

MIL-C-26482 Series I



MIL-C-26482 series I circular connector is designed for quick bayonet coupling, solder contact, small size and medium contact density.

This family of circular connectors is offered 3 kinds of shell of different material, 9 kinds of size Shell, 4 kinds of finishes, 6 plug styles, 18 receptacle-mounting styles, 3 kinds of contact and more than 30 kinds of contact layout.

Widely used on commercial, military and aerospace systems, etc.

Part number

MS	3110	E	18	-32	P	N	L
Basic series							
Type of shell							
3110 = Wall mounting square receptacle							
3111 = Cable connecting receptacle							
3112 = Box mounting square receptacle							
3114 = Jam nut receptacle							
3116 = Straight plug							
3117 = Thru bulkhead receptacle							
Type							
B = PCB							
E = Grommet seal, conductive shell							
F = Grommet seal, conductive shell with cable clamp							
J = Hermetic cable, conductive shell							
M = Waterproof							
P = Hermetic encapsulation, conductive shell							
R = Without back shell							
Shell size							
08, 10, 12, 14, 16, 18, 20, 22, 24							
Contact layout (see below)							
Contact							
P = Pin							
S = Socket							
Orientation							
N, W, X, Y, Z							
Finish							
Omit = Olive drab cadmium plating							
A = Black anodized							
B = Olive green cadmium plating							
S = Stainless steel passivated							
L = Electroless nickel plating							

Performance specifications

Operating temperature range:

-55 °C ~ +125 °C

Shell Material:

Aluminium-alloy, copper-alloy or stainless-steel

Corrosion resistance:

Class L withstand 48 hours salt spray and others withstand 500 hours salt spray.

Environmental seal:
≤ 4.6×10² Pa·cm³/s

Durability:
≥ 500 cycles

Shock:
Max acceleration 490 m/s²

Random vibration:
Frequency 10Hz ~ 2000Hz at 147 m/s²

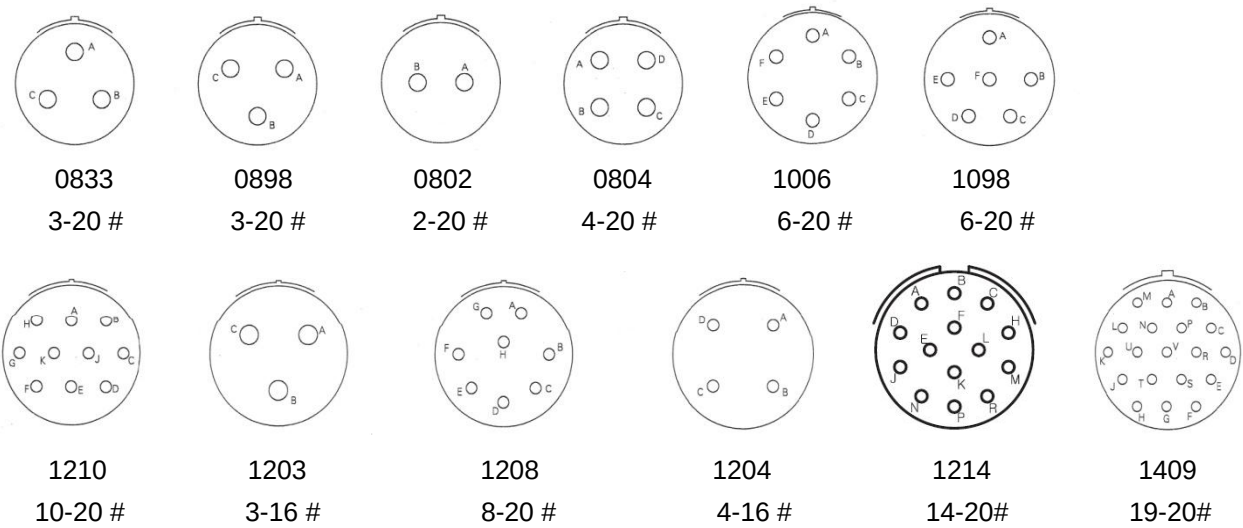
Contact

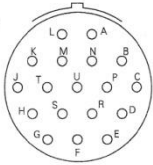
Contact No.	Diameter (mm)	Resistance (mΩ)	Current (A)
20 #	Φ 1.00	≤ 5	7.5
16 #	Φ 1.59	≤ 3	13.0
12 #	Φ 2.39	≤ 2	23.0

Voltage rating (V)

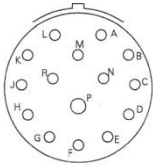
Service rating	Suggested operating voltage		Test voltage	
	I	II	I	II
Sea level	600	1000	1500	2300
22000 m	300	450	375	500

Contact layout

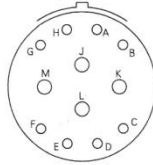




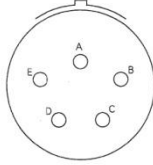
1418
18-20 #



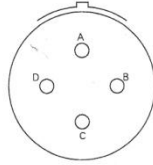
1415
14-20 #
1-16#



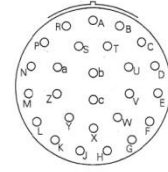
1412
8-20 #
4-16#



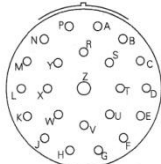
1405
5-16 #



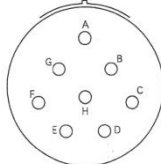
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4-12 #



