

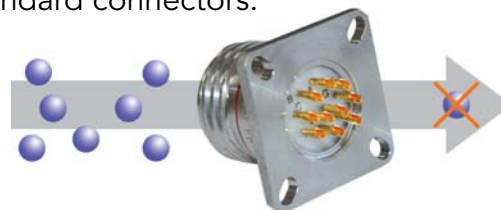


Screw Coupling Glass Sealed Connectors

Low profile and excellent hermetic sealing. Ideal for aeronautical non pressurised / long life / thermal shock exposed applications.

High performance solution ■ Robust screw coupling according to EN3645 and MIL-DTL-38999 Series III standards. Rated for up to 200°C use.

Perfect hermeticity ■ Up to 100,000 times more hermetic than standard connectors.



Low profile ■ No rear accessory thread: 30% space saving.

Large technology mix ■ 230V double voltage qualified.
Special fuel tank version.
Various PCB contact versions.
Up to 60A power contacts.



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:**

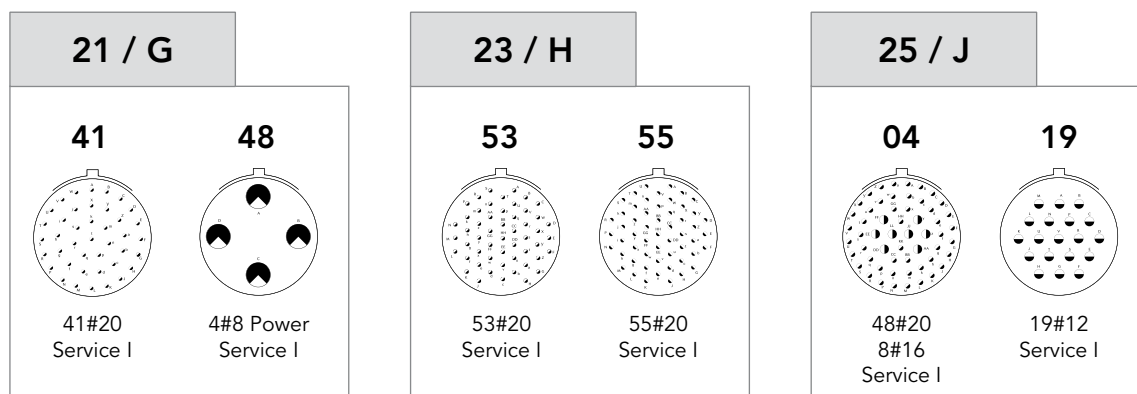
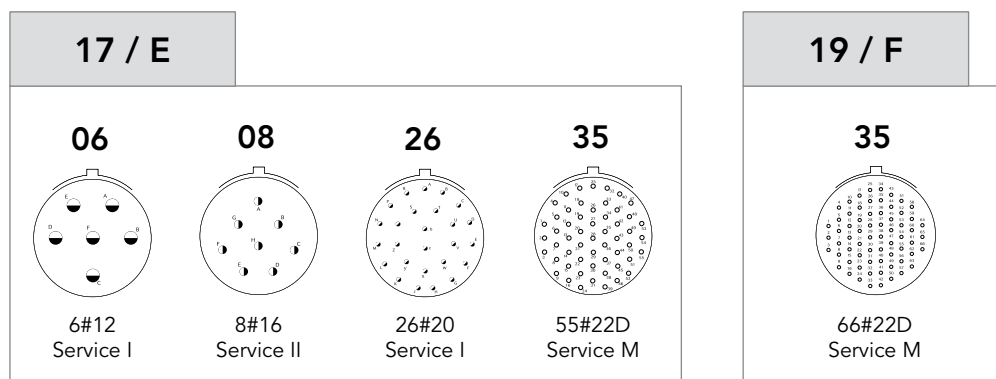
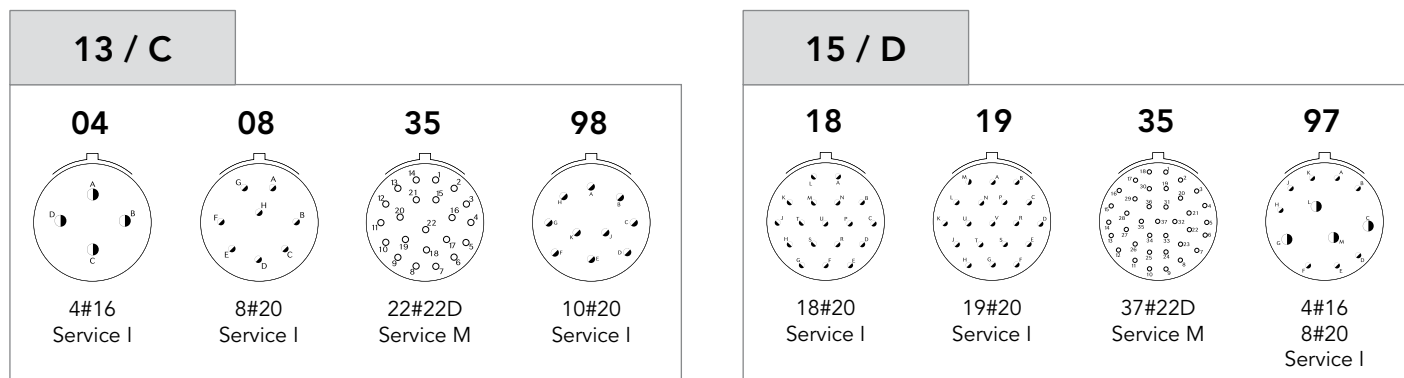
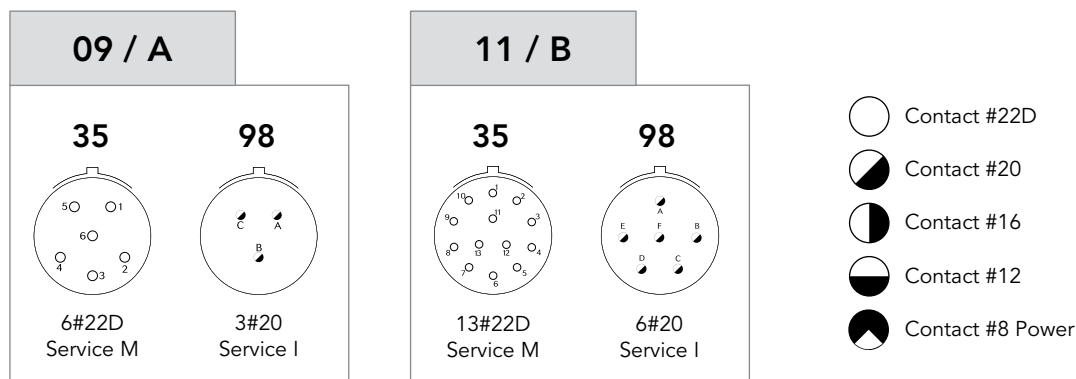
Service	Sea level	30 000 m
M	1 300 Vrms	800 Vrms
I	1 800 Vrms	1 000 Vrms
II	2 300 Vrms	1 000 Vrms

