

HERMETIC



SOURIAU

Hermetic Connectors
High Performance Sealing Solutions

Esterline
Connection Technologies

Hermetic Connectors



Presentation

Based on glass to metal seal technology, **SOURIAU** offers hermetic connectors to cover applications which require performances that supersede standard watertight connectors capability, such as high pressure, high temperature variations resistance, secured hermetic protection, ...

In addition to the various connector standards on which this technology has been developed, **SOURIAU** supports customers specific needs, from a shell or contact change to more complex and innovative solutions.

This hermetic connectors catalog aims to give an extensive outlook of **SOURIAU's** offering. After an overall view of the hermetic technology, you will find a detailed description of each connector range specific features, as well as dimensions and ordering details. The end of the catalog will give you a flavor of some of the various specific extensions. Enjoy the reading!

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8533 Series	36
F38999 Series	44

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Range Extension

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HERMETIC

Hermetic

Overview

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Typical applications



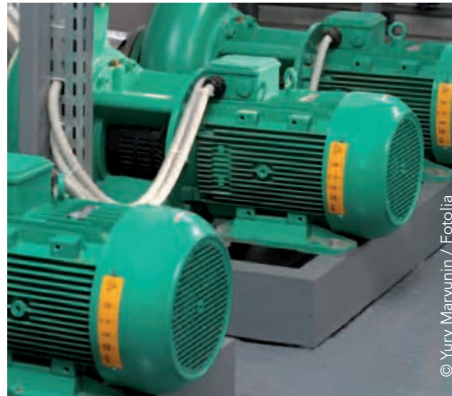
Actuators - Monitoring



Sensors



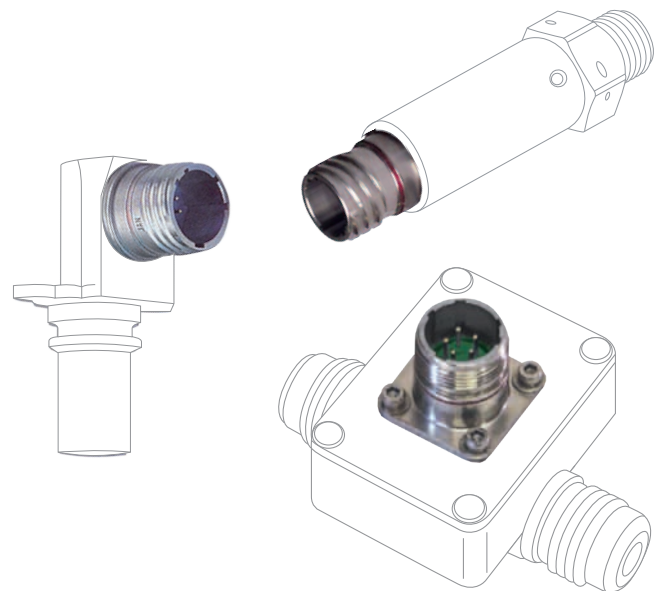
Valves - Flowmeters



Vacuum Pumps



High-Tech Cameras



Features & Benefits

HIGH SEALING

Hermetic connector

Leak rate less than $10^{-7}\text{cm}^3/\text{s}$ at 1 bar pressure difference.
Less than 1 cm^3 leaks in 4 months.

RoHS

RoHS compliant

No lead content.

RUGGED

Long life

Excellent thermal shock performance.
High corrosion resistance: up to 500h salt spray.

SPACE SAVING

Compacity

No need of additional rear accessories.
1/3 shorter than watertight connector equivalent.
Solder mount option for full equipment integration.

LARGE OFFER

Adapted to each specific need

Large connectors offer available in circular as well as rectangular ranges: EN2997, MIL-C-26482 Series I & II, EN3646, MIL-C-38999, micro38999, D-Sub, ...

Capability to Provide Custom Solutions

- ▶ Tight tolerances,
- ▶ Specific shells,
- ▶ Specific contacts,
- ▶ Filtering, ...



Feedthrough

Compact design



Panel bulkhead

Easy integration



Removable crimp contacts

Ideal for fuel immersion
See page 62



Standard hermetic

Glass to metal sealing



Rack & panel

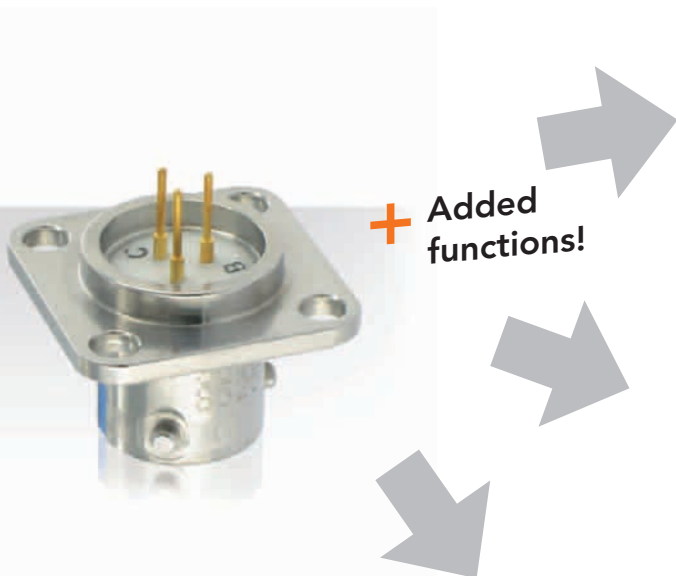
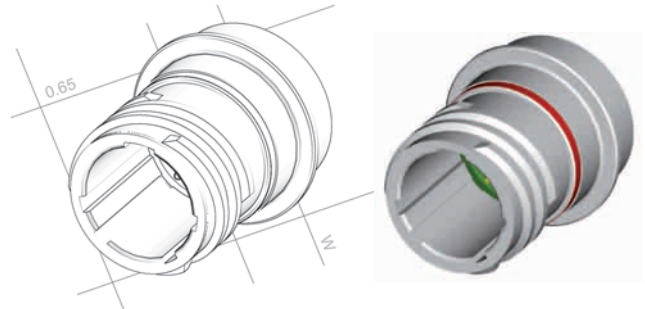
Blind mating
See page 63



sealing technologies

Technical Support

- ▶ Souriau engineering team will proactively support your new designs. Contact us!
- ▶ Free 3D models available online: www.tracepartsonline.net



Filter

EMI and lightning protection
See page 63



Fiber optic

High speed and secure transmission
See page 64



Power contacts

Up to 80A



PCB contacts / Stand-offs

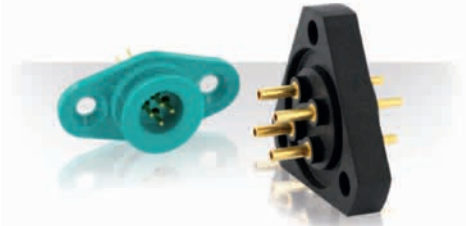
Robust PCB mount design
See page 62



Alternative sealing technologies

Full plastic hermetic

Big volume low weight hermetic



Resin sealed

Flexible low weight hermetic



Xtreme Hermetics

- ▶ Xtremely light: titanium or aluminum shells
- ▶ Xtremely hermetic: $<1 \times 10^{-9}$ atm.cm³/s
- ▶ Xtremely robust: superior temperature cycling resistance

Xtreme Reliability

- ▶ Xtremely conductive: conductive copper alloy replace resistive ferrous nickel alloy contacts
- ▶ Xtremely dense & small: Micro-D, Nano-D, 38999 Series III interfaces

Lightweight 38999 Series

Aluminum shell



Micro-D & Nano-D

Laser weldable with copper contacts

See page 65



Micro-packaging housing

Secured lightweight electronic packaging

See page 65



Hermetic product matrix - Possible applications

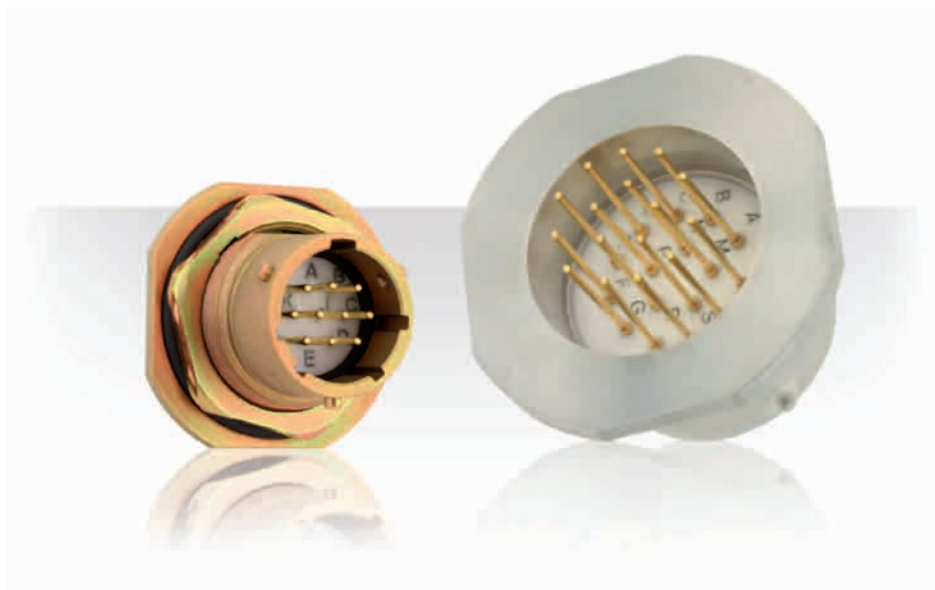
				
	▶ Aeronautic	▶ Sensors motorsport	▶ Industrial equipment	▶ Cameras
▶ 851 Series MIL-C 26482 Series I Quick bayonet coupling p.14 			✓ ✓	
▶ 8525/8526 Series EN3646/ MIL-C 26482 Series II Improved sealing bayonet coupling p.20 & p.29 	✓ ✓		✓	✓
▶ 8533 Series EN2997/ESC10 Very high temperature p.36 	✓ ✓			
▶ F38999 Series MIL-C-38999 Series III High density p.44 	✓ ✓			✓ ✓
▶ 8STA Series From JN1003 & MIL-DTL-38999 Smallest range p.52 		✓ ✓		
▶ D-Sub Series Rectangular compact shape p.56 			✓	

HERMETIC

Hermetic

Standard Series

■ 851 Series	14
■ 8525 Series	20
■ 8526 Series	29
■ 8533 Series	36
■ F38999 Series	44
■ 8STA Series	52
■ D-Sub Series	56



Description

- Glass sealed hermetic
- Compact low profile - 30% shorter than the standard version
- Quick bayonet coupling per:
 - MIL-DTL-26482 Series I
 - HE301
 - VG95328
- Solder cup contacts

Technical features

Materials

- **Shell:**
Steel
- **Plating:**
Iridescent yellow cadmium
Nickel
- **Contact:**
Gold plated ferrous alloy
- **Seal:**
Fluorocarbon elastomer

Electrical

- **Max current rating per contact:**

Contact size	20	16	12
Rating (A)	5	10	17

- **Dielectric withstanding voltage:**

Service	Standard pressure	10 mbar pressure
I	1 500 Vrms	200 Vrms
II	2 300 Vrms	300 Vrms

- **Contact resistance:**

Size 20 $\leq$ 30 m Ω
Size 16 $\leq$ 14 m Ω

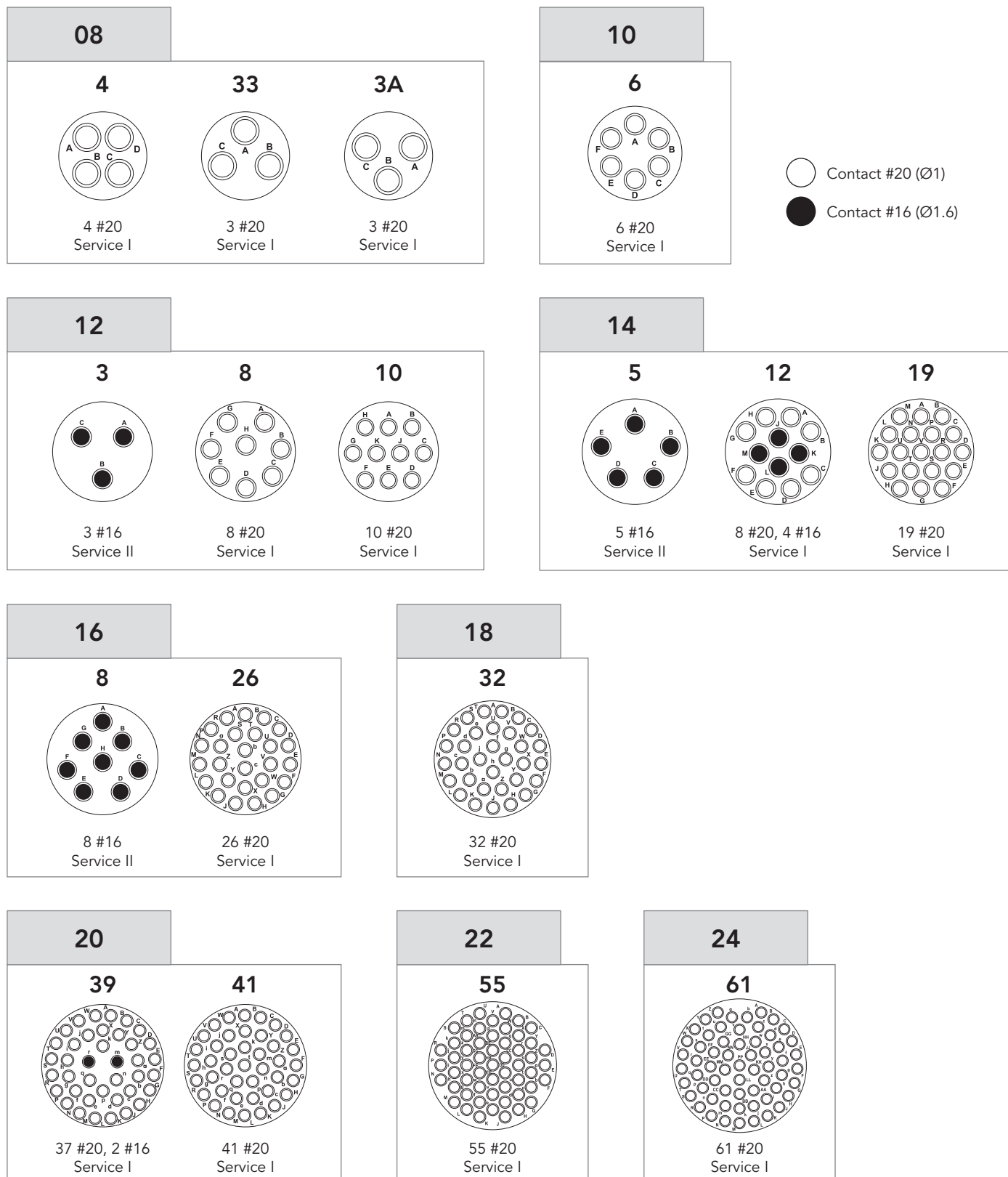
- **Shielding:**

70 dB to 5 MHz
40 dB to 100 MHz

Environmental

- **Operating temperature:**
-55°C to +125°C
- **Hermeticity:**
1 bar differential pressure,
leakage $\leq$ 2.8 mm³/hr
- **Salt spray:**
48 hours min
- **Chemical resistance:**
To MIL-DTL-26482G Series I
- **Damp heat:** 21 days

Contact layouts



Ordering information

SOURIAU part numbers

Basic series	851	02H	18	32	P	50
Shell type:						
IH: Solder mount receptacle						
02H: Square flange receptacle						
07H: Jam nut receptacle						
Shell size:						
08, 10, 12, 14, 16, 18, 20, 22, 24						
Contact layout:						
See previous page						
Contact type:						
P: Pin						
Orientation:						
None: Normal (N)						
W, X, Y, Z - see page 19						
Mandatory suffix:						
50: Gold plating for contact size 20 and size 16						
Specification:						
None: Yellow cadmium plating - 02H and 07H only						
Nickel plated - IH only						
44: Nickel plated - 02H and 07H only						

VG95328 qualified products

Basic series	VG95328	F	18	32	P	N
Shell type:						
G: Solder mount receptacle						
F: Jam nut receptacle						
Shell size:						
08, 10, 12, 14, 16, 18, 20, 22, 24						
Contact layout:						
See previous page						
Contact type:						
P: Pin						
Orientation:						
N, W, X, Y, Z - see page 19						

Contact layouts (matrix)

Shell size	Layout	Hermetic 851	Hermetic MIL-DTL-26482G	Hermetic VG95328	Number of contacts	
					#20	#16
08	8-3A			Q	3	
	8-98				3	
	8-33				3	
	8-4				4	
10	10-6			Q	6	
12	12-3			Q		3
	12-8				8	
	12-10			Q	10	
14	14-5			Q		5
	14-12			Q	8	4
	14-15			Q	14	1
	14-19			Q	19	
16	16-8			Q		8
	16-26			Q	26	
18	18-32			Q	32	
20	20-39			Q	37	2
	20-41			Q	41	
22	22-55			Q	55	
24	24-61			Q	61	

Cross reference list

SOURIAU	NFC 93422 HE 301B	MIL-DTL-26482G Series I Not QPL
851 02H • • • • P □ 50	HE 301 B 02 H • • • • P □ 3A	-
851 07H • • • • P □ 50	HE 301 B 07 H • • • • P □ 3A	MS 3114 H • • C • • P □
851 1H • • • • P □ 50	HE 301 B 1 H • • • • P □ 3A	MS 3113 H • • C • • P □