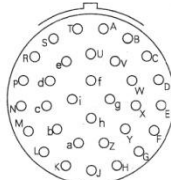
1626
26-20 #



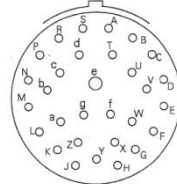
1623
22-20 #
1-16 #



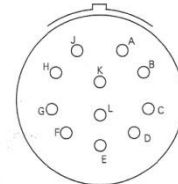
1608
8-16 #



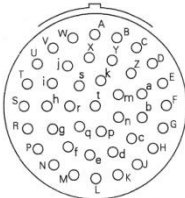
1832
32-20 #



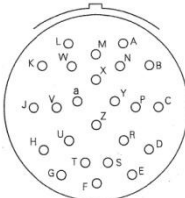
1830
29-20 #
1-16 #



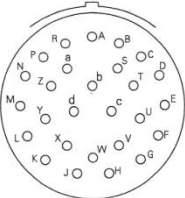
1811
11-16 #



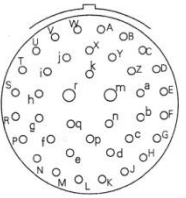
2041
41-20 #



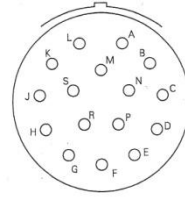
2024
24-20 #



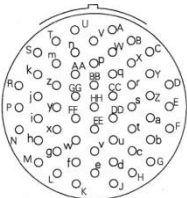
2027
27-20 #



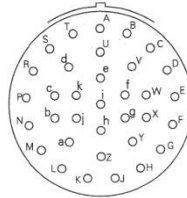
2039
37-20 #
2-16 #



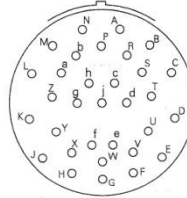
2016
16-16 #



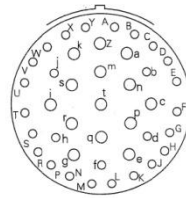
2255
55-20 #



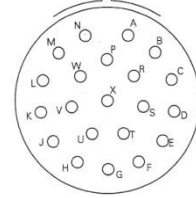
2234
34-20 #



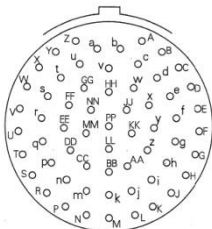
2232
32-20 #



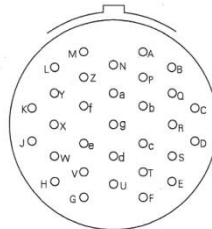
2241
27-20 #
14-16 #



2221
21-16 #

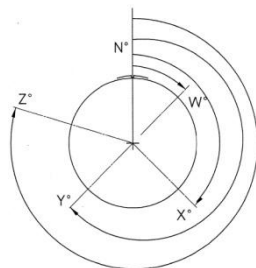


2461
61-20 #



2431
31-16 #

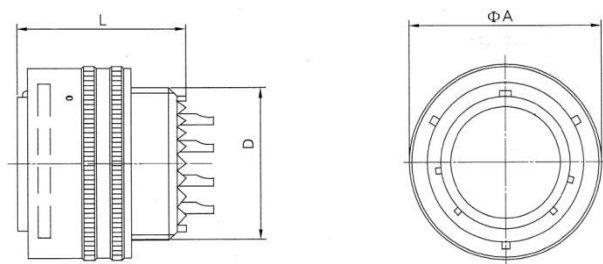
Orientation



Shell No.	Layout No.	Degree				
		N	W	X	Y	Z
8	08-02	0	60	210	---	---
	08-33	0	90	---	---	---
	08-04	0	45	---	---	---
10	10-06	0	90	---	---	---
	10-98	0	90	180	240	270
12	12-10	0	60	155	270	295
	12-08	0	90	112	203	292
	12-03	0	---	---	180	---
14	14-19	0	30	165	315	---
	14-18	0	15	90	180	270
	14-15	0	17	110	155	234
	14-12	0	43	90	---	---
	14-05	0	40	92	184	273
	14-04	0	45	150	---	---
16	16-26	0	60	---	275	338
	16-23	0	158	270	---	---
	16-08	0	54	152	180	331
18	18-32	0	85	138	222	265
	18-11	0	62	119	241	340
	18-30	0	180	193	285	350
20	20-41	0	45	126	225	---
	20-39	0	63	144	252	333
	20-16	0	238	318	333	347
	20-24	0	70	145	215	290
	20-27	0	72	144	216	288
22	22-55	0	30	142	226	314
	22-41	0	39	135	264	---
	22-21	0	16	135	175	349
	22-34	0	62	142	218	298
	22-32	0	72	145	215	288
24	24-61	0	90	180	270	324
	24-31	0	90	225	255	---

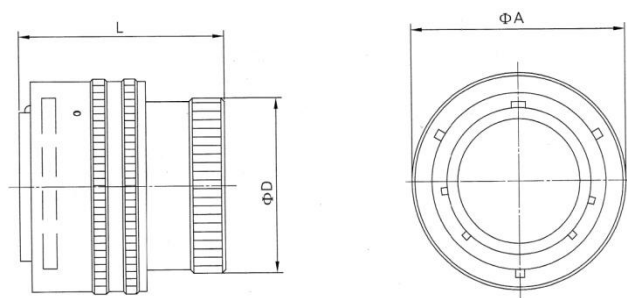
Shell size

Straight plug (MS3116R)



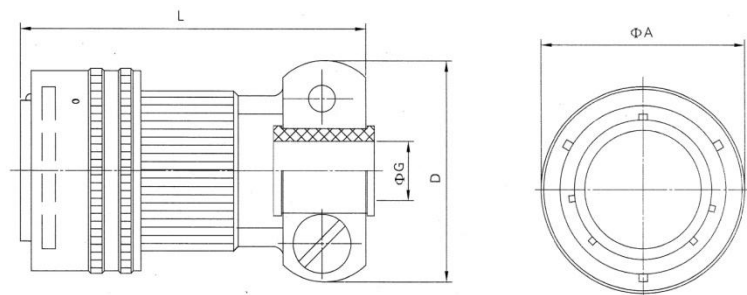
Shell No.	8	10	12	14	16	18	20	22	24
L (max)	21.0	21.0	21.0	21.0	21.0	21.0	23.0	23.0	23.0
A	19.0	21.0	26.0	28.5	31.0	35.0	39.0	42.0	45.0
Thread D UNEF-2A	0.4375- 28	0.5625- 24	0.6875- 24	0.8125- 20	0.9375- 20	1.0625- 18	1.1875- 18	1.3125- 18	1.4375- 18

Straight plug (MS3116E)



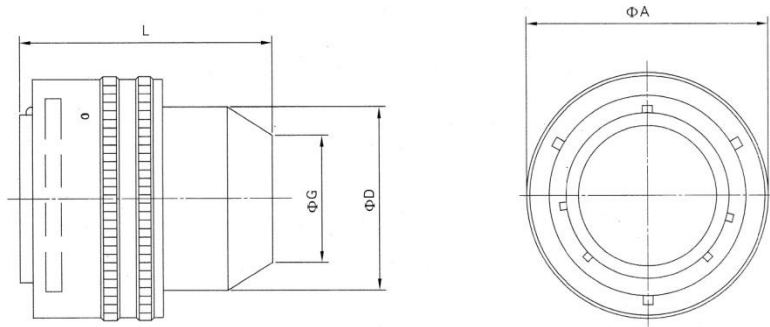
Shell No.	8	10	12	14	16	18	20	22	24
L (max)	32.5	32.5	32.5	32.5	32.5	32.5	33.3	33.3	33.3
A	19.0	21.0	26.0	28.5	31.0	35.0	39.0	42.0	45.0
Thread D UNEF-2A	0.4375- 28	0.5625- 24	0.6875- 24	0.8125- 20	0.9375- 20	1.0625- 18	1.1875- 18	1.3125- 18	1.4375- 18

