

Aluminum Connector for Quadrax

1 - CHARACTERISTICS

- Standard MIL-DTL-38999 aluminum shell
- Compatible with Quadrax contact
- Robust connector
- Environmental performance as per MIL-DTL-38999 and EN 3645 standard
- Temperature range: -65° C, +200° C (+175° C for aluminum with cadmium plating)

Applications

Quadrax connector for network applications in severe climatic and/or mechanical environments.



Mechanical

- Shell: aluminum alloy
- Shell plating:
 - olive green cadmium (W)
 - nickel (F)
- Insulator: thermoplastic, thermoset or metal
- Clip # 8: copper alloy (Gold plated)
- Endurance: 500 mating / unmating operations
- Shock: high impact as per MIL-S 901
- Vibrations:
 - sine 60 g with temperature cycling and simulated accessory (36 hours)
 - random:
 - 44.1 grms at high temperature
 - 49.5 grms at ambient temperature
- Quadrax retention: 155 N min
- Quadrax insertion force: 11 N max

Environmental

- Temperature range:
 - cadmium plating (W) -65° C + 175° C
 - nickel plating (F) -65° C +200° C
- Sealing: mated connectors meet altitude immersion requirements of MIL-DTL-38999
- Salt spray to: MIL-STD 1344 Method 1001
 - 500 hours (version W)
 - 48 hours (version F)
- Damp heat: MIL-DTL-38999 - 10 cycles (24 hours)

Resistance to fluids as per MIL-DTL-38999 Standard

- Gasoline: JP5 (OTAN F44)
- Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
- Synthetic hydraulic fluid: skydrol 500 B4, LD4 (SAE AS 1241)
- Mineral lubricating: MIL-L-7870A (OTAN 0142)

- Synthetic lubricating: MIL-L-23699 (OTAN 0156) MIL-L-7808
- Cleaning fluid: MIL-C-25769 diluted
- De-icing fluid: MIL-A-8243
- Extinguishing fluid: Chlorobromethane
- Cooling fluid: Coolanol

Electrical

- Contact resistance (low level): initial 15 mΩ, after tests 30 mΩ
- Contact resistance at rated current:

		Max contact resistance (mΩ)		
		23° C		200° C
Contact	Rated current (A)	Initial	After tests	After tests
Signal contacts	1	15	30	45
Outer body	12	3	4	6

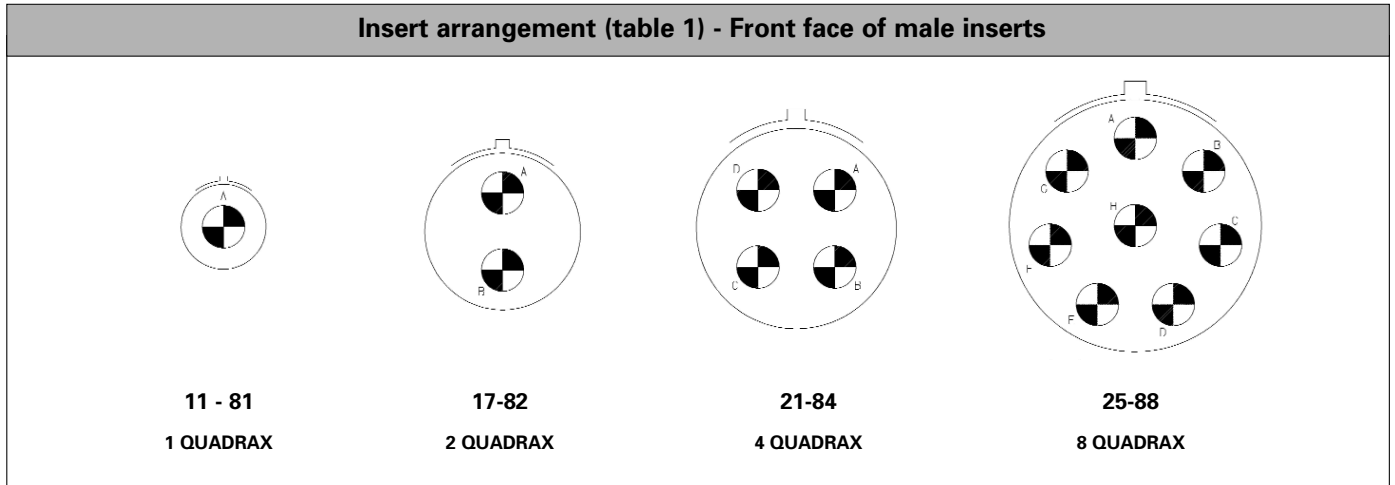
- Dielectric withstanding voltage:
 - Sea level = 500 Vrms between signal contacts and signal contact/body
 - 21000 m = 125 Vrms between signal contacts and signal contact/body
- Insulation resistance: at ambient temperature >5000 MΩ at high temperature >1000 MΩ
- Characteristics impedance = 100Ω @ 100 MHz
- Attenuation ≤ 0.3 dB @ 100 MHz typical per contact pair (cat5E requirement 0.3 dB @ 100 MHz)
- Crosstalk ≥ 40 dB @ 100 MHz typical (cat 5E requirement 40 dB)
- Contact to shell continuity <10 mΩ (ARINC 600)