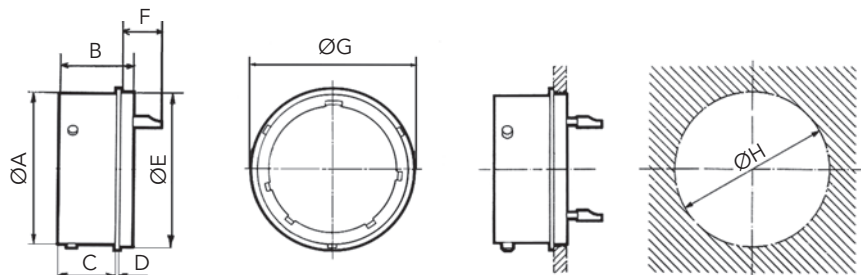
- • Shell size
- • Layout
- Orientation. Empty if orientation N - only for «Souriau», «NFC93422» and «MIL-DTL-26482G Series I»

Maximum connector weights (in grams)

Shell size	8	10	12	14	16	18	20	22	24
Shell type									
Solder mount receptacle (type 1H)	7	9	13	17	21	26	32	37	43
Square flange receptacle (type 02H)	10	12	16	21	26	33	41	47	55
Jam nut receptacle (type 07H)	20	25	38	45	52	63	86	96	115

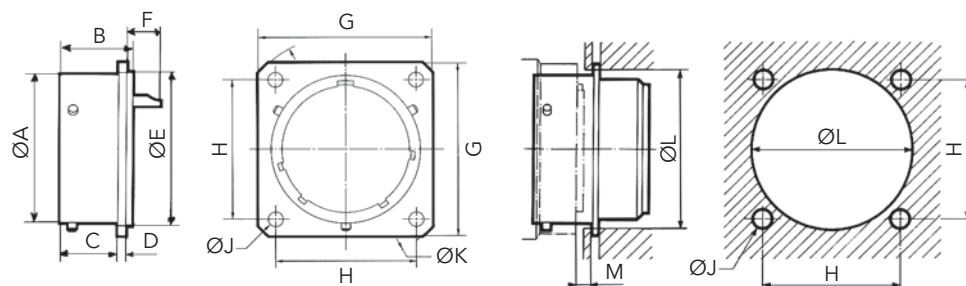
Dimensions

Solder mount receptacle (type IH)



Shell size	A	B	C max	D max	E max	F max	G max	H ± 0.1
8	12.03	13.84	10.69	0.76	14.27	8.19	16.40	14.70
10	15.01	13.84	10.69	0.76	17.06	8.19	19.40	17.50
12	19.07	13.84	10.69	0.76	19.83	8.19	21.80	20.20
14	22.25	13.84	10.69	0.76	23.00	8.19	25.00	23.40
16	25.42	13.84	10.69	0.76	26.18	8.19	28.10	26.60
18	28.60	13.84	10.69	0.76	29.36	8.19	31.30	29.80
20	31.77	15.42	12.32	0.76	31.74	8.16	33.70	32.10
22	34.95	16.23	12.32	0.76	34.92	8.16	36.90	35.30
24	38.12	17.04	40.10	7.36	38.10	7.36	40.10	38.40

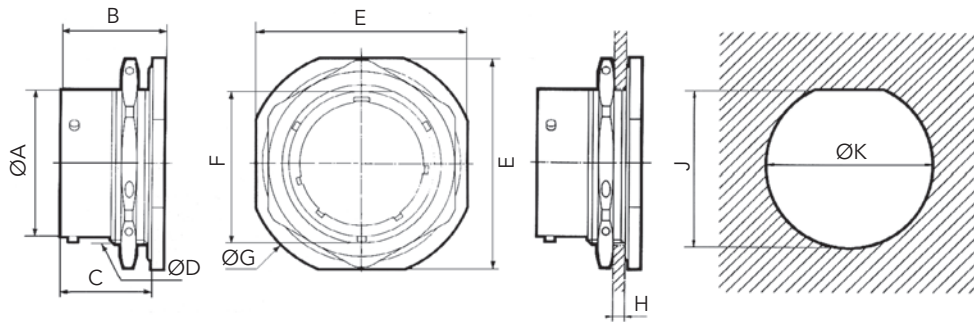
Square flange receptacle (type 02H)



Shell size	A	B	C max	D max	E	F max	G max	H	J	K max	L ± 0.1	M min
8	12.03	13.84	11.24	1.67	14.27	6.97	21.42	15.09	3.13	27.09	15.55	2.90
10	15.01	13.84	11.24	1.67	17.06	6.97	24.62	18.26	3.13	31.87	18.80	2.90
12	19.07	13.84	11.24	1.67	19.85	6.97	26.98	20.62	3.13	35.04	22.15	2.90
14	22.25	13.84	11.24	1.67	23.00	6.97	29.36	23.00	3.13	38.22	25.30	2.90
16	25.42	13.84	11.24	1.67	26.18	6.97	31.73	24.61	3.13	41.39	28.45	2.90
18	28.60	13.84	11.24	1.67	29.36	6.97	34.12	26.97	3.13	44.57	31.65	2.90
20	31.77	15.42	12.00	2.48	31.74	6.99	37.20	29.36	3.13	47.74	34.80	5.50
22	34.95	16.23	12.00	2.48	34.92	6.99	40.47	31.75	3.13	50.92	38.00	5.50
24	38.12	17.04	12.81	2.48	38.10	6.19	43.66	34.92	3.81	55.69	41.20	5.50

Note: All dimensions are in millimeters (mm)

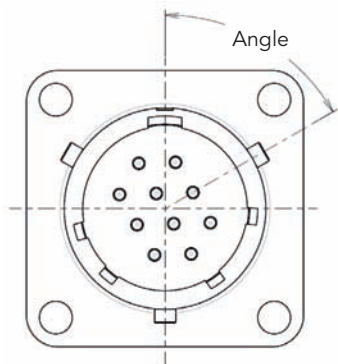
Jam nut receptacle (type 07H)



Shell size	A	B max	C max	D	E max	F	G max	H min	H max	J ± 0.1	K ± 0.1
8	12.03	20.53	17.93	14.26	24.07	13.33	27.37	1.57	3.17	13.75	14.60
10	15.01	20.53	17.93	17.43	27.22	16.51	30.57	1.57	3.17	16.95	17.75
12	19.07	20.53	17.93	22.19	32.00	20.63	35.32	1.57	3.17	21.50	22.50
14	22.25	20.53	17.93	25.36	35.17	23.78	38.50	1.57	3.17	24.20	25.70
16	25.42	20.53	17.93	28.54	38.35	26.93	41.67	1.57	3.17	27.35	28.85
18	28.60	20.53	17.93	31.71	41.52	30.10	44.85	1.57	3.17	30.55	32.05
20	31.77	26.10	22.70	34.89	46.27	33.28	49.62	1.57	6.35	33.70	35.20
22	34.95	26.10	22.70	38.06	49.47	36.45	52.77	1.57	6.35	36.90	38.40
24	38.12	26.93	23.54	41.24	52.62	39.63	55.97	1.57	6.35	40.05	41.55

Orientation

Polarization code



Viewed from receptacle front face.
Insulator rotated inside metal body.

Shell size	Layout	Angle in degrees			
		W	X	Y	Z
8	4	45	-	-	-
	33	90	-	-	-
	3A	60	210	-	-
10	6	90	-	-	-
12	3	-	-	180	-
	8	90	112	203	292
	10	60	155	270	295

Shell size	Layout	Angle in degrees			
		W	X	Y	Z
14	5	40	92	184	273
	12	43	90	-	-
	19	30	165	315	-
16	8	54	152	180	331
	26	60	-	275	338
18	32	85	138	222	265
20	41	45	126	225	-
22	55	30	142	226	314
24	61	90	180	270	324

Note: All dimensions are in millimeters (mm)



Description

- Glass sealed hermetic
- Compact low profile - 30% shorter than the standard version
- Robust bayonet coupling according to HE302 standard, EN3646 standard qualified
- Solder cup contacts as well as PCB contacts
- Specific fuel tank version for long term fuel immersion
- Specific large square flange option to adapt an O'ring for an improved panel to connector sealing

Technical features

Mechanical

- **Shell:**
Passivated stainless steel
- **Seals:**
Silicone elastomer
- **Contact:**
Gold plated ferrous alloy
- **Shock:**
As per EN3646, 100 m/s² (10g) during 6 ms in the X, Y and Z axis
- **Endurance:**
500 mating/unmating operations
- **Vibrations:**
5Hz to 3000Hz at constant acceleration of 10g (3 x 4 hours)

Electrical

- **Max current rating per contact:**

Contact size	20	16	12
Rating (A)	5	10	17

- **Dielectric withstanding voltage:**

Service	Sea level	21 000 m
I	1 500 Vrms	375 Vrms
II	2 300 Vrms	500 Vrms

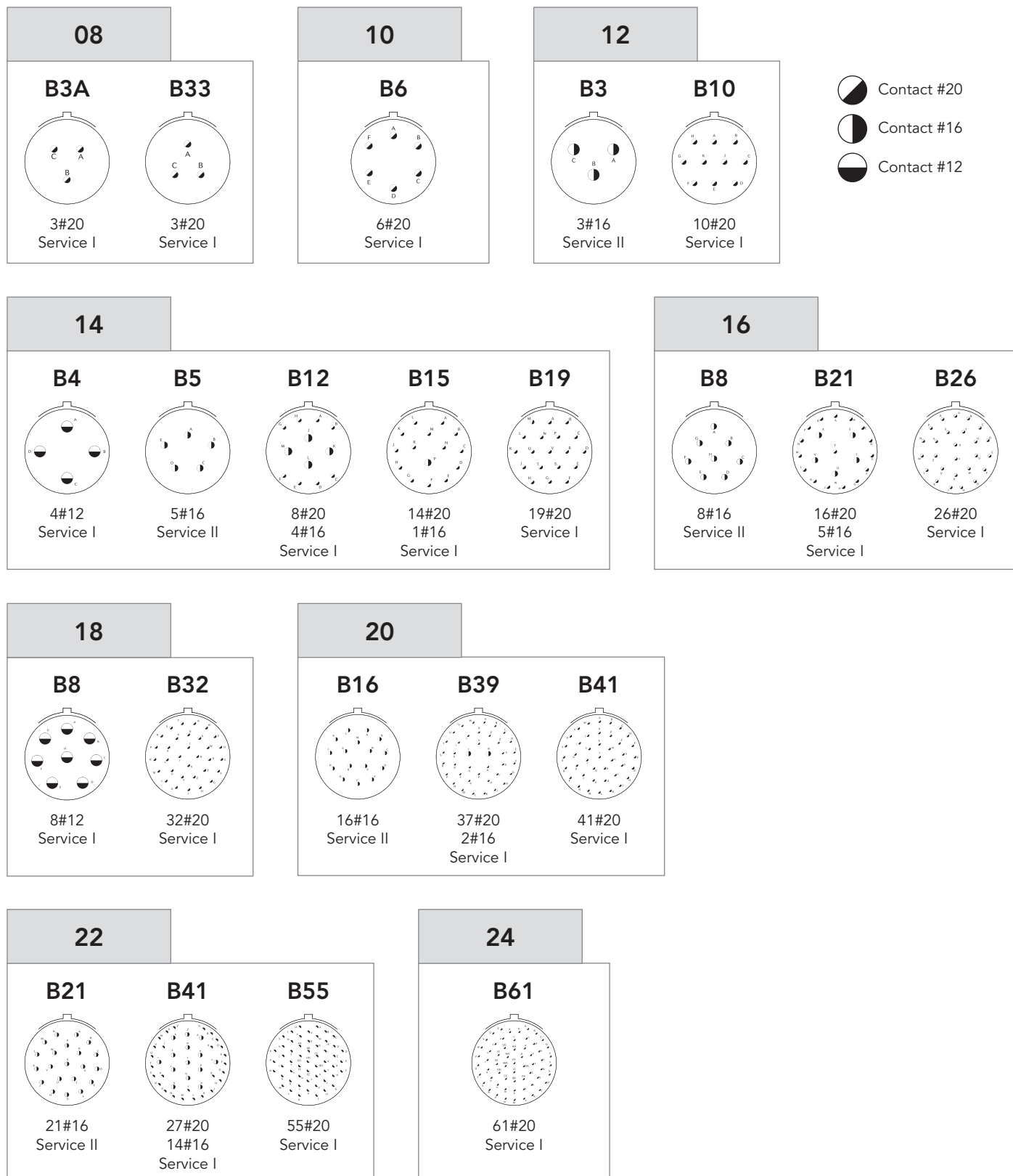
- **Shell continuity:**
≤ 50 mΩ
- **Contact resistance at rated current:**
Maximum initial contact resistance at ambient temperature

Contact size	20	16	12
Resistance mΩ	12	8	5

Environmental

- **Operating temperature:**
-55°C to 200°C
- **Hermeticity:**
10⁻⁷ atm.cm³/s (helium gas test)
- **Salt spray:**
48 hours min. as per EN3646
- **Resistance to fluids (standard):**
As per EN3646, including fuel, hydraulic fluids and oils
- **Fuel immersion version:**
. JP5 long term immersion
. 105°C maximum

Contact layouts



Contact layouts (matrix)

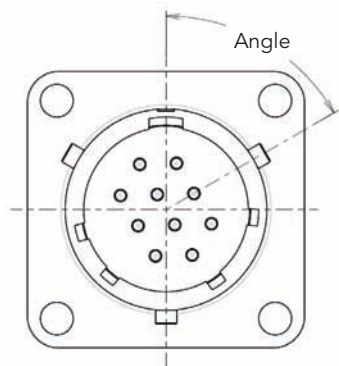
Shell size	Layout	Hermetic 8525	Hermetic EN3646	8525 spec. 002 Large flange	8525 spec. 022 Fuel tank	Number of contacts		
						#20	#16	#12
08	8B3A		Q			3		
	8B33		Q			3		
10	10B6		Q			6		
12	12B3		Q				3	
	12B10		Q			10		
14	14B4		Q					4
	14B5		Q				5	
	14B12		Q			8	4	
	14B15		Q			14	1	
	14B19		Q			19		
16	16B8		Q				8	
	16B21		Q			16	5	
	16B26		Q			26		
18	18B8		Q					8
	18B32		Q			32		
20	20B16		Q				16	
	20B39					37	2	
	20B41		Q			41		
22	22B21		Q				21	
	22B41		Q			27	14	
	22B55		Q			55		
24	24B61		Q			61		

Souriau's layout

Q Souriau's qualified layout

Orientation

Polarization code



Viewed from receptacle front face.
Insulator rotated inside metal body.

Shell size	Layout	N	W	X	Y	Z
08	B3A	0	60	210	-	-
	B33	0	90	-	-	-
10	B6	0	90	-	-	-
12	B3	0	140	220	180	-
	B10	0	60	155	270	295
14	B4	0	45	-	-	-
	B5	0	40	92	184	273
	B12	0	43	90	-	-
	B15	0	17	110	155	234
	B19	0	30	165	315	-

Shell size	Layout	N	W	X	Y	Z
16	B8	0	54	152	180	331
	B21	0	-	-	-	-
	B26	0	60	-	275	338
18	B8	0	180	-	-	-
	B32	0	85	138	222	265
20	B16	0	238	318	333	347
	B39	0	63	144	252	333
	B41	0	45	126	225	-
22	B21	0	16	135	175	349
	B41	0	39	135	264	-
	B55	0	30	142	226	314
24	B61	0	90	180	270	324

Ordering information

SOURIAU part numbers

Basic series	8525	IH	18B32	P	N	H
Shell type:						
IH: Solder mount receptacle						
02H: Square flange receptacle						
07H: Jam nut receptacle						
Contact layout:						
See page 21						
Contact type:						
P: Pin						
Orientation:						
N, W, X, Y, Z - see page 22						
Mandatory suffix:						
H: Hermetic						
Specification:						
None: Standard hermetic version						
002: Large flange - 02H version only						
022: Fuel tank version						
Other specification (PCB contacts): see page 28						

EN3646 qualified products

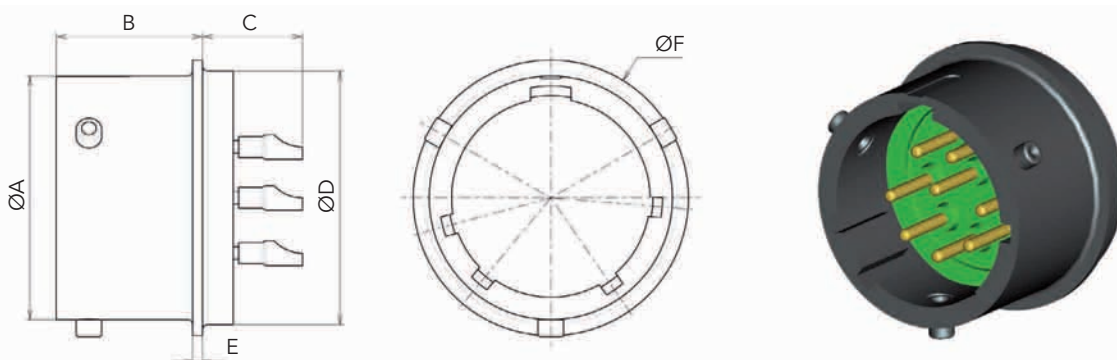
Basic series	EN3646	Y	0	08	03	M	N
Mandatory suffix:							
Y: Hermetic							
Shell type:							
0: Square flange receptacle							
1: Solder mount receptacle							
7: Jam nut receptacle							
Shell size:							
08, 10, 12, 14, 16, 18, 20, 22, 24							
Contact layout:							
See page 21							
Contact type:							
M: Pin							
Orientation:							
N, W, X, Y, Z - see page 22							

Maximum connector weights (in grams)