Straight plug (MS3116F)



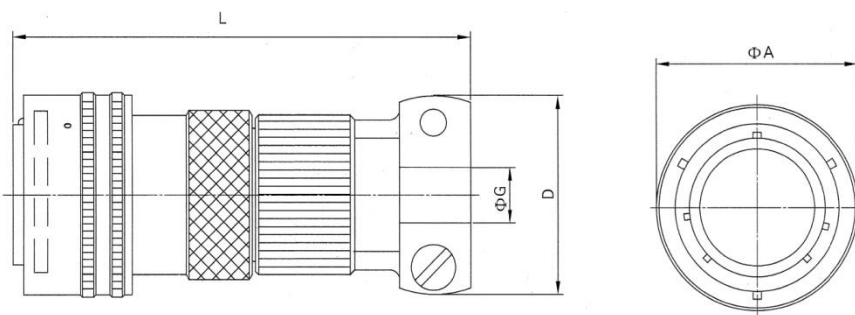
Shell No.	8	10	12	14	16	18	20	22	24
L (max)	48.0	48.0	48.0	48.0	51.0	51.0	52.0	52.0	52.0
A (max)	19.0	21.0	26.0	28.5	31.0	35.0	39.0	42.0	45.0
D (max)	19.9	21.5	24.0	27.8	29.4	35.3	35.3	41.1	42.4
G (max)	3.5	5.0	8.2	10.0	13.0	16.0	16.0	19.3	20.6

Straight plug (MS3116P)



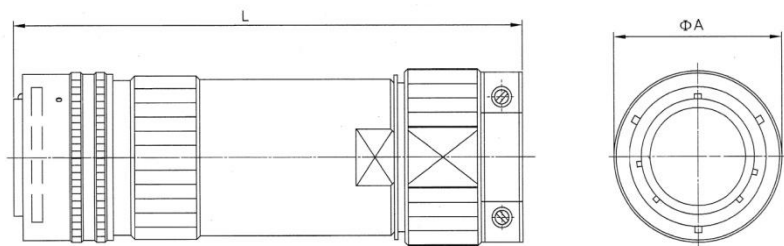
Shell No.	8	10	12	14	16	18	20	22	24
L (max)	36.20	36.20	36.20	36.20	36.20	37.70	42.40	42.40	42.80
A (max)	19.00	21.00	26.00	28.50	31.00	35.00	39.00	42.00	45.00
D (max)	15.34	17.70	21.69	23.90	27.00	30.50	33.65	37.10	40.00
G (max)	10.46	13.55	13.96	17.42	20.56	23.66	23.92	25.52	32.00

Straight plug (MS3116J)



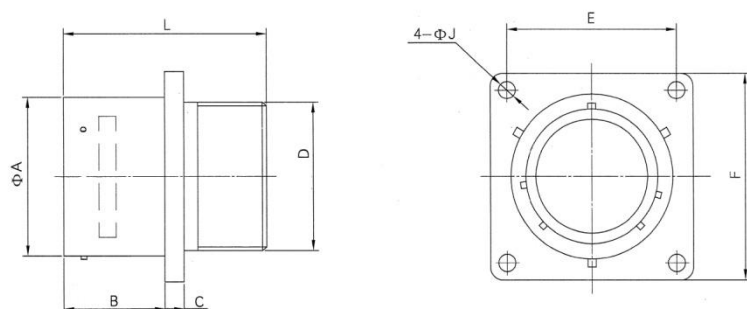
Shell No.	8	10	12	14	16	18	20	22	24
L (max)	57.6	57.6	61.2	66.0	74.7	80.5	91.6	95.6	101.2
A (max)	19.0	21.0	26.0	28.5	31.0	35.0	39.0	42.0	45.0
D (max)	19.9	21.5	24.0	27.8	29.4	35.3	35.3	41.1	42.4
G (max)	5.4	6.4	9.8	11.7	15.1	16.4	17.3	18.2	20.0

Straight plug (MS3116M)



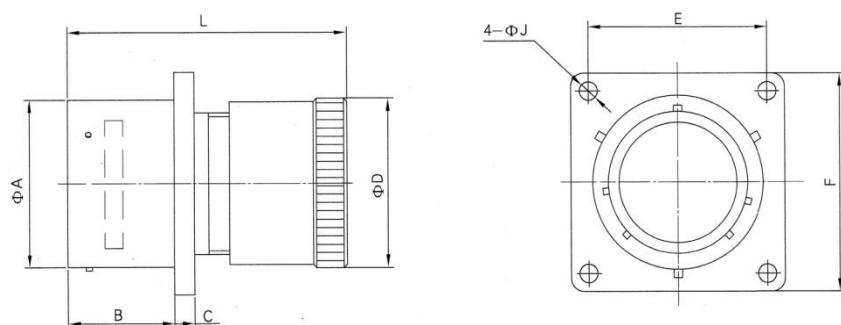
Shell No.	8	10	12	14	16	18	20	22	24
L	75.0	75.0	75.0	75.0	75.0	75.0	78.0	78.0	78.0
A	19.0	21.0	26.0	28.5	31.0	35.0	39.0	42.0	45.0

Wall mounting receptacle (MS3110R)