38999 for Quadrax

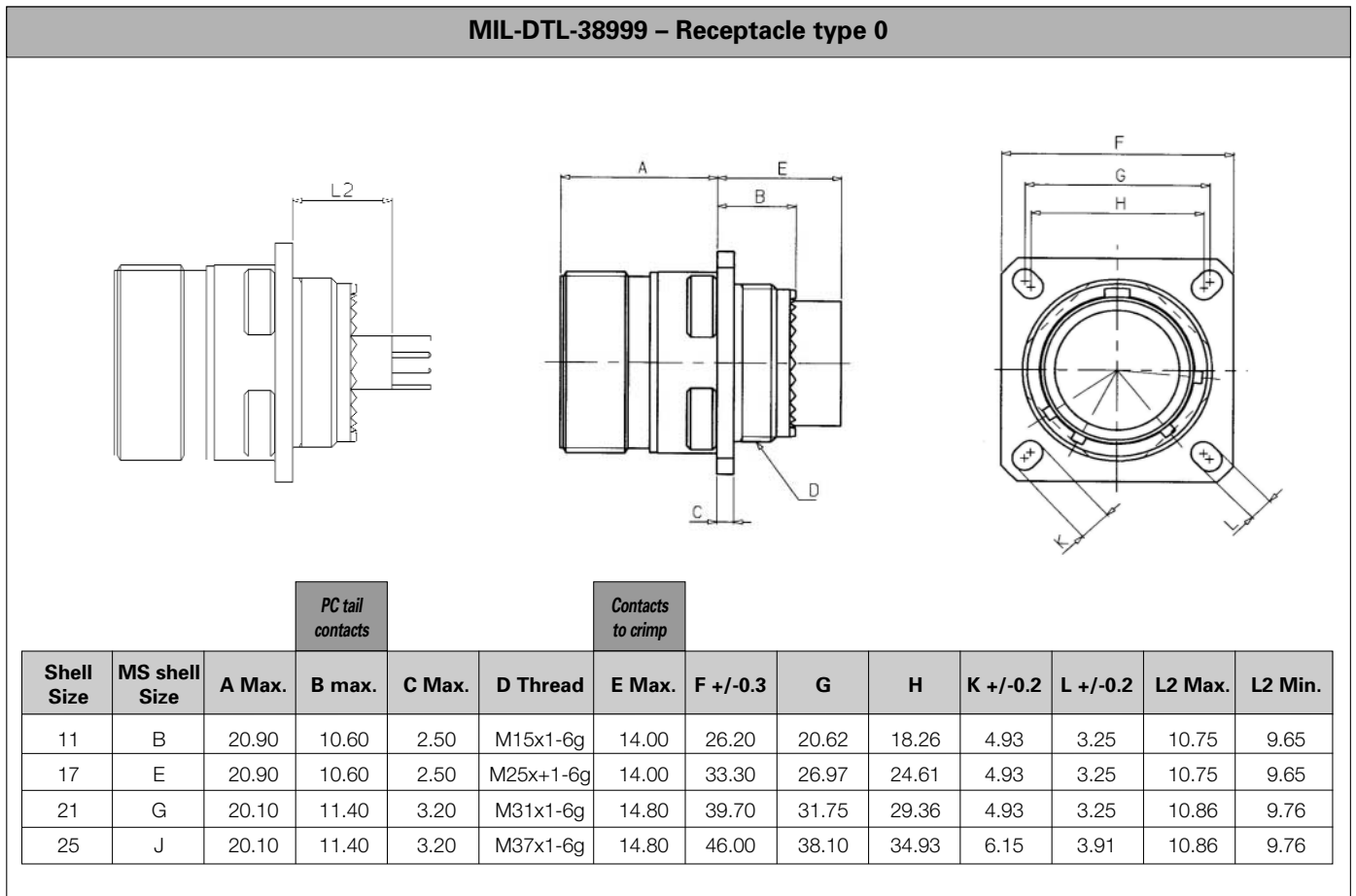
Aluminum Connector for Quadrax



2 - INSERT ARRANGEMENTS

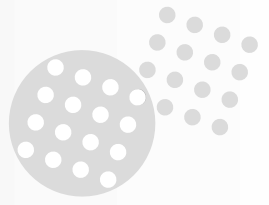


3 - DIMENSIONS

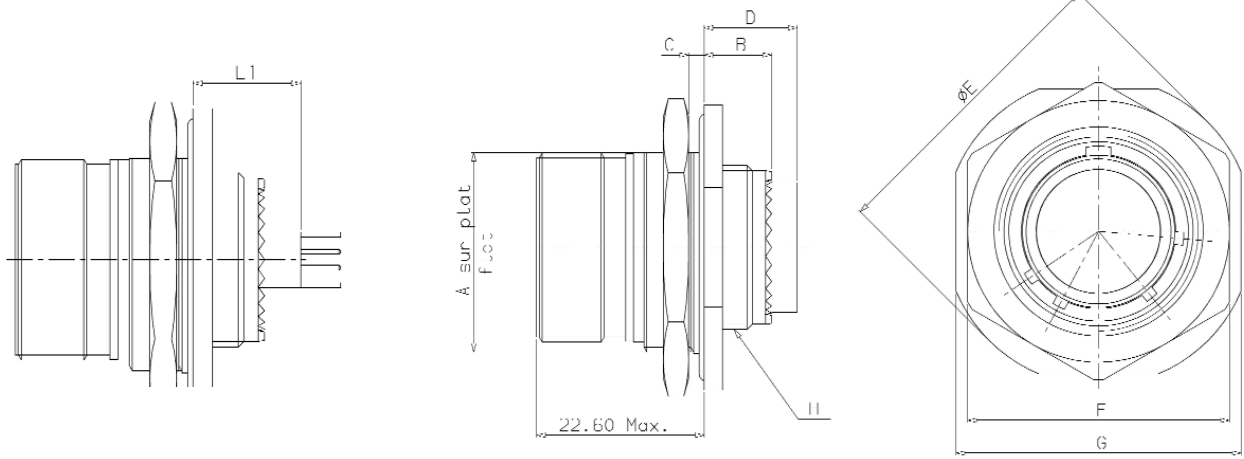


Dimensions in millimeters

Aluminum Connector for Quadrax

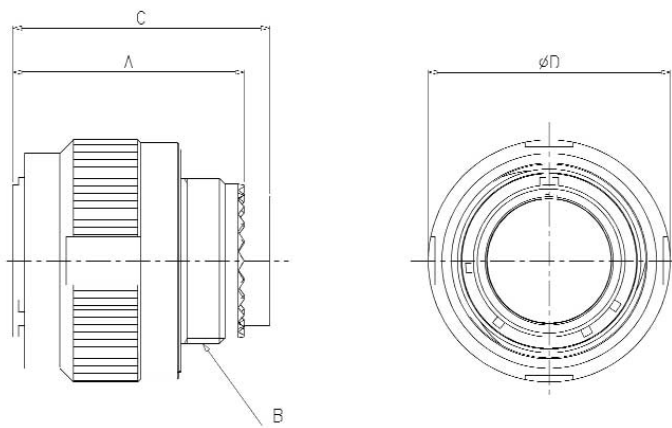


MIL-DTL-38999 - Receptacle type 7



Shell Size	MS shell Size	A+0.1/-0.15	PC tail contacts	Contacts to crimp	E Max.	F Max.	G +/-0.4	H thread	L1 Max.	L1 Min.	
			B Max.	C Max.							D Max.
11	B	19.07	9.90	3.20	12.70	35.20	27.00	31.80	M15x1-6g	11.63	10.69
17	E	30.15	9.90	3.20	12.50	44.80	37.00	41.30	M25x1-6g	11.45	10.51
21	G	36.50	9.90	3.20	12.50	52.70	46.00	49.20	M31x1-6g	11.45	10.51
25	J	42.85	9.90	3.20	12.50	59.00	51.23	55.60	M37x1-6g	11.45	10.51

MIL-DTL-38999 - Plug type 5



Shell Size	MS Shell Size	A Max.	B Thread	C Max.	D Max.
11	B	31.00	M15 x 1-6g	34.20	25.00
17	E	31.00	M25 x 1-6g	25.00	35.70
21	G	31.00	M31 x 1-6g	29.40	41.70
25	J	31.00	M37 x 1-6g	35.70	48.00

