

MIL-DTL-38999 系列 III



该系列圆形电连接器符合(MIL-DTL-D38999) III系列的要求，采用三头螺纹快速连接，并带防松脱机构，具有体积小，重量轻，接触件密度高，电磁屏蔽功能，接触件压接可取卸，插针防斜插等特点，本产品具有防火壳体和多种镀层，具有高温下的高强度振动特性，适合在恶劣的风沙和潮湿的场合下使用。螺纹快速连



接并带防脱配机构，EMI/RFI 屏蔽，插合面界面密封。防斜插设计，有铝合金壳体/海军铜/不锈钢三种壳体。该系列圆形电连接器符合(MIL-DTL-D38999) III系列的要求，采用三头螺纹快速连接，并带防松脱机构，具有体积小，重量轻，接触件密度高，电磁屏蔽功能，接触件压接可取卸，插针防斜插等特点，本产品具有防火壳体和多种镀层，具有高温下的高强度振动特性，适合在恶劣的风沙和潮湿的场合下使用。螺纹快速连接并带防脱配机构，EMI/RFI 屏蔽，插合面界面密封。防斜插设计，有铝合金壳体/海军铜/不锈钢三种壳体。

型号命名

	D38999/	20	W	B	35	P	N
主称代号							
连接器类别							
20 = 方盘插座							
24 = 螺母紧固插座							
26 = 屏蔽插头							
壳体等级							
W = 铝合金镀镉军绿色							
F = 铝合金化学镀镍							
T = 船用青铜 (铜铝合金)							
K = 不锈钢钝化							
L = 黑色阳极化							
J = 复合材料+ W							
M = 复合材料+ F							
壳体代码							
09 (A), 11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J)							
绝缘体孔位排列 (见下图)							
接触件类型							
P = 插针							
S = 插孔							
PL = 长印制板插针							
PC = 短印制板插针							
SL = 长印制板插孔							
SC = 短印制板插孔							
键位变换							
N = 标准键位							
A, B, C, D = 变键位							

电气特性

接触件接触电阻及额定电流:

接触件规格	工作直径 (mm)	接触电阻 (mΩ)	额定电流(A)
22D [#]	Φ 0.76	≤ 12.0	5.0
20 [#]	Φ 1.00	≤ 5.0	7.5
16 [#]	Φ 1.60	≤ 2.5	13.0
12 [#]	Φ 2.40	≤ 1.5	23.0
10 [#]	Φ 3.15	≤ 1.0	40.0

屏蔽性:

在 1GHz: 最低衰减 85dB (F and W) ; 在 10GHz: 最低衰减 65dB (F); 在 10GHz: 最低衰减 50dB (W)

J类和M类在 100GHz 下为 90dB, 1GHz 下为 85dB

耐电压 (V):

使用等级	M	I	II	N
海平面	1300	1800	2300	1000
21000m 高度	800	1000	1000	600

绝缘电阻:

正常条件 ≥ 5000 MΩ (500Vdc 下), 高温高湿 ≥ 100 MΩ

壳体电连续性:

W类 ≤ 2.5 mΩ, F类 ≤ 1.0 mΩ, K类 ≤ 5.0 mΩ

J类: 3mΩ M类: 3mΩ

机械特性

外壳:铝合金、不锈钢或铜合金

壳体镀层:

W 类: 镀镉军绿色

K 类: 不锈钢钝化

F class: 化学镀镍

绝缘体: 热塑性材料或热固体材料

封线体和密封圈: 硅橡胶

接触件: 铜合金镀金

机械寿命: 插拔 ≥ 500 次 插拔 ≥ 1500 次 (J类和M类)

振动: 正弦振动: 60g, 并带温度循环和模拟附件 (36小时)

随机振动: 在高温下为 44.1grms

在环境温度下为 49.5 grms

冲击: 3ms 半正弦波 加速度峰值 300g

接触件的保持性:

22D#, 45N 20#, 67N 16#, 111N 12#, 111N 10#, 111N 8#, 111N

使用环境条件

温度范围:

W 类: $-65^{\circ}\text{C} \sim +175^{\circ}\text{C}$ J类: $-65^{\circ}\text{C} \sim +175^{\circ}\text{C}$ M类: $-65^{\circ}\text{C} \sim +200^{\circ}\text{C}$