- **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



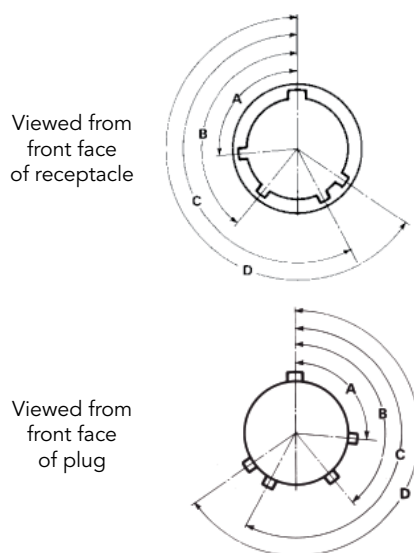
Contact layouts (matrix)

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		OK	OK	6				
	09-98		OK	OK		3			
11	11-35		OK	OK	13				
	11-98			OK		6			
13	13-04	OK					4		
	13-08			OK		8			
	13-35		OK	OK	22				
	13-98			OK		10			
15	15-18			OK		18			
	15-19		OK	OK		19			
	15-35		OK	OK	37				
	15-97					8	4		
17	17-06	OK	OK					6	
	17-08	OK					8		
	17-26			OK		26			
	17-35		OK	OK	55				
19	19-35			OK	66				
21	21-41			OK		41			
	21-48	OK	OK						4
23	23-53			OK		53			
	23-55			OK		55			
25	25-04					48	8		
	25-19							19	

OK SOURIAU's layout

* Spec. 600 = 230V qualified connector; Spec. 022 = Fuel tank version; Spec. 840 & 850 = PC tail lengths, see page 9.