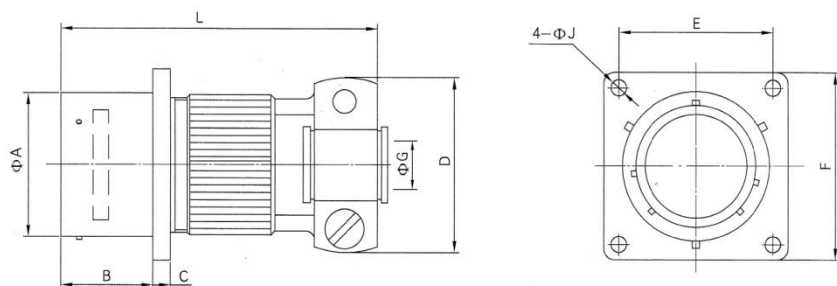
Shell No.	L (max)	A	B (max)	C (max)	E	F (max)	J	Thread D UNEF-2A
8	21	12.04	11.7	1.7	15.09	20.99	3.2	0.4375-28
10	21	15.00	11.7	1.7	18.26	24.19	3.2	0.5625-24
12	21	19.07	11.7	1.7	20.62	26.54	3.2	0.6875-24
14	21	22.25	11.7	1.7	23.00	28.89	3.2	0.8125-20
16	21	25.43	11.7	1.7	24.61	31.29	3.2	0.9375-20
18	21	28.60	11.7	1.7	26.97	33.69	3.2	1.0625-18
20	23	31.78	14.3	2.5	29.36	36.89	3.2	1.1875-18
22	23	34.95	14.3	2.5	31.75	39.99	3.2	1.3125-18
24	23	38.13	15.2	2.5	34.92	43.15	3.8	1.4375-18

Wall mounting receptacle (MS3110E)



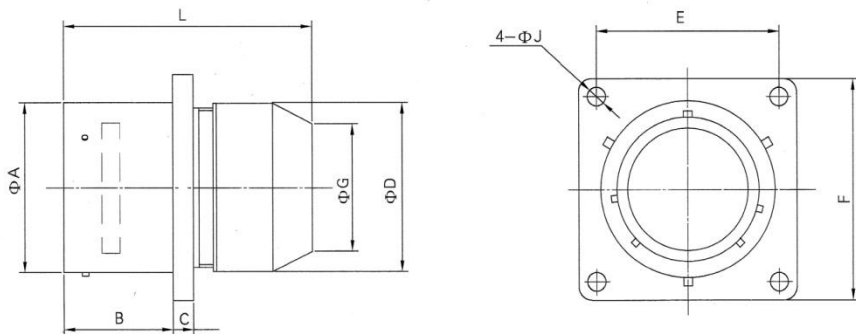
Shell No.	L (max)	A	B (max)	C (max)	D (max)	E	F (max)	J
8	32.7	12.04	11.70	1.7	13.5	15.09	20.99	3.2
10	32.7	15.00	11.70	1.7	16.7	18.26	24.19	3.2
12	32.7	19.07	11.70	1.7	19.9	20.62	26.54	3.2
14	32.7	22.25	11.70	1.7	23.4	23.00	28.89	3.2
16	32.7	25.43	11.70	1.7	26.6	24.61	31.29	3.2
18	32.7	28.60	11.70	1.7	29.5	26.97	33.69	3.2
20	34.5	31.78	14.35	2.5	32.7	29.36	36.89	3.2
22	34.5	34.95	14.35	2.5	36.0	31.75	39.99	3.2
24	34.5	38.13	15.2	2.5	39.1	34.92	43.15	3.8

Wall mounting receptacle (MS3110F)



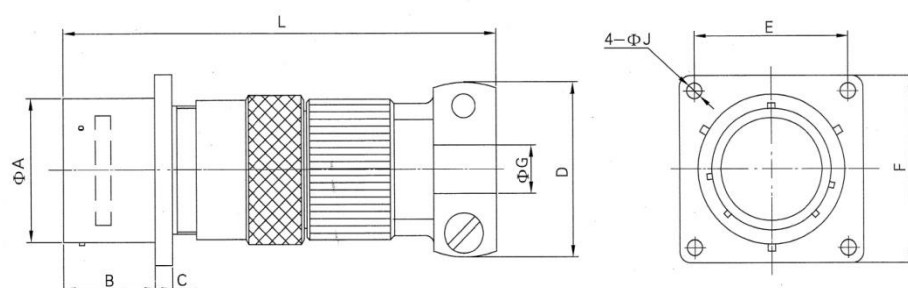
Shell No.	L (max)	A	B (max)	C (max)	D (max)	E	F (max)	G	J
8	48.0	12.04	11.70	1.7	19.9	15.09	20.99	3.5	3.2
10	48.0	15.00	11.70	1.7	21.5	18.26	24.19	5.0	3.2
12	48.0	19.07	11.70	1.7	24.0	20.62	26.54	8.2	3.2
14	48.0	22.25	11.70	1.7	27.8	23.00	28.89	10.0	3.2
16	51.0	25.43	11.70	1.7	29.4	24.61	31.29	13.0	3.2
18	51.0	28.60	11.70	1.7	35.3	26.97	33.69	16.0	3.2
20	53.0	31.78	14.35	2.5	35.3	29.36	36.89	16.0	3.2
22	53.0	34.95	14.35	2.5	41.1	31.75	39.99	19.3	3.2
24	53.0	38.13	15.20	2.5	42.4	34.92	43.15	20.6	3.8

Wall mounting receptacle (MS3110P)



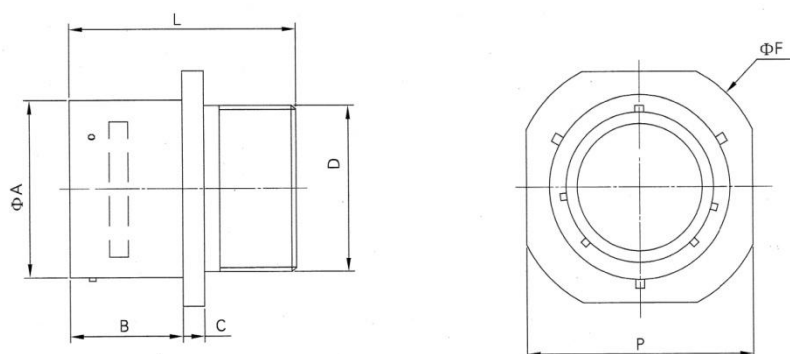
Shell No.	L (max)	A	B (max)	C (max)	D (max)	E	F (max)	G	J
8	36.2	12.04	11.70	1.7	15.34	15.09	20.99	10.46	3.2
10	36.2	15.00	11.70	1.7	17.70	18.26	24.19	13.55	3.2
12	36.2	19.07	11.70	1.7	21.69	20.62	26.54	13.96	3.2
14	36.2	22.25	11.70	1.7	23.90	23.00	28.89	17.42	3.2
16	36.2	25.43	11.70	1.7	27.00	24.61	31.29	20.56	3.2
18	36.9	28.60	11.70	1.7	30.50	26.97	33.69	23.66	3.2
20	43.8	31.78	14.35	2.5	33.65	29.36	36.89	23.92	3.2
22	43.8	34.95	14.35	2.5	37.10	31.75	39.99	25.52	3.2
24	43.8	38.13	15.20	2.5	40.00	34.92	43.15	32.00	3.8

