

Form No.	Issue Date	Rev. Date
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WATEROUS PRESSURE CONTROL SYSTEMS

DESCRIPTION: WATEROUS HAS TWO SYSTEMS AVAILABLE FOR CONTROLLING PUMP PRESSURE AS FOLLOWS:**DISCHARGE RELIEF VALVE**

The automatic 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 discharge relief valve system consists of the relief valve, mounted between pump discharge and pump intake and a separately mounted pilot valve. The pilot valve is mounted on the pump operator's panel.

The pilot valve controls consist of one to adjust relief valve operating pressure and one to place relief valve in and out of operation.

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).

The intake relief valve system consists of the main relief valve mounted on the pump intake fitting or intake piping with a 2-1/2 inch Victaulic[®] outlet. The pilot valve is separately mounted on the operator's panel or other location.

The pilot valve control consists of one control to adjust relief valve dumping pressure.

DATA SHEET

WATEROUS PRESSURE CONTROL SYSTEMS

DISCHARGE RELIEF VALVES AND INTAKE RELIEF VALVES ARE AVAILABLE AS FOLLOWS:

Table 1. Discharge Relief Valves and Intake Relief Valves

Pump Model	Discharge Relief Valve				Intake Relief Valve (2)	
	Pump Material	Valve Mounting (1)	Valve Size	See Dimensional Drawing	Valve Mounting (1)	See Dimensional Drawing
CM, CMH	Iron	On the Pump	4 in.	DPL82084-2	On the Pump or Separate	DPL82084-5
		Separate				
	Bronze	On the Pump	3 in.	DPL82084-1	N/A	
		Separate				
CMU, CMUH	Iron	On the Pump	4 in.	DPL82084-2	On the Pump or Separate	
		Separate				
	Bronze	On the Pump	4 in.	DPL82084-2	N/A	
		Separate				
CS, CSH	Iron	On the Pump	4 in.	DPL82084-2	On the Pump or Separate	
		Separate				
	Bronze	On the Pump	3 in.	DPL82084-1	N/A	
		Separate				
CSU, CSUH	Iron	On the Pump	4 in.	DPL82084-2	On the Pump or Separate	
		Separate				
	Bronze	On the Pump	4 in.	DPL82084-2	N/A	
		Separate				
S100	Iron	Separate	4 in.	DPL82084-2	Separate	
CXR, CXV, CXN, CXS	Iron	On the Pump	3 in.	DPL82084-1	Separate	
		Separate			N/A	
	Bronze	Separate			N/A	
CZ	Iron	Separate	3 in.	DPL82084-1	Separate	
	Bronze				N/A	
CZU	Iron	Separate	4 in.	DPL82084-2	Separate	
	Bronze				N/A	
CR	Iron	Separate	4 in.	DPL82084-2	Separate	
	Bronze				N/A	
CH-4	Iron	Separate	4 in.	DPL82084-2	Separate	
	Bronze				N/A	

DATA SHEET

WATEROUS PRESSURE CONTROL SYSTEMS

Table 1. Discharge Relief Valves and Intake Relief Valves (continued)

Pump Model	Discharge Relief Valve				Intake Relief Valve (2)	
	Pump Material	Valve Mounting (1)	Valve Size	See Dimensional Drawing	Valve Mounting (1)	See Dimensional Drawing
CGV, CGVN, CGVR, CGVG	Iron	Separate	2 in.	DPL82084	Separate	DPL82084-5
	Bronze				N/A	
CLS	Iron	On the Pump	2 in.	DPL82084	Separate	
		Separate			N/A	
	Bronze	On the Pump			Separate	
		Separate			N/A	
CLR, CLV	Iron	Separate	2 in.	DPL82084	Separate	
	Bronze				N/A	
CP-2	Iron	Separate	2 in.	DPL82084	Separate	
	Bronze				N/A	
CP-3	Iron	Separate	2 in.	DPL82084	Separate	
	Bronze				N/A	
CP-4	Iron	Separate	2 in.	DPL82084	Separate	
	Bronze				N/A	

Notes:

- 1) Pump Mounted Valves are installed on the pump by Waterous, Separately Mounted Valves must be plumbed between the Intake and Discharge piping by the OEM.
- 2) Intake Relief Valves are not available on Bronze Pumps.

DATA SHEET

WATEROUS PRESSURE CONTROL SYSTEMS

Discharge Relief Valve (Includes Pilot Valve)

Specify Mounting Location if Pump Mounted, or End Flanges if Separately Mounted

One Pilot Valve is furnished with each Discharge Relief Valve ordered. Additional Pilot Valves may be ordered if necessary.

Table 2. Relief Valves

Pump		Relief Valve	
Model	Material	Pump Mounted	Separately Mounted
		Mounting Location	End Flanges
CP-2, CP-3, CP-4, CGV, CGVN, CGVR, CGVG, CLR, CLV	Iron or Bronze	N/A	2 in. NPT
			2-1/2 in. NPT
			4-Bolt (No Flange)
CLS	Iron or Bronze	Between Pump Intake and Discharge	2 in. NPT
			2-1/2 in. NPT
			4-Bolt (No Flange)
CXR, CXV, CXN, CXS	Iron	Between Pump Intake and Discharge (1) (2)	3 in. NPT
			3 in. Victaulic
			4-Bolt (No Flange)
	Bronze	N/A	3 in. NPT
			3 in. Victaulic
			4-Bolt (No Flange)
CZ	Iron or Bronze	N/A	3 in. NPT
			3 in. Victaulic
			4-Bolt (No Flange)
CM, CMH, CS, CSH	Iron or Bronze	Left or Right Side (3) (4)	3 in. NPT
			3 in. Victaulic
			4-Bolt (No Flange)
CMU, CMUH, CSU, CSUH	Iron or Bronze	Left or Right Side (3) (4)	4 in. NPT
			4 in. Victaulic
CZU, CR, CH-4, S100	Iron or Bronze	N/A	4 in. NPT
			4 in. Victaulic

Notes:

- 1) Pump Mounted Relief Valves on CXR, CXV, CXN and CXS pumps require the use of the 3-1/2 in. Flanged Discharge Manifold.
- 2) Pump Mounted Relief Valves on CXV and CXS pumps have a 3 in. NPT flange on the discharge which the customer must plumb into the intake piping.
- 3) Left Side Relief Valve mounting is not available on CM and CS ECLIPSE pumps due to interference with the compressor oil cooler.
- 4) Pump Mounted Relief Valve is not available on CM and CS ECLIPSE pumps with a 1000 GPM Foam Manifold and Left Manifold discharge. The Discharge Fitting does not have a Relief Valve mounting provision.

DATA SHEET

WATEROUS PRESSURE CONTROL SYSTEMS

Intake Relief Valve (Includes Pilot Valve)

Specify Mounting

Pump Mounting on Intake Fitting (Available on CM, CMU, CS and CSU models only)

Separately Mounted with 2-1/2 in. NPT Tapped Flange (Available on all models)

Note: Intake Relief Valve is not available on Bronze pumps.