Dimensions in millimeters

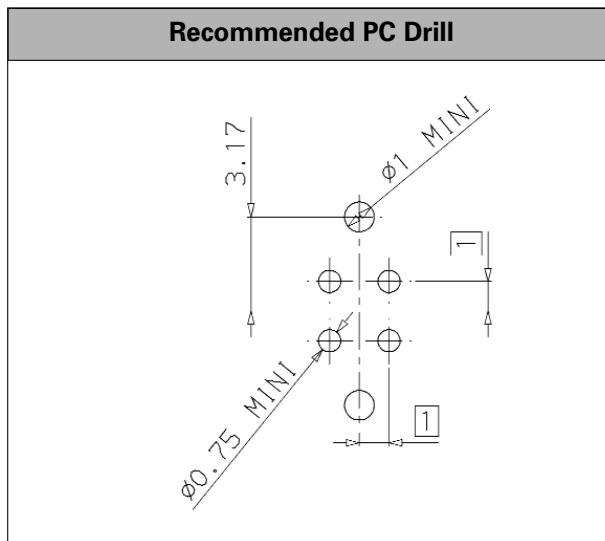
38999 for Quadrax

Aluminum Connector for Quadrax

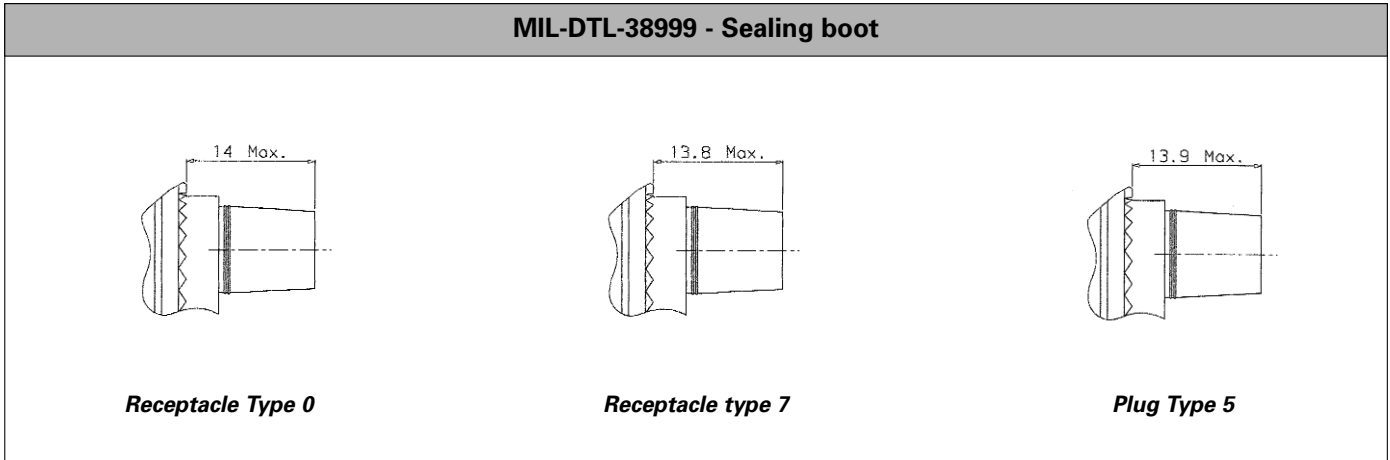


MIL-DTL-38999 - Mated connector - type 0 - type 5		MIL-DTL-38999 - Mated connector - type 7 - type 5			
Shell Size	MS Shell Size	A Max.	B Max	C Max.	D Max.
11	B	37.00	52.30	41,50	56.80
17	E	37.00	52.30	41.70	57.00
21	G	36.00	51.30	41.70	57.00
25	J	36.00	51.30	41.70	57.00

Dimensions in millimeters



Aluminum Connector for Quadrax



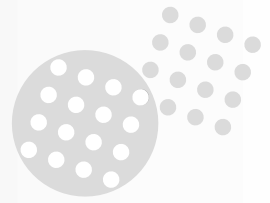
Dimensions in millimeters

4 - ORDERING INFORMATION

38999 Series III Aluminum Shell

Basic serie	8D	0	L	11	W	81	P	N	201
Style									
0 - square flange receptacle 7 - jam nut receptacle 5 - plug with RFI shielding									
Type									
L - receptacle with PC tail (male and female # 8 quadrax) Q - connectors with quadrax crimp contacts									
Shell size									
11 - 17 - 21 - 25 (see table 1)									
Plating									
W - olive green cadmium F - nickel									
Insert arrangements									
(see table 1)									
Contact style									
P - male A - male connector supplied less quadrax contact S - female B - female connector supplied less quadrax contact									
Orientation									
N - normal A - please consult us									
Specification									
201 - Quadrax contact grounded 225 - Quadrax contact not grounded									

38999 for Quadrax



Stainless Steel Connector for Quadrax

1 - CHARACTERISTICS

- Standard MIL-DTL-38999 stainless steel shell
- Compatible with Quadrax contact
- Robust connector