Wall mounting receptacle (MS3110J)



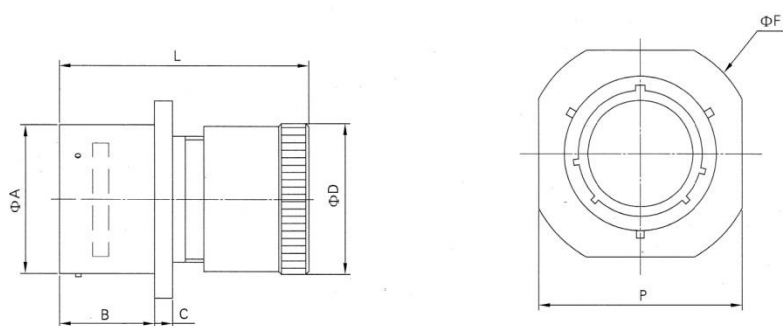
Shell No.	L (max)	A	B (max)	C (max)	D (max)	E	F (max)	G ± 0.4	J
8	57.6	12.04	11.70	1.7	19.9	15.09	20.99	5.4	3.2
10	57.6	15.00	11.70	1.7	21.5	18.26	24.19	6.4	3.2
12	61.2	19.07	11.70	1.7	24.0	20.62	26.54	9.8	3.2
14	66.0	22.25	11.70	1.7	27.8	23.00	28.89	11.7	3.2
16	74.7	25.43	11.70	1.7	29.4	24.61	31.29	15.1	3.2
18	80.5	28.60	11.70	1.7	35.3	26.97	33.69	16.4	3.2
20	91.6	31.78	14.35	2.5	35.3	29.36	36.89	17.3	3.2
22	95.6	34.95	14.35	2.5	41.1	31.75	39.99	18.2	3.2
24	101.2	38.13	15.20	2.5	42.4	34.92	43.15	20.0	3.8

Cable connecting receptacle (MS3111R)



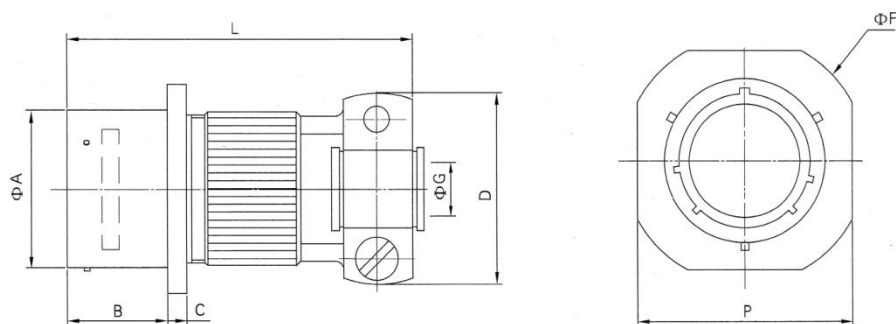
Shell No.	L (max)	A	B (max)	C (max)	F (max)	P	Thread D UNEF-2A
8	21	12.04	10.6	2.4	24.24	20.99	0.4375-28
10	21	15.00	10.6	2.4	27.44	24.19	0.5625-24
12	21	19.07	10.6	2.4	29.79	26.54	0.6875-24
14	21	22.25	10.6	2.4	32.10	28.89	0.8125-20
16	21	25.43	10.6	2.4	34.59	31.29	0.9375-20
18	21	28.60	10.6	2.4	36.94	33.69	1.0625-18
20	23	31.78	13.8	2.9	40.14	36.89	1.1875-18
22	23	34.95	13.8	2.9	43.24	40.00	1.3125-18
24	23	38.13	14.7	2.9	46.44	43.29	1.4375-18

Cable connecting receptacle (MS3111E)



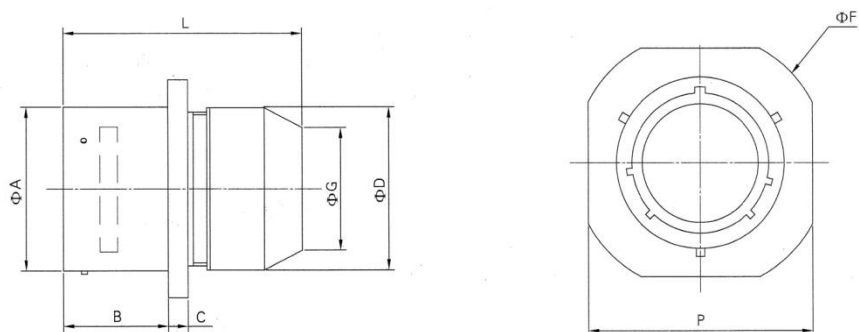
Shell No.	L (max)	A	B (max)	C (max)	D (max)	F (max)	P (max)
8	32.7	12.04	10.6	2.4	13.5	24.24	20.99
10	32.7	15.00	10.6	2.4	16.7	27.44	24.19
12	32.7	19.07	10.6	2.4	19.9	29.79	26.54
14	32.7	22.25	10.6	2.4	23.4	32.10	28.89
16	32.7	25.43	10.6	2.4	26.6	34.59	31.29
18	32.7	28.60	10.6	2.4	29.5	36.94	33.69
20	34.5	31.78	13.8	2.9	32.7	40.14	36.89
22	34.5	34.95	13.8	2.9	36.0	43.24	40.00
24	34.5	38.13	14.7	2.9	39.1	46.44	43.29

Cable connecting receptacle (MS3111F)