K, F 类: $-65^{\circ}\text{C} \sim +200^{\circ}\text{C}$

密封: 插配连接器符合 MIL-DTL-38999K 低气压浸渍的要求

盐雾: 参照 MIL-DTL-38999 中方法 2000 h

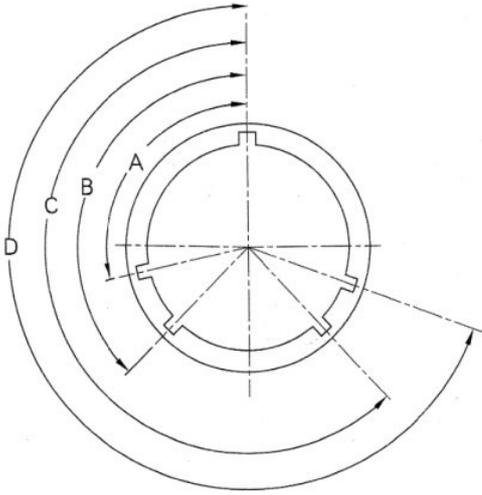
F 类 48h ; W 类 500h ; K 类 1000h

湿热: 按 MIL-DTL-38999K 24 小时 10 次循环 耐液:耐多种燃料、冷却剂和溶剂

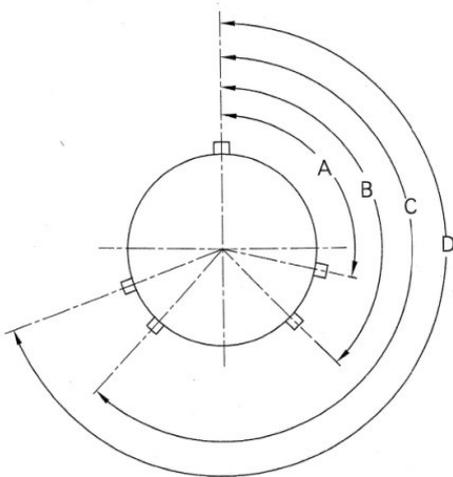
壳体号	角度	N	A	B	C	D	E
9	A°	105	102	80	35	64	91
	B°	140	132	118	140	155	131
	C°	215	248	230	205	234	197
	D°	265	320	312	275	304	240
11	A°	95	113	90	53	119	51
	B°	141	156	145	156	146	141
	C°	208	182	195	220	176	184
	D°	236	292	252	255	298	242
13	A°	95	113	90	53	119	51
	B°	141	156	145	156	146	141
	C°	208	182	195	220	176	184
	D°	236	292	252	255	298	242
15	A°	95	113	90	53	119	79
	B°	141	156	145	156	146	153
	C°	208	182	195	220	176	197
	D°	236	292	252	255	298	272
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

键位

插座正面视图

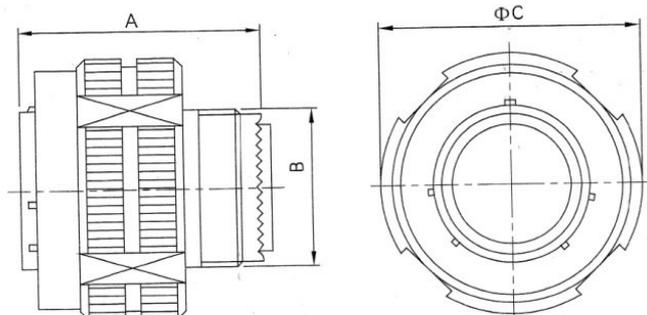


插头正面视图



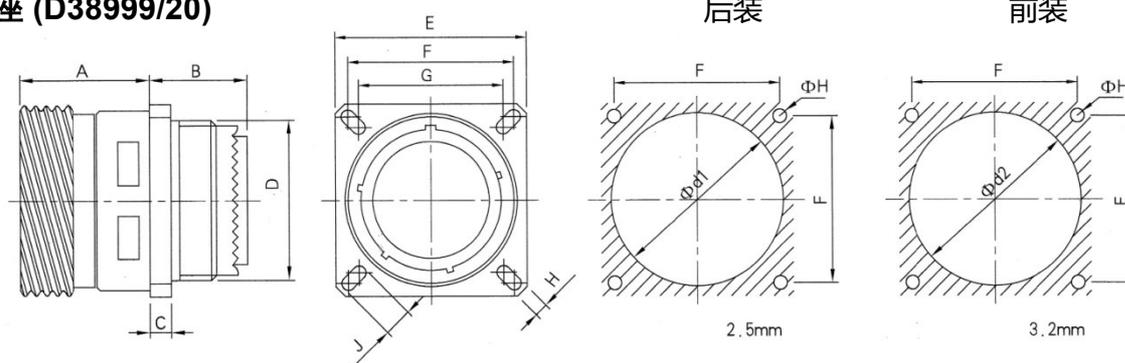
外形尺寸

插头 (D38999/26)