- Environmental performance as per MIL-DTL-38999 and EN 3645 standard
- Temperature range: -65° C, +200° C

Applications

Quadrax connector for network applications in severe climatic and/or mechanical environments.

Mechanical

- Shell: stainless steel
- Shell plating:
 - passivated stainless steel (K)
 - nickel plated (S)
- Insulator: thermoplastic, thermoset or metal
- Clip # 8: copper alloy (Gold plated)
- Endurance: 500 mating / unmating operations
- Shock: 300 g, 3 ms as per EN 2591-6402 methode A and MIL-STD-1344
- Vibrations:
 - sine: 60 g, 140 to 2000 Hz
- Quadrax retention: 155 N min
- Quadrax insertion force: 11 N max

Environmental

- Salt spray: 500 hours
- Sealing: altitude immersion 1,1 kPa as per EN 2591-321 and MIL-STD-1344
- Damp heat: MIL-DTL-38999: 10 Cycles of 24 hours

Resistance to fluids as per MIL-DTL-38999 standard

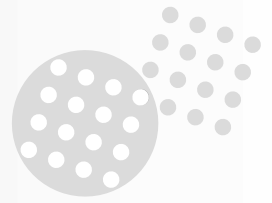
- Gasoline: JP5 (OTAN F44)
- Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
- Synthetic hydraulic fluid: skydrol 500 B4, LD4 (SAE AS 1241)
- Mineral lubricating: MIL-L-7870A (OTAN 0142)
- Synthetic lubricating: MIL-L-23699 (OTAN 0156) MIL-L-7808
- Cleaning fluid: MIL-C-25769 diluted
- De-icing fluid: MIL-A-8243
- Extinguishing fluid: Chlorobromethane
- Cooling fluid: Coolanol

Electrical

- Contact resistance (low level): initial 15 mΩ, after tests 30 mΩ
- Contact resistance at rated current

		Max contact resistance (mΩ)		
		23° C		200° C
Contact	Rated current (A)	Initial	After tests	After tests
Signal contacts	1	15	30	45
Outer body	12	3	4	6

