



Applications

All electronics equipments

Standards

Concerned equipments :
FCC, VDE, MIL-STD 461, GAMEG 13...



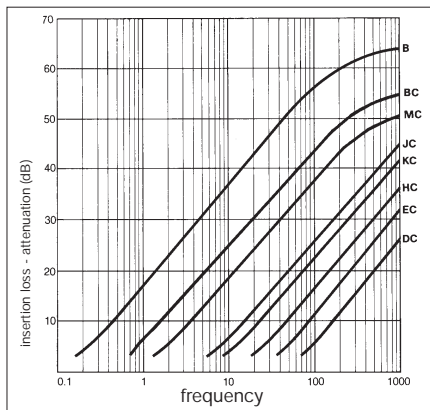
Description

- Filter connectors have been developed from standard specifications. They are interchangeable as to the mounting and intermateable with standard connectors of the same series.
- Different types of contacts can be fitted in these connectors : filter, non filter, ground contacts. The filter contacts attenuate signals in different frequency ranges from approximately 100 kHz.
- Capacitive and inductive components used for filtering are made of metallized ceramics and ferrites respectively. They have the shape of tubes inserted individually on to each contact, or planar arrays over all the connector contacts.

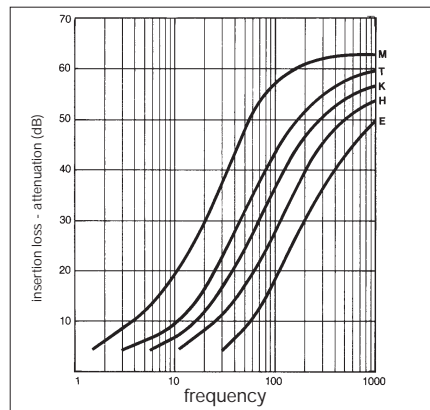
- Mechanical design and 100% testing carried out in production ensure a high level of quality to Souriau filter connectors.

Typical performance

capacitive filter



π network filter



Note : For filter selection, refer to the table of each series

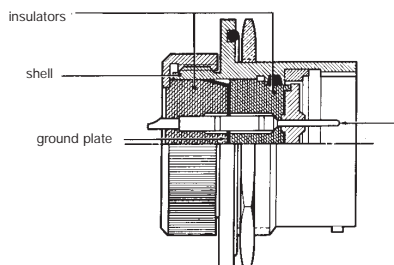
General characteristics

- **Voltage rating :**
200 Vdc or 100 Vdc, according to filter type.
- **Current rating :**
5 A, 7.5 A or 13 A according to contact type.
- **Filters :**
capacitive, L or π filters from 100 pF up to 0.1 μ F.

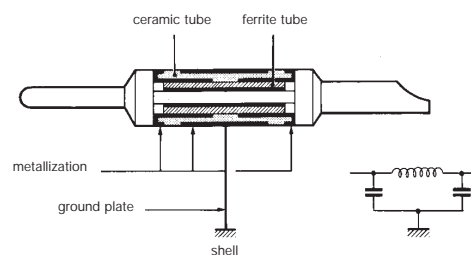
Schematic diagrams

The mechanical concept is based on the shape of the filter : tubular or planar. Therefore two assembly methods are used.

Tubular filter connectors

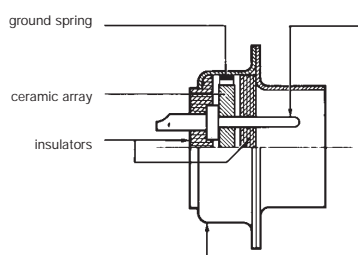


Circular connectors fitted with tubular filters

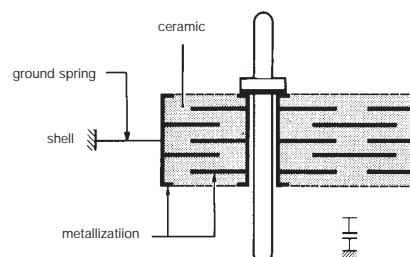


Note : ferrite is not used in the capacitive filter

Planar array filter connectors



D-Sub connectors fitted with a capacitive planar array





8FLT/8FT/8FST/8FD

Applications

Standards

- **8FLT** MIL-C 38999 series I
NFC 93422, HE 308
DTAT C 5935X0001
- **8FT** MIL-C 38999 series II
NFC 93422, HE 309
PAN 6433-1
BS 9522 N 003
- **8FST** VG 96912 series I
PAN 6433-2
- **8FD** MIL-C 38999 series III



Description

MIL-C 38999 circular filter connectors are widely used in military and aeronautical applications. They are suitable for severe operating conditions. These connectors are based directly on standard specifications. They are intermeatable and interchangeable as to the mounting with standard connectors of the same series.

Characteristics

Mechanical

These connectors are fitted with tubular filters : see description on page 417.

- Shells : aluminum alloy, olive green cadmium or nickel plated
 - Insulators : thermo-setting plastic
 - Interfacial and peripheral seals : fluoro-silicone rubber
 - Contacts : machined copper alloy gold plated, 1.27 micron min gold over 2 microns min nickel on contact area
- Contact retention force :
- # 22 : 45 Nmin
 - # 16, # 20 : 67 Nmin

Environmental

- Temperature -55°C → 125°C - MIL-STD 1344, method 1003, condition A NFC 20714
- Sealing leakage 16 cm³/h - NFC 20717 with differential pressure of 2 bars - altitude immersion (8FD) MIL-STD 1344, method 1004
- Humidity 10 cycles 24 h - MIL-STD 1344, method 1002, type II except step 7b - NFC 20703
- Salt spray
 - 48 h - L plating - MIL-STD 1344, method 1001, condition B - NFC 20711
 - 500 h-B plating - MIL-STD 1344, method 1001, condition C
- Durability 500 cycles - mating/unmating
- Vibration
 - 30 g (sine) - MIL-STD 202, method 204, condition G
 - 41,7 Grms (random) - MIL-STD 1344, method 2005, condition VI, letter J
- Shock 300 g - 3 ms - MIL-STD 1344, method 2004 condition D

Ordering information

basic series	8FLT 00 - 13 G 35 P N M -***
- 8FLT : 38999 Series I, HE 308 type	
- 8FT : 38999 Series II, HE 309 type	
- 8FST : VG 96912 Series 1 type	
- 8FD : 38999 Series III type	
shell type	- 00 : square flange receptacle - 03 : square flange receptacle (rear mounting) (series I and II only) - 07 : jam nut receptacle
termination	- — : solder bucket - C : straight spill
shell size	8FLT-8FD : 09-11-13-15-17-19-21-23-25 8FT-8FST : 08-10-12-14-16-18-20-22-24
plating • for 8FLT, 8FT, 8FST Series	- B : olive green cadmium (salt spray 500 h) - F : nickel
• for 8FD Series III :	- W : olive green cadmium (salt spray 500 h) - F : nickel
contact layout	(see table page 4)
type contact	- P : pin - S : socket
orientation	N-A-B-C-D and E (for 8FD Series)
filter type	B-M-T-H
special modifiers	- partially loaded filter connector (with ground or non-filtered contacts) - connector with different types of filters (in this case the preceding letter does not appear) - non-standard filters

8FLT/8FT/8FST/8FD



Electrical and filter types

Size # 16 and # 20 contacts

Filter designation	B	M (# 16)	M (# 20)	T	H	
Filter type	C filter	π filter				
Max. voltage rating	200 Vdc 120 Vac	360 Vdc 220 Vac	200 Vdc 120 Vac rms 50 Hz & 400 Hz			
Max. current rating	7.5 A	13 A	7.5 A			
Insulation resistance, 25°C, 2 mn electrification time	> 5000 M Ω (under 100 Vdc)					
DWV, sea level, 25°C	500 Vdc	900 Vdc	500 Vdc			
Contact resistance	7.5 m Ω Max					
Capacitance at 1kHz : 0.1 Vrms at 25°C	100 000 pF min	6 000 pF to 12 000 pF	6 000 pF to 12 000 pF	2 300 pF to 5 000 pF	500 pF to 1 300 pF	
Attenuation per MIL-STD 220 at 25°C (with no applied voltage or current, in 50 Ω system)	frequency (MHz)	minimum attenuation (dB)				
	0.1	4				
	0.3	11				
	1	22	2	2		
	3	29	7	7	3	
	10	38	18	18	10	2
	30	44	35	35	22	10
	100	50	55	55	50	25
	300	50	60	60	55	40
1000	50	60	60	55	50	