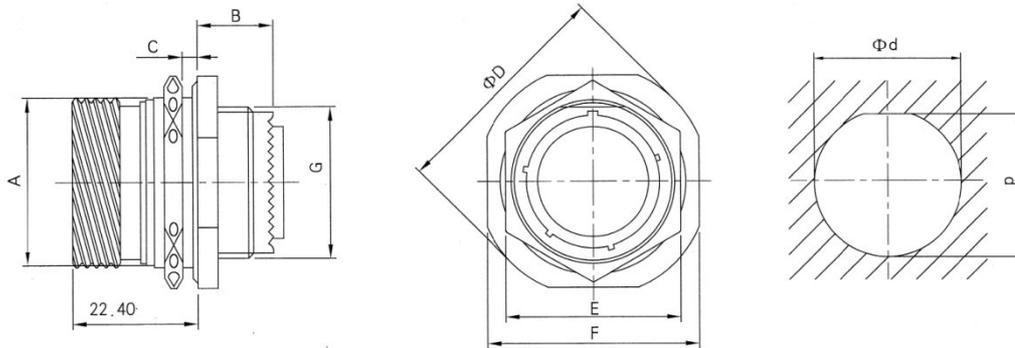
壳体号	A (最大)	B 螺纹	C (最大)
09	31.00	M12*1-6g	21.80
11	31.00	M15*1-6g	25.00
13	31.00	M18*1-6g	29.40
15	31.00	M22*1-6g	32.40
17	31.00	M25*1-6g	35.60
19	31.00	M28*1-6g	38.50
21	31.00	M31*1-6g	41.70
23	31.00	M34*1-6g	44.90
25	31.00	M37*1-6g	48.00

方盘插座 (D38999/20)

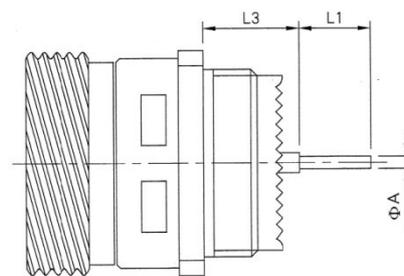
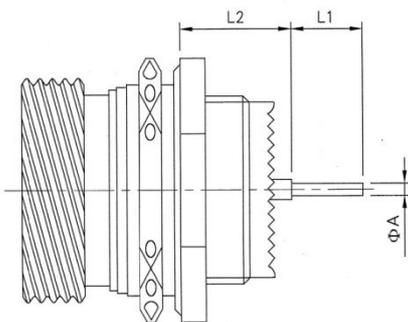


面板最大厚度 2.5mm 面板最大厚度 max 3.2mm

壳体号	A (最大)	B (最大)	C (最大)	D 螺纹	E	F	G	H	J	d1 (最小)	d2 (最小)
09	20.90	10.60	2.50	M12*1-6g	23.80	18.26	15.09	3.25	5.49	16.66	13.11
11	20.90	10.60	2.50	M15*1-6g	26.20	20.62	18.26	3.25	4.93	20.22	15.88
13	20.90	10.60	2.50	M18*1-6g	28.60	23.01	20.62	3.25	4.93	23.42	19.05
15	20.90	10.60	2.50	M22*1-6g	31.00	24.61	23.01	3.25	4.39	26.59	23.01
17	20.90	10.60	2.50	M25*1-6g	33.30	26.97	24.61	3.25	4.93	30.96	25.81
19	20.90	10.60	2.50	M28*1-6g	36.50	29.36	26.97	3.25	4.93	32.94	28.98
21	20.10	11.40	3.20	M31*1-6g	39.70	31.75	29.36	3.25	4.93	36.12	32.16
23	20.10	11.40	3.20	M34*1-6g	42.90	34.93	31.75	3.91	6.15	39.29	34.93
25	20.10	11.40	3.20	M37*1-6g	46.00	38.10	34.93	3.91	6.15	42.47	37.69

螺母紧固插座 (D38999/24)


壳体号.	A	B (最大)	C (最大)	D (最大)	E (最大)	F	G 螺纹	d	p
09	16.50	9.90	3.20	30.50	24.00	27.00	M12*1-6g	17.70	16.99
11	19.30	9.90	3.20	35.20	27.00	31.80	M15*1-6g	20.88	19.53
13	24.00	9.90	3.20	38.40	32.00	34.90	M18*1-6g	25.58	24.26
15	27.20	9.90	3.20	41.60	36.00	38.10	M22*1-6g	28.80	27.53
17	30.40	9.90	3.20	44.80	37.00	41.30	M25*1-6g	31.98	30.68
19	33.40	9.90	3.20	49.30	41.00	46.00	M28*1-6g	35.15	33.86
21	36.50	9.90	3.20	52.70	46.00	49.20	M31*1-6g	38.28	37.06
23	39.70	9.90	3.20	55.90	50.00	52.40	M34*1-6g	41.50	40.24
25	42.80	9.90	3.20	59.00	51.23	55.60	M37*1-6g	44.68	43.41

