



Data Sheet

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WATEROUS PRESSURE CONTROL SYSTEMS

Waterous has three systems for controlling pump pressure as follows:

DISCHARGE RELIEF VALVE

The discharge relief valve system provides pump pressure control by keeping a uniform load on the engine with a continuous range of pressure control from 90 to 300 psi (6.2 to 20.7 bar). The automatic system consists of the relief valve, mounted between pump discharge and pump intake and a pilot valve mounted on the pump operator's panel.

INTAKE RELIEF VALVE

The intake relief valve system acts as a safety valve by dumping excess pressure to atmosphere from the inlet side of the pump. The valve is calibrated from 50 to 250 psi (3.4 to 17.2 bar).

Waterous offers two types of Intake Relief Valve Systems, Piloted and Non-Piloted:

Piloted System:

This system consists of the main relief valve mounted on the pump intake. The valve has a 2-1/2 in. Victaulic outlet. A pilot valve is mounted on the operator's panel and has one control to adjust relief valve dumping pressure.

Non-Piloted System:

This system consists of the main relief valve mounted on the pump intake. The valve has a 2-1/2 in. Victaulic on the outside diameter and a 2 in. NPT (F) tap on the inside diameter. The control to adjust relief valve dumping pressure is integral to the valve.

PRESSURE GOVERNOR:

Waterous Pressure Governors operate in one of two controls modes, PRESSURE or RPM and maintains a steady pump discharge pressure by controlling the engine speed or by holding a selected engine RPM.

Discharge Relief Valve

Find Pump Model being ordered in table below and specify:

Mounting: Pump or separate

Single or Dual Valve (Dual valves only available for CR, CRU-1 and CRU-2 pump models only)

Location on Pump: Left or right side (Required for CM, CMU, CS and CSU models with pump mounted valves only)

Valve End Flanges (Separately mounted valves only, see table for choices)

Note that each relief valve is furnished with a pilot valve for installation on the operator's panel.

Pump Model	Discharge Relief Valve						See Note
	Mounting (See Note 1)	Single or Dual Valves	Location on Pump	Valve End Flanges, Choose One			
CGV, CGVN, CGVR, CGVG	Separate	Single	-	Flange with 4 Bolt Holes	2 in. NPT	2-1/2 NPT (F)	-
CLS	Pump	Single	-	-	-	-	2
	Separate	Single	-	Flange with 4 Bolt Holes	2 in. NPT	2-1/2 NPT (F)	-
CLR, CLV	Separate	Single	-	Flange with 4 Bolt Holes	2 in. NPT	2-1/2 NPT (F)	-
CM	Pump	Single	Left or Right Side	-	-	-	-
	Separate	Single	-	3 in. NPT (F)	3 in. Victaulic	-	-
CMU	Pump	Single	Left or Right Side	-	-	-	-
	Separate	Single	-	4 in. NPT (F)	4 in. BSPT (F)	4 in. Victaulic	-
CR, CRU-1, CRU-2	Separate	Single	-	4 in. NPT (F)	4 in. BSPT (F)	4 in. Victaulic	-
		Dual	-	4 in. NPT (F)	4 in. BSPT (F)	4 in. Victaulic	3
CS	Pump	Single	Left or Right Side	-	-	-	-
	Separate	Single	-	3 in. NPT (F)	3 in. Victaulic	-	-
CSU	Pump	Single	Left or Right Side	-	-	-	-
	Separate	Single	-	4 in. NPT (F)	4 in. BSPT (F)	4 in. Victaulic	-
CXN, CXS	Separate	Single	-	3 in. NPT (F)	3 in. Victaulic	-	-
CXV	Pump	Single	-	-	-	-	4
	Separate	Single	-	3 in. NPT (F)	3 in. Victaulic	-	-
CZ, CZU	Separate	Single	-	4 in. NPT (F)	4 in. BSPT (F)	4 in. Victaulic	-
CP-2, CP-3, CP-4, CP-4UH, CP-5	Separate	Single	-	Flange with 4 Bolt Holes	2 in. NPT	2-1/2 NPT (F)	-
S100, S101	Separate	Single	-	3 in. NPT (F)	3 in. Victaulic	-	-
S200	Separate	Single	-	3 in. NPT (F)	3 in. Victaulic	-	-

Notes:

- 1) **Pump Mounted Valve:** Relief valve is installed on the pump at the factory. The pilot valve is shipped loose for installation on the operator's panel by the OEM.

Separately Mounted Valve: Relief valve is shipped loose for installation between pump intake and discharge by the OEM. The pilot valve is shipped loose for installation on the operator's panel by the OEM.

- 2) **CLS Pump Models with Pump Mounted Relief Valve:** Pump must be ordered with optional discharge head and pump discharge must be pointing up.
- 3) **Dual Valves:** Both valves will have the same end flanges. One pilot valve is furnished which includes a cable to allow operation of both valves.
- 4) **CXV Pump Models with Pump Mounted Relief Valve:** Pump must be ordered with optional discharge manifold with 3-1/2 in. end flanges. The relief valve outlet has a 3 in. NPT (F) tap which OEM must plumb into intake piping.

Intake Relief Valve

Specify Intake Relief Valve as Follows:

Type: Piloted or Non-Piloted

Mounting: On Pump or Separate, See Table

Pump Model	Intake Relief Valve		See Note	
	Type	Mounting		
All	Piloted (See Note 1) or Non-Piloted	Pump	On Intake Nipple Flange	2
			On Intake Fitting Side Pad	
		Separate		3

Notes:

- 1) **Piloted Valves:** A pilot valve is shipped loose for installation on the operator's panel by the OEM.
- 2) **Pump Mounted Valves:** Valve is mounted on the pump at the factory. Specify specific intake fitting pad where valve is to be mounted.
- 3) **Separately Mounted Valve:** Valve is shipped loose for installation in the pump intake piping by the OEM.

Pressure Governor

Specify Pressure Governor as Follows:

Not available with the following pump models: CP-4, CP-4UH, CP-5, HL200, HL300, HL400, HLU and S200.

External Panel Language:

English only at this time

Set-Up and Operation Language:

English or Spanish

Panel Operation:

Push Button Operation

Rotary Knob (VernierTrottle) operation

Engine:

See Engine Compatibility List F-2934 for approved engines. If your engine is not on the list, contact Waterous Company.

Analog Control Required (See Note 1):

Yes or No

See F-2934 to determine if engine required analog system.

CAN Interface:

J1939

IC J1939 (See Note 2)

Pressure Governor (Cont'd)

Intake and Discharge Pressure Sensors:

Intake: -30 to +300 psi Sensor Furnished

Discharge: 0 to +600 psi Sensor Furnished

Notes:

- 1) Analog controls are used with engines which do not have specific software for fire truck applications. Requires a unique Sensor and Interlock cable
- 2) The IC J1939 accessory CAN bus link is for connecting to external systems like the Tellurus. Requires a unique Power and CAN cable.