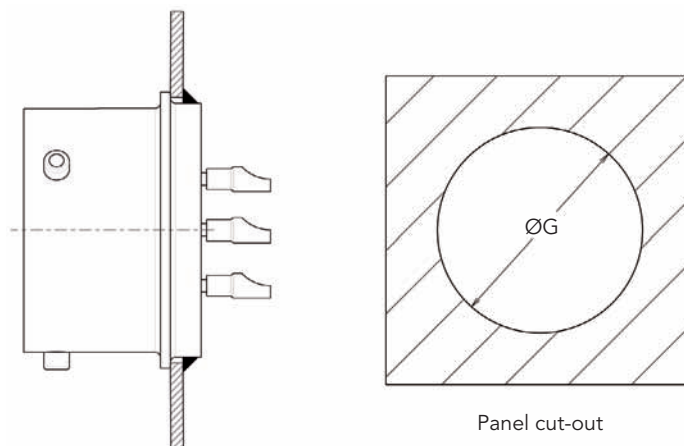
Shell type \ Shell size	8	10	12	14	16	18	20	22	24
Solder mount receptacle (type IH)	7	9	13	17	21	26	32	37	43
Square flange receptacle (type 02H)	10	12	16	21	26	33	41	47	55
Large square flange receptacle (type 02H spec. 002)	16	18	24	29	34	40	56	60	70
Jam nut receptacle (type 07H)	20	25	38	45	52	63	86	96	115

Dimensions

Solder mount receptacle (type IH)

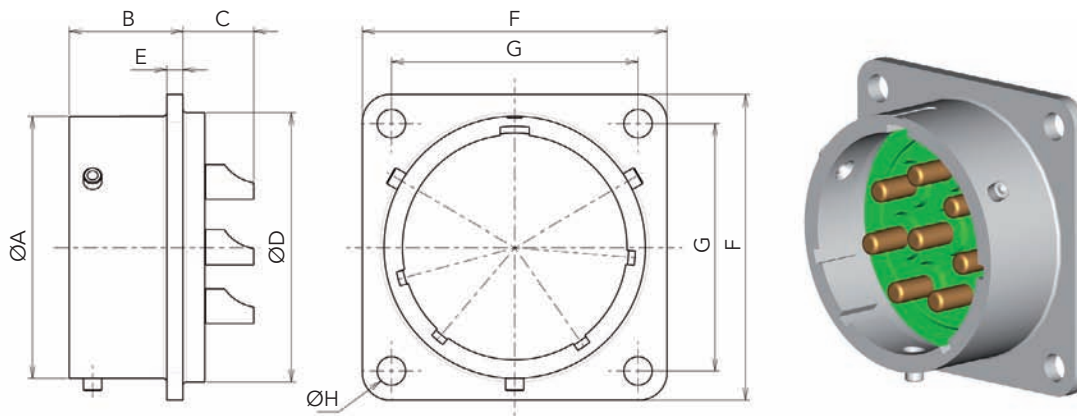


Shell size	A max	B ± 0.5	C max	D $^{+0.02}_{-0.13}$	E ± 0.14	F max	G $^{+0}_{-0.3}$
8	12.02	11.5	10	14.27	0.8	16.1	14.7
10	14.99	11.5	10	17.07	0.8	19.3	17.5
12	19.05	11.5	10	19.84	0.8	21.7	20.2
14	22.23	11.5	10	23.01	0.8	24.9	23.4
16	25.4	11.5	10	26.19	0.8	28.1	26.6
18	28.58	11.5	10	29.36	0.8	31.2	29.8
20	31.75	13.5	10	31.75	0.8	33.8	32.1
22	34.93	13.5	11	34.92	0.8	36.8	35.3
24	38.1	13.9	11	38.1	0.8	40	38.4

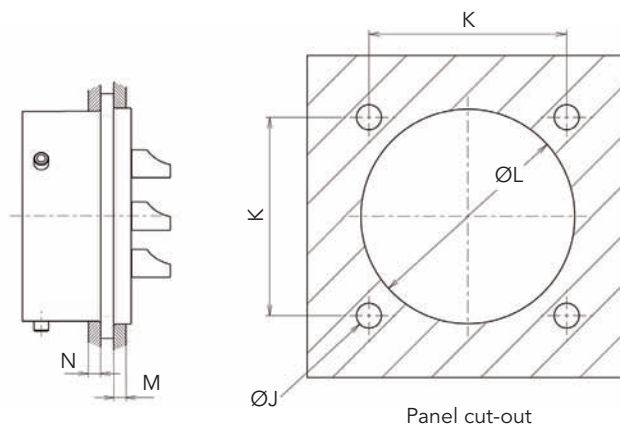


Note: All dimensions are in millimeters (mm)

Square flange receptacle (type 02H)

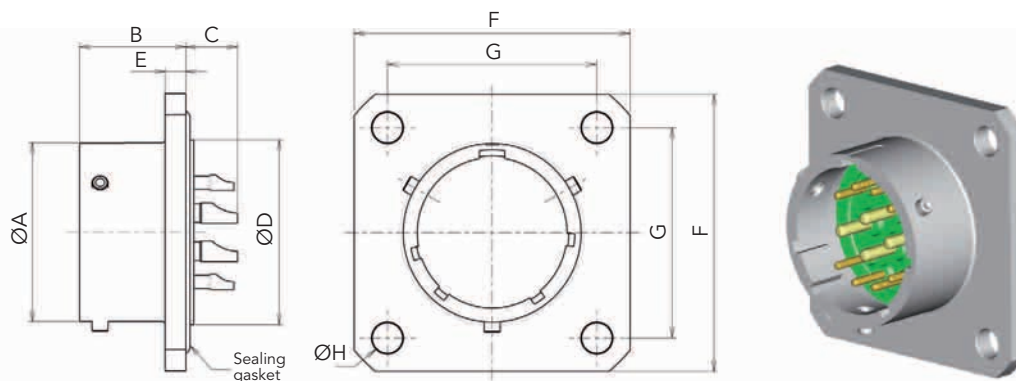


Shell size	A max	B ±0.55	C max	D $^{+0}_{-0.3}$	E	F max	G	H ±0.15	J ±0.15	K	L $^{+0}_{-0.3}$	M	N max
8	12.02	12.65	8.4	14.3	1.63 $^{+0.28}_{-0.28}$	21.03	15.1	3.15	3.15	15.1	14.7	3.5	2.3
10	14.99	12.65	8.4	17.1	1.63 $^{+0.28}_{-0.28}$	24.23	18.26	3.15	3.15	18.26	17.5	3.5	2.3
12	19.05	12.65	8.4	19.9	1.63 $^{+0.28}_{-0.28}$	26.59	20.62	3.15	3.15	20.62	20.2	3.5	2.3
14	22.23	12.65	8.4	23.05	1.63 $^{+0.28}_{-0.28}$	28.98	23.01	3.15	3.15	23.01	23.4	3.5	2.3
16	25.4	12.65	8.4	26.25	1.63 $^{+0.28}_{-0.28}$	31.34	24.61	3.15	3.15	24.61	26.6	3.5	2.3
18	28.58	12.65	8.4	29.4	1.63 $^{+0.28}_{-0.28}$	33.73	26.97	3.15	3.15	26.97	29.8	3.5	2.3
20	31.75	14.25	9.6	31.8	1.93 $^{+0.58}_{-0.58}$	36.91	29.36	3.15	3.15	29.36	32.2	3.5	5.4
22	34.93	14.25	9.6	35	1.93 $^{+0.58}_{-0.58}$	40.1	31.75	3.15	3.15	31.75	35.3	3.5	5.4
24	38.1	15.05	9.6	38.2	1.93 $^{+0.58}_{-0.58}$	43.27	34.92	3.73	3.73	34.92	38.4	3.5	5.4

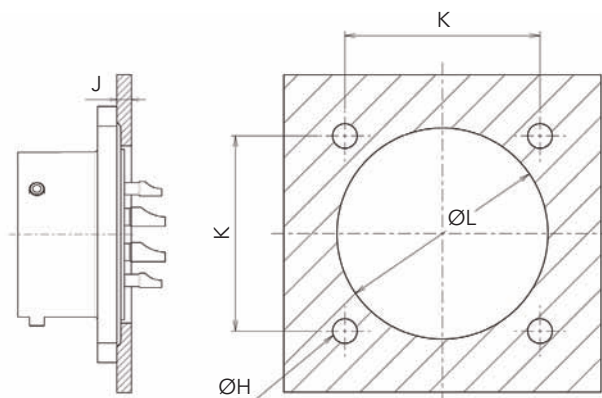


Note: All dimensions are in millimeters (mm)

Large square flange receptacle (type 02H spec. 002)



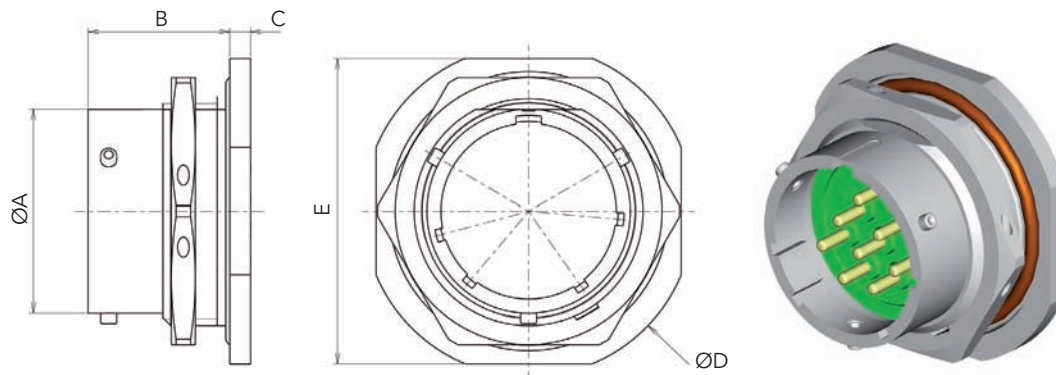
Shell size	A max	B max	C		D max	E max	F max	G	H	J	K	L ⁺⁰ _{-0.3}
			#20	#12/#16								
8	12.02	13.14	6.8	-	14.27	2.6	26.4	18.1	3.8	3.5	18.1	14.7
10	14.99	13.14	6.8	-	17.06	2.6	28.9	20.62	3.8	3.5	20.62	17.5
12	19.05	13.14	6.8	7.1	19.83	2.6	32.1	23.82	3.8	3.5	23.82	20.2
14	22.23	13.14	6.8	7.1	23.01	2.6	34.5	26.18	3.8	3.5	26.18	23.4
16	25.4	13.14	6.8	7.1	26.18	2.6	36.8	28.57	3.8	3.5	28.57	26.6
18	28.58	13.14	6.8	7.1	29.36	2.6	38.8	30.55	3.8	3.5	30.55	29.8
20	31.75	15.84	6	6.3	31.74	3.4	42.8	32.94	3.8	3.5	32.94	32.2
22	34.93	15.84	6	6.3	34.92	3.4	44.8	34.92	3.8	3.5	34.92	35.3
24	38.1	16.64	5.2	5.5	38.09	3.4	47.9	38.1	3.8	3.5	38.1	38.4



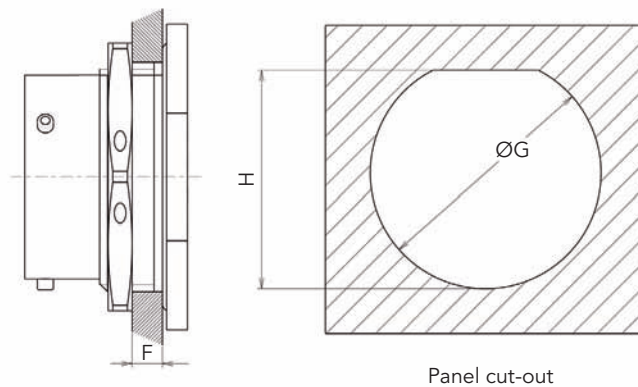
Panel cut-out

Note: All dimensions are in millimeters (mm)

Jam nut receptacle (type 07H)

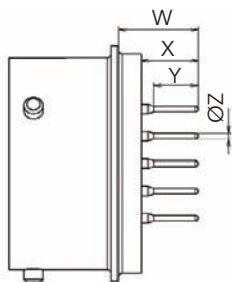


Shell size	A max	B max	C ± 0.5	D max	E ± 0.25	F		G $^{+0.25}_{-0}$	H $^{+0.25}_{-0}$
						min	max		
8	12.02	18.34	2.4	27.37	23.82	1.57	4.75	14.4	13.48
10	14.99	18.34	2.4	30.57	26.97	1.57	4.75	17.58	16.66
12	19.05	18.34	2.4	35.32	31.75	1.57	4.75	22.6	20.8
14	22.23	18.34	2.4	38.5	34.92	1.57	4.75	25.52	23.95
16	25.4	18.34	2.4	41.67	38.1	1.57	4.75	28.7	27.1
18	28.58	18.34	2.4	44.85	41.27	1.57	4.75	31.87	30.27
20	31.75	23.12	3.2	49.62	46.02	1.57	6.35	35.05	33.45
22	34.93	23.12	3.2	52.77	49.22	1.57	6.35	38.22	36.62
24	38.1	23.95	3.2	55.97	52.37	1.57	5.56	41.4	39.8

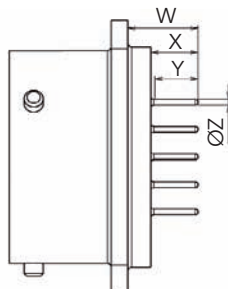


Note: All dimensions are in millimeters (mm)

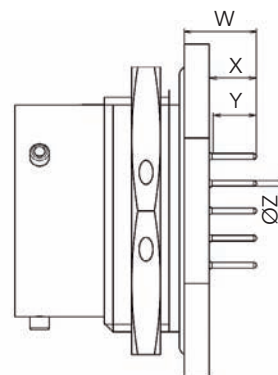
Contact variations



Type IH: Solder mount receptacle



Type 02H: Square flange receptacle



Type 07H: Jam nut receptacle

Type of contact	Specification	Shell type	Contact size	W Max	X Min	Y Min	Ø Z Max
Short PCB contact	005	IH	20	9.1	4.55	4.5	0.65
		02H	20	8.4	3.35	4.5	0.65
		07H	20	8.05	3.75	4.5	0.65
Long PCB contact	275	IH	20	13.87	8.5	6	0.65
		02H	20	12.9	7.3	6	0.65
		07H	20	12	7.7	6	0.65

Gaskets

Shell size	Gasket for receptacle Type 0		O ring for receptacle Type 7	
	Part number	Material	Part number	Material
08	85251431	Fluoro silicone	AS3582-016	Silicone
10	85251432	Fluoro silicone	AS3582-018	Silicone
12	85251433	Fluoro silicone	AS3582-021	Silicone
14	85251434	Fluoro silicone	AS3582-023	Silicone
16	85251435	Fluoro silicone	AS3582-025	Silicone
18	85251436	Fluoro silicone	AS3582-027	Silicone
20	85251437	Fluoro silicone	AS3582-029	Silicone
22	85251438	Fluoro silicone	AS3582-030	Silicone
24	85251439	Fluoro silicone	AS3582-031	Silicone

Note: All dimensions are in millimeters (mm)



Description

- Glass to metal sealed hermetic receptacles:
 - . High hermeticity
 - . Compact low profile
- Quick bayonet coupling
- Derivated from HE312 standard, and qualified per MIL-C 26482 Series II standard

Technical features

Mechanical

- **Shell:**
RoHS mat tin over nickel plated steel
- **Seals:**
Silicone elastomer
- **Contact:**
Gold plated ferrous alloy
- **Shock:**
According to NFC 93422 - HE 312
300g - ms in three axes
- **Endurance:**
500 mating/unmating operations
- **Vibrations:**
10 to 2000 Hz, 20g
MIL STD 202, method 214,
test condition 2, letter J
(50 - 2000 Hz; 41.7g eff.)