带印制板型接触件的插座
紧固插座(D38999/24)
方形插座 (D38999/20)


印制板型接触件规格		L1	A
22D [#]	长型印制板接触件	8.5	0.7
	短型印制板接触件	4.0	
20 [#]	长型印制板接触件	8.5	0.7
	短型印制板接触件	5.1	
16 [#]	长型印制板接触件	8.5	1.15
	短型印制板接触件	5.1	

装不同规格接触件时的尺寸			Shell No.	Shell No.
			09, 11	13, 15, 17, 19, 21, 23, 25
L2	装 22D [#] 插针时	最小	10.52	10.34
		最大	11.46	11.28
	装 22D [#] 插孔时	最小	10.19	10.01
		最大	11.46	11.28
	装 16 [#] 或 20 [#] 插针, 插孔时	最小	10.69	10.51
		最大	11.63	11.45
L3	装 22D [#] 插针时	最小	9.48	9.48
		最大	10.58	10.58
	装 22D [#] 插孔时	最小	9.15	9.15
		最大	10.58	10.58
	装 16 [#] 或 20 [#] 插针, 插孔时	最小	9.65	9.65
		最大	10.75	10.75

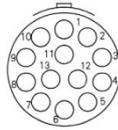
接点排列 (装针绝缘体插合面视图)



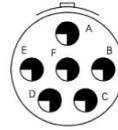
09-35 M



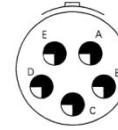
09-98 I



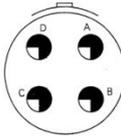
11-35 M



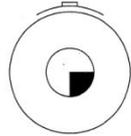
11-98 I



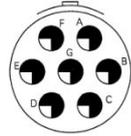
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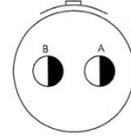
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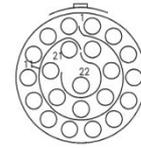
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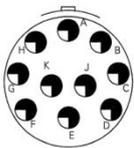
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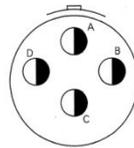
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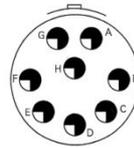
13-35 M



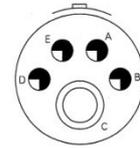
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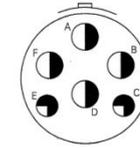
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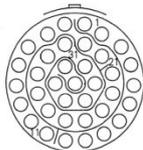
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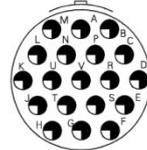
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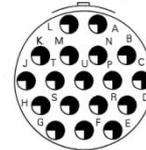
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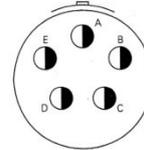
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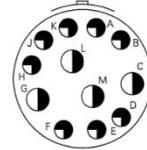
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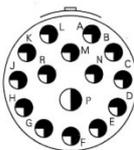
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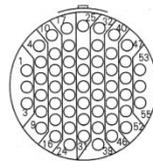
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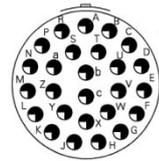
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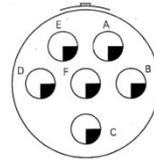
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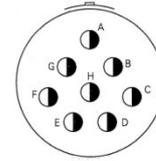
17-35 M



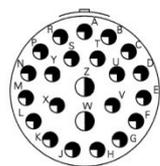
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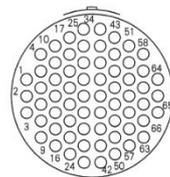
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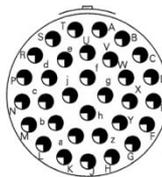
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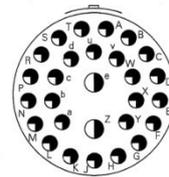
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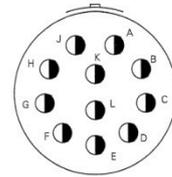
19-35 M