Size # 22 contacts

Filter designation	B	M	T	H	
Filter type	C filter	π filter			
Max. voltage rating	100 Vdc	200 Vdc - 120 Vac rms 50 Hz or 400 Hz			
Max. current rating		5 A			
Insulation resistance, 25°C, 2mn electrification time	> 500 M Ω (under 100 Vdc)	> 5000 M Ω (under 100 Vdc)			
DWV, sea level, 25°C	250 Vdc	500 Vdc			
Contact resistance	7,5 m Ω Max				
Capacitance at 1kHz : 0.1 Vrms at 25°C	50 000 pF to min.	4000 pF to 12000 pF	2000 pF to 5000 pF	500 pF to 1300 pF	
Attenuation per MIL-STD 220 at 25°C (with no applied voltage or current, in 50 Ω system)	frequency (MHz)	minimum attenuation (dB)			
	0.3	5			
	1	15			
	3	24	5	2	
	10	33	13	8	2
	30	42	30	20	7
	100	45	50	41	24
	300	50	55	55	40
1000	50	55	55	50	

The capacitance, insulation resistance and dielectric withstanding voltage are tested 100% on all contacts.

Note : • M filter is the most popular filter. If you require other filter types, indicate the maximum operating voltage, maximum capacitance and minimum attenuation required at various frequencies.

• B filter is substantially more expensive than other filters.

8FLT/8FT/8FST/8FD



Contact layouts - viewed from front face of male insulator

shells size			
8FLT/8FD	8FT/8FST		
09	08	35 6 # 22 D	
11	10	35 13 # 22 D	98 6 # 20
13	12	35 22 # 22 D	98 10 # 20
15	14	35 37 # 22 D	19 19 # 20
17	16	35 55 # 22 D	05 5 # 16
19	18	35 66 # 22 D	08 8 # 16
21	20	35 79 # 22 D	26 26 # 20
23	22	35 100 # 22 D	32 32 # 20
25	24	35 128 # 22 D	41 41 # 20
			53 53 # 20
			61 61 # 20

8FLT, 8FD, 8FST : pin and socket layout

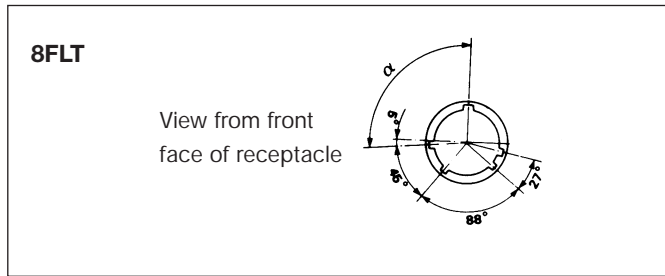
8FT : pin layout only

Other layout : consult factory

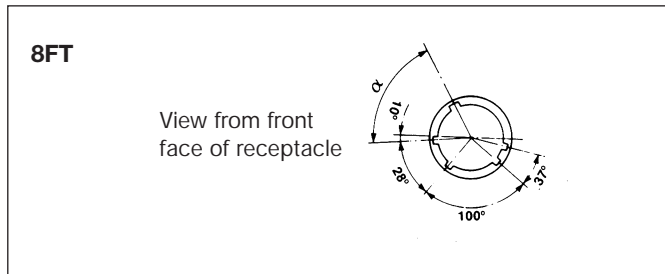
8FLT/8FT/8FST/8FD



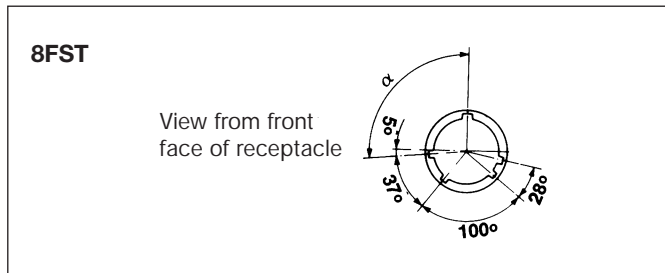
MIL-C 38999 orientations



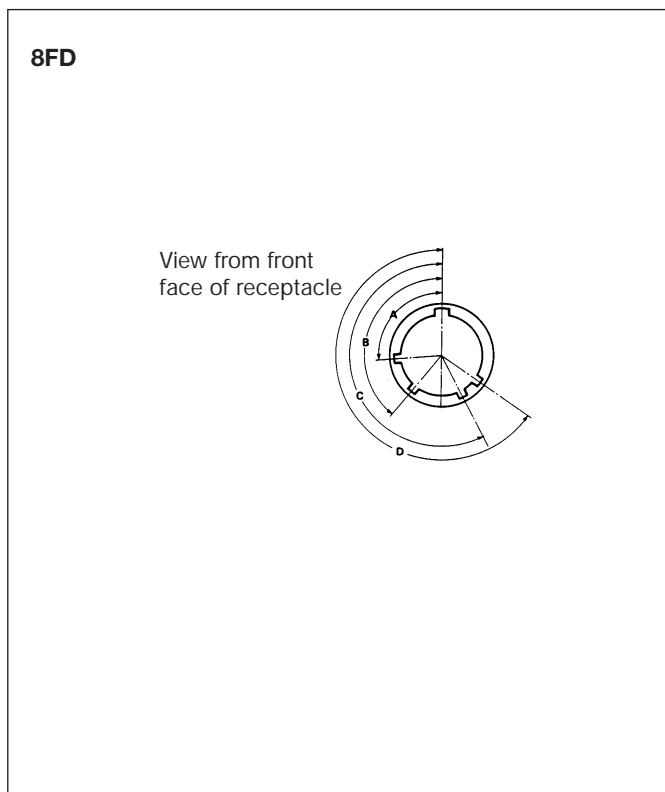
shell size	α angle in degrees				
	N	A	B	C	D
09	95	77	—	—	113
11	95	81	67	123	109
13	95	75	63	127	115
15	95	74	61	129	116
17	95	77	65	125	113
19	95	77	65	125	113
21	95	77	65	125	113
23	95	80	69	121	110
25	95	80	69	121	110



shell size	α angle in degrees				
	N	A	B	C	D
08	100	82	—	—	118
10	100	86	72	128	114
12	100	80	68	132	120
14	100	79	66	134	121
16	100	82	70	130	118
18	100	82	70	130	118
20	100	82	70	130	118
22	100	85	74	126	115
24	100	85	74	126	115



shell size	α angle in degrees				
	N	A	B	C	D
08	95	77	—	—	113
10	95	81	67	123	109
12	95	75	63	127	115
14	95	74	61	129	116
16	95	77	65	125	113
18	95	77	65	125	113
20	95	77	65	125	113
22	95	80	69	121	110
24	95	80	69	121	110



shell size	angles	N	A	B	C	D	E
		9	A°	105	102	80	35
	B°	140	132	118	140	155	131
	C°	215	248	230	205	234	197
	D°	265	320	312	275	304	240
11	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	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
15	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	296	242
17	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
19	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
21	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
23	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
25	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