- Dielectric withstanding voltage:
 - Sea level = 500 Vrms between signal contacts and signal contac/body
 - 21000 m = 125 Vrms between signal contacts and signal contac/body
- Insulation resistance: at ambient temperature >5000 MΩ, at high temperature >1000 MΩ
- Characteristics impedance = 100Ω @ 100 MHz
- Attenuation ≤ 0.3 dB @ 100 MHz typical per contact pair (cat5E requirement 0.3 dB @ 100 MHz)
- Crosstalk ≥ 40 dB @ 100 MHz typical (cat 5E requirement 40 dB)
- Contact to shell continuity <10 mΩ (ARINC 600)



Stainless Steel Connector for Quadrax

2 - INSERT ARRANGEMENTS

Insert arrangement (table 1) - Front Face of Male insert

11 - 81
1 QUADRAX

17-82
2 QUADRAX

21-84
4 QUADRAX

25-88
8 QUADRAX

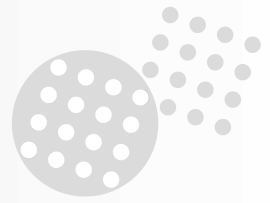
3 - DIMENSIONS

MIL-DTL-38999 – Receptacle type 20

Shell Size	MS shell Size	PC tail contacts		for contacts to crimp									
		A Max.	B max.	C Max.	D Thread	E Max.	F +/-0.3	G	H	K +/-0.2	L +/-0.2	L2 Max.	L2 Min.
11	B	20.90	10.60	2.50	M15x1-6g	14.00	26.20	20.62	18.26	4.93	3.25	10.75	9.65
17	E	20.90	10.60	2.50	M25x1-6g	14.00	33.30	26.97	24.61	4.93	3.25	10.75	9.65
21	G	20.10	11.40	3.20	M31x1-6g	14.80	39.70	31.75	29.36	4.93	3.25	10.86	9.76
25	J	20.10	11.40	3.20	M37x1-6g	14.80	46.00	38.10	34.93	6.15	3.91	10.86	9.76