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

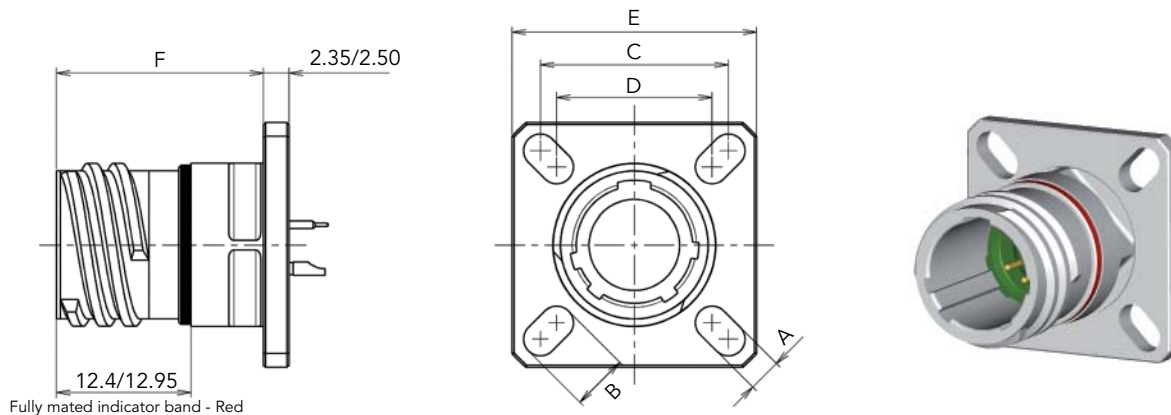
Basic Series	F38999	21	Y	A	35	P	N	WF
Shell style:								
21: Square flange receptacle								
23: Jam nut receptacle								
25: Solder mounting receptacle								
27: Weld mounting receptacle								
Class:								
Y: Passivated stainless steel								
N: Nickel plated stainless steel								
Shell size:								
09=A, 11=B, 13=C, 15=D, 17=E, 19=F, 21=G, 23=H, 25=J								
Contact layout:								
See page 3								
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

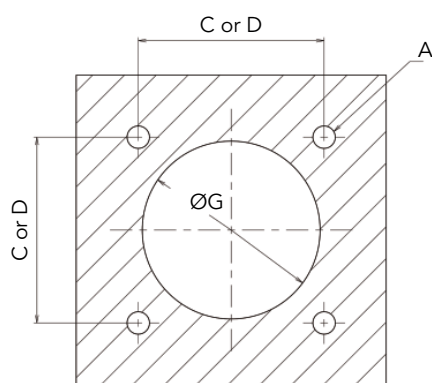
Basic Series	8D	0	Y	13	35	P	N	022
Shell style:								
0: Square flange receptacle								
1: Solder mount receptacle								
7: Jam nut receptacle								
Class:								
Y: Passivated stainless steel								
N: Nickel plated stainless steel								
Shell size:								
09, 11, 13, 15, 17, 19, 21, 23, 25								
Contact layout:								
See page 3								
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

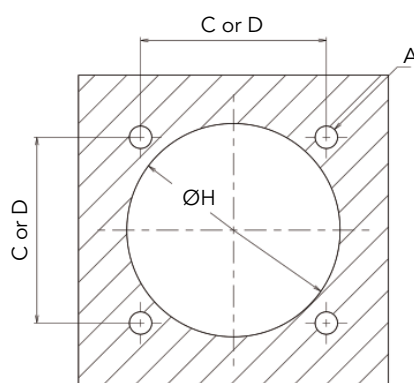
Square flange receptacle (type 21)



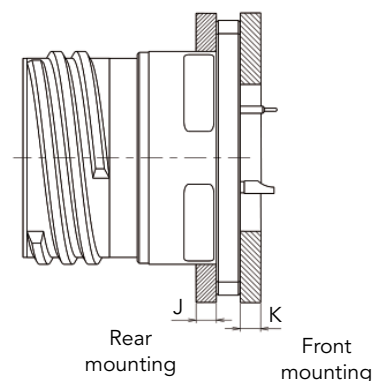
Shell size	A ± 0.20	B ± 0.20	C	D	E ± 0.30	F max	Ø G	Ø H	J max	K max
A (9)	3.25	5.49	18.26	15.09	23.80	20.40	13.11	16.66	2.5	3.2
B (11)		4.93	20.62	18.26	26.20		15.88	20.22		
C (13)			23.01	20.62	28.60		19.05	23.42		
D (15)		4.39	24.61	23.01	31.00		23.01	26.59		
E (17)		4.93	26.97	24.61	33.30		25.81	30.96		
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