Electrical

- **Max current rating per contact:**

Contact size	20	16	12
Rating (A)	5	10	17

- **Dielectric withstanding voltage:**

Service	Sea level	21 000 m
I	1 500 Vrms	375 Vrms
II	2 300 Vrms	500 Vrms

- **Shell continuity:**
≤ 50 mΩ

- **Contact resistance at rated current:**
Maximum initial contact resistance at ambient temperature

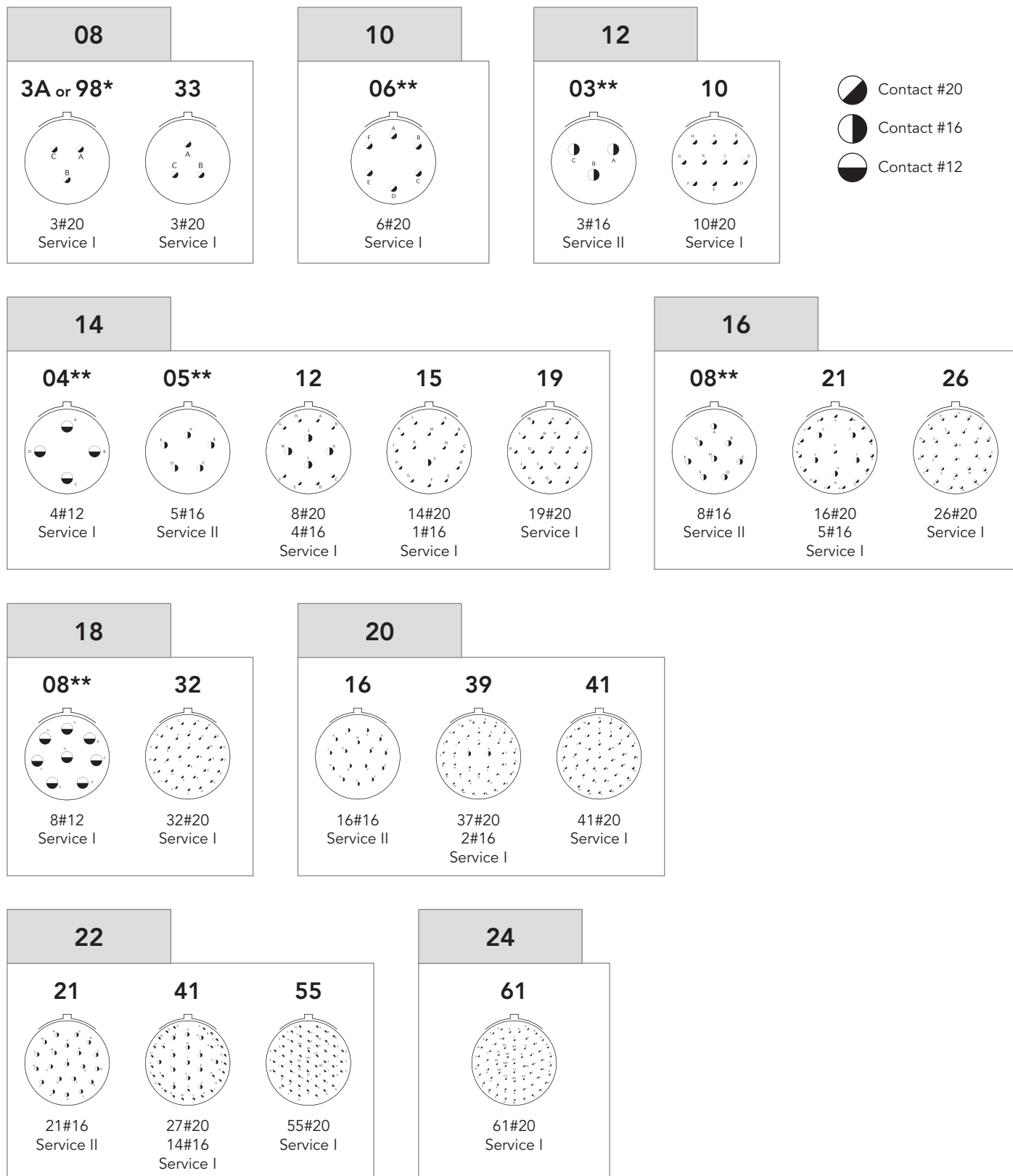
Contact size	20	16	12
Resistance mΩ	12	8	5

- **Insulation resistance:**
≥ 5000 MΩ at 500 Vdc

Environmental

- **Operating temperature:**
-55°C to 200°C
- **Hermeticity:**
1.10⁻⁷ atm.cm³/s under a1 bar differential pressure
- **Salt spray:**
48 hours
- **Resistance to fluids (standard):**
In accordance with NFC 93422 - HE312
MIL-L 7808
MIL-L 23699
MIL-H 5606
Hydraulic fluids M 2 V
MIL-C 25769 diluted
MIL-A 8243
MIL-T 5624 (JP5)
MIL-G 3056
Solvents

Contact layouts



* 3A for 8526 part numbering / 98 for MS part numbering.
 ** Remove digit "0" for MS part numbering.

Contact layouts (matrix)

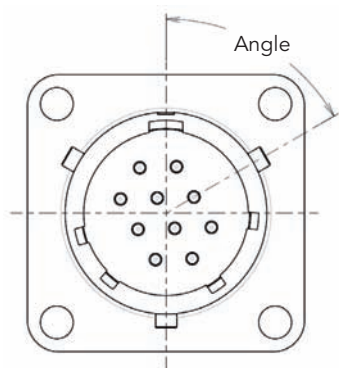
Shell size	Layout	Hermetic 8526	Hermetic MIL-C 26482G	Number of contacts		
				#20	#16	#12
08	8B3A			3		
	8B98		Q	3		
	8B33		Q	3		
10	10B6		Q	6		
12	12B3		Q		3	
	12B10		Q	10		
14	14B4					4
	14B5		Q		5	
	14B12		Q	8	4	
	14B15		Q	14	1	
	14B19		Q	19		
16	16B8		Q		8	
	16B21		Q	16	5	
	16B26		Q	26		
18	18B8					8
	18B32		Q	32		
20	20B16		Q		16	
	20B39			37	2	
	20B41		Q	41		
22	22B21		Q		21	
	22B41		Q	27	14	
	22B55		Q	55		
24	24B61		Q	61		

Souriau's layout

Q Souriau's qualified layout

Orientation

Polarization code



Viewed from receptacle front face.
Insulator rotated inside metal body.

Shell size	Layout	N	W	X	Y	Z
08	B3A	0	60	210	-	-
	B33	0	90	-	-	-
10	B6	0	90	-	-	-
12	B3	0	140	220	180	-
	B10	0	60	155	270	295
14	B4	0	45	-	-	-
	B5	0	40	92	184	273
	B12	0	43	90	-	-
	B15	0	17	110	155	234
	B19	0	30	165	315	-

Shell size	Layout	N	W	X	Y	Z
16	B8	0	54	152	180	331
	B21	0	-	-	-	-
	B26	0	60	-	275	338
18	B8	0	180	-	-	-
	B32	0	85	138	222	265
20	B16	0	238	318	333	347
	B39	0	63	144	252	333
	B41	0	45	126	225	-
22	B21	0	16	135	175	349
	B41	0	39	135	264	-
	B55	0	30	142	226	314
24	B61	0	90	180	270	324

Ordering information

SOURIAU part numbers

Basic series	8526	2H	10	06	P	N
Shell type: 1H: Solder mount hermetic receptacle 2H: Square flange hermetic receptacle 7H: Jam nut hermetic receptacle						
Shell size: 08, 10, 12, 14, 16, 18, 20, 22, 24						
Contact layout: See page 30						
Contact type: P: Pin						
Orientation: N, W, X, Y, Z - see previous page						

MS qualified products

Basic series	MS	3440H	10	C	6	P
Shell type: 3440H: Square flange hermetic receptacle 3443H: Solder mount hermetic receptacle 3449H: Jam nut hermetic receptacle						
Shell size: 08, 10, 12, 14, 16, 18, 20, 22, 24						
Materials and terminal: C: Steel, solder bucket						
Contact layout: See page 30						
Contact type: P: Pin						
Orientation: None: Normal (N) W, X, Y, Z - see previous page						

Cross reference list

Receptacle type	SOURIAU	HE312
Solder mount	8526 1H ••••• P □	HE312 1H ••••• P □ 2
Square flange	8526 2H ••••• P □	HE312 2H ••••• P □ 2
Jam nut	8526 7H ••••• P □	HE312 7H ••••• P □ 2

••••• Shell size & layout □ Orientation

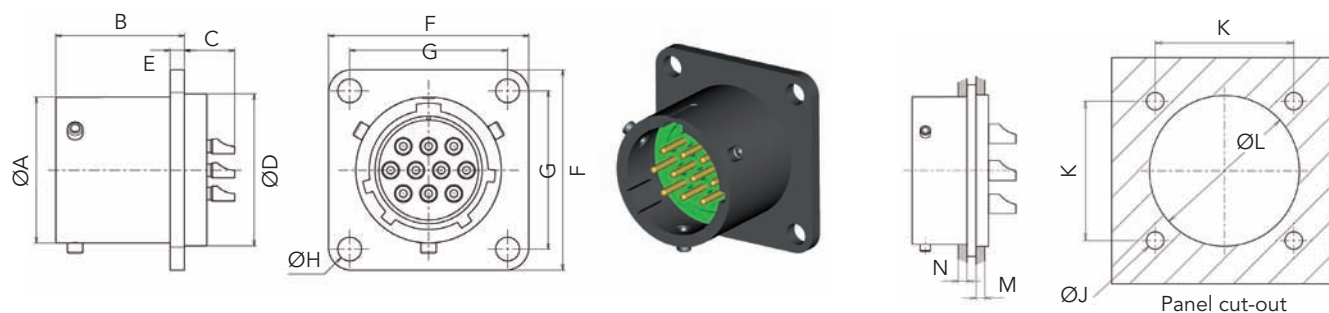
Dimensions

Solder mount receptacle (type 1H)



Shell size	ØA max	B ±0.3	C max	ØD ⁺⁰ _{-0.15}	E ±0.15	F max	ØG ±0.1
8	12.04	15.8	6.9	14.3	0.89	16.08	14.48
10	15.01	15.8	6.9	17.09	0.89	19.25	17.27
12	19.08	15.8	6.9	19.86	0.89	21.64	20.04
14	22.25	15.8	6.9	23.04	0.89	24.82	23.22
16	25.43	15.8	6.9	26.21	0.89	27.99	26.39
18	28.6	15.8	6.9	29.39	0.89	31.14	29.57
20	31.78	17.37	6.9	31.78	0.89	33.53	31.95
22	34.95	17.37	6.9	34.95	0.89	36.73	35.13
24	38.13	17.37	6.9	38.13	0.89	39.93	38.3

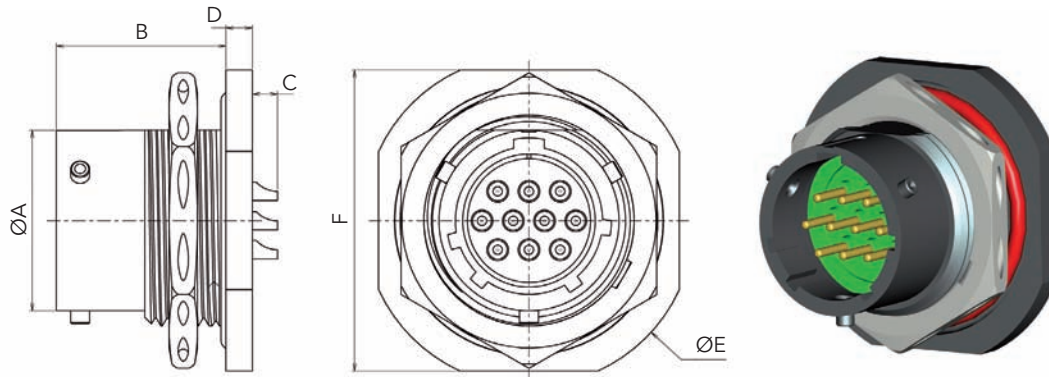
Square flange receptacle (type 2H)



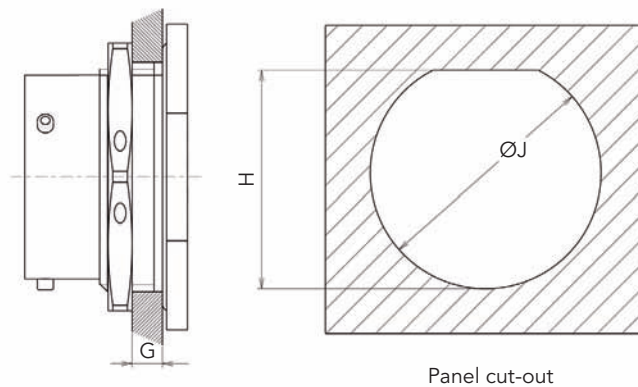
Shell size	ØA max	B ±0.15	C max	ØD ⁺⁰ _{-0.15}	E ±0.1	F max	G	ØH ±0.15	ØJ ±0.15	K	ØL ±0.1	M max	N max
8	12.04	16.79	7.1	14.3	1.86	21.03	15.09	3.05	3.05	15.09	14.48	3.15	3
10	15.01	16.79	7.1	17.09	1.86	24.23	18.26	3.05	3.05	18.26	17.27	3.15	3
12	19.08	16.79	7.1	19.86	1.86	26.59	20.62	3.05	3.05	20.62	20.04	3.15	3
14	22.25	16.79	7.1	23.04	1.86	28.98	23.01	3.05	3.05	23.01	23.22	3.15	3
16	25.43	16.79	7.1	26.21	1.86	31.34	24.61	3.05	3.05	24.61	26.39	3.15	3
18	28.6	16.79	7.1	29.39	1.86	33.73	26.97	3.05	3.05	26.97	29.57	3.15	3
20	31.78	18.78	6.7	31.78	2.27	36.91	29.36	3.05	3.05	29.36	31.95	3.15	5.4
22	34.95	18.78	6.7	34.95	2.27	40.08	31.75	3.05	3.05	31.75	35.13	3.15	5.4
24	38.13	18.78	6.7	38.13	2.27	43.26	34.93	3.73	3.73	34.93	38.3	3.15	5.4

Note: All dimensions are in millimeters (mm)

Jam nut receptacle (type 7H)



Shell size	ØA max	B max	C max	D ⁺⁰ _{-0.1}	ØE max	F max	G		H	ØJ ±0.1
							min	max		
8	12.04	17.96	3.2	2.8	27.38	24.23	1.57	4.75	13.61	14.53
10	15.01	17.96	3.2	2.8	30.56	27.38	1.57	4.75	16.79	17.7
12	19.08	17.96	3.2	2.8	35.33	32.16	1.57	4.75	20.93	22.73
14	22.25	17.96	3.2	2.8	38.51	35.33	1.57	4.75	24.08	25.65
16	25.43	17.96	3.2	2.8	41.68	38.51	1.57	4.75	27.23	28.83
18	28.6	17.96	3.2	2.8	44.86	41.68	1.57	4.75	30.4	32
20	31.78	19.61	2.45	3.6	49.63	46.43	1.57	6.35	33.58	35.18
22	34.95	19.61	2.45	3.6	52.78	49.63	1.57	6.35	36.75	38.35
24	38.13	20.4	1.7	3.7	55.96	52.78	1.57	6.35	39.93	41.35



Note: All dimensions are in millimeters (mm)

Maximum connector weights (in grams)

Shell type \ Shell size	8	10	12	14	16	18	20	22	24
Solder mount receptacle (type 1)	7.5	10.6	15	19	23.3	29.4	31	41	46.7
Square flange receptacle (type 2)	11	13.6	18	23	28.3	36.4	42	49	57
Jam nut receptacle (type 7)	20	25	38	44	51.5	62	85	94	116

Gaskets

Shell size	Gasket for receptacle Type 0		O ring for receptacle Type 7	
	Part number	Material	Part number	Material
08	85251431	Fluoro silicone	AS3582-016	Silicone
10	85251432	Fluoro silicone	AS3582-018	Silicone
12	85251433	Fluoro silicone	AS3582-021	Silicone
14	85251434	Fluoro silicone	AS3582-023	Silicone
16	85251435	Fluoro silicone	AS3582-025	Silicone
18	85251436	Fluoro silicone	AS3582-027	Silicone
20	85251437	Fluoro silicone	AS3582-029	Silicone
22	85251438	Fluoro silicone	AS3582-030	Silicone
24	85251439	Fluoro silicone	AS3582-031	Silicone



Description

- Glass sealed hermetic:
 - . high hermeticity performance
 - . compact low profile
- Robust screw coupling qualified per EN2997 and ESC10 standards
- Fully interchangeable with MIL 83723 hermetic connectors
- Various mounting styles:
 - . compact solder mount receptacle
 - . easy to install square flange receptacle
 - . easy to replace jam nut receptacle
- Signal and power solder cup contacts
- PCB contact version available
- Special fuel tank versions
- 230V qualified versions where higher voltage is used to reduce cable weight

Technical features

Mechanical

- **Shell:**
 - . Passivated Stainless steel
- **Seals:**
 - . Silicone elastomer
- **Contact:**
 - . Ferrous alloy
- **Contact plating:**
 - . Gold
- **Shock:**
 - . 300 m/s² (30g) during 3 ms
- **Endurance:**
 - . 500 mating/unmating operations
- **Vibration:**
 - . Random 5 Hz to 2000 Hz at 1G²/Hz (2 x 8 hours)

Electrical

- **Max current rating per contact:**

Contact size	20	16	12	6	4
Rating (A)	5	10	17	46	60

- **Dielectric withstanding voltage:**

Altitude	Service I
Sea level	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms

- **Contact resistance at rated current:**

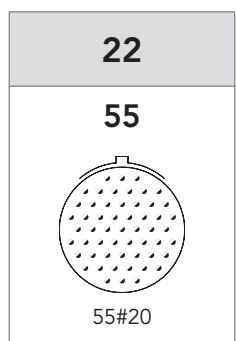
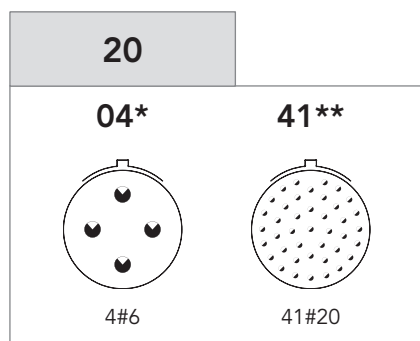
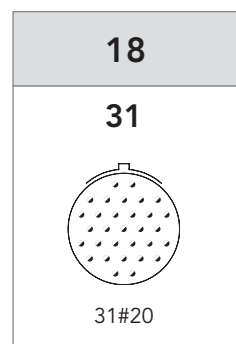
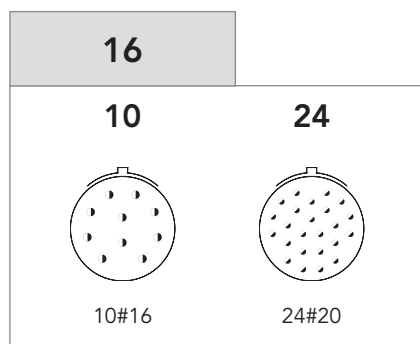
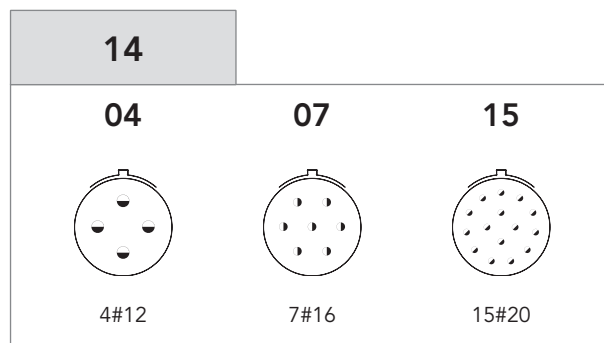
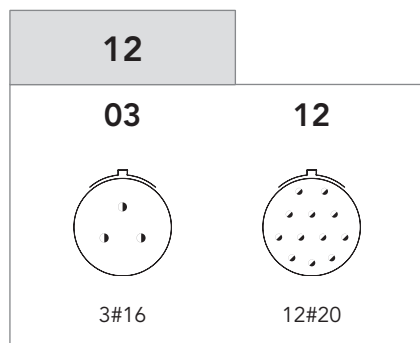
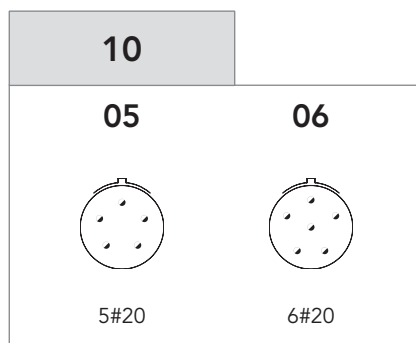
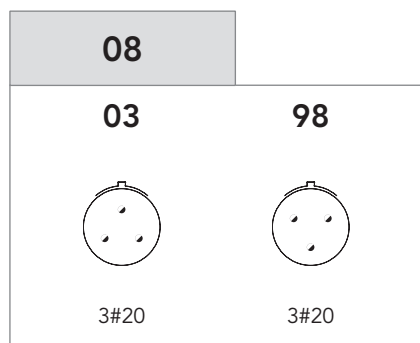
. Maximum initial contact resistance at ambient temperature

Contact size	20	16	12	6	4
Resistance mΩ	12	8.5	5	2	2

Environmental

- **Operating temperature:**
 - . Class Y : -65°C to 200°C
 - . Class YE : -65°C to 260°C cyclic
- **Hermeticity:**
 - . Leak rate <10⁻⁷ atm.cm³/s (helium gas test)
- **Damp heat:**
 - . As per EN 2997 and NFL 54143: 10 cycles of 24h
- **Salt spray:**
 - . 500 hours
- **Resistance to fluids:**
 - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243
- **Fuel immersion version:**
 - . 105°C max
 - . As per PrEN3645

Contact layouts



Contact size

-  Contact #20
-  Contact #12
-  Contact #16
-  Contact #6

* ABS Power correspondance.

