



Series 291/1265


# Welded Chamber

Single Stage, Low Cost, Hermetically Sealed Snap Switches,


Series 291: Pressure 300 psig (24 bar) to 600°F (315°C),

Series 1265: Pressure 1500 psig (103 bar) to 300°F (149°C)





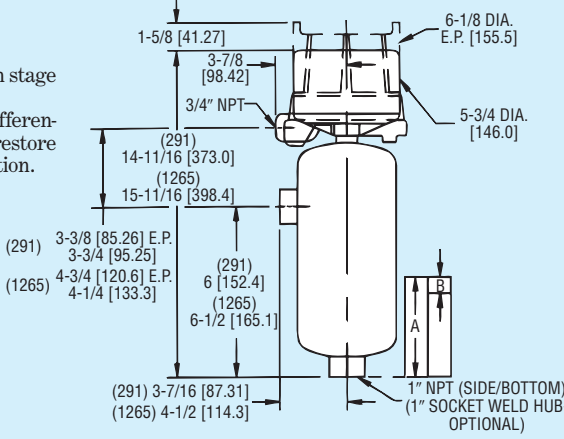
Series 293 and 1267 have one vertical and one horizontal flanged connection (1" RF forged steel – ANSI specifications). Flange centerlines: 293 - 9 7/8" (235 mm); 1267 - 8 7/8" (225.4 mm). Other centerlines available.



Series 294 and 1268 have two vertical flanged connections (1" RF forged steel – ANSI specifications). Flange centerlines: 294 - 10" (254 mm); 1268 - 9 9/8" (244.5 mm). Other centerlines available.

Series 291 and 1265 have one vertical and one horizontal 1" NPT pipe connection. 1" socket weld optional.

"A" is the level at which stage operates on level rise.  
"B" is the operating differential drop in level to restore switch to original position.



**Series 291**  
Switch Level Change  
Single Stage-Not Adjustable

CODE	SP GR	A	B
C1-60	1.0	3 1/4" (82.55 mm)	7/8" (22 mm)
	0.60	3 5/8" (92 mm)	1 1/8" (28.6 mm)

**Series 1265**  
Switch Level Change  
Single Stage-Not Adjustable

CODE	SP GR	A	B
C1-40	1.0	4" (101.6 mm)	5/8" (16 mm)
	0.40	3 5/16" (135 mm)	1 3/8" (35 mm)

**Series 291:** Inexpensive yet rugged construction in a welded chamber control. The 291 series is specifically designed for single stage operation where pressure does not exceed 350 psig (24 bar) at 100°F (38°C) or 300 psig (21 bar) at 600°F (315°C) available with a variety of hermetically sealed snap switch or mercury switch circuits protected by a general purpose, weatherproof or explosion-proof enclosure and will accommodate specific gravities down to 0.60.

### SPECIFICATIONS

**C1-60:** Minimum specific gravity. Process pressure 350 psig (24 bar) at 100°F (38°C), 300 psig (21 bar) at 600°F (315°C).

**Switch Type:** Snap action or mercury. See charts A and B.

**Electrical Rating:** See chart.

**Wiring Connections:** G, WT or E enclosure, terminal block. EV enclosure 18" (460 mm) leads.

**Process Connection:** 1" NPT (socket weld hubs or flanged optional).

**Enclosures:** G, painted steel and aluminum; WT, painted steel, aluminum and neoprene; E, aluminum; EV, aluminum and neoprene.

**Wetted Parts:** C1 construction, carbon steel, 303SS, 304SS, 430SS.

**Weight:** 291, 10 lb (4.5 kg); 293, 15 lb (6.8 kg); 294, 17 lb (7.7 kg).

### Suggested Specifications

Liquid level control shall be 291 (293) (294) series with 1" NPT (socket weld hubs) (flanged) process connections. Chamber shall be welded carbon steel (316SS) suitable for operation at 350 psig (24 bar) at 100°F (38°C) and 300 psig (21 bar) at 600°F (315°C) with a minimum specific gravity of 0.60. Circuit shall be (hermetically sealed) snap action (mercury) switch (SPST) (SPDT) (DPDT). Switch mechanism shall be gravity return activated by a stainless steel float. Enclosure shall be general purpose, (weatherproof), (explosion-proof), (explosion-proof, vapor proof).

### APPLICATIONS

Refineries, chemical plants, power generating stations, water treatment facilities.

**Series 1265:** High pressure is featured in the 1265 series, with a welded chamber and single stage operation. This control is rated at 1500 psig (103 bar) and 300°F (149°C) with a minimum specific gravity of 0.40. Choice of enclosures include general purpose, weatherproof or explosion-proof. Hermetically sealed snap action or mercury switches are available in a variety of circuits.