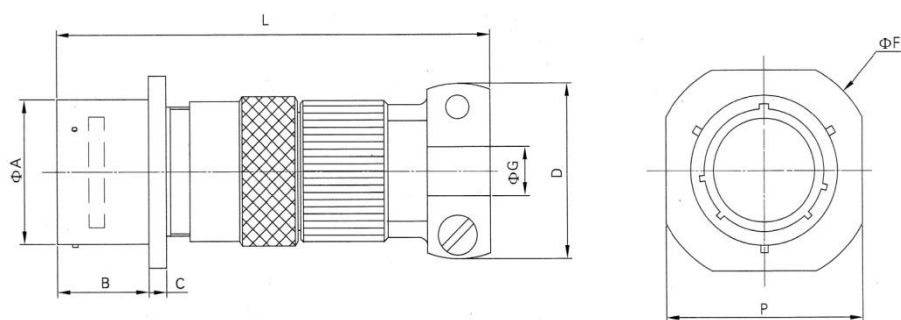
Shell No.	L (max)	A	B (max)	C (max)	D (max)	G (max)	F (max)	P (max)
8	48.0	12.04	10.6	2.4	19.9	3.5	24.24	20.99
10	48.0	15.00	10.6	2.4	21.5	5.0	27.44	24.19
12	48.0	19.07	10.6	2.4	24.0	8.2	29.79	26.54
14	48.0	22.25	10.6	2.4	27.8	10.0	32.10	28.89
16	51.0	25.43	10.6	2.4	29.4	13.0	34.59	31.29
18	51.0	28.60	10.6	2.4	35.3	16.0	36.94	33.69
20	53.0	31.78	13.8	2.9	35.3	16.0	40.14	36.89
22	53.0	34.95	13.8	2.9	41.4	19.3	43.24	40.00
24	53.0	38.13	14.7	2.9	42.4	20.6	46.44	43.29

Cable connecting receptacle (MS3111P)



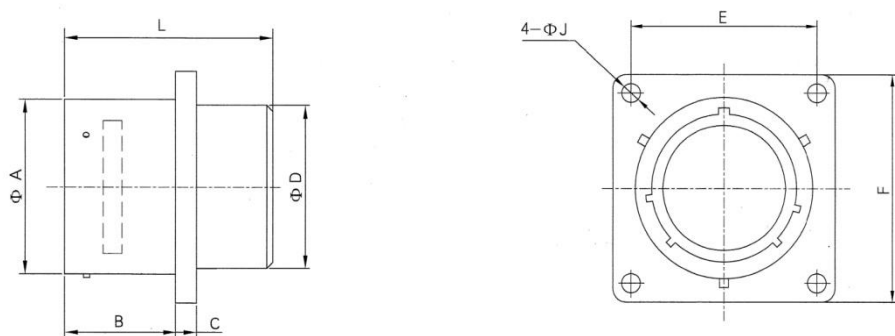
Shell No.	L (max)	A	B (max)	C (max)	D (max)	G (max)	F (max)	P (max)
8	36.2	12.04	10.6	2.4	15.34	10.46	24.24	20.99
10	36.2	15.00	10.6	2.4	17.70	13.55	27.44	24.19
12	36.2	19.07	10.6	2.4	21.69	13.96	29.79	26.54
14	36.2	22.25	10.6	2.4	23.90	17.42	32.10	28.89
16	36.2	25.43	10.6	2.4	27.00	20.56	34.59	31.29
18	36.9	28.60	10.6	2.4	30.50	23.66	36.94	33.69
20	43.8	31.78	13.8	2.9	33.65	23.92	40.14	36.89
22	43.8	34.95	13.8	2.9	37.10	25.52	43.24	40.00
24	43.8	38.13	14.7	2.9	40.00	32.00	46.44	43.29

Cable connecting receptacle (MS3111J)



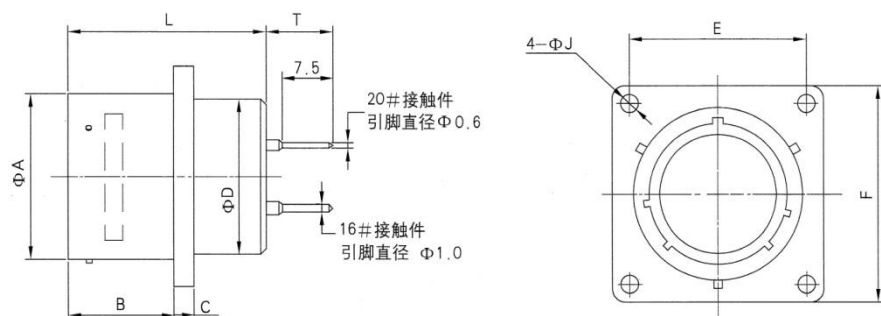
Shell No.	L (max)	A	B (max)	C (max)	D (max)	G $\pm$ 0.4	F (max)	P (max)
8	57.6	12.04	10.6	2.4	19.9	5.4	24.24	20.99
10	57.6	15.00	10.6	2.4	21.5	6.4	27.44	24.19
12	61.2	19.07	10.6	2.4	24.0	9.8	29.79	26.54
14	66.0	22.25	10.6	2.4	27.8	11.7	32.10	28.89
16	74.7	25.43	10.6	2.4	29.4	15.1	34.59	31.29
18	80.5	28.60	10.6	2.4	35.3	16.4	36.94	33.69
20	91.6	31.78	13.8	2.9	35.3	17.3	40.14	36.89
22	95.6	34.95	13.8	2.9	41.4	18.2	43.24	40.00
24	101.2	38.13	14.7	2.9	42.4	20.0	46.44	43.29

Box square flange receptacle (MS3112E)



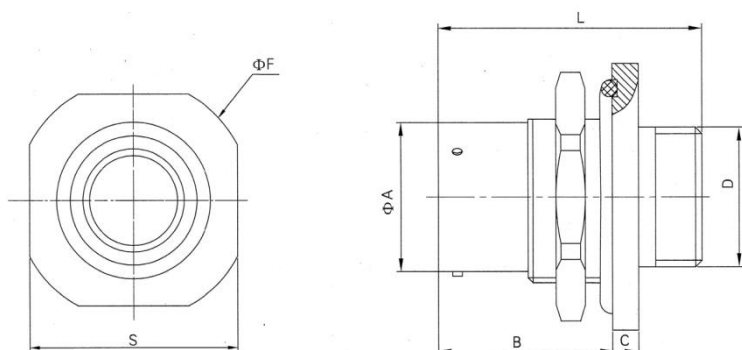
Shell No.	L (max)	A	B (max)	C (max)	D (max)	E (max)	F (max)	J (max)
8	21	12.04	11.70	1.7	10.84	15.09	20.99	3.2
10	21	15.00	11.70	1.7	13.99	18.26	24.19	3.2
12	21	19.07	11.70	1.7	17.37	20.62	26.54	3.2
14	21	22.25	11.70	1.7	20.57	23.00	28.89	3.2
16	21	25.43	11.70	1.7	23.72	24.61	31.29	3.2
18	21	28.60	11.70	1.7	26.69	26.97	33.69	3.2
20	23	31.78	14.35	2.5	29.89	29.36	36.89	3.2
22	23	34.95	14.35	2.5	33.04	31.75	39.99	3.2
24	23	38.13	15.20	2.5	36.24	34.92	43.15	3.8