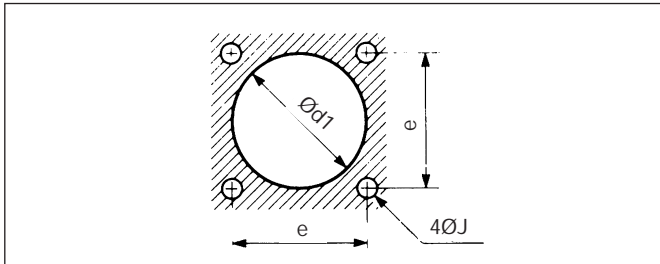
8FLT/8FT/8FST/8FD



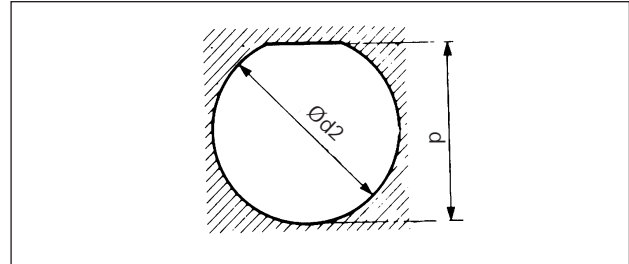
MIL-C 38999

panel cut-out

Square flange receptacle



Jam nut receptacle



8FLT, Series I

shell		9	11	13	15	17	19	21	23	25
d1 min.	AV	12.70 .500	15.90 .626	19.40 .764	22.60 .890	25.70 1.012	27.30 1.075	30.60 1.205	33.80 1.331	37.00 1.457
	AR	16.66 .656	20.22 .796	23.70 .933	26.90 1.059	30.96 1.219	32.94 1.297	36.12 1.422	39.29 1.547	42.47 1.672
d2	$+0.25$ 0	17.70 .697	20.88 .822	25.58 1.007	28.80 1.134	31.98 1.259	35.15 1.384	38.28 1.507	41.50 1.634	44.68 1.759
J	± 0.15	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.91 .154	3.91 .154
e		18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
p	0 -0.25	16.99 .669	19.53 .769	24.26 .955	27.53 1.084	30.68 1.208	33.86 1.333	37.06 1.459	40.01 1.575	43.41 1.709

8FST

shell		8	10	12	14	16	18	20	22	24
d1	AV	12.70 .500	16.00 .630	19.00 .748	22.20 .874	25.50 1.004	28.50 1.122	31.70 1.248	35.00 1.378	38.80 1.528
	AR	14.00 .551	17.00 .669	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.50 1.358	37.50 1.476	41.00 1.614
d2	$+0.35$ 0	14.50 .571	17.70 .697	22.70 .894	25.70 1.012	28.80 1.134	32.00 1.260	35.10 1.382	38.00 1.496	42.00 1.654
J	± 0.13	3.30 .130	3.30 .130	3.30 .130	3.30 .130	3.30 .130	3.30 .130	3.30 .130	3.30 .130	3.88 .153
e		15.10 .594	18.30 .720	20.60 .811	23.00 .906	24.60 .969	27.00 1.063	29.40 1.157	31.80 1.252	34.90 1.374
p	$+0.35$ 0	13.60 .535	16.80 .661	20.90 .823	24.10 .949	27.20 1.071	30.40 1.197	33.60 1.323	36.80 1.449	39.90 1.571

8FT, Series II

shell		8	10	12	14	16	18	20	22	24
d1 min.	AV	12.70 .500	15.90 .626	19.40 .764	22.60 .890	25.70 1.012	27.30 1.075	30.60 1.205	33.80 1.331	37.00 1.457
	AR	14.50 .571	17.32 .682	21.69 .854	24.87 .979	28.04 1.104	31.22 1.229	34.39 1.354	37.57 1.479	40.74 1.604
d2	$+0.25$ 0	22.45 .884	25.58 1.007	28.80 1.134	31.98 1.259	35.15 1.384	38.28 1.507	41.50 1.634	44.68 1.759	47.85 1.884
J	± 0.15	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.91 .154
e		15.09 .594	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375
p	0 -0.25	21.08 .830	24.26 .955	27.53 1.084	30.68 1.208	33.86 1.333	37.06 1.459	40.03 1.576	43.21 1.701	46.38 1.826

8FD, Series III

shell		9	11	13	15	17	19	21	23	25
d1 min.	AV	13.11 .516	15.88 .625	19.05 .750	23.01 .906	25.81 1.016	28.98 1.141	32.16 1.266	34.93 1.375	37.69 1.484
	AR	16.66 .656	20.22 .796	23.42 .922	26.59 1.047	30.96 1.219	32.94 1.297	36.12 1.422	39.29 1.547	42.47 1.672
d2	$+0.25$ 0	17.70 .697	20.88 .822	25.58 1.007	28.80 1.134	31.98 1.259	35.15 1.384	38.28 1.507	41.50 1.634	44.68 1.759
J	± 0.15	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.91 .154	3.91 .154
e		18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
p	0 -0.25	16.99 .669	19.53 .769	24.26 .955	27.53 1.084	30.68 1.208	33.86 1.333	37.06 1.459	40.24 1.584	43.41 1.709

AV : front mounting

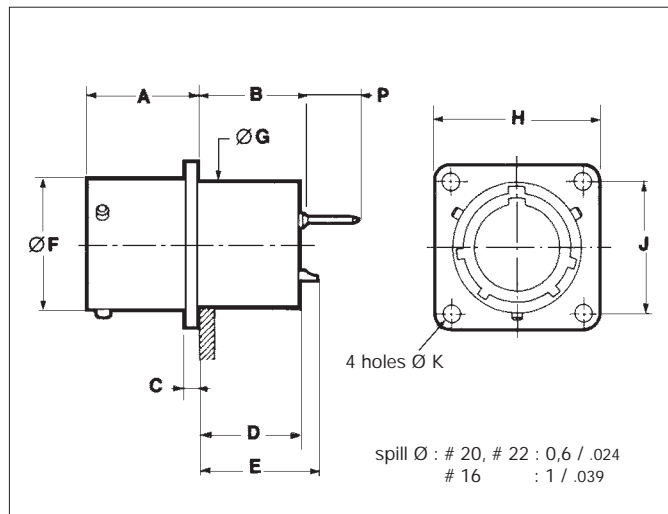
AR : rear mounting

8FLT



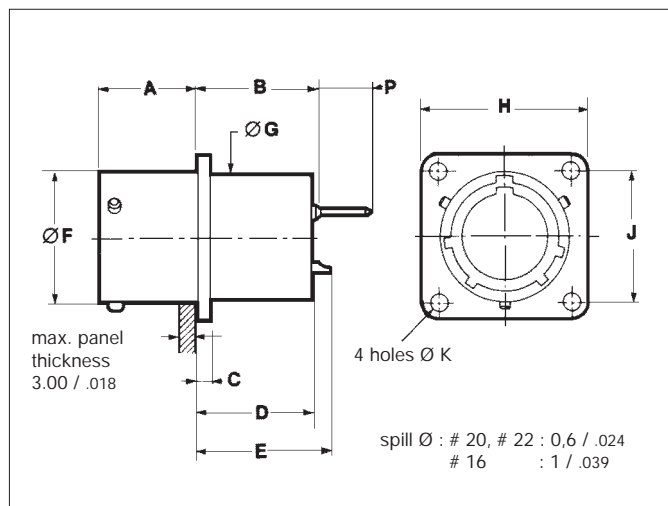
Dimensions (mm/inches)

Square flange receptacle, front mounting, 00 type



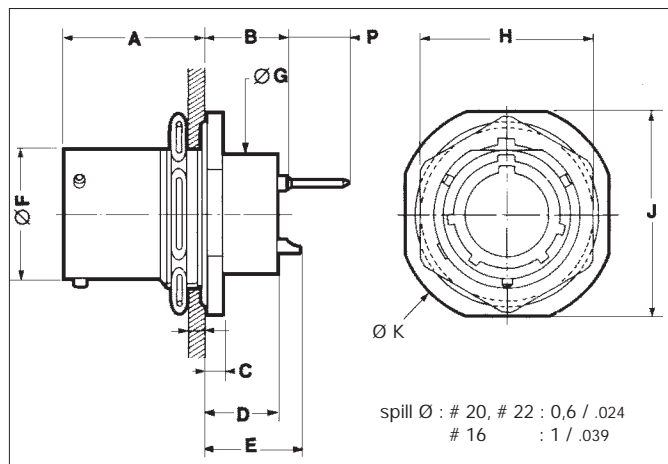
Dim.	Contact Size	Shell Size								
		9	11	13	15	17	19	21	23	25
A Max		18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720
B	#16-#20	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880
	#22	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817
C		2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.95 .116	2.95 .116	2.95 .116
D		19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750
E		22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890
F Max		14.53 .572	17.78 .700	21.59 .850	24.77 .975	27.94 1.100	30.66 1.207	33.83 1.332	37.00 1.457	40.18 1.582
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H		23.95 .943	26.35 1.037	28.75 1.132	31.10 1.224	33.45 1.317	36.65 1.443	39.85 1.569	43.00 1.693	46.25 1.821
J		18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
K		3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.73 .147	3.73 .147
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Square flange receptacle, rear mounting, 03 type