** Under EN2997 qualification. Consult us.

Contact layouts (matrix)

Shell size	Layout	8533 hermetic	EN2997 hermetic	8533 spec. 22	ESC10 hermetic	Number of contacts					
						#20	#16	#12	#8	#6	#4
08	08-03		Q		Q	3					
	08-98		Q		Q	3					
10	10-05		Q		Q	5					
	10-06		Q			6					
12	12-03		Q		Q		3				
	12-12		Q		Q	12					
14	14-04		Q		Q			4			
	14-07		Q		Q		7				
	14-15		Q		Q	15					
16	16-10		Q		Q		10				
	16-24		Q		Q	24					
18	18-31		Q		Q	31					
20	20-04									4	
	20-41		Q		Q	41					
22	22-55		Q		Q	55					

Souriau's layout

Q Souriau's layout & Layout according to corresponding norm

Connector weights (in grams)

Shell size	Square flange receptacle	Jam nut receptacle	Solder mount receptacle
08	18	29	15
10	24	37	21
12	31	50	31
14	40	58	35
16	49	72	46
18	54	79	51
20	62	87	59
22	77	108	73
24	88	122	86

Cross reference list

SOURIAU	MIL 83723
85332Y • • • • P □	M83723/88Y • • • • □
85337Y • • • • P □	M83723/89Y • • • • □
85331Y • • • • P □	M83723/90Y • • • • □

• • • • Shell size & layout □ Orientation

Ordering information

Souriau part numbers

Basic series	8533	1	Y	10	05	P	N	-
Shell type: 1: Solder mount receptacle 2: Square flange receptacle 7: Jam nut receptacle								
Class: Y: 200°C YE: 260°C								
Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22								
Contact layout: See page 37								
Contact type: P: Pin								
Orientation: N - 6 - 7 - 8 - 9 - T - V - Y (see page 43)								
Specification (other specification: see page 42): None: Standard hermetic version (solder cup) - except for layout 20-04 112: Standard hermetic version (solder cup) - for layout 20-04 only 22: Hermetic fuel tank version (solder cup) 600: 230V qualified connector, delivered with contacts (layouts 12-03, 14-04, 14-07 & 20-04 - orientation T & V)								

EN2997 qualified products

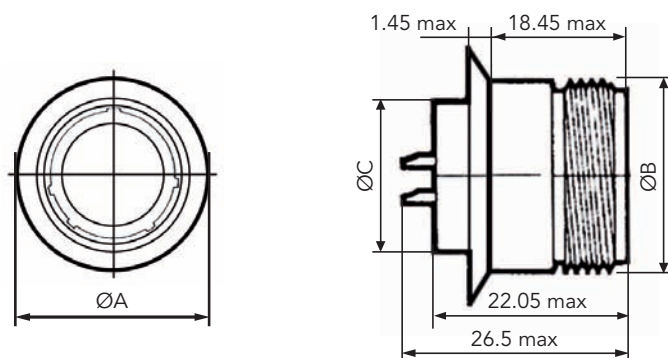
Basic series	EN 2997	Y	0	08	03	M	N
Class: Y: 200°C YE: 260°C							
Shell type: 0: Square flange receptacle 1: Solder mount receptable 7: Jam nut receptable							
Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22							
Contact layout: See page 37							
Contact type: M: Pin							
Orientation: N - 6 - 7 - 8 - 9 - Y (see page 43)							

ESC10 qualified products

Basic series	ESC 10	YE	1	08	03	P	N	0
Class: YE: 260°C								
Shell type: 1: Solder mount receptacle 2: Square flange receptacle 3: Jam nut receptable								
Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22								
Contact layout: See page 37								
Contact type: P: Pin								
Orientation: N - 6 - 7 - 8 - 9 - Y (see page 43)								
0: variant identifier								

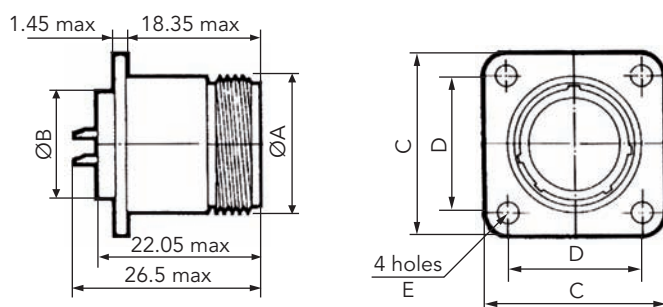
Dimensions

Solder mount hermetic receptacle (Class Y & YE)



Shell size	8	10	12	14	16	18	20	22	24
$\varnothing A$ Max	18.36	21.59	26.80	27.94	30.99	34.39	37.34	40.64	43.68
$\varnothing B$ Max	14.29	17.46	22.22	23.81	26.99	30.16	33.34	36.51	39.69
$\varnothing C$ Max	12.70	14.27	19.05	20.62	23.80	26.97	30.15	33.32	36.50
$\varnothing D$ Min	12.96	14.53	19.30	20.88	24.05	27.23	30.40	33.58	36.75

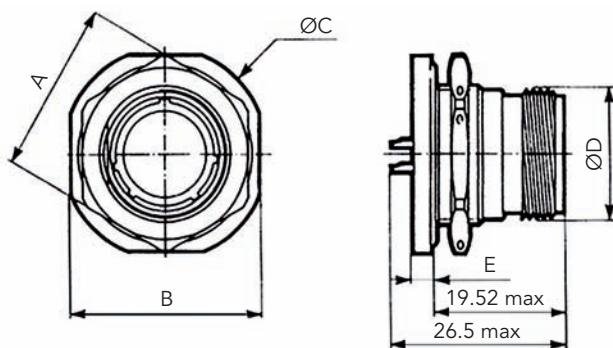
Square flange hermetic receptacle (Class Y & YE)



Shell size	8	10	12	14	16	18	20	22	24
$\varnothing A$ Max	14.27	17.67	22.22	23.77	26.97	30.15	33.32	36.49	39.67
$\varnothing B$ Max	12.70	14.27	19.05	20.62	23.80	26.97	30.15	33.82	36.50
C Max	20.75	23.93	26.32	28.71	31.88	34.24	36.63	39.80	43.36
D	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92
E Max	3.30								3.91

Note: All dimensions are in millimeters (mm)

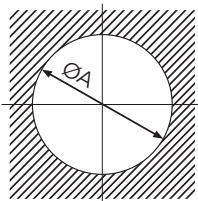
Jam nut hermetic receptacle (Class Y & YE)



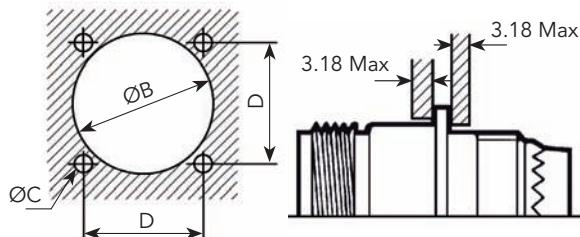
Shell size	8	10	12	14	16	18	20	22	24
A Max	21.06	24.23	29.01	30.61	33.76	36.96	40.11	43.31	46.46
B Max	24.89	28.04	32.79	35.33	38.51	41.68	44.86	49.63	52.81
ØC Max	27.38	30.28	35.05	38.51	41.68	44.86	49.63	52.78	55.42
ØD Max	14.29	17.46	22.22	23.81	26.99	30.16	33.34	36.51	39.69
E Max	3.48							3.76	
Tightening torque of attachment nut Torque in N.m ^{±10%}	7	10	12	15	18	22	25	27	29

Panel cut out

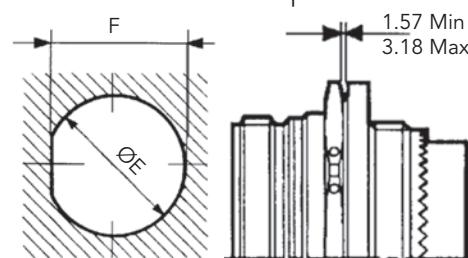
Type 1
Solder mount
receptacle



Type 2
Square flange
receptacle



Type 7
Jam nut receptacle

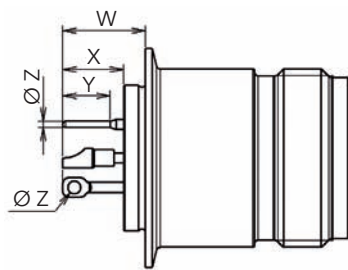
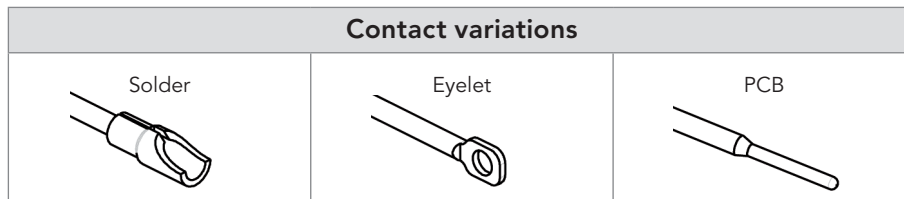


Shell size	8	10	12	14	16	18	20	22	24	28
ØA Min	12.96	14.53	19.30	20.88	24.05	27.23	30.40	33.58	36.75	-
B min	15.8	18.7	23.4	24.9	28.3	31.1	34.5	37.5	40.6	48
C	3.2							3.8		
D	15.09	18.26	20.62	23.01	24.61	26.97	39.36	31.75	34.92	39.67
E	16.00	19.17	23.92	25.52	28.70	31.87	35.05	38.22	41.40	-
F	15.24	18.41	23.16	24.76	27.94	30.99	34.16	37.33	40.51	-

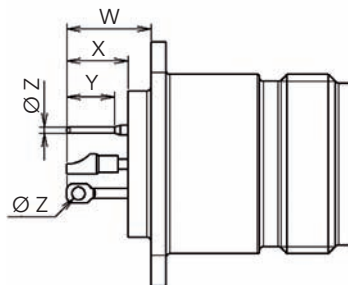
Note: All dimensions are in millimeters (mm)

Contact variations

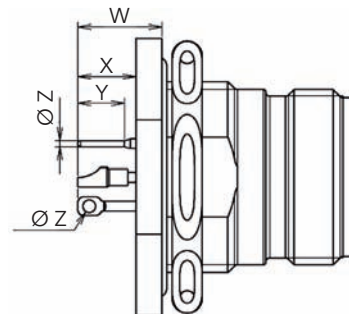
Contact variations summary



Type 1: Solder mount receptacle



Type 2: Square flange receptacle



Type 7: Jam nut receptacle

Type of contact	Specification	Contact size	W Max	X Min	Y Min	Ø Z Max	Designation
PCB contacts	05	20	8.78	4.78	4.50	0.65	PCB contact
	118	20	10.88	6.88	6.25	0.65	Long PCB contact
Eyelet contacts	105	20	6.98	2.98	4.05 ^{+0.2}	1.25 ⁰ _{0.15}	Eyelet contact
Solder cup contacts	Without specification or specification 22	20-16-12	7.78	2.98	-	-	Standard Solder cup contact
	112	6	9.03	5.13	-	-	
	62	20-16-12	7.78	2.98	-	-	Solder cup contact tin plated on rear part

Orientation

Orientation

The diagram shows a circular receptacle with a Master Key at the top (N). Four orientation angles are marked: A° (top-right), B° (bottom-right), C° (bottom-left), and D° (top-left). Arcs indicate the angular positions for each shell size.

Front face view of receptacle

Shell size	Angles	N	6	7	8	9	T	V	Y
08	A°	105	102	80	35	64	-	-	-
	B°	140	132	118	140	155	-	-	-
	C°	215	248	230	205	234	-	-	-
	D°	265	320	312	275	304	-	-	-
10	A°	105	102	80	35	64	-	-	25
	B°	140	132	118	140	155	-	-	115
	C°	215	248	230	205	234	-	-	220
	D°	265	320	312	275	304	-	-	270
12 & 14	A°	105	18	92	84	24	55	50	98
	B°	140	149	152	152	135	145	156	152
	C°	215	192	222	204	199	228	218	268
	D°	265	259	342	334	240	280	290	338
20	A°	105	18	92	84	24	45	60	98
	B°	140	149	152	152	135	160	165	152
	C°	215	192	222	204	199	210	235	268
	D°	265	259	342	334	240	300	285	338
16, 18, 22 & 24	A°	105	18	92	84	24	-	-	98
	B°	140	149	152	152	135	-	-	152
	C°	215	192	222	204	199	-	-	268
	D°	265	259	342	334	240	-	-	338

Gaskets

Shell size	Gasket for square flange receptacle		O'ring for jam nut receptacle 200°C Class		O'ring for jam nut receptacle 260°C Class	
	Part number	Material	Part number	Material	Part number	Material
08	85251431	Fluoro silicone	8530455	Silicone	85227654	Silicone THT
10	85251432	Fluoro silicone	85300795	Silicone	85227655	Silicone THT
12	85251433	Fluoro silicone	8530458	Silicone	85227656	Silicone THT
14	85251434	Fluoro silicone	8530796	Silicone	85227632	Silicone THT
16	85251435	Fluoro silicone	8530797	Silicone	85227657	Silicone THT
18	85251436	Fluoro silicone	8530798	Silicone	85227658	Silicone THT
20	85251437	Fluoro silicone	85301548	Silicone	85227927	Silicone THT
22	85251438	Fluoro silicone	8530800	Silicone	85227659	Silicone THT



Description

- Glass sealed hermetic:
 - . high hermeticity performance
 - . compact low profile
- Quick screw coupling according to EN3645 and MIL-DTL-38999 Series III standards
- Robust stainless steel adapted for any weld or solder operation
- Various mounting styles:
 - . compact solder mount receptacle
 - . easy to install square flange receptacle
 - . easy to replace jam nut receptacle
- Signal and power contacts
- Various PCB contact versions available
- Special fuel tank versions for long term fuel immersion
- 230V qualified versions where higher voltage is used to reduce cable weight

Technical features

Mechanical

- **Shell:**
 - . Class Y: passivated stainless steel
 - . Class N: nickel plated stainless steel
- **Seals:**
 - . Silicone elastomer
- **Contact:**
 - . Gold plated ferrous alloy
- **Endurance:**
 - . 500 mating/unmating operations