Box square flange receptacle (MS3112B)



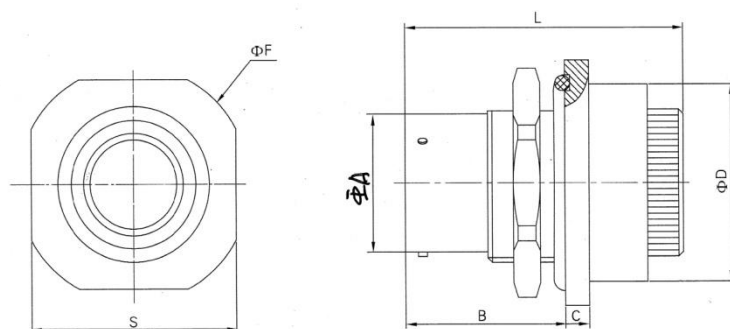
Shell No.	L (max)	A	B (max)	C (max)	D (max)	T (max)	E (max)	F (max)	J
8	21	12.04	11.70	1.7	10.84	9.46	15.09	20.99	3.2
10	21	15.00	11.70	1.7	13.99	9.46	18.26	24.19	3.2
12	21	19.07	11.70	1.7	17.37	9.46	20.62	26.54	3.2
14	21	22.25	11.70	1.7	20.57	9.46	23.00	28.89	3.2
16	21	25.43	11.70	1.7	23.72	9.46	24.61	31.29	3.2
18	21	28.60	11.70	1.7	26.69	9.46	26.97	33.69	3.2
20	23	31.78	14.35	2.5	29.89	7.76	29.36	36.89	3.2
22	23	34.95	14.35	2.5	33.04	7.76	31.75	39.99	3.2
24	23	38.13	15.20	2.5	36.24	7.76	34.92	43.15	3.8

Jam nut receptacle (MS3114R)



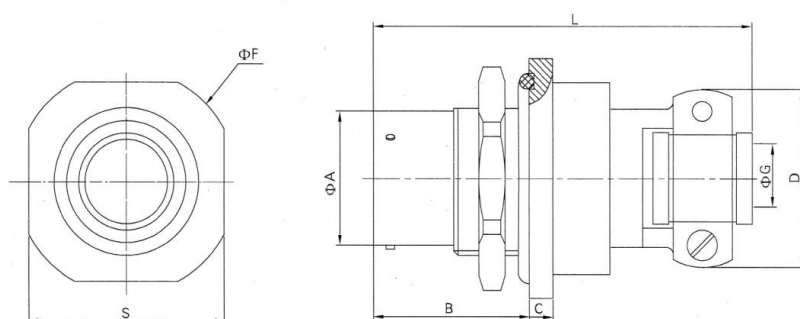
Shell No.	L (max)	A	B (max)	C (max)	F (max)	S (max)	Thread D UNEF-2A
8	27.5	12.04	17.90	3.0	26.94	23.80	0.4375-28
10	27.5	15.00	17.90	3.0	30.40	27.00	0.5625-24
12	27.5	19.07	17.90	3.0	34.94	31.74	0.6875-24
14	27.5	22.25	17.90	3.0	38.40	34.94	0.8125-20
16	27.5	25.43	17.90	3.0	41.50	38.10	0.9375-20
18	27.5	28.60	17.90	3.0	44.44	41.34	1.0625-18
20	32.8	31.78	22.40	3.8	49.40	46.04	1.1875-18
22	32.8	34.95	22.40	3.8	52.24	49.24	1.3125-18
24	32.8	38.13	23.30	3.8	55.54	52.74	1.4375-18

Jam nut receptacle (MS3114E)



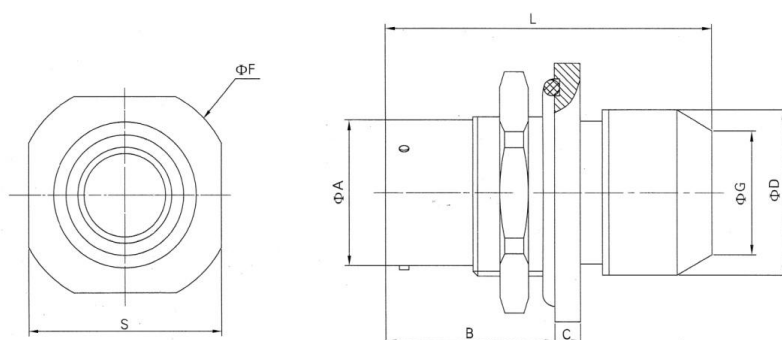
Shell No.	L (max)	A	B (max)	C (max)	D (max)	F (max)	S (max)
8	34.1	12.04	17.90	3.0	18.0	26.94	23.80
10	34.1	15.00	17.90	3.0	21.7	30.40	27.00
12	34.1	19.07	17.90	3.0	24.5	34.94	31.74
14	34.1	22.25	17.90	3.0	27.5	38.40	34.94
16	34.1	25.43	17.90	3.0	31.2	41.50	38.10
18	34.1	28.60	17.90	3.0	34.4	44.44	41.34
20	39.3	31.78	22.45	3.8	38.0	49.40	46.04
22	39.3	34.95	22.45	3.8	41.5	52.24	49.24
24	39.3	38.13	23.30	3.8	44.7	55.54	52.74

Jam nut receptacle (MS3114F)



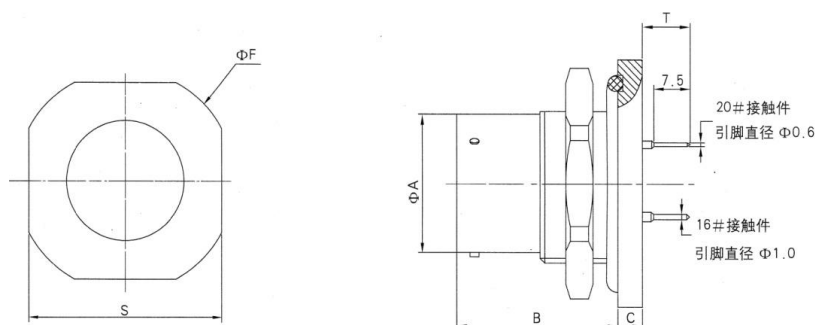
Shell No.	L (max)	A	B (max)	C (max)	D (max)	G (max)	F (max)	S (max)
8	49.31	12.04	17.90	3.0	19.9	3.5	26.94	23.80
10	49.31	15.00	17.90	3.0	21.5	5.0	30.40	27.00
12	49.17	19.07	17.90	3.0	24.0	8.2	34.94	31.74
14	49.17	22.25	17.90	3.0	27.8	10.0	38.40	34.94
16	52.34	25.43	17.90	3.0	29.4	13.0	41.50	38.10
18	53.22	28.60	17.90	3.0	35.3	16.0	44.44	41.34
20	58.10	31.78	22.45	3.8	35.3	16.0	49.40	46.04
22	58.10	34.95	22.45	3.8	41.4	19.3	52.24	49.24
24	58.10	38.13	23.30	3.8	42.4	20.6	55.54	52.74