Dim.	Contact Size	Shell Size								
		9	11	13	15	17	19	21	23	25
A Max		20.83 .820	20.83 .820	20.83 .820	20.83 .820	20.83 .820	20.83 .820	20.07 .790	20.07 .790	20.07 .790
B	#16-#20	19.75 .778	19.75 .778	19.75 .778	19.75 .778	19.75 .778	19.75 .778	20.40 .803	20.40 .803	20.40 .803
	#22	18.15 .715	18.15 .715	18.15 .715	18.15 .715	18.15 .715	18.15 .715	18.80 .740	18.80 .740	18.80 .740
C		2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.95 .116	2.95 .116	2.95 .116
D		16.60 .654	16.60 .654	16.60 .654	16.60 .654	16.60 .654	16.60 .654	17.35 .683	17.35 .683	17.35 .683
E		20.00 .787	20.00 .787	20.00 .787	20.00 .787	20.00 .787	20.00 .787	20.65 .813	20.65 .813	20.65 .813
F Max		14.53 .572	17.78 .700	21.59 .850	24.77 .975	27.94 1.100	30.66 1.207	33.83 1.332	37.00 1.457	40.18 1.582
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H		23.95 .943	26.35 1.037	28.75 1.132	31.10 1.224	33.45 1.317	36.65 1.443	39.85 1.569	43.00 1.693	46.25 1.821
J		18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
K		3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.73 .147	3.73 .147
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Jam nut receptacle, 07 type



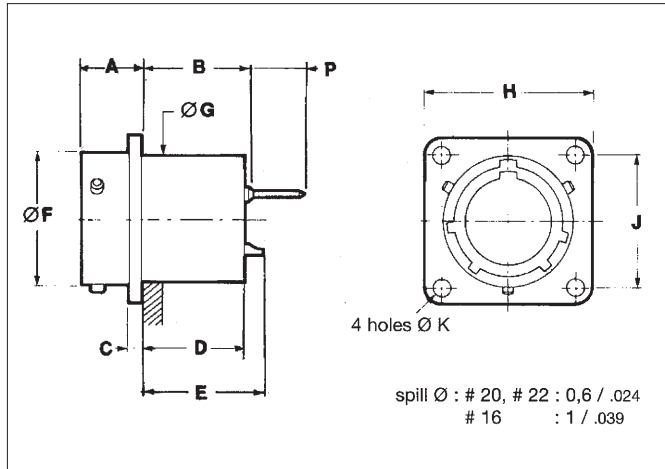
Dim.	Contact Size	Shell Size								
		9	11	13	15	17	19	21	23	25
A Max		23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917
B	#16-#20	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679
	#22	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616
C		2.80 .110	2.80 .110	2.80 .110	2.80 .110	2.80 .110	3.60 .142	3.60 .142	3.60 .142	3.60 .142
D		14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557
E		17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687
F Max		14.53 .572	17.78 .700	21.59 .850	24.77 .975	27.94 1.100	30.66 1.207	33.83 1.332	37.00 1.457	40.18 1.582
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H Max		22.65 .892	25.80 1.016	30.60 1.205	33.75 1.329	36.95 1.455	40.10 1.579	43.30 1.705	46.45 1.829	51.20 2.016
J		27.00 1.063	31.75 1.250	34.95 1.376	38.15 1.502	41.30 1.626	46.02 1.812	49.24 1.939	52.40 2.063	55.58 2.188
K		30.25 1.191	34.95 1.376	38.10 1.500	41.35 1.628	44.45 1.750	49.25 1.939	52.35 2.061	55.65 2.191	58.72 2.312
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Note : in order to reduce the space used behind the receptacle, it is possible to manufacture the connector with the mounting flange re-positioned nearer the back. Consult factory.

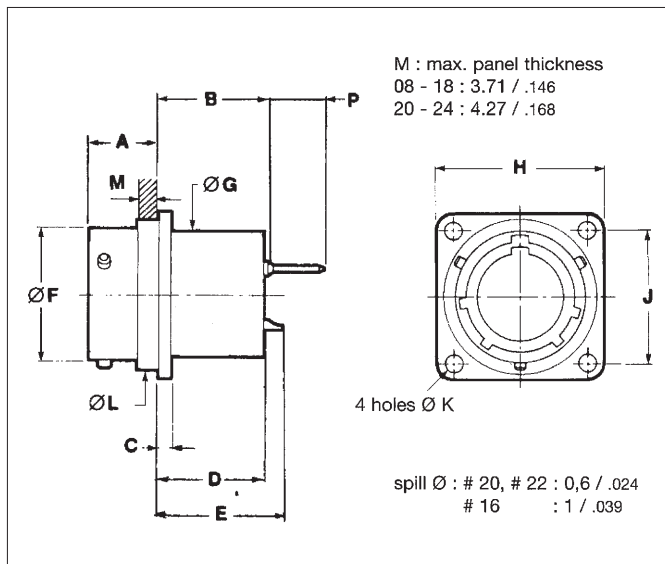


Dimensions (mm/inches)

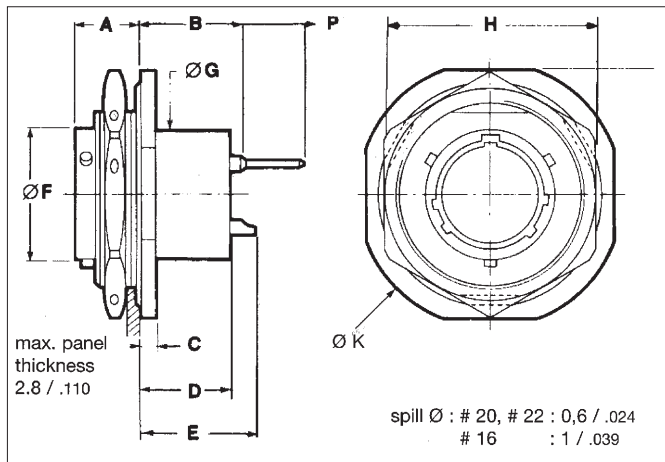
Square flange receptacle, front mounting, 00 type



Square flange receptacle, rear mounting, 03 type



Jam nut receptacle, 07 type



Note : in order to reduce the space used behind the receptacle, it is possible to manufacture the connector with the mounting flange re-positioned nearer the back. Consult factory.