Electrical

- **Max current rating per contact:**

Contact size	22D	20	16	12	8	4
Rating (A)	3	5	10	17	33	60

- **Dielectric withstanding voltage:**

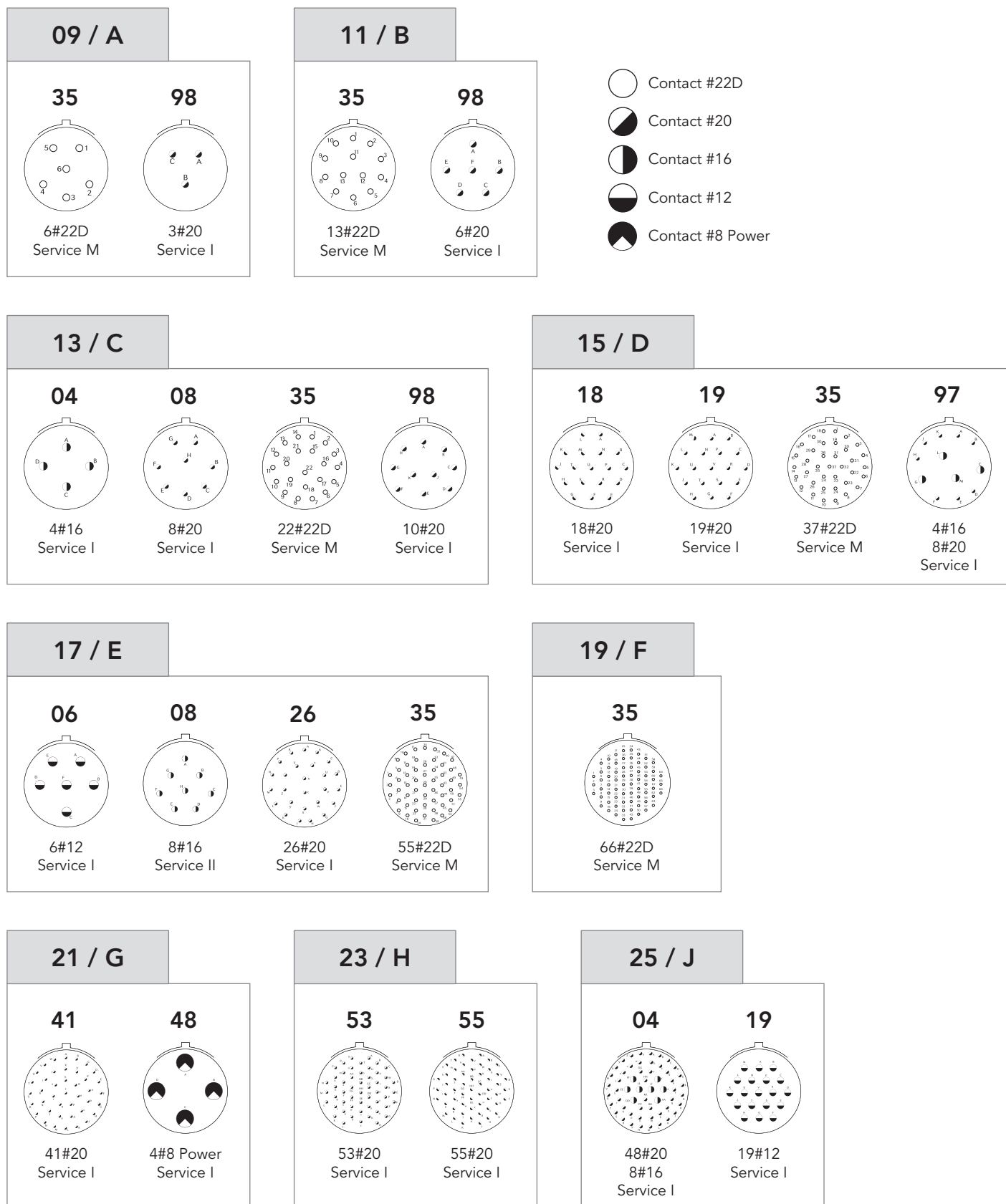
Service	Sea level	30 000 m
M	1 300 Vrms	800 Vrms
I	1 800 Vrms	1 000 Vrms
II	2 300 Vrms	1 000 Vrms

- **Shielding:**
 - . Class Y: 45 dB min at 10 GHz
 - . Class N: 65 dB min at 10 GHz
- **Insulation resistance:**
 - . 5000 MΩ (under 500 Vdc)

Environmental

- **Operating temperature:** -65°C to 200°C
- **Hermeticity:** leak rate $<10^{-7}$ atm.cm³/s (helium gas test)
- **Salt spray:**
 - . Class Y: 500 hours
 - . Class N: 48 hours
- **Resistance to fluids per MIL-DTL-38999:**
 - . Gasoline JP5 (OTAN 44) - short immersion
 - . Mineral hydraulic fluid MIL-H-5606 (OTAN H515)
 - . Synthetic hydraulic fluid Skydrol 500 B4
- **Fuel immersion version:**
 - . JP5 - long term immersion
 - . 105°C max

Contact layouts



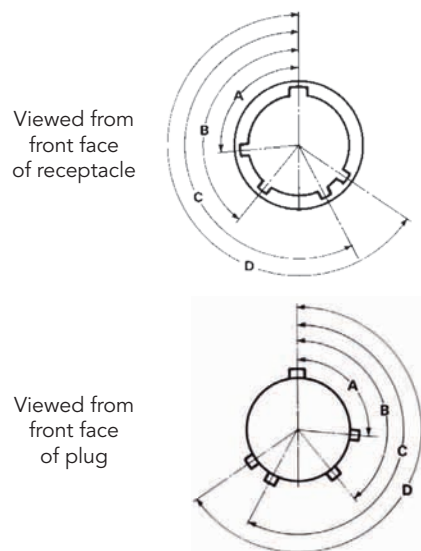
Contact layouts (matrix)

Shell size	Layout	8D type 21 Spec. 600*	8D Spec. 022*	8D Spec. 840 & 850	Number of contacts				
					#22D	#20	#16	#12	#8
09	09-35				6				
	09-98					3			
11	11-35				13				
	11-98					6			
13	13-04						4		
	13-08					8			
	13-35				22				
	13-98					10			
15	15-18					18			
	15-19					19			
	15-35				37				
	15-97					8	4		
17	17-06							6	
	17-08						8		
	17-26					26			
	17-35				55				
19	19-35				66				
21	21-41					41			
	21-48								4
23	23-53					53			
	23-55					55			
25	25-04					48	8		
	25-19							19	

SOURIAU's layout

* Spec. 600 = 230V qualified connector; Spec. 022 = Fuel tank version; Spec. 840 & 850 = PC tail lengths, see page 51.

Orientations



Shell size	Angles	N	A	B	C	D	E	T	V
9 (A)	A°	105	102	80	35	64	91		
	B°	140	132	118	140	155	131		
	C°	215	248	230	205	234	197	-	-
	D°	265	320	312	275	304	240		
11 (B) 15 (D)	A°	95	113	90	53	119	51		
	B°	141	156	145	156	146	141		
	C°	208	182	195	220	176	184	-	-
	D°	236	292	252	255	298	242		
13 (C)	A°	95	113	90	53	119	51	70	75
	B°	141	156	145	156	146	141	136	138
	C°	208	182	195	220	176	184	218	224
	D°	236	292	252	255	298	242	261	268
17 (E) 21 (G)	A°	80	135	49	66	62	79	58	85
	B°	142	170	169	140	145	153	162	150
	C°	196	200	200	200	180	197	188	191
	D°	293	310	244	257	280	272	316	307
19 (F) 23 (H) 25 (J)	A°	80	135	49	66	62	79		
	B°	142	170	169	140	145	153		
	C°	196	200	200	200	180	197	-	-
	D°	293	310	244	257	280	272		

Connector part numbers

Standard configuration

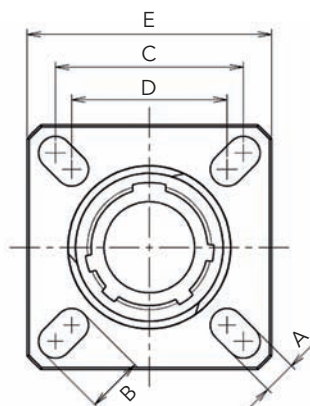
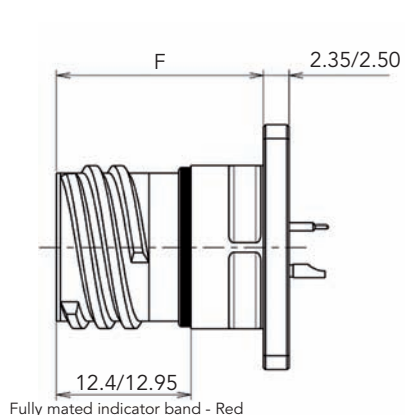
Basic Series	F38999	21	Y	A	35	P	N	WF
Shell style:								
21: Square flange receptacle								
23: Jam nut receptacle								
25: Solder mounting receptacle								
27: Weld mounting receptacle								
Class:								
Y: Passivated stainless steel								
N: Nickel plated stainless steel								
Shell size:								
09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J								
Contact layout:								
See page 45								
Contact type:								
P: Male solder cup								
C: Male PCB contacts								
Orientation:								
N, A, B, C, D, E, T, V								
Specification:								
WF: Standard								
600: 230V qualified connector (layouts 13-04, 17-08, 21-11 & 21-48 - orientation T & V)								

Specific configuration

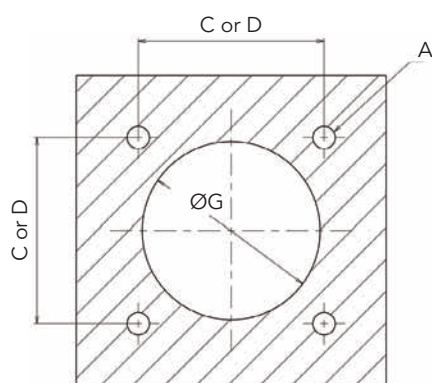
Basic Series	8D	0	Y	13	35	P	N	022
Shell style:								
0: Square flange receptacle								
1: Solder mount receptacle								
7: Jam nut receptacle								
Class:								
Y: Passivated stainless steel								
N: Nickel plated stainless steel								
Shell size:								
09, 11, 13, 15, 17, 19, 21, 23, 25								
Contact layout:								
See page 45								
Contact type:								
P: Male solder cup								
C: Male PCB contacts								
Orientation:								
N, A, B, C, D, E								
Specification:								
022: Fuel tank								
840: Short PCB contact								
850: Long PCB contact								

Dimensions

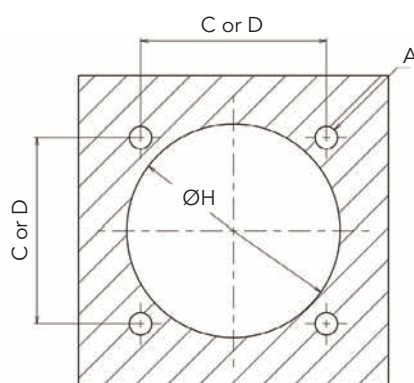
Square flange receptacle (type 21)



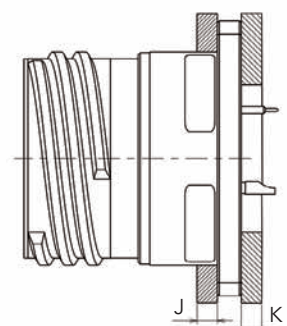
Shell size	A ± 0.20	B ± 0.20	C	D	E ± 0.30	F max	Ø G	Ø H	J max	K max
A (9)	3.25	5.49	18.26	15.09	23.80	20.40	13.11	16.66	2.5	3.2
B (11)		4.93	20.62	18.26	26.20		15.88	20.22		
C (13)			23.01	20.62	28.60		19.05	23.42		
D (15)		4.39	24.61	23.01	31.00		23.01	26.59		
E (17)		4.93	26.97	24.61	33.30		25.81	30.96		
F (19)			29.36	26.97	36.50		28.98	32.94		
G (21)			31.75	29.36	39.70		32.16	36.12		
H (23)	3.91	6.15	34.93	31.75	42.90	34.93	39.29			
J (25)			38.10	34.93	46.00	37.69	42.47			



Panel cut-out
Front mounting



Panel cut-out
Rear mounting

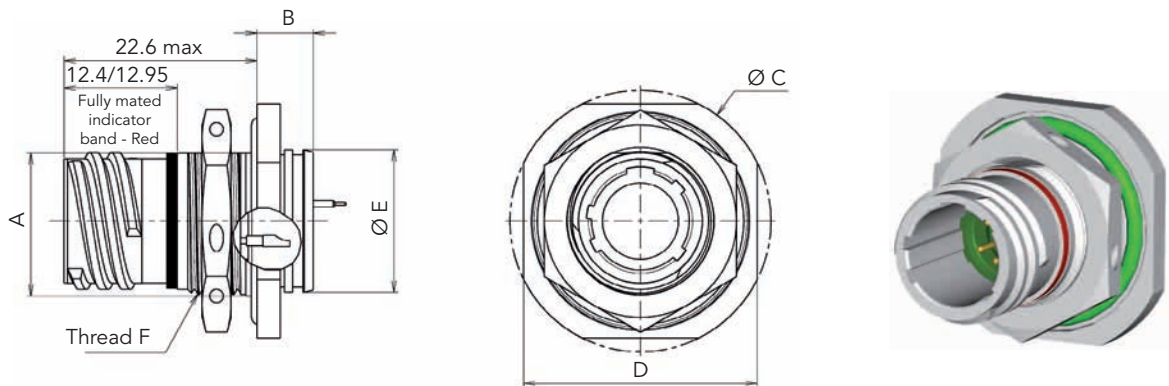


Rear
mounting

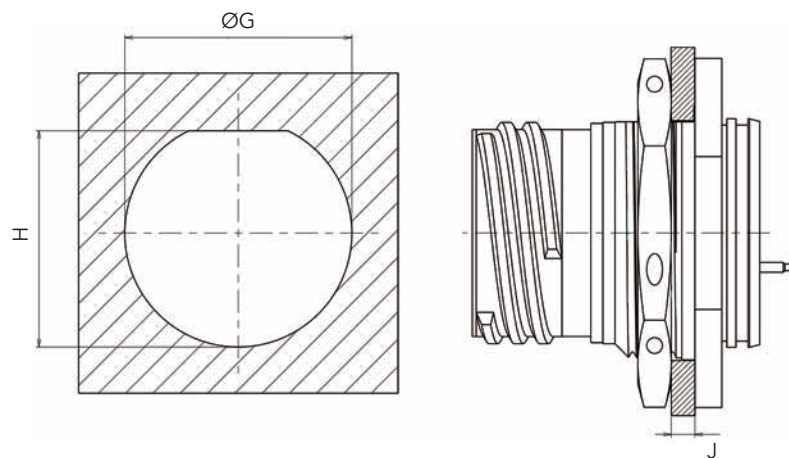
Front
mounting

Note: All dimensions are in millimeters (mm)

Jam nut receptacle (type 23)

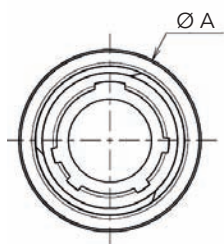
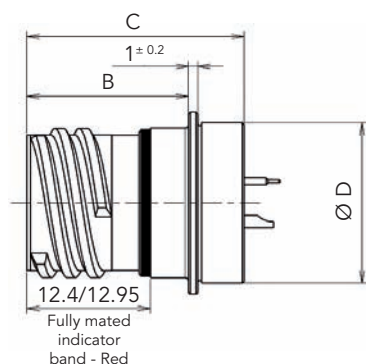


Shell size	A flat ^{+0.10} / _{-0.15}	B max	Ø C ± 0.30	Ø D ± 0.40	Ø E ± 0.30/0	F thread	Ø G ± 0.25	H	J
A (9)	16.53	9.10	30.20	27.00	16.30	M17 x 1-6g	17.78	17.02	3.2
B (11)	19.07		34.90	31.80	19.40	M20 x 1-6g	20.96	19.59	
C (13)	23.82		38.10	34.90	22.70	M25 x 1-6g	25.65	24.26	
D (15)	26.97		41.30	38.10	25.90	M28 x 1-6g	28.83	27.56	
E (17)	30.15		44.50	41.30	29.00	M32 x 1-6g	32.01	30.73	
F (19)	33.32	9.70	49.20	46.00	32.20	M35 x 1-6g	35.18	33.91	
G (21)	36.50		52.40	49.20	35.40	M38 x 1-6g	38.35	37.08	
H (23)	39.67		55.60	52.40	38.60	M41 x 1-6g	41.53	40.26	
J (25)	42.85		58.70	55.60	41.70	M44 x 1-6g	44.70	43.43	



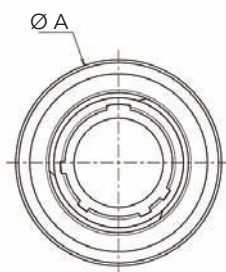
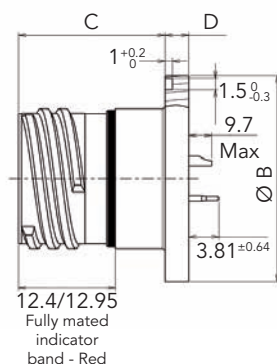
Note: All dimensions are in millimeters (mm)

Solder mounting receptacle (type 25)



Shell size	Ø A max	B max	C max	D max
A (9)	19.40	17.20	23.80	17.10
B (11)	21.80			19.90
C (13)	24.90			23.10
D (15)	28.10			26.20
E (17)	31.30			29.40
F (19)	33.60			31.80
G (21)	36.80			35.00
H (23)	40.00	24.60	24.60	38.20
J (25)	43.20			41.30

Weld mounting receptacle (type 27)



Shell size	Ø A ^{+0.3} ₋₀	Ø B ±0.3	C max	D ±0.2
A (9)	24.70	23.90	23.20	3.20
B (11)	27.80	27.00		
C (13)	31.00	30.20		
D (15)	34.20	33.40		
E (17)	36.40	35.60		
F (19)	40.10	39.30		
G (21)	43.70	42.90		
H (23)	47.90	47.10	24.00	4.00
J (25)	50.10	49.30		

Maximum connector weight (in grams)

Shell size	Square flange receptacle	Jam nut receptacle	Solder mount receptacle
09 (A)	23	39	21
11 (B)	28	53	25
13 (C)	35	63	31
15 (D)	41	73	38
17 (E)	57	92	53
19 (F)	60	106	55
21 (G)	65	118	57
23 (H)	75	132	68
25 (J)	91	154	83

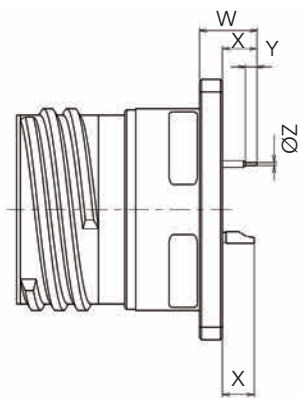
Gaskets

Shell size	Gasket for receptacle Type 0		O ring for receptacle Type 7	
	Part number	Material	Part number	Material
09 (A)	85995541	Fluoro silicone	AS3582-019	Silicone
11 (B)	85995542	Fluoro silicone	AS3582-022	Silicone
13 (C)	85995543	Fluoro silicone	AS3582-024	Silicone
15 (D)	85995544	Fluoro silicone	AS3582-026	Silicone
17 (E)	85995545	Fluoro silicone	AS3582-028	Silicone
19 (F)	85995546	Fluoro silicone	AS3582-128	Silicone
21 (G)	85995547	Fluoro silicone	AS3582-130	Silicone
23 (H)	85995548	Fluoro silicone	AS3582-132	Silicone
25 (J)	85995549	Fluoro silicone	AS3582-134	Silicone