Jam nut receptacle (MS3114P)



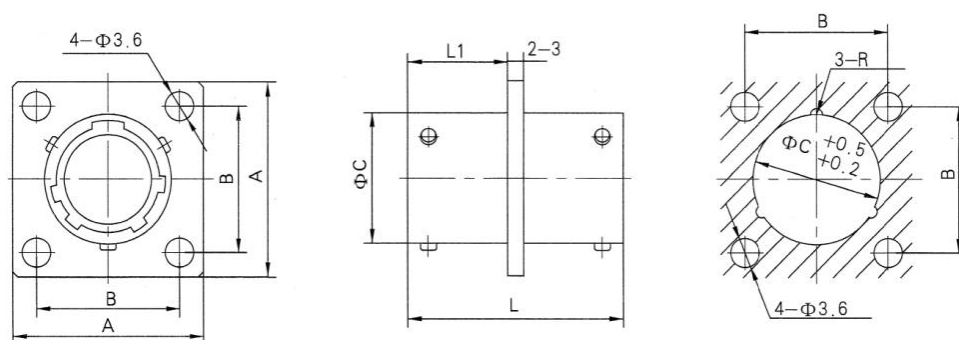
Shell No.	L (max)	A	B (max)	C (max)	D (max)	G (max)	F (max)	S (max)
8	34.30	12.04	17.90	3.0	15.34	10.46	26.94	23.80
10	34.30	15.00	17.90	3.0	17.70	13.55	30.40	27.00
12	34.30	19.07	17.90	3.0	21.69	13.96	34.94	31.74
14	34.30	22.25	17.90	3.0	23.90	17.42	38.40	34.94
16	34.30	25.43	17.90	3.0	27.00	20.56	41.50	38.10
18	34.30	28.60	17.90	3.0	30.50	23.66	44.44	41.34
20	42.25	31.78	22.45	3.8	33.65	23.92	49.40	46.04
22	42.25	34.95	22.45	3.8	37.10	25.52	52.24	49.24
24	43.26	38.13	23.30	3.8	40.00	32.00	55.54	52.74

Jam nut receptacle (MS3114B)



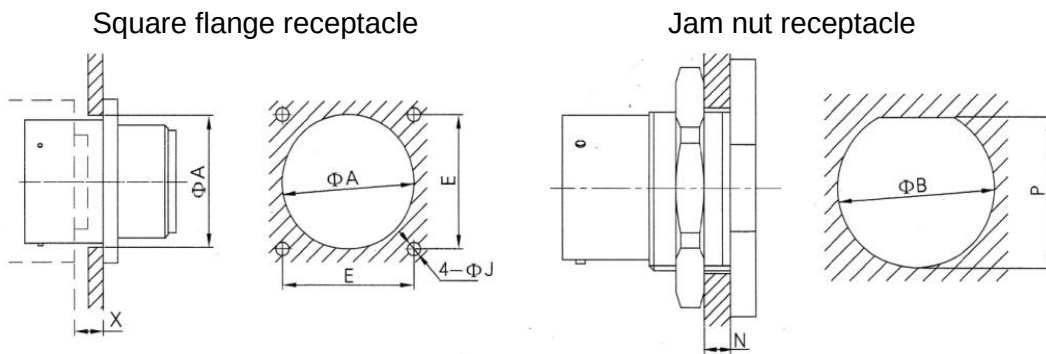
Shell No.	A	B (max)	C (max)	T (max)	F (max)	S (max)
8	12.04	17.90	3.0	9.46	26.94	23.8
10	15.00	17.90	3.0	9.46	30.40	27.00
12	19.07	17.90	3.0	9.46	34.94	31.74
14	22.25	17.90	3.0	9.46	38.40	34.94
16	25.43	17.90	3.0	9.46	41.50	38.10
18	28.60	17.90	3.0	9.46	44.44	41.34
20	31.78	22.45	3.8	8.49	49.40	46.04
22	34.95	22.45	3.8	8.49	52.24	49.24
24	38.13	23.30	3.8	7.79	55.54	52.74

Thru bulkhead receptacle (MS3117P)



Shell No.	A	B	Φ C	L	L1	R
8	20.60	15.09	12.00	33.5	14.5	1.5
10	23.80	18.30	15.00	33.5	14.5	1.5
12	26.20	20.60	19.10	33.5	14.5	1.5
14	30.00	23.00	22.20	33.5	14.5	1.5
16	31.00	24.60	25.40	33.5	14.5	1.5
18	33.30	27.00	28.60	33.5	14.5	1.5
20	36.50	29.36	31.78	36.0	16.5	1.5
22	40.00	32.00	34.95	36.0	16.5	1.5
24	42.90	34.93	38.10	36.0	16.5	2.0

Suggestion size for panel



Shell No.	A	E	J	X (min)	B	P	N	
							Min	Max
8	15.55	15.09	3.2	2.9	14.60	13.75	1.8	5.7
10	18.80	18.26	3.2	2.9	17.75	16.95	1.8	5.7
12	22.15	20.62	3.2	2.9	22.50	21.50	1.8	5.7
14	25.30	23.00	3.2	2.9	25.70	24.20	1.8	5.7
16	28.45	24.61	3.2	2.9	28.85	27.35	1.8	5.7
18	31.65	26.97	3.2	2.9	32.05	30.55	1.8	5.7
20	34.80	29.36	3.2	5.5	35.20	33.70	1.8	8.6
22	38.00	31.75	3.2	5.5	38.40	36.90	1.8	9.6
24	41.20	34.92	3.8	5.5	41.55	40.05	1.8	9.5