Dim.	Contact Size	Shell Size								
		8	10	12	14	16	18	20	22	24
A Max		9.67 .381	9.67 .381	9.67 .381	9.67 .381	9.67 .381	9.67 .381	9.67 .381	9.67 .381	9.67 .381
B	#16-#20	22.30 .878	22.30 .878	22.30 .878	22.30 .878	22.30 .878	22.30 .878	22.30 .878	22.30 .878	22.30 .878
	#22	20.70 .815	20.70 .815	20.70 .815	20.70 .815	20.70 .815	20.70 .815	20.70 .815	20.70 .815	20.70 .815
C		1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058
D		19.15 .754	19.15 .754	19.15 .754	19.15 .754	19.15 .754	19.15 .754	19.15 .754	19.15 .754	19.15 .754
E		22.55 .888	22.55 .888	22.55 .888	22.55 .888	22.55 .888	22.55 .888	22.55 .888	22.55 .888	22.55 .888
F Max		12.04 .474	15.02 .591	19.08 .751	22.25 .876	25.43 1.001	28.61 1.126	31.76 1.250	34.95 1.376	38.13 1.501
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H Max		21.01 .827	24.22 .954	26.60 1.047	28.99 1.141	31.35 1.234	33.71 1.327	36.91 1.453	40.09 1.578	43.26 1.703
J		15.09 .594	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375
K		3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.73 .147
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Dim.	Contact Size	Shell Size								
		8	10	12	14	16	18	20	22	24
A Max		11.28 .444	11.28 .444	11.28 .444	11.28 .444	11.28 .444	11.28 .444	11.28 .444	11.28 .444	11.28 .444
B	#16-#20	20.60 .811	20.60 .811	20.60 .811	20.60 .811	20.60 .811	20.60 .811	20.60 .811	20.60 .811	20.60 .811
	#22	19.00 .748	19.00 .748	19.00 .748	19.00 .748	19.00 .748	19.00 .748	19.00 .748	19.00 .748	19.00 .748
C		1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058	1.47 .058
D		17.50 .689	17.50 .689	17.50 .689	17.50 .689	17.50 .689	17.50 .689	17.50 .689	17.50 .689	17.50 .689
E		20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823
F Max		12.04 .474	15.02 .591	19.08 .751	22.25 .876	25.43 1.001	28.61 1.126	31.76 1.250	34.95 1.376	38.13 1.501
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H Max		21.01 .827	24.22 .954	26.60 1.047	28.99 1.141	31.35 1.234	33.71 1.327	36.91 1.453	40.09 1.578	43.26 1.703
J		15.09 .594	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375
K		3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.73 .147
L Max		13.25 .522	16.20 .638	20.50 .807	23.70 .933	26.85 1.057	30.00 1.181	33.20 1.307	36.35 1.431	39.55 1.557
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

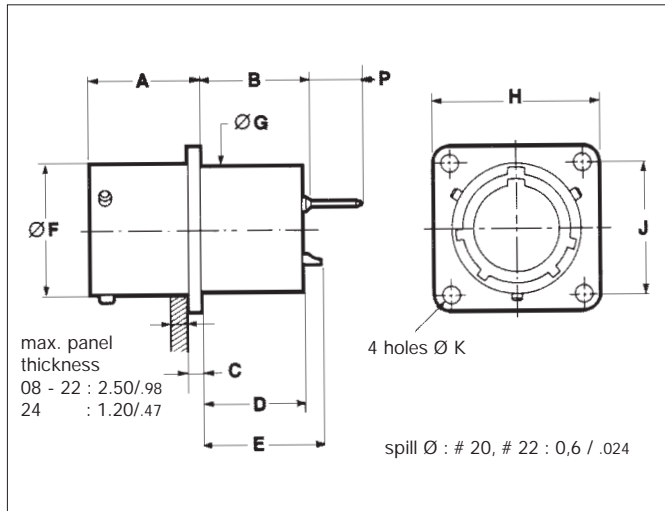
Dim.	Contact Size	Shell Size								
		8	10	12	14	16	18	20	22	24
A Max		11.05 .435	11.05 .435	11.05 .435	11.05 .435	11.05 .435	11.05 .435	11.71 .461	11.71 .461	11.71 .461
B	#16-#20	20.80 .819	20.80 .819	20.80 .819	20.80 .819	20.80 .819	20.80 .819	20.15 .793	20.15 .793	20.15 .793
	#22	19.20 .756	19.20 .756	19.20 .756	19.20 .756	19.20 .756	19.20 .756	18.55 .730	18.55 .730	18.55 .730
C		2.14 .084	2.14 .084	2.14 .084	2.14 .084	2.14 .084	2.14 .084	2.14 .084	2.14 .084	2.14 .084
D		17.73 .698	17.73 .698	17.73 .698	17.73 .698	17.73 .698	17.73 .698	17.03 .670	17.03 .670	17.03 .670
E		20.05 .789	20.05 .789	20.05 .789	20.05 .789	20.05 .789	20.05 .789	20.40 .803	20.40 .803	20.40 .803
F Max		12.04 .474	15.02 .591	19.08 .751	22.25 .876	25.43 1.001	28.61 1.126	31.78 1.251	34.95 1.376	38.13 1.501
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H Max		27.40 1.079	30.60 1.205	33.75 1.329	36.95 1.455	40.10 1.579	43.30 1.705	46.45 1.829	51.20 2.016	54.40 2.142
J		31.80 1.252	34.96 1.376	38.15 1.502	41.31 1.626	45.28 1.783	48.04 1.891	51.25 2.018	54.40 2.142	57.57 2.267
K		35.00 1.378	38.18 1.503	41.36 1.628	44.53 1.753	49.30 1.941	51.30 2.020	54.45 2.144	57.60 2.268	60.80 2.394
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

8FST



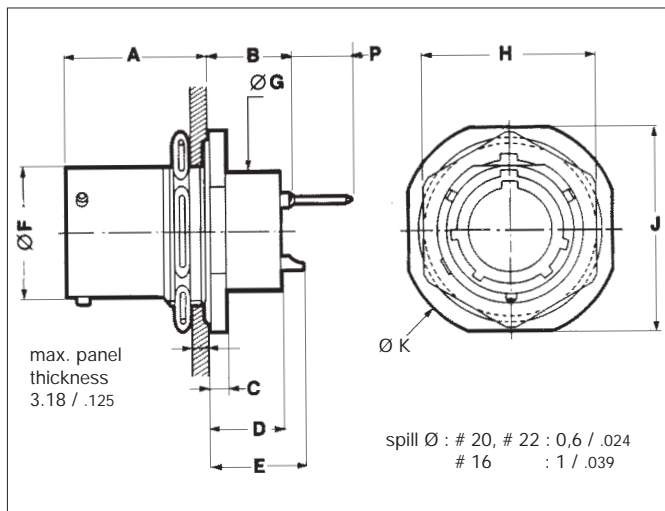
Dimensions (mm/inches)

Square flange receptacle, front mounting, 00 type



Dim.	Contact Size	Shell Size								
		08	10	12	14	16	18	20	22	24
A Max		18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720	18.29 .720
B	#16-#20	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880	22.35 .880
	# 22	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817	20.75 .817
C		2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.19 .086	2.95 .116	2.95 .116	2.95 .116
D		19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750	19.05 .750
E		22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890	22.60 .890
F Max		12.04 .474	15.02 .591	19.80 .780	22.25 .876	25.43 1.001	28.61 1.126	31.76 1.251	34.95 1.376	38.13 1.501
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H Max		21.01 .827	24.22 .954	26.60 1.047	28.99 1.141	31.35 1.234	33.71 1.327	36.91 1.453	40.09 1.578	43.26 1.703
J		15.09 .594	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375
K		3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.05 .120	3.73 .147
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Jam nut receptacle, 07 type



Dim.	Contact Size	Shell Size								
		08	10	12	14	16	18	20	22	24
A Max		23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917	23.30 .917
B	#16-#20	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679	17.25 .679
	#22	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616	15.65 .616
C		2.80 .110	2.80 .110	2.80 .110	2.80 .110	2.80 .110	2.80 .110	3.60 .142	3.60 .142	3.60 .142
D		14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557	14.15 .557
E		17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687	17.45 .687
F Max		12.04 .474	15.02 .591	19.08 .751	22.25 .876	25.43 1.001	28.61 1.126	31.78 1.251	34.95 1.376	38.13 1.501
G Max		11.55 .455	14.55 .573	18.75 .738	21.90 .862	25.00 .984	26.85 1.057	30.15 1.187	33.35 1.313	35.95 1.415
H Max		19.45 .766	22.55 .888	27.35 1.077	30.50 1.201	33.65 1.325	36.85 1.451	40.00 1.575	43.20 1.701	46.35 1.825
J		24.15 .951	27.35 1.077	32.15 1.266	34.96 1.376	38.45 1.514	41.65 1.640	46.35 1.825	49.55 1.951	52.75 2.077
K		26.95 1.061	30.20 1.189	34.85 1.372	38.10 1.500	41.30 1.626	44.45 1.750	49.25 1.939	52.40 2.063	55.55 2.187
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

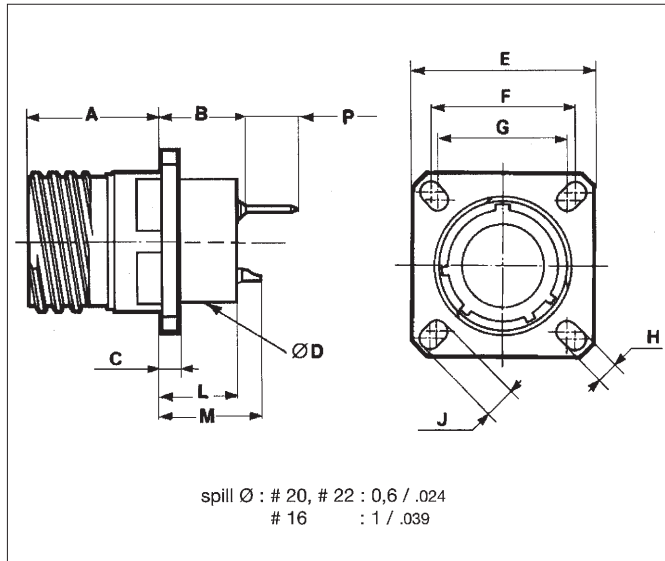
Note : in order to reduce the space used behind the receptacle, it is possible to manufacture the connector with the mounting flange re-positioned nearer the back. Consult factory.