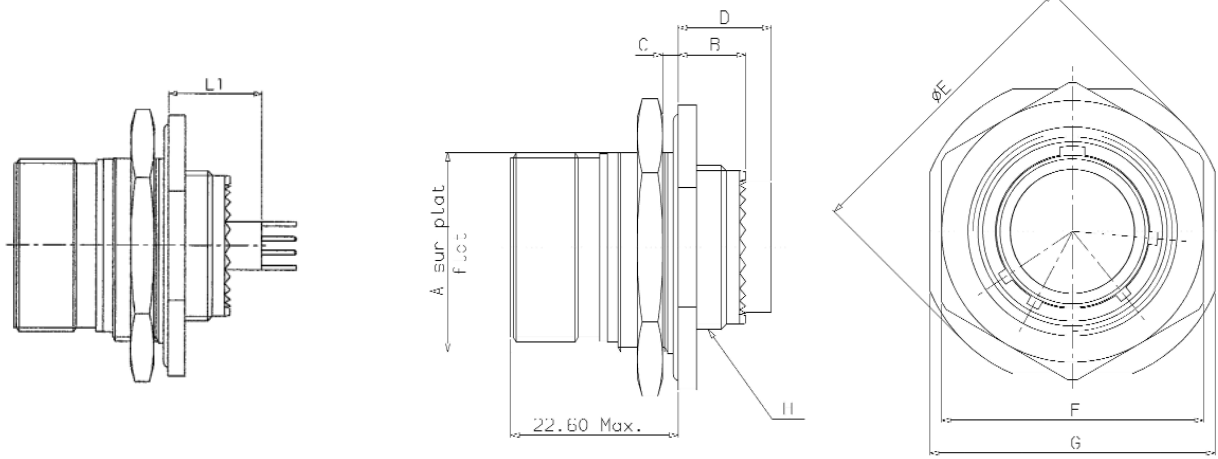
Dimensions in millimeters

38999 for Quadrax



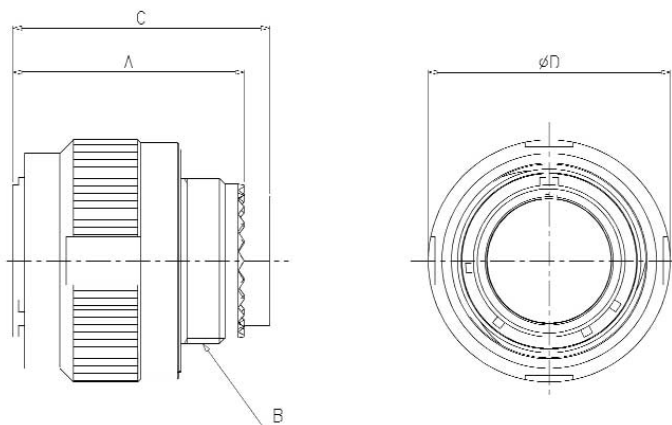
Stainless Steel Connector for Quadrax

MIL-DTL-38999 - Receptacle type 24



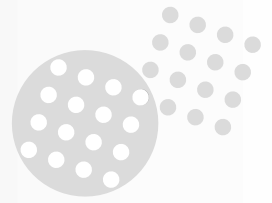
Shell Size	MS shell Size	A+0.1/ -0.15	PC tail contacts	for contacts to crimp		E Max.	F Max.	G +/-0.4	H thread	L1 Max.	L1 Min.
			B Max.	C Max.	D Max.						
11	B	19.07	9.90	3.20	12.70	35.20	27.00	31.80	M15x1-6g	11.63	10.69
17	E	30.15	9.90	3.20	12.50	44.80	37.00	41.30	M25x1-6g	11.45	10.51
21	G	36.50	9.90	3.20	12.50	52.70	46.00	49.20	M315x1-6g	11.45	10.51
25	J	42.85	9.90	3.20	12.50	59.00	51.23	55.60	M37x1-6g	11.45	10.51

MIL-DTL-38999 - Plug type 26



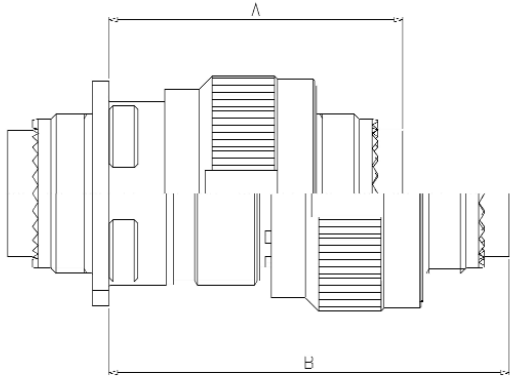
Shell Size	MS Shell Size	A Max.	B Thread	C Max.	D Max.
11	B	31.00	M15 x 1-6g	34.20	25.00
17	E	31.00	M25 x 1-6g	34.20	35.70
21	G	31.00	M31 x 1-6g	34.20	41.70
25	J	31.00	M37 x 1-6g	34,20	48.00

