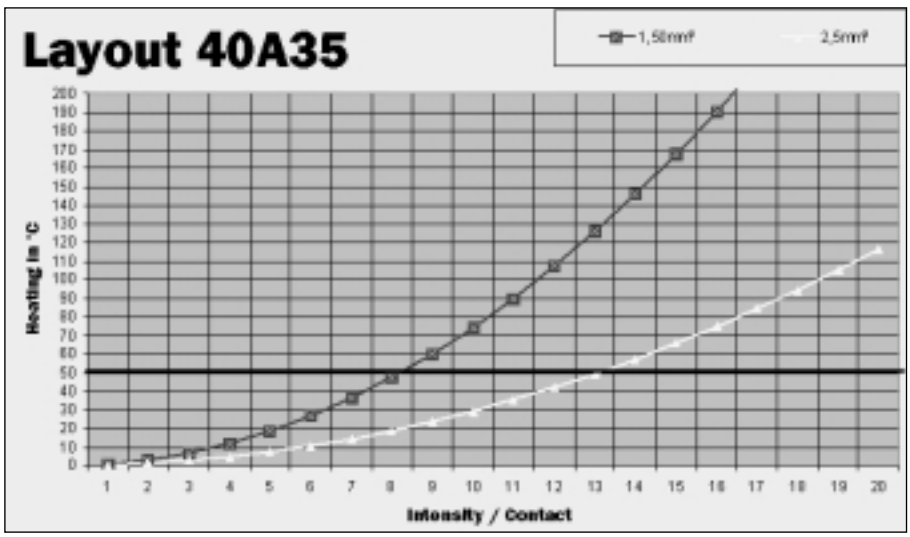
Appendix 1 : Heating curves of VGE1 connector function of intensity and conductor section

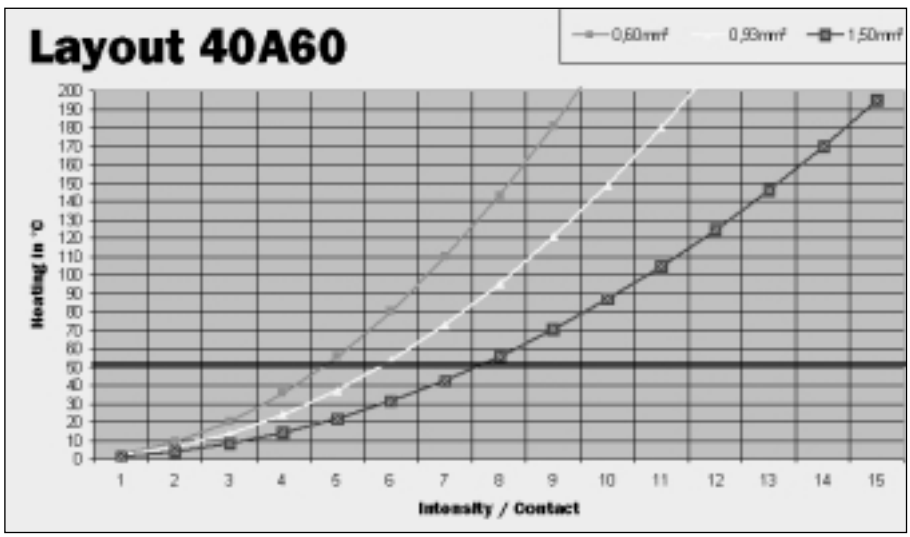






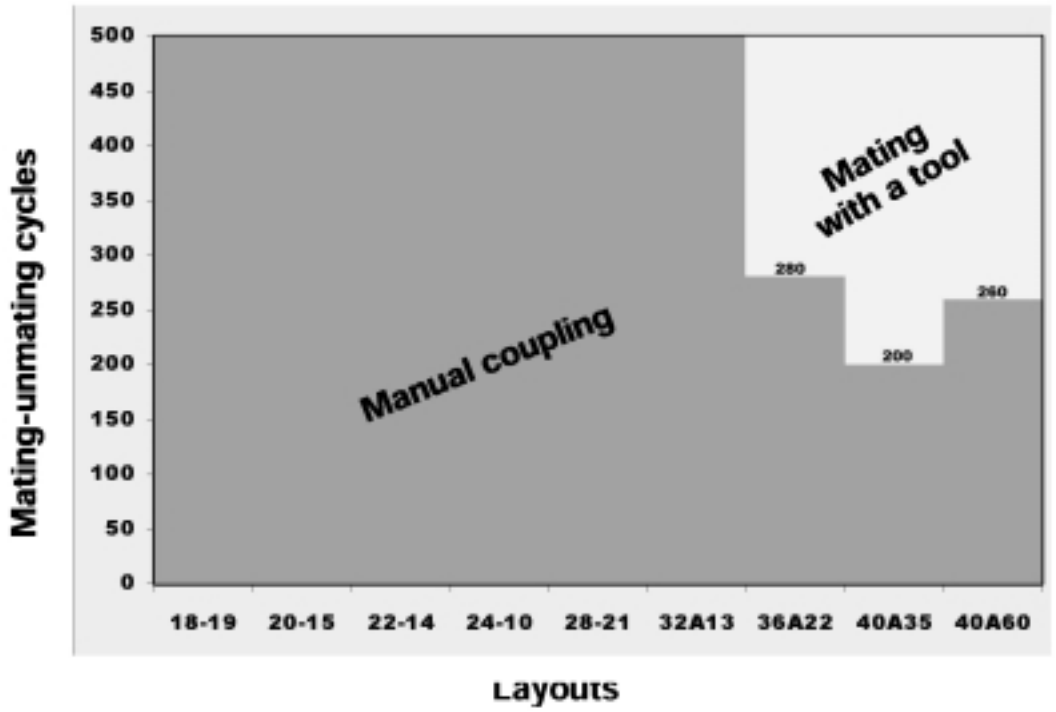
Appendix 1 : Heating curves of VGE1 connector function of intensity and conductor section





Appendix 2 : Coupling/Uncoupling of VGE1 connectors

Coupling and uncoupling of the connector with a tool is recommended (but not mandatory) for coupling torque ≥ 8 mN.
The below chart defines the number of coupling/uncoupling cycles to reach this torque.
In any case VGE1 connectors keep all their performances until 500 cycles.



Other product lines for the railways market

	Rolling Stock Equipments			Signaling	Passenger information systems
	Intercoach	Undercoach	On board equipments		
838	X	x			
8038 F.O.	x	x			
Power	x	x			
Metro	x	x			
8525 MIL-C 26482 S2		x	x		
VGE1 (5015 derivated)		x	x		
8ST/8D (MIL-DTL-38999)		x	x		
FY Series			x	x	
Trim Trio circulars			x		
Trim Trio rectangulars		x	x	x	x
Trim Trio specials filtered / shielded			x	x	
Trim Trio MSG			x	x	
Junction				x	
Sub D			X	x	x

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