8FD



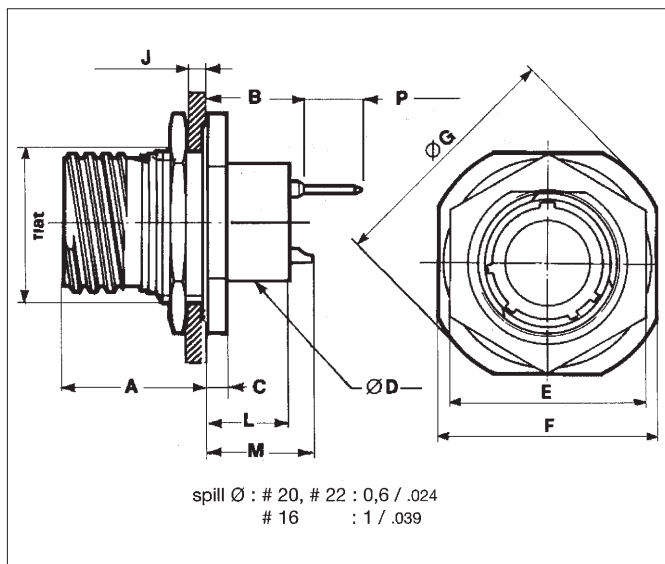
Dimensions (mm/inches)

Square flange receptacle, front mounting, 00 type



Dim.	Contact Size	Shell Size								
		09	11	13	15	17	19	21	23	25
A Max		20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.10 .791	20.10 .791	20.10 .791
B	#16-#20	20.05 .789	20.05 .789	20.05 .789	20.05 .789	20.05 .789	20.05 .789	20.80 .819	20.80 .819	20.80 .819
	#22	18.45 .726	18.45 .726	18.45 .726	18.45 .726	18.45 .726	18.45 .726	19.20 .756	19.20 .756	19.20 .756
C		2.25 .089	2.25 .089	2.25 .089	2.25 .089	2.25 .089	2.25 .089	3.00 .118	3.00 .118	3.00 .118
D Max		12.00 .472	15.00 .591	18.50 .728	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.00 1.457
E		23.80 .937	26.20 1.031	28.60 1.126	31.00 1.220	33.80 1.331	36.50 1.437	39.70 1.563	42.90 1.689	46.00 1.811
F		18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
G		15.09 .594	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375
H		3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.91 .154	3.91 .154
J		5.49 .216	4.93 .194	4.93 .194	4.93 .194	4.93 .194	4.93 .194	6.15 .242	6.15 .242	6.15 .242
L		16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	17.70 .697	17.70 .697	17.70 .697
M		20.30 .799	20.30 .799	20.30 .799	20.30 .799	20.30 .799	20.30 .799	21.05 .829	21.05 .829	21.05 .829
B	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Jam nut receptacle, 07 type



Dim.	Contact Size	Shell Size								
		09	11	13	15	17	19	21	23	25
A		22.25 .876	22.25 .876	22.40 .882	22.40 .882	22.40 .882	22.40 .882	22.40 .882	22.40 .882	22.40 .882
B	#16-#20	18.70 .736	18.70 .736	18.50 .728	18.50 .728	18.50 .728	18.50 .728	18.50 .728	18.50 .728	18.50 .728
	#22	17.10 .673	17.10 .673	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665
C		2.50 .098	2.50 .098	2.50 .098	2.50 .098	2.50 .098	2.50 .098	3.30 .130	3.30 .130	3.30 .130
D Max		12.00 .472	15.00 .591	18.50 .728	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.00 1.457
E Max		24.00 .945	27.00 1.063	32.00 1.260	36.00 1.417	37.00 1.457	41.00 1.614	46.00 1.811	50.00 1.969	51.23 2.017
F		27.00 1.063	31.80 1.252	34.90 1.374	38.10 1.500	41.30 1.626	46.00 1.811	49.20 1.937	52.40 2.063	55.60 2.189
G		30.20 1.189	34.90 1.374	38.10 1.500	41.30 1.626	44.50 1.752	49.20 1.937	52.40 2.063	55.60 2.189	58.70 2.311
H		16.53 .651	19.07 .751	23.82 .938	26.97 1.062	30.15 1.187	33.32 1.312	36.50 1.437	39.67 1.562	42.85 1.687
J		3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126
L		15.50 .610	15.50 .610	15.35 .604	15.35 .604	15.35 .604	15.35 .604	15.35 .604	15.35 .604	15.35 .604
M		18.90 .744	18.90 .744	18.75 .738	18.75 .738	18.75 .738	18.75 .738	18.75 .738	18.75 .738	18.75 .738
P	#16-#20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	#22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Note : in order to reduce the space used behind the receptacle, it is possible to manufacture the connector with the mounting flange re-positioned nearer the back. Consult factory.

8TFLT/8TFD



Applications

- Military
- Aeronautical

Standards

- 8TFLT : MIL-C 38999 Series I
NFC 93422 HE 308
DTAT C 5935 x 0001
- 8TFD : MIL-C 38999 Series III



Description

8TFLT and 8 TFD filter connectors are equipped with planar arrays filters. These connectors have the same length as the standard connectors of the same series so as to be directly interchangeable, and allow an easy implementation of the filtering at all stage of equipment development and life.

Characteristics

Mechanical

- Shells : aluminum alloy, olive green cadmium or nickel plated
- Insulators : thermoplastic
- Interfacial and peripheral seals : silicone rubber
- Contacts : machined copper alloy gold plated, 1.27 micron min gold over 2 microns min nickel on contact area
Contact retention force :
#22 : 45 Nmin - #16, #20 : 67 Nmin

Environmental

Temperature	-55°C / + 125°C	MIL-STD 1344 method 1003 condition A NFC 20714
Sealing	Leakage < 16 cm ³ /h altitude immersion (8FD)	NFC 20717 with differential pressure of 2 bars MIL-STD 1344, method 1004
Humidity	10 cycles 24h 56 days	MIL-STD 1344, method 1002, type II except step 7b NFC 20703
Salt spray	48 h - L plating 500 h - B and W plating	MIL-STD 1344, method 1001, condition B NFC 20711 MIL-STD 1344, method 1001, condition C
Durability	500 cycles	mating/unmating
Vibrations	30 g (sinus) 41.7 Gms (random)	MIL-STD 202, method 204, condition G MIL-STD 1344, method 2005, condition VI, letter J
Shock	300 g 3 ms	MIL-STD 1344, method 2004, condition D