### SPECIFICATIONS

**C1-40:** Minimum specific gravity. Process pressure 1500 psig (103 bar) at 300°F (149°C).

**Switch Type:** Snap action or mercury. See charts A and B.

**Electrical Rating:** See charts A and B.

**Wiring Connections:** G, W or E enclosure, terminal block. EV enclosure 18" (460 mm) leads.

**Process Connections:** 1" NPT (socket weld hubs or flanged optional).

**Enclosures:** G, painted steel and aluminum; WT, painted steel, aluminum and neoprene. E, aluminum. EV, aluminum and neoprene.

**Wetted Parts:** C1 construction, carbon steel, 303SS, 304SS, 430SS graphite.

**Weight:** 1265, 15 lb (6.8 kg); 1267, 20 lb (9 kg); 1268, 22 lb (10 kg).

### Suggested Specifications

Liquid level control shall be 1265 (1267) (1268) series with 1" NPT (socket weld hubs) (flanged) process connections. Chamber shall be welded carbon steel (316SS) suitable for operation at 1500 psig (103 bar) at 300°F (149°C) with a minimum specific gravity of 0.40. Circuit shall be (hermetically sealed) snap action (mercury) switch (SPST) (SPDT) (DPDT). Switch mechanism shall be gravity return activated by a graphite displacer. Enclosure shall be general purpose (weatherproof), (explosion-proof), (explosion-proof, vapor proof).

### APPLICATIONS

Refineries, chemical plants, power generating stations, water treatment facilities.

**MODEL CHART – SERIES 291**

<b>EXAMPLE</b>	291	WT	7810BN	C1	60		291-WT-7810-C1-60. Liquid level control with welded carbon steel chamber. General purpose enclosure. Single pole double throw snap action switch rated at 12 amp 120 VAC; 5 amp 240 VAC. Fixed deadband and automatic reset. Operating pressure 350 psig (24 bar) at 100°F (38°C), 300 psig (21 bar) at 600°F (315°C). Side/bottom process connections 1" NPT. Minimum specific gravity 0.60.	
<b>ENCLOSURE</b>		G WT E EV					General purpose, NEMA-1. Weather proof, NEMA-3R, 4, 4X. Explosion proof, NEMA-7, 9. Class I Groups B, C, D. Class II Groups E, F, G. Explosion proof, vapor proof, NEMA-7, 9. Class I Groups B, C, D. Class II Groups E, F, G.	UL UL UL UL
<b>CIRCUITS</b> <small>(For Electrical Circuits see charts A &amp; B below.)</small>			48XXBN 78XXBN 98XXBN				Single stage. Mercury switch. See Chart A. Single stage. Snap switch. See Chart B. Single stage. High capacity DC snap switch. Use heat fins (HF) if process temperature exceeds 350°F (177°C). Do not exceed 450°F (232°C). See Chart B.	
<b>WELDED CHAMBER CONSTRUCTION 1" NPT PROCESS CONNECTIONS</b>	291			C1 C1	60		Carbon steel body. Minimum specific gravity 0.60. Side/bottom process connections. 1" NPT. Pressure rating 350 psig (24 bar) at 100°F (38°C), 300 psig (21 bar) at 600°F (315°C).	UL UL
<b>WELDED CHAMBER CONSTRUCTION WITH FLANGED PROCESS CONNECTIONS</b>	293			C1	160		1" 150# RF flanges side/bottom process connection. Pressure rating 275 psi (19 bar) at 100°F (38°C), 150 psi (10 bar) at 600°F (315°C). Minimum specific gravity 0.60.	UL
	293			C1	360		1" 300# RF flanges side/bottom process connection. Pressure rating 350 psi (24 bar) at 100°F (38°C), 300 psi (21 bar) at 600°F (315°C). Minimum specific gravity 0.60.	UL
	294			C1	160		1" 150# RF flanges side/side process connection. Pressure rating 275 psi (19 bar) at 100°F (38°C), 150 psi (10 bar) at 600°F (315°C). Minimum specific gravity 0.60.	UL
	294			C1	360		1" 300# RF flanges side/side process connection. Pressure rating 350 psi (24 bar) at 100°F (38°C), 300 psi (21 bar) at 600°F (315°C). Minimum specific gravity 0.60.	UL
<b>OPTIONS</b>				C216		H2	316SS chamber and trim. 430SS armature. 1" socket weld hubs in place of 1" NPT process connections.	

