
Pressure Equipment Directive/Pressure Equipment Safety Regulation: Safety Instructions

**UK
CA** **CE**





Safety Information: Horizontal Chambers manufactured from carbon steel

Pressure Equipment Directive (2014/68/EU) / Pressure Equipment (Safety) Regulation 2016 (Incl. Brexit amendments 2021)

These safety instructions are to be used in conjunction with the Horizontal Controls product manual

Definitions: -

P_s max = Maximum allowable chamber pressure at the stated temperature - bar

T_s max = Maximum allowable chamber temperature - °C

T_s min = Minimum allowable chamber temperature - °C

P_t = Chamber Test pressure - bar

This product is designed and manufactured to comply with Module H of the Pressure Equipment Directive 2014/68/EU; the Pressure Equipment (safety) Regulation (Inc. Brexit amendments 2021) Module H. It carries a CE and/or UKCA mark and has a Declaration of Conformity to show compliance with the relevant Directive/Regulation.

Under the Pressure Equipment Directive/ the Pressure Equipment (safety) Regulation (Inc. Brexit amendments 2021) this product is classified as a vessel.

This product is designed for use with gases and liquids within Groups 1 and 2.

It is the responsibility of the installer/user of this equipment to ensure: -

1. The product is installed and used by suitably trained personnel in accordance with all relevant Local and National regulations and codes.
2. Safe working practices for the media and process concerned are followed during installation and maintenance.
3. The materials of construction are suitable for the application. See also Table 1.
4. The pressure and temperature limits for this equipment are not exceeded, if necessary by the use of suitable safety accessories. See also Table 3.
5. All Delta Mobrey supplied installation fixing bolts are used where applicable, and are only replaced by exact equivalents. On all other flanges, the correct quantity, size and strength of bolts (clamp type) are used. All fasteners are evenly tightened to the correct torque. See also Table 2.
6. Correct gaskets/seals are fitted and are compatible with the media and process.
7. The product is protected from fire.
8. The product is protected from impact.
9. This product is not used as a support for other equipment or personnel.
10. Regular inspection for corrosion and wear are carried out, both internal and external.

Table 1 – Vessel Pressure Materials

Component	Material Specification
Switch Mounting Flange	ASTM A105 / ASTM A350 LF2
Chamber Body Tube	ASTM A106 Grade B
Chamber End Cap (Flat)	ASTM A105 / ASTM A350 LF2
Chamber End Cap (Dished)	ASTM A234 WPB
Process Flange / Fitting	ASTM A105
Process Piping	ASTM A106 Grade B
Studs (where supplied)	ASTM A193 B7
Nuts (where supplied)	ASTM A194 2H

Table 2 – Stud Torques (Switch Mounting Flange)

Flange Type	Bolting	Torque (Nm)
144C/****	$\frac{5}{8}$ UNC	230
145C/****	$\frac{3}{4}$ UNC	125
148C/****	M12	34
151C/****	M12	26
305C/****	M20	203
306C/****	M16	80
307C/****	$\frac{3}{4}$ UNC	203
308C/****	$\frac{7}{8}$ UNC	325
For further bolting torque details see L1880 & L1882		

Table 3 - Horizontal Chambers manufactured from Carbon Steel (Flanged)

Process Rating Code	Type Code							
	144C/ Class 150	145C/ Class 300	148C/ Mobrey A	151C/ Mobrey G	305C/ PN64	306C/ PN40	307C/ Class 600	308C/ Class0
*00, *06, *10 Pipes	19.6	51	18	21	54	40	102	153
	6.5	34.5	18	21	36	27	69	104
	30	78	36	42	96	60	154	104
*01, *02 *03, *041 Screwed	19.6	51	18	21	64	40	102	153
	6.5	34.5	18	21	36	27	69	104
	30	78	36	42	96	60	154	230
*11, *21, *31 Class 150	19.6	19.6	18	19.6	19.6	19.6	19.6	19.6
	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	30	30	30	30	30	30	30	30
*12, *22, *32 Class 300	19.6	51	18	21	51	40	51	51
	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	30	76	36	42	78	60	78	78
*13, *33 Class 600	19.6	51	18	21	64	40	51	51
	6.5	34.5	18	21	36	27	69	69
	30	78	36	42	96	60	154	154
*34 Class 900	19.6	51	18	21	64	40	102	153
	6.5	34.5	18	21	36	27	69	104
	30	78	36	42	96	60	154	230
*15, *25, *35 PN16	16	16	16	16	16	16	16	16
	6.5	10.8	10.8	10.8	10.8	10.8	10.8	10.8
	24	24	24	24	24	24	24	24
*16, *36, PN25	19.6	25	18	21	25	25	25	25
	6.5	16.9	16.9	16.9	16.9	16.9	16.9	16.9
	30	60	36	42	60	60	60	60
*17, *37 PN40	19.6	40	18	21	40	40	40	40
	6.5	27	18	21	27	27	27	27
	30	60	36	42	60	60	60	60
*18 PN64	19.6	51	18	21	64	40	64	64
	6.5	34.5	18	21	36	27	36	36
	30	78	36	42	96	60	96	96
*19 PN100	19.6	51	18	21	64	40	100	100
	6.5	34.5	18	21	36	27	67.5	67.5
	30	78	36	42	96	60	150	150

Nameplate Stamping Explanation

Eg 148C/”33

Ps max 20C	Ts min
Ps max	at Ts max -
Pt	

18	-7
18	400
35	

Ts min for Carbon steel is always minus 7C = -7
 Ts max for Carbon Steel is always 400C = 400

GB Safety Information: Horizontal Chambers manufactured from cast iron

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P_t = Chamber Test pressure - bar

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14. The pressure and temperature limits for this equipment are not exceeded, if necessary by the use of suitable safety accessories. See also Table 3.
15. All Delta Mobrey supplied installation fixing bolts are used where applicable, and are only replaced by exact equivalents. On all other flanges, the correct quantity, size and strength of bolts (clamp type) are used. All fasteners are evenly tightened to the correct torque. See also Table 2.
16. Correct gaskets/seals are fitted and are compatible with the media and process.
17. The product is protected from fire.
18. The product is protected from impact.
19. This product is not used as a support for other equipment or personnel.
20. Regular inspection for corrosion and wear are carried out, both internal and external.

Table 1 - Vessel Pressure Materials

Component	Material Specification
Chamber	BS EN 1561 Grade En-GJL-250
Studs	ASTM A193 B7
Nuts (where supplied)	ASTM A194 2H

Table 2 - Stud Torques (Switch Mounting Flang

Flange Type	Bolting	Torque (Nm)
144C/****	5/8 UNC	230
145C/****	3/4 UNC	125
148C/****	M12	34
151C/****	M12	26
305C/****	M20	203
306C/****	M16	80
307C/****	3/4 UNC	203
308C/****	7/8 UNC	325
For further bolting torque details see L1880 & L1882		

Table 3 - Horizontal Chambers manufactured from Cast Iron

Chamber type			
201		802	
13	0	13	0
13	210	13	210
42		42	

P_s max 20C is the same as P_S max at T_s max
T_s min for Cast iron chambers is always 0C
P_s max is 13bar for both types

Nameplate Stamping Explanation
 eg. 802

P _s max 20c	T _s min
P _s max	at T _s max
P _t	

13	0
13	210
42	

Safety Instructions Booklet


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Horizontal Chambers

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