Ordering information

Basic series : - 8TFLT : 38999 Series I, HE308 type - 8TFD : 38999 Series III type	8	T	FD	00	C	15	W	35	P	N	M	***
planar Array filter												
shell type	00 - square flange receptacle 03 - square flange receptacle (rear mounting) (series 1 only) 07 - jam nut receptacle											
Termination	— : solder bucket C : Straight spill											
shell size	09 - 11 - 13 - 15 - 17 - 19 - 21 - 23 - 25											
Plating 8 TFLT : (series I) 8 TFD : (series III)	B - 500 h salt spray green olive cadmium F - Nickel W - 500 h salt spray green olive cadmium F - Nickel											
contact layouts	(see table page 13)											
contact type	P - pin S - socket											
orientation	8 TFLT : N-A-B-C-D 8 TFD : N-A-B-C-D-E											
filter type (see page ???)	- capacitive BC, MC, TC, KC, EC - Pi type A, P, M, T, H											
special modifier	- mixed filtering - specific filters - specific dimensions											

8TFLT/8TFD



Electrical characteristics capacitive filter types

Filter designation		BC	MC	TC	KC	EC	
Filter type		Capacitive					
Max. voltage rating	# 22 # 20 # 16	200 Vdc 120 Vac rms 50 Hz or 400 Hz					
Max. current rating	# 22 # 20 # 16	5 A 7.5 A 13 A					
Insulation resistance, 25°C		> 5000 MΩ (under 100 VDC)					
DWV, sea level, 25°C		500 Vdc					
Contact resistance	# 22 # 20 # 16	17 mΩ 8,5 mΩ 4,5 mΩ					
Capacitance at 1kHz : 0.1Vrms at 25°C		12 000 pF to 24 000 pF	6 000 pF to 12 000 pF	3 000 pF to 6 000 pF	1 500 pF to 3 000 pF	350 pF to 750 pF	
		frequency (MHz)	minimum attenuation (dB)				
Attenuation per MIL-STD-220 at 25°C (with no applied voltage or current, in 50 Ω system)		0.3					
		1	5	2			
		3	12	9	4	2	
		10	22	19	13	8	
		30	30	25	20	16	4
		100	40	35	30	25	12
		300	45	42	38	34	23
		1000	55	50	45	42	30

Electrical characteristics for Pi filter types

Filter designation		A	P	M	T	H	
Filter type		π Type					
Max. voltage rating	# 22 # 20 # 16	200 Vdc 120 Vac 50 Hz or 400 Hz					
Max. current rating	# 22 # 20 # 16	5 A 7.5 A 13 A					
Insulation resistance, 25°C, 2mn electrification time		> 5000 MΩ (under 100 VDC)					
DWV, sea level, 25°C		500 Vdc					
Contact resistance	# 22 # 20 # 16	17 mΩ 8,5 mΩ 4,5 mΩ					
Capacitance at 1kHz : 0.1Vrms at 25°C		24 000 pF to 48 000 pF	12 000 pF to 24 000 pF	6 000 pF to 12 000 pF	3 000 pF to 6 000 pF	700 pF to 1500 pF	
		frequency (MHz)	minimum attenuation (dB)				
Attenuation per MIL-STD-220 at 25°C (with no applied voltage or current, in 50 Ω system)		0.3	2				
		1	8	5	2		
		3	15	10	7	3	
		10	38	28	18	9	2
		30	58	48	35	22	7
		100	65	60	55	45	24
		300	65	65	60	55	40
		1000	65	65	60	55	

8TFLT/8TFD



Contact layouts - view from front face of male insulator

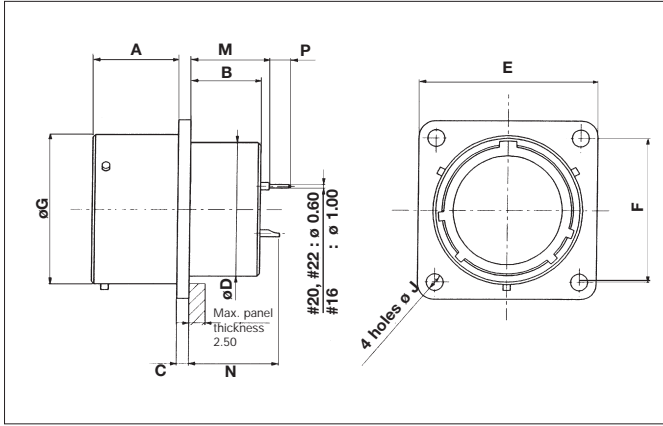
shells 09	09-35 6 #22		09-98 3 #20		
	11-35 13 #22 D		11-98 6 #20		
13	13-35 22 #22 D		13-98 10 #20		
	15-35 37 #22 D		15-19 19 #20		15-18 18 #20
17	17-35 55 #22 D		17-26 26 #20		
	19-35 66 #22 D		19-32 32 #20		
21	21-35 79 #22 D		21-41 41 #20		
	23-35 100 #22 D		23-53 53 #20		
25	25-35 128 #22 D		25-61 61 #20		

8TFLT



8TFLT 00

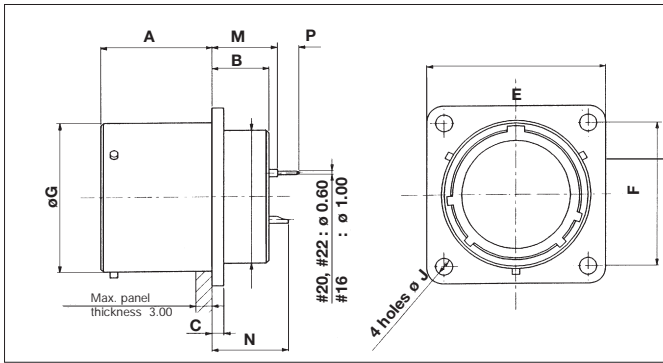
Square flange receptacle, front mounting



Dim.	Shell Size								
	09	11	13	15	17	19	21	23	25
A Max	16.05 .632	16.05 .632	16.05 .632	16.05 .632	16.05 .632	16.05 .632	15.29 .602	15.29 .602	15.29 .602
B Max	13.33 .525	13.33 .525	13.33 .525	13.33 .525	13.33 .525	13.33 .525	13.33 .525	13.33 .525	13.33 .525
C Max	2.48 .098	2.48 .098	2.48 .098	2.48 .098	2.48 .098	2.48 .098	3.24 .128	3.24 .128	3.24 .128
D Max	12.00 .472	15.00 .591	18.00 .709	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.0 1.457
E	23.95 .943	26.35 1.037	28.75 1.132	31.10 1.224	33.45 1.317	36.65 1.443	39.85 1.569	43.00 1.693	46.25 1.821
F	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
G Max	14.53 .572	17.78 .700	21.59 .850	24.77 .975	27.94 1.100	30.66 1.207	33.83 1.332	37.00 1.457	40.18 1.582
J	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.73 .147	3.73 .147
M	14.75 .581	14.75 .581	14.75 .581	14.75 .581	14.75 .581	14.75 .581	14.75 .581	14.75 .581	14.75 .581
N	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665	16.90 .665
P	# 20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	# 16	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283
	# 22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