Dimensions in millimeters

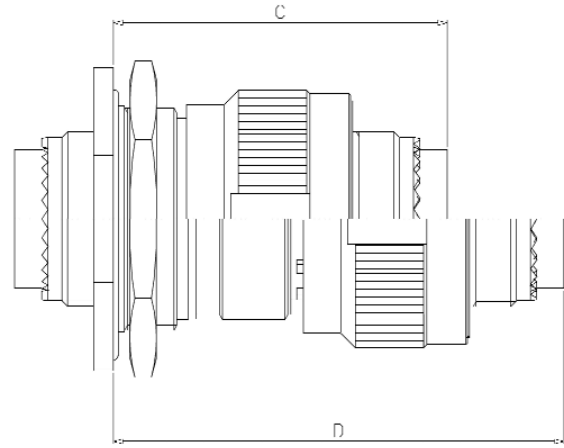


Stainless Steel Connector for Quadrax

MIL-DTL-38999 - Mated connector - type 20 - type 26



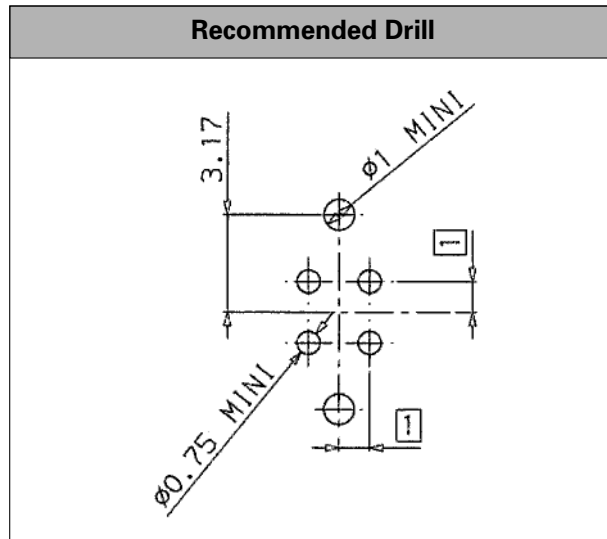
MIL-DTL-38999 - Mated connector - type 24 - type 26



Shell Size	MS Shell Size	A Max.	B Max.	C Max.	D Max.
11	B	37.00	52.30	41.50	56.80
17	E	37.00	52.30	41.70	57.00
21	G	36.00	51.30	41.70	57.00
25	J	36.00	51.30	41.70	57.00

Dimensions in millimeters

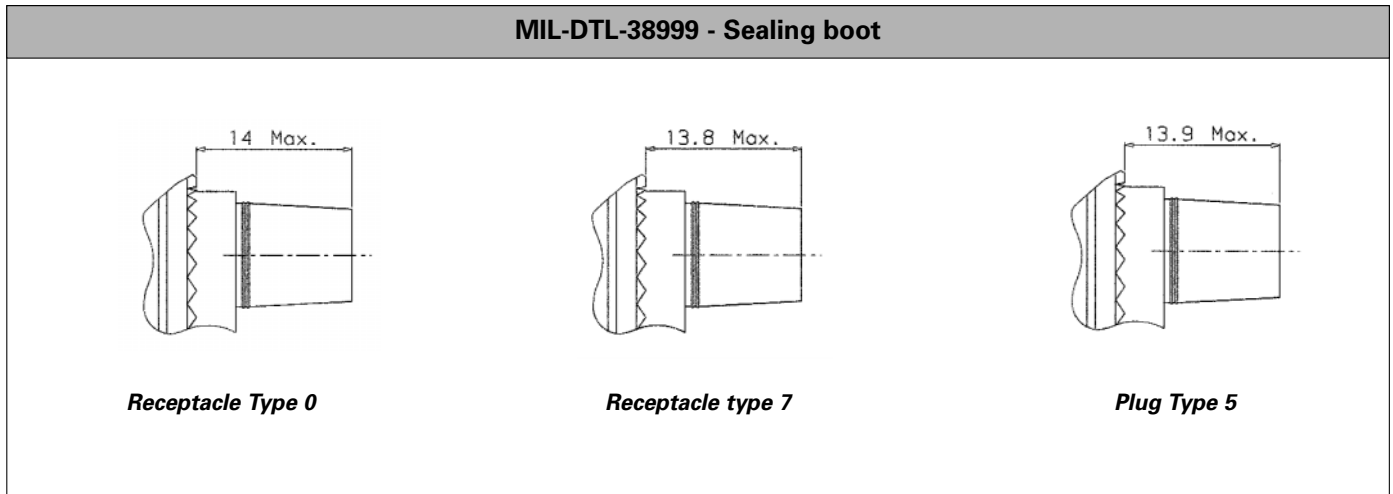
Recommended Drill



38999 for Quadrax



Stainless Steel Connector for Quadrax



Dimensions in millimeters

4 - ORDERING INFORMATION

38999 Series III Stainless steel shell

Basic serie	F 38999/	26	K	J	88	P	N	201
Shell Style	_____							
20 - square flange receptacle								
24 - jam nut receptacle								
26 - plug with RFI shielding								
Class	_____							
K - Corrosion resistant stainless steel								
S - Nickel plated stainless steel								
Shell size	B	E	G	J	_____			
	11	17	21	25				
Insert arrangement	_____							
(see table 1)								
Contact style	_____							
P - Pin contact A - male connector supplied less quadrax contact								
S - female B - female connector supplied less quadrax contact								
Alternate positions	_____							
N - normal								
A - B - C - D - E								
Specification	_____							
201 - Quadrax contact grounded								
225 - Quadrax contact not grounded								