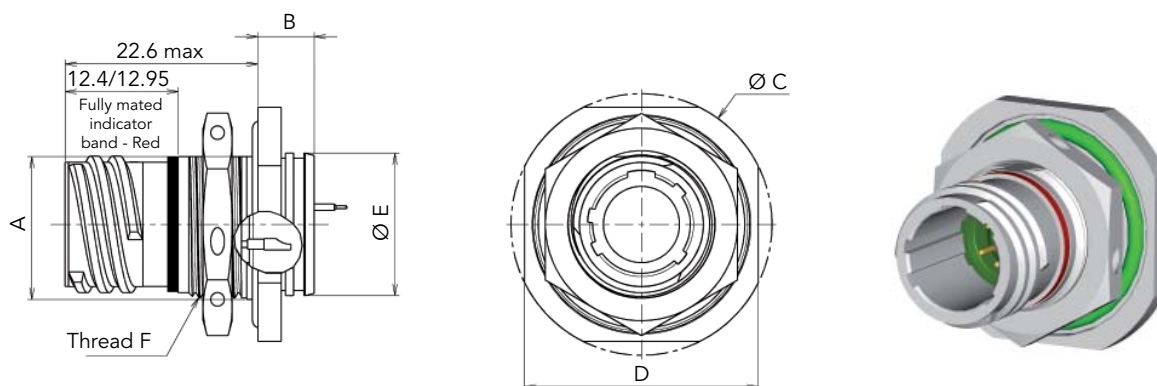


Panel cut-out
Rear mounting

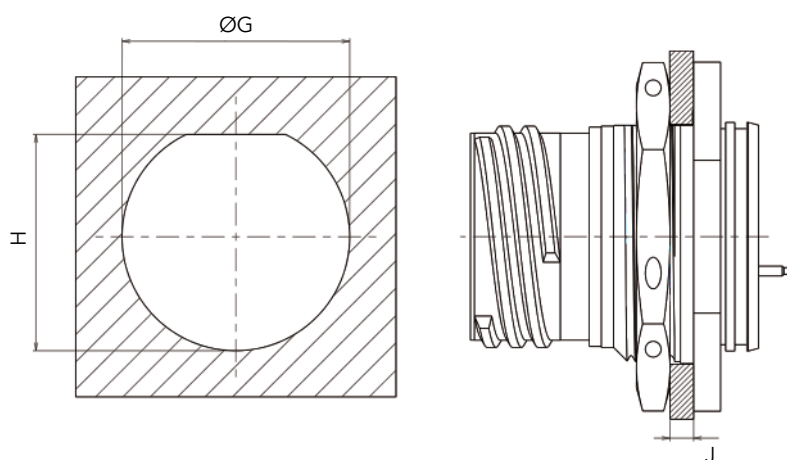


Note: All dimensions are in millimeters (mm)

Jam nut receptacle (type 23)

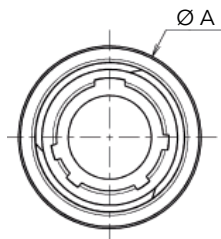
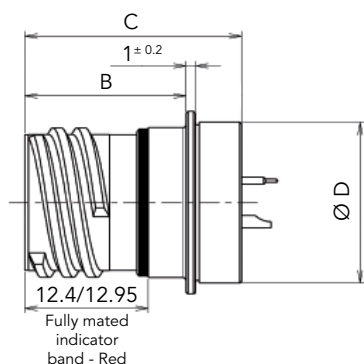


Shell size	A flat $^{+0.10}_{-0.15}$	B max	Ø C ± 0.30	D ± 0.40	Ø E $\pm 0.30/0$	F thread	Ø G $^{+0}_{-0.25}$	H $^{+0.25}_{-0}$	J
A (9)	16.53	9.10	30.20	27.00	16.30	M17 x 1-6g	17.60	16.70	3.2
B (11)	19.07		34.90	31.80	19.40	M20 x 1-6g	20.96	19.59	
C (13)	23.82		38.10	34.90	22.70	M25 x 1-6g	25.65	24.26	
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	



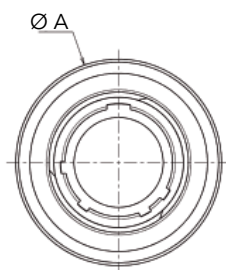
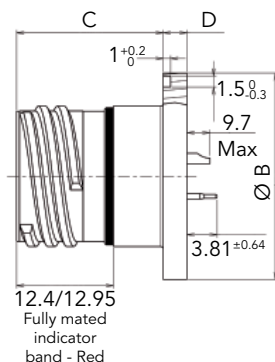
Note: All dimensions are in millimeters (mm)