8TFLT 03

Square flange receptacle, rear mounting

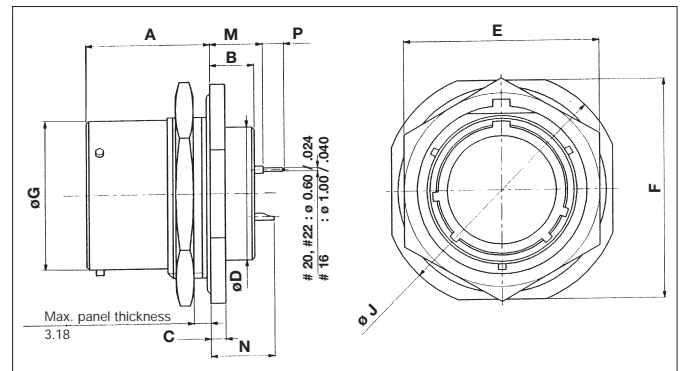


Dim.	Shell Size								
	09	11	13	15	17	19	21	23	25
A Max	23.36 .920	23.36 .920	23.36 .920	23.36 .920	23.36 .920	23.36 .920	23.36 .920	23.36 .920	23.36 .920
B Max	8.32 .328	8.32 .328	8.32 .328	8.32 .328	8.32 .328	8.32 .328	8.32 .328	8.32 .328	8.32 .328
C Max	3.00 .118	3.00 .118	3.00 .118	3.00 .118	3.00 .118	3.00 .118	3.79 .149	3.79 .149	3.79 .149
D Max	12.00 .472	15.00 .591	18.00 .709	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.00 1.457
E Max	22.35 .880	25.55 1.006	30.30 1.193	33.45 1.317	36.65 1.443	39.80 1.567	43.00 1.693	46.15 1.817	50.95 2.006
F	27.00 1.063	31.75 1.250	34.95 1.376	38.15 1.502	41.30 1.626	46.02 1.812	49.24 1.939	52.40 2.063	55.58 2.188
G Max	14.53 .572	17.78 .700	21.59 .850	24.77 .975	27.94 1.100	30.66 1.207	33.83 1.332	37.00 1.457	40.18 1.582
J	30.25 1.191	34.95 1.376	38.10 1.500	41.35 1.628	44.45 1.750	49.25 1.939	52.35 2.061	55.65 2.191	58.72 2.312
M	9.68 .381	9.68 .381	9.68 .381	9.68 .381	9.68 .381	9.68 .381	9.68 .381	9.68 .381	9.68 .381
N	11.83 .466	11.83 .466	11.83 .466	11.83 .466	11.83 .466	11.83 .466	11.83 .466	11.83 .466	11.83 .466
P	# 20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	# 16	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283
	# 22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

Dim.	Shell Size								
	09	11	13	15	17	19	21	23	25
A Max	20.83 .820	20.83 .820	20.83 .820	20.83 .820	20.83 .820	20.83 .820	20.08 .791	20.08 .791	20.08 .791
B Max	10.54 .415	10.54 .415	10.54 .415	10.54 .415	10.54 .415	10.54 .415	11.29 .444	11.29 .444	11.29 .444
C Max	2.48 .098	2.48 .098	2.48 .098	2.48 .098	2.48 .098	2.48 .098	3.24 .128	3.24 .128	3.24 .128
D Max	12.00 .472	15.00 .591	18.00 .709	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.00 1.457
E	23.95 .943	26.35 1.037	28.75 1.132	31.10 1.224	33.45 1.317	36.65 1.443	39.85 1.569	43.00 1.693	46.25 1.821
F	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
G Max	14.53 .572	17.78 .700	21.59 .850	24.77 .975	27.94 1.100	30.66 1.207	33.83 1.332	37.00 1.457	40.18 1.582
J	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.73 .147	3.73 .147
M	12.15 .478	12.15 .478	12.15 .478	12.15 .478	12.15 .478	12.15 .478	12.91 .508	12.91 .508	12.91 .508
N	14.32 .564	14.32 .564	14.32 .564	14.32 .564	14.32 .564	14.32 .564	15.08 .594	15.08 .594	15.08 .594
P	# 20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
	# 16	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283
	# 22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

8TFLT 07

Jam nut receptacle

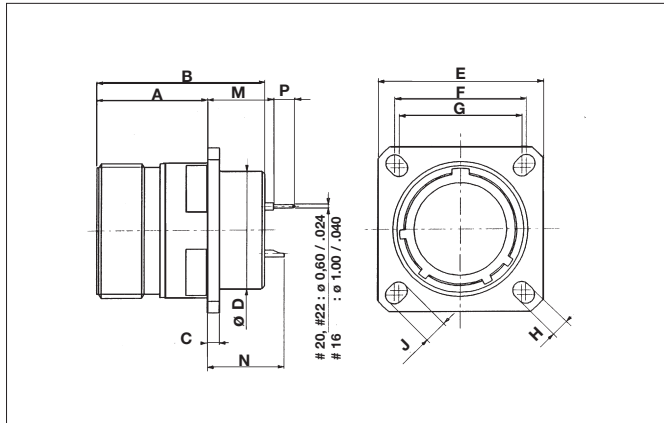


8TFD



8TFD 00

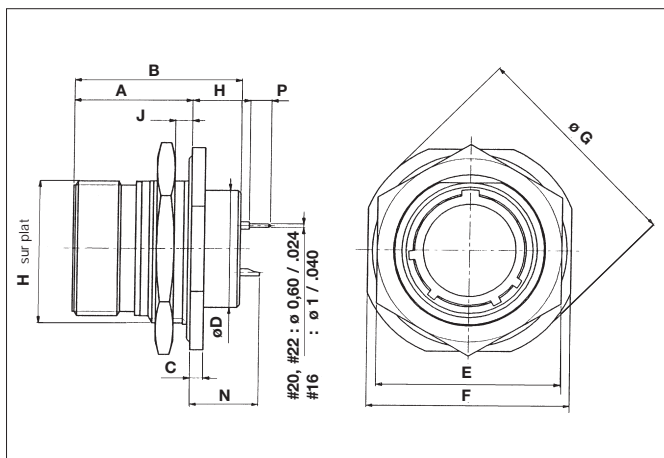
Square flange receptacle, front mounting



Dim.	Shell Size								
	09	11	13	15	17	19	21	23	25
A Max	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.90 .823	20.10 .791	20.10 .791	20.10 .791
B Max	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240
C Max	2.50 .098	2.50 .098	2.50 .098	2.50 .098	2.50 .098	2.50 .098	3.20 .126	3.20 .126	3.20 .126
D Max	12.00 .472	15.00 .591	18.50 .728	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.00 1.457
E	23.80 .937	26.20 1.031	28.60 1.126	31.00 1.220	33.30 1.311	36.50 1.437	39.70 1.563	42.90 1.689	46.00 1.811
F	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375	38.10 1.500
G	15.09 .594	18.26 .719	20.62 .812	23.01 .906	24.61 .969	26.97 1.062	29.36 1.156	31.75 1.250	34.93 1.375
H	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.25 .128	3.91 .154	3.91 .154
J Max	5.49 .216	4.93 .194	4.93 .194	4.93 .194	4.93 .194	4.93 .194	4.93 .194	6.15 .242	6.15 .242
M	12.35 .486	12.35 .486	12.35 .486	12.35 .486	12.35 .486	12.35 .486	13.15 .518	13.15 .518	13.15 .518
N	14.50 .571	14.50 .571	14.50 .571	14.50 .571	14.50 .571	14.50 .571	15.30 .602	15.30 .602	15.30 .602
P #20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
P #22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283

8TFD 07

Jam nut receptacle



Dim.	Shell Size								
	09	11	13	15	17	19	21	23	25
A Max	22.25 .876	22.25 .876	22.40 .882	22.40 .882	22.40 .882	22.40 .882	22.40 .882	22.40 .882	22.40 .882
B Max	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240	31.50 1.240
C Max	2.70 .106	2.70 .106	2.70 .106	2.70 .106	2.70 .106	2.70 .106	3.50 .138	3.50 .138	3.50 .138
D Max	12.00 .472	15.00 .591	18.00 .709	22.00 .866	25.00 .984	28.00 1.102	31.00 1.220	34.00 1.339	37.00 1.457
E Max	24.00 .945	27.00 1.063	32.00 1.260	36.00 1.417	37.00 1.457	41.00 1.614	46.00 1.811	50.00 1.969	51.23 2.017
F	27.00 1.063	31.80 1.252	34.90 1.374	38.10 1.500	41.30 1.626	46.00 1.811	49.20 1.937	52.40 2.063	55.60 2.189
G	30.20 1.189	34.90 1.374	38.10 1.500	41.30 1.626	44.50 1.752	49.20 1.937	52.40 2.063	55.60 2.189	58.70 2.311
H	16.53 .651	19.07 .751	23.82 .938	26.97 1.062	30.15 1.187	33.32 1.312	36.50 1.437	39.67 1.562	42.85 1.687
J	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126	3.20 .126
M	11.00 .433	11.00 .433	10.80 .425	10.80 .425	10.80 .425	10.80 .425	10.80 .425	10.80 .425	10.80 .425
N	13.13 .517	13.13 .517	12.95 .510	12.95 .510	12.95 .510	12.95 .510	12.95 .510	12.95 .510	12.95 .510
P #20	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220	5.60 .220
P #22	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283	7.20 .283