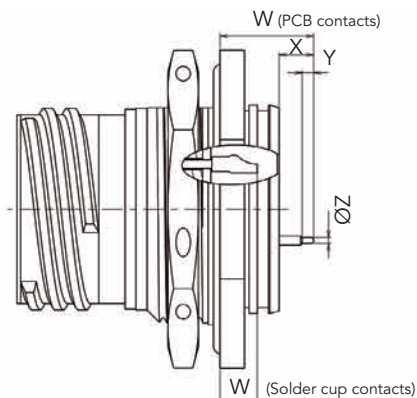
Note: All dimensions are in millimeters (mm)

Contact variations

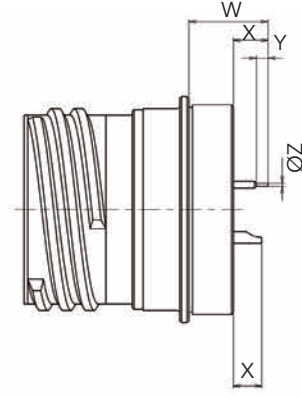
Contact variations summary



Type 21: Square flange receptacle



Type 23: Jam nut receptacle



Type 25: Solder mount receptacle

Type of contact	Specification	Type of shell	Contact size	W max	X min	Y min	ØZ max
Solder cup (P)	WF (F38999)	21	20 & 22	N/A	3.45	N/A	N/A
		23	20 & 22	4.5	N/A	N/A	N/A
		25	20 & 22	N/A	2.3	N/A	N/A
PCB (C)	WF (F38999)	21	16	6.65	3.45	N/A	N/A
			20			0.89	0.71
			22			0.89	0.38
		23	16	11.5	3.3	N/A	N/A
			20			0.89	0.71
			22			0.89	0.38
		25	16	10.75	3.4	N/A	N/A
			20	12.15		0.89	0.71
			22	13.55		0.89	0.38
	840 (8D)	21	20	8.05	4.85	4.5	0.62
			22	7.32	4.12	3.82	0.53
		23	20	11.8	3.6	4.5	0.62
			22	10.6	2.4	5.75	0.53
		25	20	10.15	3.7	4.5	0.62
			22	9.42	2.97	3.82	0.53
	850 (8D)	21	20	13	9.8	6	0.62
			22	10.69	7.49	7.35	0.53
		23	20	15.3	7.1	6.25	0.62
			22	16.2	8	9.25	0.45
		25	20	15.1	8.65	6	0.62
			22	12.79	6.34	7.35	0.53

Note: All dimensions are in millimeters (mm)



Description

- The smallest hermetic circular 5 way PCB connector on the market
- Lightweight 8STA connector: 3 grs max
- Suitable for welding directly to sensor bodies: Designed for weld fixing
- Excellent corrosion resistance: Stainless steel body
- Excellent hermeticity: Hermetic glass bead (1.10^{-7} cm³/s)
- Intermateable with standard plug size 02-05
- Easy identification with colour coded bands: 7 visual keyway orientations
- Rapid & secure locking system with audible click: Bayonet connector

Technical features

Mechanical

- **Shell:**
Stainless steel
- **Shell plating:**
Passivated
- **Insulator:**
Glass bead
- **Contact:**
Iron-Nickel (NiFe2)
- **Contact plating:**
Nickel
- **Endurance:**
500 mating cycles
- **Shock:**
300g for 3ms and EIA-364-27
- **Vibration:**
10 to 2000 Hz 30g

Electrical

- **Test voltage:**
400Vrms (sea level)
- **Contact resistance:**
2 m Ω
- **Insulation resistance:**
 $\geq 5000\text{M}\Omega$ (at 500Vdc)
- **Contact rating:**
1.8 Amp

Environmental

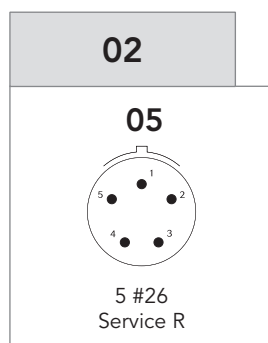
- **Operating temperature:**
-55°C to +175°C
- **Sealing mated connectors:**
IP67 (1 meter for 30 min minimum)
- **Salt spray:**
48 hours
- **Hermeticity:**
 $1.10^{-7}\text{cm}^3/\text{s}$

Ordering information

Basic series	8STA	1	Y	02	05	P	N	170
Shell type								
1: In-line connector								
Class								
Y: Hermetic version								
Shell size								
02								
Contact layout								
05: 5 straight PCB contacts #26								
Type of contact								
P: Pin contacts								
Orientation								
N: Red / C: Orange - please consult us for other keyway								
Specification (mandatory)								
170: Hermetic shell size 02								

Contact layouts

viewed from front face of male insulator

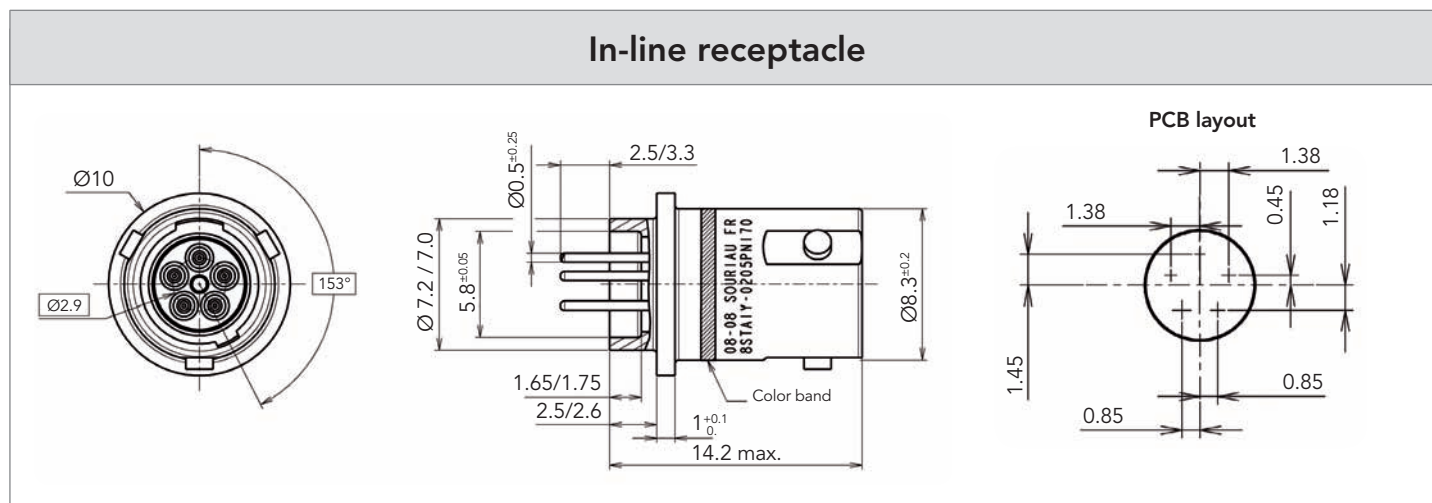


Maximum connector weight

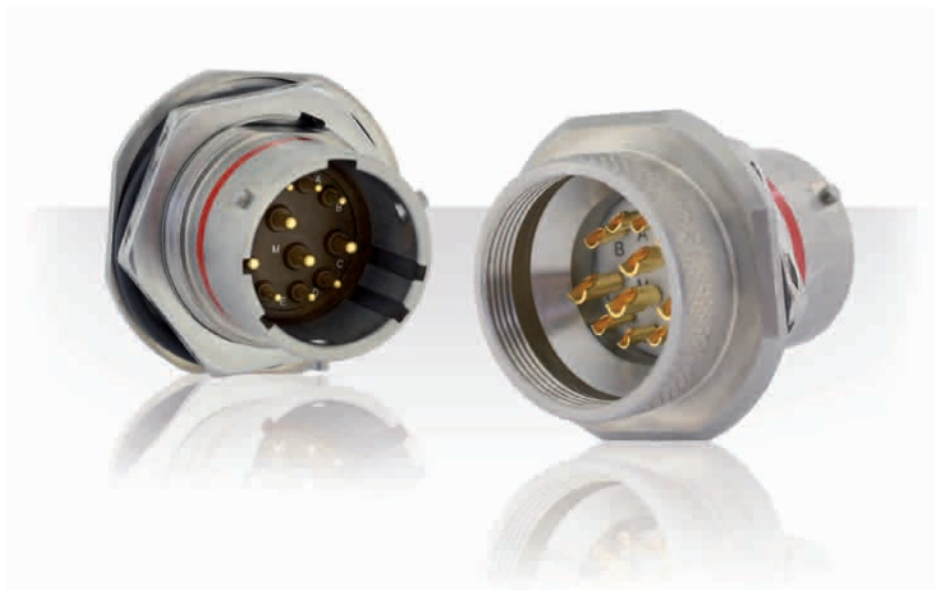
in grams

Shell size	In-line receptacle
02	2.5

Dimensions



Note: All dimensions are in millimeters (mm)



Description

- Hermetically sealed connector: $1.10^{-7} \text{ cm}^3/\text{s}$ @ 15PSI
- Withstands pressure differential without loss of electrical performances: Glass to metal insert
- Excellent resistance to racing fuels & fluids: Viton® interfacial seal
- Excellent corrosion resistance: Stainless steel material
- Low profile design for heat shrink boot & cost effective connector
- Integrated backshell

Technical features

Mechanical

- **Shell:** Stainless steel
- **Shell plating:** Passivated
- **Insulator:** Glass bead
- **Contact:** Nickel iron
- **Contact plating:** Gold
- **Endurance:** 500 mating cycles
- **Shock:** 300g for 3ms and EIA-364-27
- **Vibration:** 10 to 2000 Hz 30g

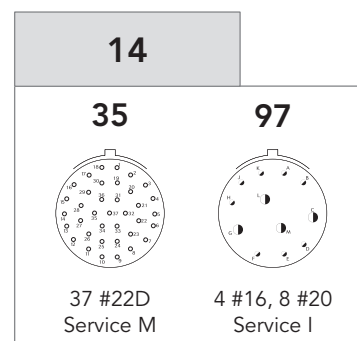
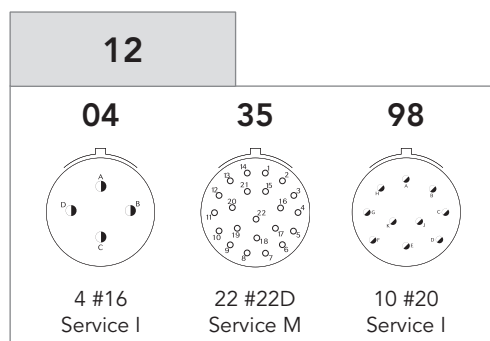
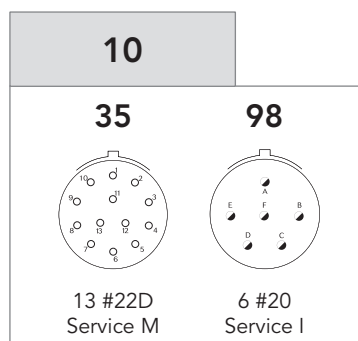
Electrical

- **Test voltage:**
Service I: 1800V
Service M: 1300V
- **Contact resistance:** 2 mΩ
- **Insulation resistance:**
≥ 5000MΩ (at 500Vdc)
- **Contact rating:**
Size 16: 10 A
Size 20: 5 A
Size 22D: 3 A

Environmental

- **Operating temperature:**
-55°C to +175°C
- **Sealing mated connectors:**
IP67 (1 meter for 30 min minimum)
- **Salt spray:** 48 hours
- **Hermeticity:** $1.10^{-7} \text{ cm}^3/\text{s}$

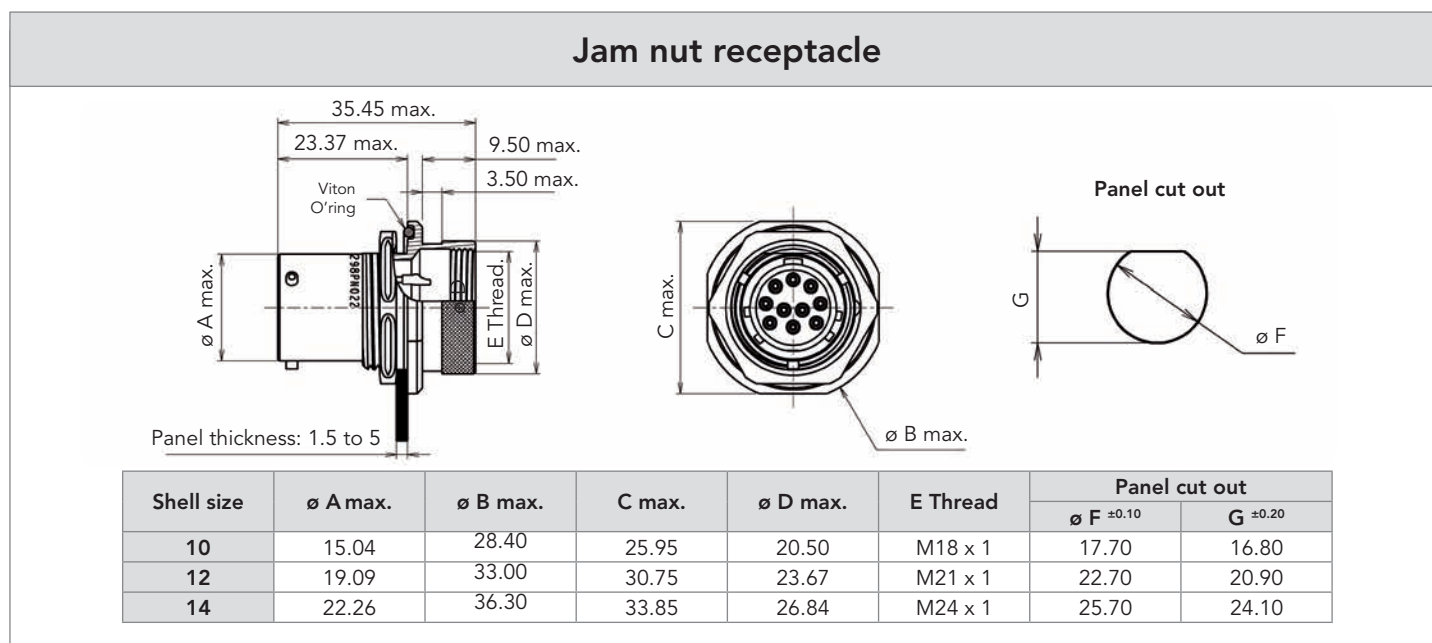
Contact layouts (viewed from front face of male insulator)



Ordering information

Basic series	8STA	7	Y	10	98	P	N	022
Shell type	7: Jam nut receptacle							
Class	Y: Hermetic version							
Shell size	10, 12, 14							
Contact layout	See previous page for layouts available							
Type of contact	P: Pin contacts							
Orientation	N: Red / A: Yellow / D: Green							
Specification (mandatory)	022: Fuel immersible version							

Dimensions



Maximum connector weight (in grams)

Shell size	Jam nut receptacle
10	35
12	52
14	63

Note: All dimensions are in millimeters (mm)



Description

- Hermetic high density D-Sub connector
- MIL C 24308 C compliant
- 2 fixing types:
 - . Fast and interchangeable screw mounting
 - . Hermetic solder mounting
- Solder buckets and PCB contacts
- Large shell plating type:
 - . Gold
 - . Tin
 - . Cadmium

Technical features

Mechanical

- **Shell:**
Steel
- **Shell plating:**
Cadmium, gold, bright tin lead, mat RoHS tin
- **Contact:**
Ferrous alloy
- **Contact plating:**
Gold, mat tin
- **Endurance:**
500 mating/unmating operations

Electrical

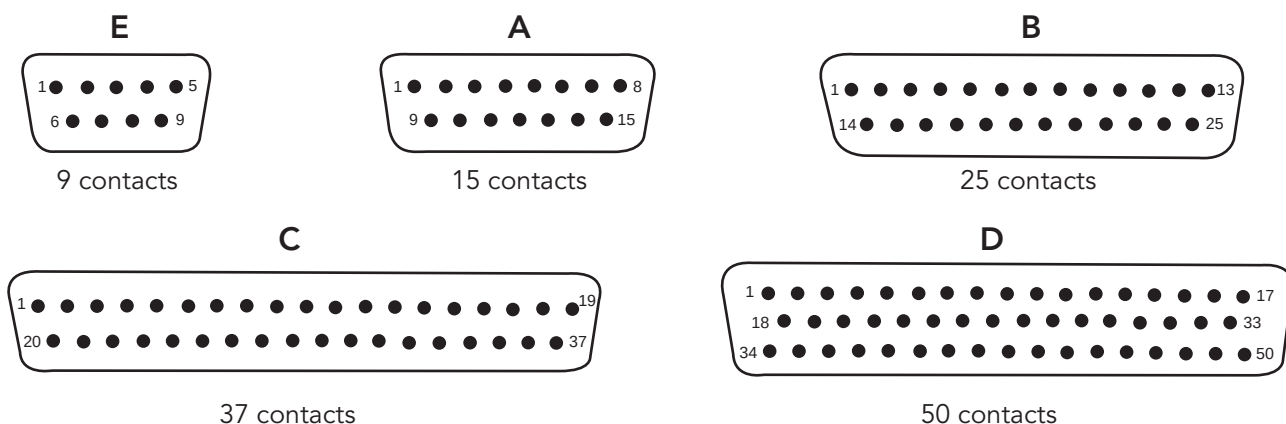
- **Contact rating:**
5A max
- **Test voltage:**
750 Vrms (max Vrms/50Hz)
- **Insulation resistance:**
 $\geq 5000 \text{ M}\Omega$
- **Contact resistance:**
 $\leq 14 \text{ m}\Omega$

Environmental

- **Operating temperature:**
-55°C to 125°C
- **Hermeticity:**
Under air helium differential pressure, leakage $\leq 1.04 \times 10^{-5} \text{ atm.cm}^3/\text{s}$
- **Salt spray:**
48 hours (cadmium)
24 hours (tin)
- **Damp heat:**
56 days

Contact layouts

Viewed from front face of male insulator. Contacts are individually numbered on both side of insulator.