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

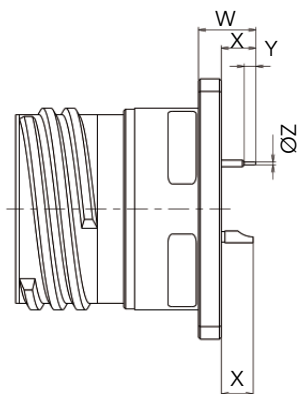
Gaskets

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

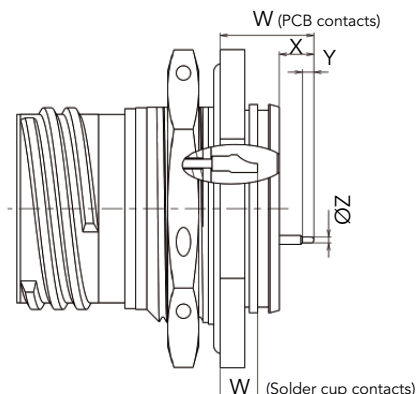
Note: All dimensions are in millimeters (mm)

Contact variations

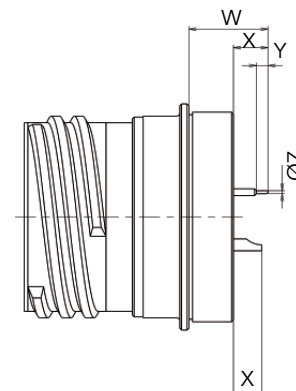
Contact variations summary



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)

For further information contact us at contactmilaero@souriau.com
or visit our web site www.souriau.com

Product Range Extension

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.



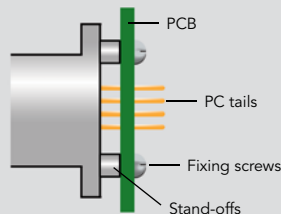
See «MIL-DTL-38999, EN3646, EN2997 Fuel Tank Connector» product news on www.souriau.com

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

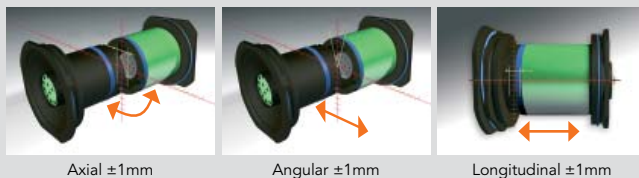
Product Range Extension

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

230V Connector

The use of higher voltage to reduce cable weight has lead to the development of double voltage connectors.

Robust design and materials:

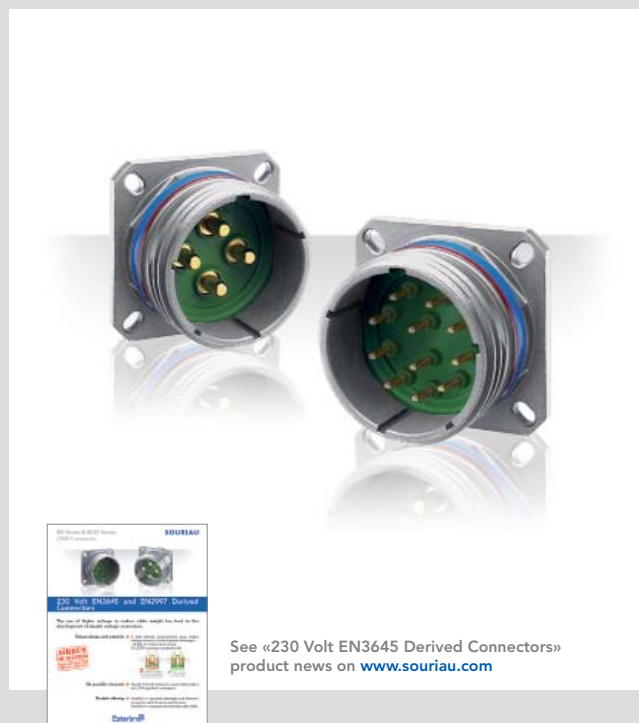
- . In high altitude un-pressurized areas, higher voltages increase electrical partial discharges: Risk of contact short circuits. Our 230V connector avoids this risk!

No possible mismatch:

- . Specific T and V clocking to avoid mating with a non 230V qualified counterpart.

Flexible offering:

- . Available in standard watertight and hermetic connectors with the same performance.
- . Available in composite and stainless steel shells.



See «230 Volt EN3645 Derived Connectors» product news on www.souriau.com