

Equipment No**Design Data**

Working Capacity	WC	2	KL
Design Pressure	P	ATM	
Design Temperature	T	150	°C
Material of Construction	MOC	IS 2062 Gr. A	
Corrosion Allowance	CA		
Gross Volume	GV	2.19	KL
Joint Efficiency	e	0.7	
Specific Gravity	Ga	0.9	

Dimensions

Length	L	1350	mm	53.15 inch
Width	W	1350	mm	53.15 inch
Height	H	1200	mm	47.24 inch

Stresses

Stress @ design temp.	S	1202.22	Kg / cm ²	84.52 psi
Es @ design temp.	Es	1999531.1	Kg / cm ²	1.41E+05 psi
Design Specific Gravity	G	1		

Calculations

Required Plate Thickness

Factor from Graph	a	0.02		
$t = \frac{2.45 L \text{ Sqrt}(a \times H \times 0.036 \times G)}{S}$	t	2.34	inch	59.55 mm

H/L	a
0.5	0.006
1	0.019
1.5	0.034
2	0.045
2.5	0.052
3	0.057

0.5	0.006
1	0.019
0.888889	0.016111
	0.016111

	mm	mm	Area Sq Cm	Wt / Mtr	CG cm	MI cm ⁴	Z cm ³
20 x 20	20	3	1.12	0.9	0.59	0.4	0.28
	20	4	1.45	1.1	0.63	0.5	0.36
25 x 25	25	3	1.41	1.1	0.71	0.8	0.45
	25	4	1.84	1.4	0.75	1	0.57
	25	5	2.25	1.8	0.79	1.2	0.70
30 x 30	30	3	1.73	1.4	0.83	1.4	0.65
	30	4	2.26	1.8	0.87	1.8	0.85
	30	5	2.77	2.2	0.92	2.1	1.01
35 x 35	35	3	2.03	1.6	0.95	2.3	0.90
	35	4	2.66	2.1	1	2.9	1.16
	35	5	3.27	2.6	1.04	3.5	1.42
	35	6	3.86	3	1.08	4.1	1.69
40 x 40	40	3	2.34	1.8	1.08	3.4	1.16
	40	4	3.07	2.4	1.12	4.5	1.56
	40	5	3.78	3	1.16	5.4	1.90
	40	6	4.47	3.5	1.2	6.3	2.25
45 x 45	45	3	2.64	2.1	1.2	5	1.52
	45	4	3.47	2.7	1.25	6.5	2.00
	45	5	4.28	3.4	1.29	7.9	2.46
	45	6	5.07	4	1.33	9.2	2.90
50 x 50	50	3	2.95	2.3	1.32	6.9	1.88
	50	4	3.88	3	1.37	9.1	2.51
	50	5	4.79	3.8	1.41	11	3.06
	50	6	5.68	4.5	1.45	12.9	3.63
55 x 55	55	5	5.27	4.1	1.53	14.7	3.70
	55	6	6.26	4.9	1.57	17.3	4.40
	55	8	8.18	6.4	1.65	22	5.71
	55	10	10.02	7.9	1.72	26.3	6.96
60 x 60	60	5	5.75	4.5	1.65	19.2	4.41
	60	6	6.84	5.4	1.69	22.6	5.24
	60	8	8.96	7	1.77	29	6.86
	60	10	11	8.6	1.85	34.8	8.39
65 x 65	65	5	6.25	4.9	1.77	24.7	5.22
	65	6	7.44	5.8	1.81	29.1	6.20
	65	8	9.76	7.7	1.89	37.4	8.11
	65	10	12	9.4	1.97	45	9.93
70 x 70	70	5	6.77	5.3	1.89	31.1	6.09
	70	6	8.06	6.3	1.94	36.8	7.27
	70	8	10.58	8.3	2.02	47.4	9.52
	70	10	13.02	10.2	2.1	57.2	11.67
75 x 75	75	5	7.27	5.7	2.02	38.7	7.06
	75	6	8.66	6.8	2.06	45.7	8.40
	75	8	11.38	8.9	2.14	59	11.01
	75	10	14.02	11	2.22	71.4	13.52

80 x 80	80	6	9.29	7.3	2.18	56	9.62
	80	8	12.21	9.6	2.27	72.5	12.65
	80	10	15.05	11.8	2.34	87.7	15.49
	80	12	17.81	14	2.42	101.9	18.26
90 x 90	90	6	10.47	8.2	2.42	80.1	12.17
	90	8	13.79	10.8	2.51	104.2	16.06
	90	10	17.03	13.4	2.59	126.7	19.77
	90	12	20.19	15.8	2.66	147.9	23.33
100 x 100	100	6	11.67	9.2	2.67	111.3	15.18
	100	8	15.39	12.1	2.76	145.1	20.04
	100	10	19.03	14.9	2.84	177	24.72
	100	12	22.59	17.7	2.92	207	29.24
110 x 110	110	8	17.08	13.4	3	196.8	24.60
	110	10	21.12	16.5	3.09	240.2	30.37
	110	12	25.08	19.7	3.17	281.3	35.93
	110	16	32.76	25.7	3.32	357.3	46.52
130 x 130	130	8	20.28	15.9	3.5	331	34.84
	130	10	25.12	19.7	3.59	405.3	43.07
	130	12	29.88	23.5	3.67	476.4	51.06
	130	16	39.16	30.7	3.82	609.1	66.35
150 x 150	150	10	29.21	22.9	4.08	633.5	58.01
	150	12	34.77	27.3	4.16	746.3	68.85
	150	16	45.65	35.8	4.31	958.9	89.70
	150	20	56.21	44.1	4.46	1155.5	109.63
200 x 200	200	12	46.94	36.9	5.39	1826.3	125.00
	200	16	61.82	48.5	5.56	2366.2	163.86
	200	20	76.38	60	5.71	2875	201.19
	200	25	94.13	73.9	5.9	3470.2	246.11