Ordering information

Basic Series						D	E	H	09	P	002
Shell size:						E, A, B, C, D					
Class:						H: Hermetic					
Number of contacts:						09 (E), 15 (A), 25 (B), 37 (C), 50 (D)					
Contact type:						P: Pin					
Specification:											
Shell plating	Contacts plating	Solder mounting				Screw mounting					
		with locking stub		without locking stub							
		Solder bucket	Straight PCB contact	Solder bucket	Straight PCB contact	Solder bucket	Straight PCB contact				
Cadmium	Gold	006	008	002	004	102	104				
Tin lead	Gold	005	010	007	016	107	116				
Mat tin	Mat tin	-	009	-	-	-	-				
	Gold	-	-	-	026	-	-				
Gold	Gold	-	-	-	-	122	124				

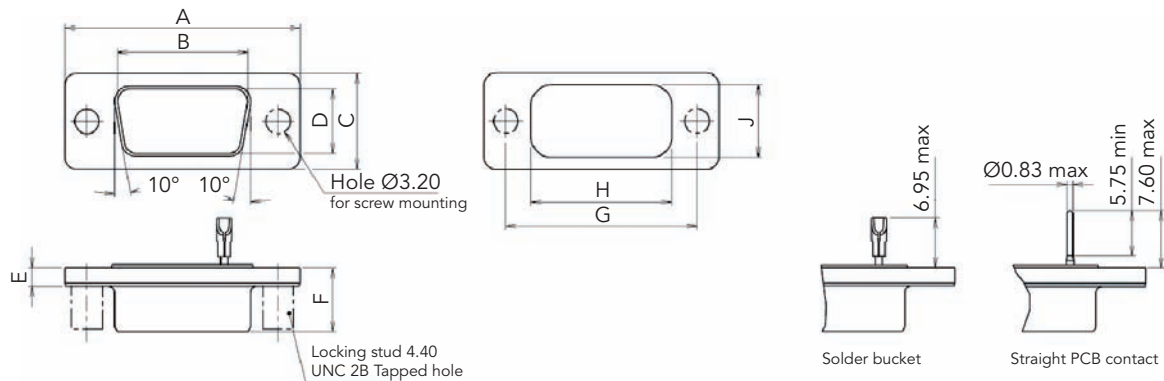
Cross reference list

SOURIAU	M24308 (not QPL)
DEH09P005	MS24308/9-1
DAH15P005	MS24308/9-2
DBH25P005	MS24308/9-3
DCH37P005	MS24308/9-4
DDH50P005	MS24308/9-5

SOURIAU	M24308 (not QPL)
DEH09P007	MS24308/9-11
DAH15P007	MS24308/9-12
DBH25P007	MS24308/9-13
DCH37P007	MS24308/9-14
DDH50P007	MS24308/9-15

Dimensions

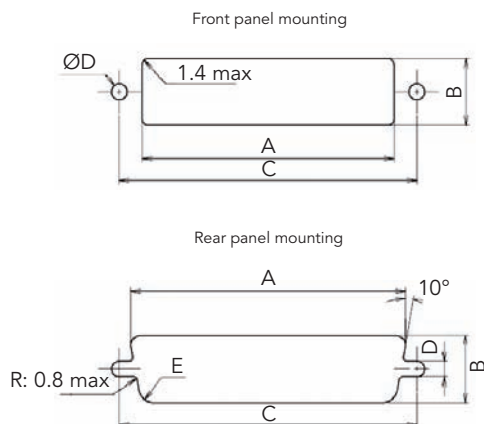
D-Sub hermetic



Shell size	A $0/+0.30$	B	C $0/+0.30$	D	E $+0.10/-0.20$	F max	G screw mounting	H ± 0.20	J ± 0.20
E	30.80	16.94	12.54	8.41	2.50	8.65	24.99	18.40	9.40
A	39.14	25.27					33.32	23.70	
B	53.03	39.00					47.04	37.56	
C	69.29	55.45	15.36	11.10	2.70		63.50	53.97	12.70
D	66.92	52.86					61.11	50.80	

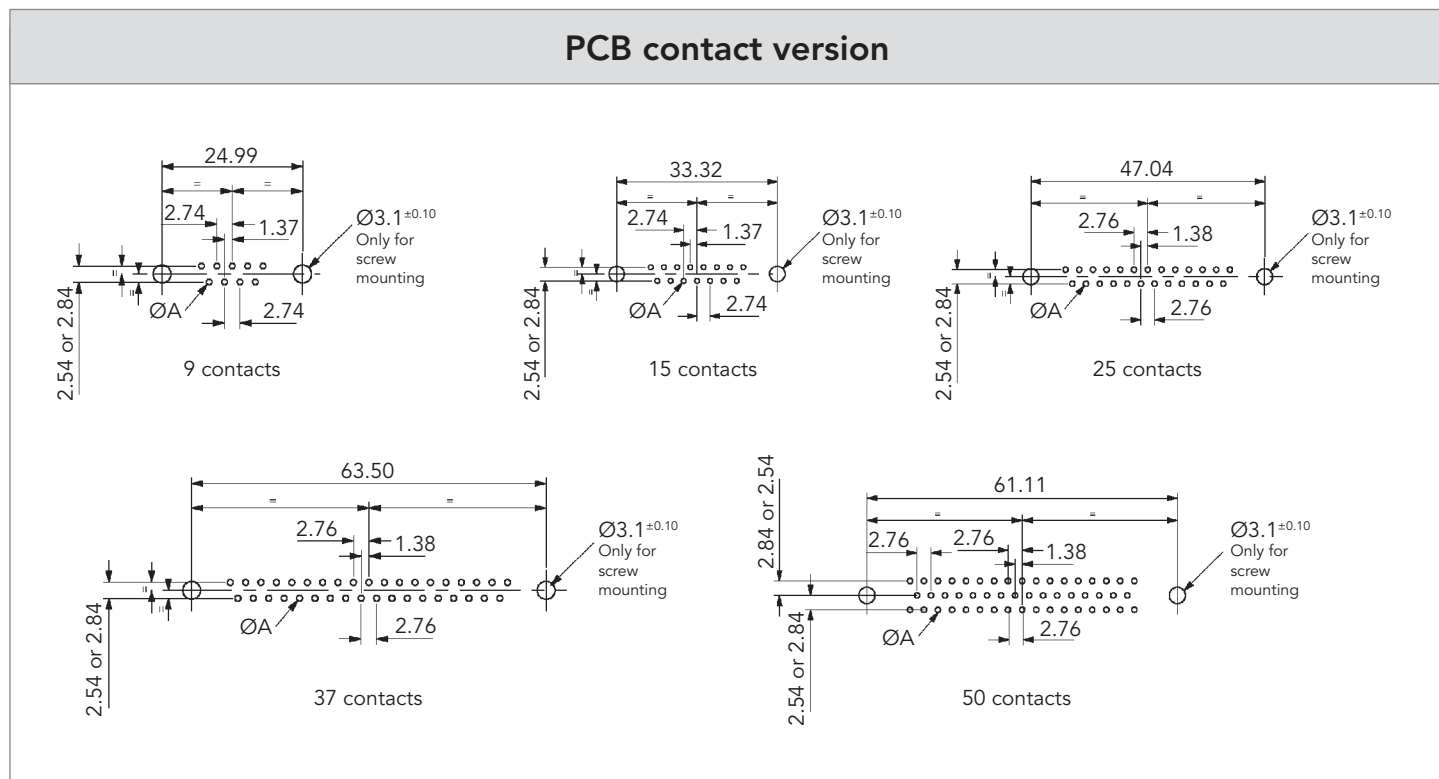
Panel cut-out

Screw mounting



Shell size	Mounting type	A ± 0.1	B ± 0.1	C ± 0.1	D ± 0.05 only for screw mounting	E ± 0.1
E	Front	18.80	9.90	24.99	3.20	-
	Rear	20.50	11.40			3.30
A	Front	24.10	9.90	33.32	3.20	-
	Rear	28.80	11.40			3.30
B	Front	37.90	9.90	47.04	3.20	-
	Rear	42.50	11.40			3.30
C	Front	54.30	9.90	63.50	3.20	-
	Rear	59.10	11.40			3.30
D	Front	51.20	13.20	61.11	3.20	-
	Rear	56.30	14.10			3.30

PCB drilling



Accessories

D-Sub hermetic cap



Shell size	Cap part number
E	70 508
A	70 509
B	70 510
C	70 511
D	70 512

Note: All dimensions are in millimeters (mm)

HERMETIC

Hermetic

Range Extension

■ Standard glass to metal sealing technologies:	
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Micro-packaging	65
8D hermetic aluminum power and signal connector	66

Standard glass to metal sealing technologies

Removable Crimp Contacts

A technology combining crimp contacts superiority with glass to metal perfect sealing

High hermetic performance:

- . Glass to metal sealing: leakage of less than 10^{-9} atm.cm³/s.

Removable crimp contacts:

- . RoHS: no lead used.
- . Long lifetime: superior to solder cup contacts in kerosene immersion.
- . Easy MRO: contact replacement.

Long term fuel immersion materials:

- . Performances guaranteed for minimum 90,000 hours in fuel immersion.

Wide Availability:

- . EN3646 (Airbus Qualified Products).
- . EN2997, EN3645, MIL-DTL-38999.



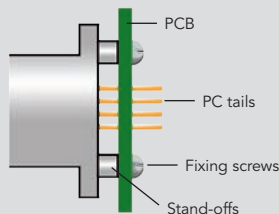
See «MIL-DTL-38999, EN3646, EN2997 Fuel Tank Connector» product news on www.souriau.com

Hermetic Receptacles with Stand-offs

Easy and robust PCB mount feature for hermetic receptacles.

User friendly - easy to assemble:

- . 3 fixing screws.
- . No need of additional PCB fixing tool when soldering the contacts.



Adapted to harsh environment:

- . Stand-offs directly machined into the connector.
- . Excellent grounding of the PCB to the connector shell through the stand-offs.
- . Excellent vibration and shock resistance: PC tail to PCB stresses are eliminated by the stand-offs.

Compact:

- . Hermetic receptacle compact design maintained with a profile smaller than the double flange version.



See «Hermetic Receptacles with Stand-offs» product news on www.souriau.com

Standard glass to metal sealing technologies

8LT27 Rack & Panel Hermetic Connector

Rack & panel glass sealed receptacle. Combine the easy use of blind mateable connectors to excellent hermeticity.

Blind connection:

- . Per HE308 standard.
- . Fixed receptacle to the float mounting plug: just push to connect... and release to disconnect!
- . Superior misalignment allowances:



High pressure performance:

- . Glass to metal sealing receptacle
- . Helium leakage of less than 10^{-7} atm.cm³/s.
- . Pressure resistance.



See «8LT27 Series - Hermetic Connectors» product news on www.souriau.com

8TFD: Filter Connector

EMI-RFI filters and lightning protection.

Space saving:

- . Complete filter solution in standard shell.
- . No need for filter PCB inside equipment.
- . Smaller equipment envelope required.

Excellent filter performance:

- . Excellent performance, comparable to aluminum shell EMI-RFI filter connectors.

Wide range of layouts available:

- . SOURIAU EMI-RFI Filter 38999 Series III connectors are also available in aluminum, marine bronze, and stainless steel shells.



Standard glass to metal sealing technologies

ELIO® Fiber Optic Hermetic Feedthrough

The first truly hermetic stainless steel or aluminum 38999 fiber optic feedthrough with a leak rate $< 1 \times 10^{-9}$ atm.cm³/s. Intermateable with standard 38999 Series III plug with ELIO® contact.

Weight saving:

- . Aluminum shell.
- . Save 30 to 40 % of weight vs. stainless steel.
- . Revolution to save weight!

Single and multi way:

- . Unique multiway hermetic fiber optic feedthrough in the world.

Intermateable with SOURIAU's ELIO® connectors:

- . Airbus A380 spec ABS1379 qualified.
- . Intermateable with ARINC 801 and EN4531 standards.



See «38999 Series III - Hermetic ELIO® Feedthrough»
product news on www.souriau.com

Alternative sealing technologies

Hermetic Micro-D and Nano-D

Ultra compact connectors and lightweight solution. Ideal for tight space applications.

Available from 9 to 51 contacts configurations:

- . The complete range covering all needs.
- . Micro-D pitch at .050", Nano-D pitch at .025"

Titanium shell available:

- . High corrosion resistance and reduced weight.

Laser weldable:

- . No solder joint fatigue.

Pins individually hermetically sealed to 10^{-9} atm.cm³.s⁻¹:

- . Superior robustness to temperature cycling and vibrations.



Micro-Packaging

Hermetic customizable micro-packages with embedded heat sinks provide excellent thermal dissipation properties to enhance the reliability of the electronics even in extreme mechanical and thermal environments.

Enhanced reliability:

- . Dissipate heat through hermetically brazed heat sinks.
- . Temperature range: -196°C to +300°C

Wide array of combinations available:

- . Titanium + CuMo, Titanium + CuW, Kovar+Cuw.

Laser weldable connectors:

- . No solder joint fatigue for enhanced reliability.
- . Easy maintenance.

Versatility of I/O connectors:

- . All type of hermetic feedthroughs: signal, power, RF, D-Sub, Micro-D, Nano-D.



Alternative sealing technologies

8D Hermetic Aluminum Power and Signal Connector

A unique connection solution offering hermeticity, high conductivity and weight saving all at once: ideal for power applications.

Truly hermetic:

- . Leak rate $<10^{-9}$ atm.cm³/s.

Weight saving:

- . Save 30 to 40% of weight vs stainless steel.

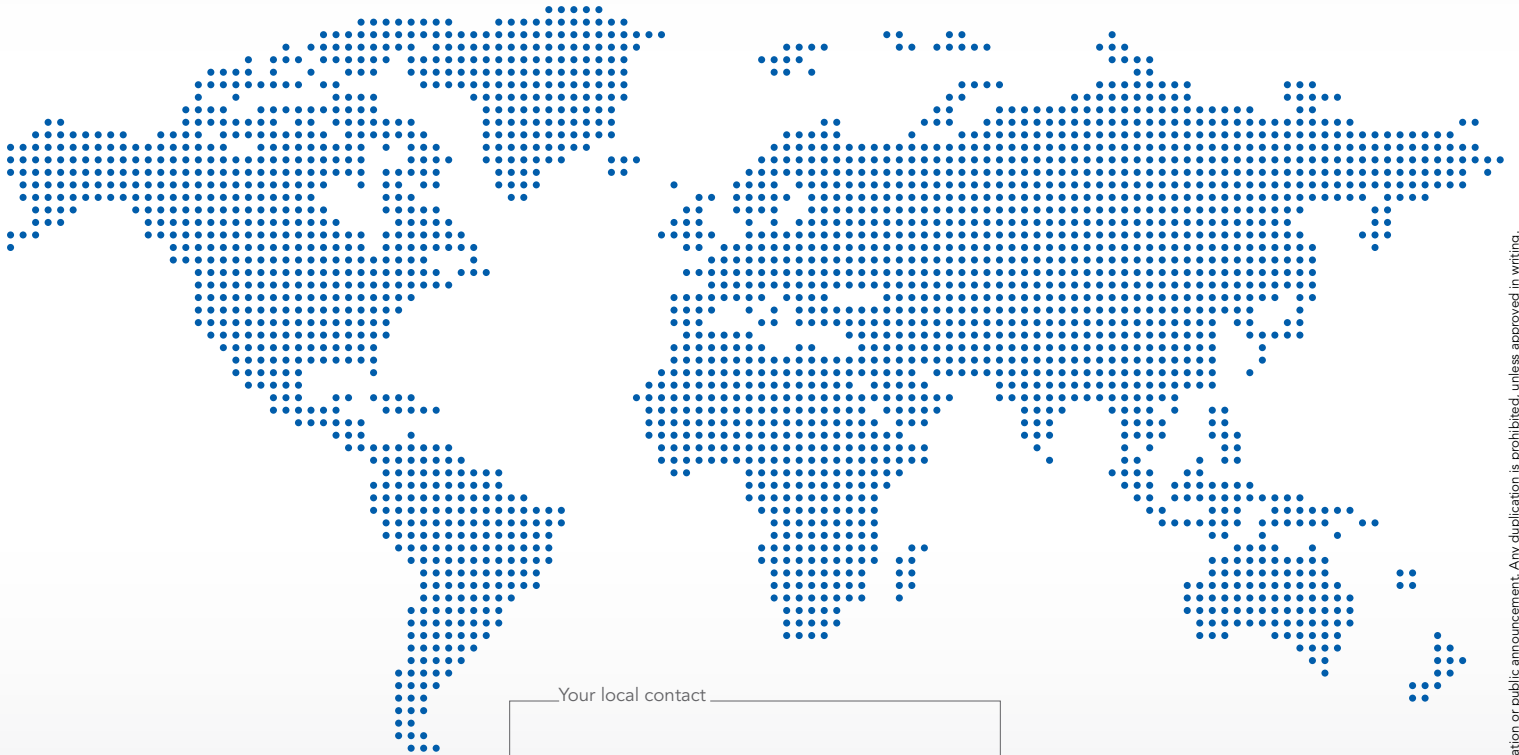
Outstanding conductivity:

- . Conductivity 5 times better than regular Fe/Ni contacts.

Laser weldable and O-ring mountable options.



Reliable People, Reliable Solutions



Your local contact



Our contribution to environmental protection:
This catalog is printed on PEFC certified paper
Advancement of sustainable wood cultivation. www.pefc.org

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Esterline
Connection Technologies