**MODEL CHART – SERIES 1265**

<b>EXAMPLE</b>	1265	WT	7810	C1	40		1265-WT-7810-C1-40. Liquid level control with welded carbon steel chamber. Watertight - NEMA-4X. Enclosure. Single pole double throw snap action switch rated at 12 amp 120 VAC, 5 amp 240 VAC. Fixed deadband and automatic reset. Operating pressure 1500 psig (103 bar) at 300°F (149°C). Maximum side/bottom process connections 1" NPT. Minimum specific gravity 0.40.	
<b>ENCLOSURE</b>		G WT E EV					General purpose, NEMA-1. Weatherproof, NEMA-3R, 4, 4X. Explosion-proof, NEMA-7, 9. Class I Group B, C, D. Class II Group E, F, G. Explosion-proof, vapor proof, NEMA-7, 9. Class I Group B, C, D. Class II Group E, F, G.	UL UL
<b>CIRCUITS</b>			48XX 78XX 78XXHM 98XX				Single stage. Mercury switch. See Chart A. Single stage. Snap switch. See Chart B. Hermetically sealed snap switch. See Chart B. Single stage. High DC capacity snap switch. Use heat fins (HF) if process temperature exceeds 350°F (177°C). Do not exceed 450°F (232°C). See Chart B.	
<b>WELDED CHAMBER CONSTRUCTION 1" NPT PROCESS CONNECTIONS</b>	1265			C1 C1	40		Carbon steel body. Minimum specific gravity 0.40. Side/bottom process connections. 1" NPT. Pressure rating 1500 psig (103 bar) at 300°F (149°C).	UL UL
<b>WELDED CHAMBER CONSTRUCTION WITH FLANGED PROCESS CONNECTIONS</b>	1267			C1	140		1" 150# RF flanges side/bottom process connection. Pressure rating 275 psi (19 bar) at 100°F (38°C), 210 psi (14 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
	1267			C1	340		1" 300# RF flanges side/bottom process connection. Pressure rating 720 psi (50 bar) at 100°F (38°C), 680 psi (47 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
	1267			C1	640		1" 600# RF flanges side/bottom process connection. Pressure rating 1440 psi (99 bar) at 100°F (38°C), 1365 psi (94 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
	1267			C1	1540		1" 1500# RF flanges side/bottom process connection. Pressure rating 1500 psi (103 bar) at 100°F (38°C), 1500 psi (103 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
	1268			C1	140		1" 150# RF flanges side/side process connection. Pressure rating 275 psi (19 bar) at 100°F (38°C), 210 psi (14 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
	1268			C1	340		1" 300# RF flanges side/side process connection. Pressure rating 720 psi (50 bar) at 100°F (38°C), 680 psi (47 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
	1268			C1	640		1" 600# RF flanges side/side process connection. Pressure rating 1440 psi (99 bar) at 100°F (38°C), 1365 psi (94 bar) at 300°F (149°C). Minimum specific gravity 0.40.	UL
<b>OPTIONS</b>						H2 12	1" socket weld hubs in place of 1" NPT process connections. Breather and drain for E type enclosure. Recommended for high humidity or outdoor service.	

Level

**CHARTS A & B - ELECTRICAL CIRCUITS AND RATINGS**

SWITCH TYPE	SWITCH ACTION	ELECTRICAL RATINGS IN AMPS						291 SERIES ORDERING CODE	1265 SERIES ORDERING CODE	
		AC			DC					
		120V	240V	440V	30V	125V	250V			
<b>CHART A</b> Mercury Contacts	SP-ST Open on level FALL	10	5	3†		10	5	-4821 BN	-4821	UL
	SP-ST Open on level RISE	10	5	3†		10	5	-4820 BN	-4820	UL
	SP-DT One Switch	4	2	1†		4	2	-4810 BN	-4810	UL
	SP-DT Two switches E.I.*	10	5	3†		10	5	-4815 BN	-4815	UL
	DP-ST Two switches E.I.* Open on level FALL	10	5	3†		10	5	-4813 BN	-4813	UL
	DP-ST Two switches E.I.* Open on level RISE	10	5	3†		10	5	-4814 BN	-4814	UL
	DP-DT Two SP-DT switches	4	2	1†		4	2	-4806 BN	-4806	UL
<b>CHART B</b> Snap Action Contacts	SP-DT One switch	12	5	3†		0.5**	0.25**	-7810 BN	-7810	UL
	DP-DT Two SP-DT switches	12	5	3†		0.5**	0.25**	-7806 BN	-7806	UL
	SP-DT One hermetically sealed switch	5	5		5**			-7810HM	-7810HM	
	DP-DT Two hermetically sealed SP-DT switches	5	5		5**			-7806HM	-7806HM	
	DP-DT Two SP-DT switches	10	3			10‡	3‡	-9806 BN	-9806	
SP-DT One switch	10	3			10‡	3‡	-9810 BN	-9810		

\*Electrically Independent †Available on special order. Change 1st digit in Ordering Code from 4 to 5 or 7 to 8  
‡10 Amp inductive (Polarized) at 125 VDC i.e. -4820 becomes -5820, -7810 becomes -8810, etc.  
\*\*Resistive

CALL TO ORDER: U.S. Phone 219 879-8000 • U.K. Phone (+44) (0)1494-461707 • Asia Pacific Phone 61 2 4272-2055