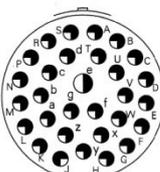
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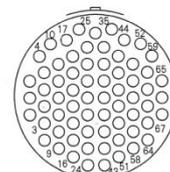
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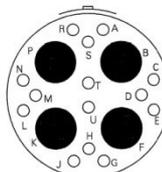
19-11 II



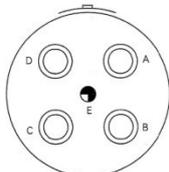
19-30 I



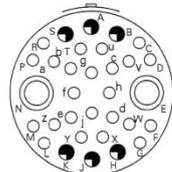
19-45 M



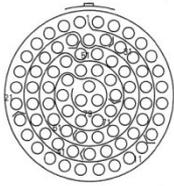
19-18 M



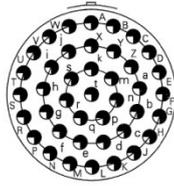
19-05



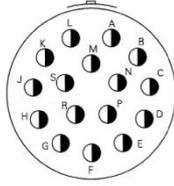
19-93 I



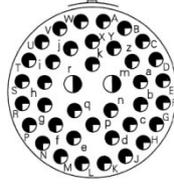
21-35 M



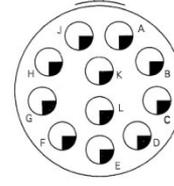
21-41 I



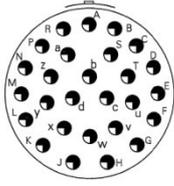
21-16 II



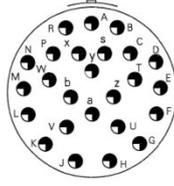
21-39 I



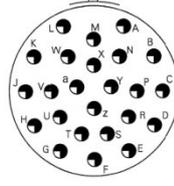
21-11 II



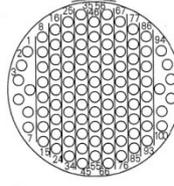
21-27 I



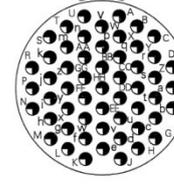
21-25 I



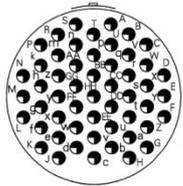
21-24 I



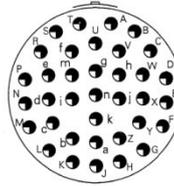
23-35 M



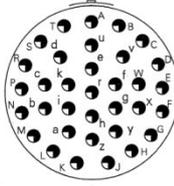
23-55 I



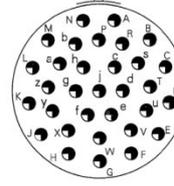
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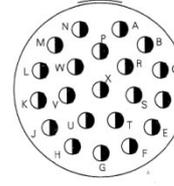
23-36 I



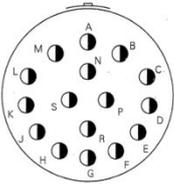
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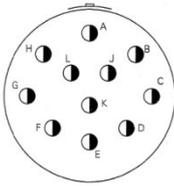
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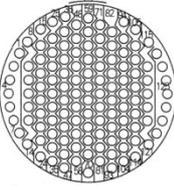
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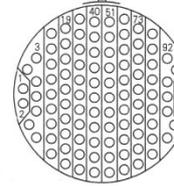
23-97 I



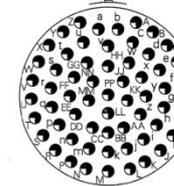
23-99 II



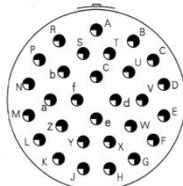
25-35 M



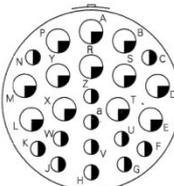
25-02 I



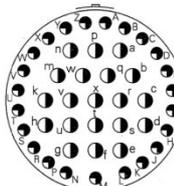
25-61 I



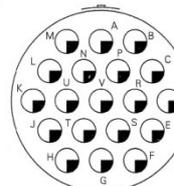
25-29 I



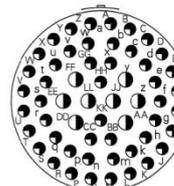
25-24 I



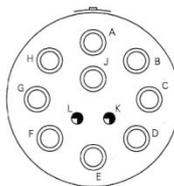
25-43 I



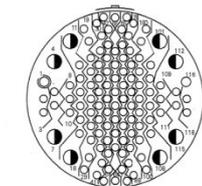
25-19 I



25-04 I



25-11



25-93 M

○ 22D#

● 20#

◐ 16#

◑ 12#

◒ 10#

● 8#