



Griffco Valve Inc.

6010 North Bailey Ave, Suite 1B
Amherst, NY 14226

Phone: 716-835-0891 or 1-800-GRIFFCO
FAX: 716-835-0893 or 1-888-830-7979

Instruction Manual

**T- Series
Back Pressure Valves
Pressure Relief Valves**

Call: 1 - 800 - GRIFFCO

Website: www.griffcovalve.com

INS 1003-2005



INTRODUCTION

GRIFFCO diaphragm back pressure valves are used to enhance the performance of chemical feed pumps and systems by providing a constant discharge head pressure. These valves also function as an anti-siphon valve. The diaphragm is held against the seat by the internal spring. Back pressure is adjustable from 10 - 150 psi via the adjustment screw. When the inlet pressure exceeds the preset pressure the diaphragm lifts off the seat and the chemical flows to the injection point. After each discharge stroke of the pump, as the pressure drops, the diaphragm reseats itself.

GRIFFCO diaphragm pressure relief valves are designed to protect chemical feed pumps and systems from overpressure caused by defective equipment or blockages in the chemical line.

The 3 port design allows chemical to flow through the valve via an internal chamber. When the pressure in the chemical line exceeds the preset pressure of the valve the diaphragm lifts off the seat and the chemical then flows out the bottom port back to the chemical tank. Relief pressure is adjustable from 10 - 150 psi via the adjustment screw in the top of the valve.

INSTALLATION

Back Pressure Valve:

Generally, the back pressure valve can be installed anywhere in the discharge line, provided there is some downstream pressure at the dosage point. If there is no downstream pressure the back pressure valve should be installed at the dosage point to prevent siphoning and drainage of the chemical line. All **GRIFFCO** valves are factory set at 50 psi, unless otherwise specified. Field adjustment is possible with the adjustment screw, (approx.20 psi/revolution).

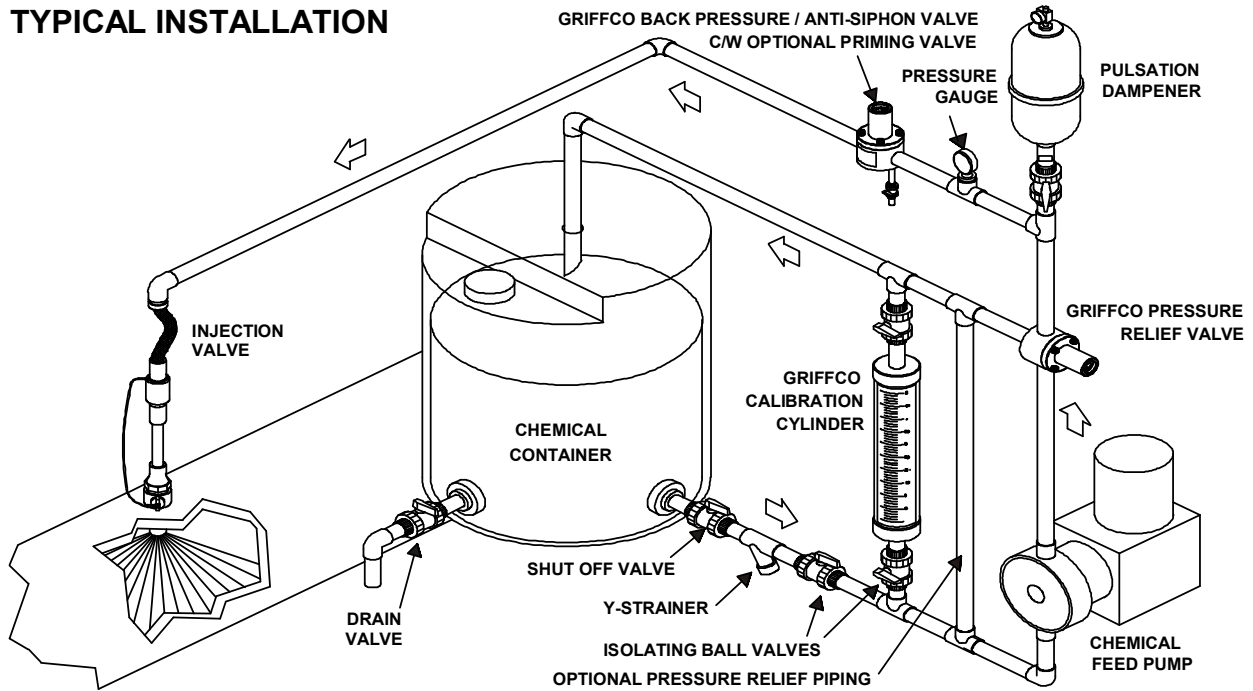
Back pressure valve performance will be enhanced with the installation of a pulsation dampener to smooth out the discharge / suction cycles of the pump. Thus, the diaphragm is free to float inside the valve chamber, minimizing the wear on the stress points of the diaphragm. For many low pressure applications dampeners without diaphragms are acceptable. These pulsation dampeners should be sized at 12 - 15 times the dosage volume of the pump head. For some applications diaphragm type dampeners are required. Generally speaking 5 to 10% dampening is sufficient. Consult with your pump manufacturer to get his recommendations.

Pressure Relief Valve:

Installation should be made as close to the chemical pump discharge valve as possible, without any equipment, especially shut-off valves, between the valve and the pump. Direction of flow must be across the valve, however the side of entry is not important. All **GRIFFCO** valves are factory set at 50psi, however field adjustment is possible with the adjustment screw.

The optimum installation for the relief valve is to vent the relief port back to the chemical tank, or directly to a containment area. However if this is not possible, the relief port can be piped back into the suction side of the pump. This will apply the suction head to the relief port. To compensate, divide the NPSH by 4 and add this pressure to the relief valve setting.

TYPICAL INSTALLATION



MAINTENANCE:

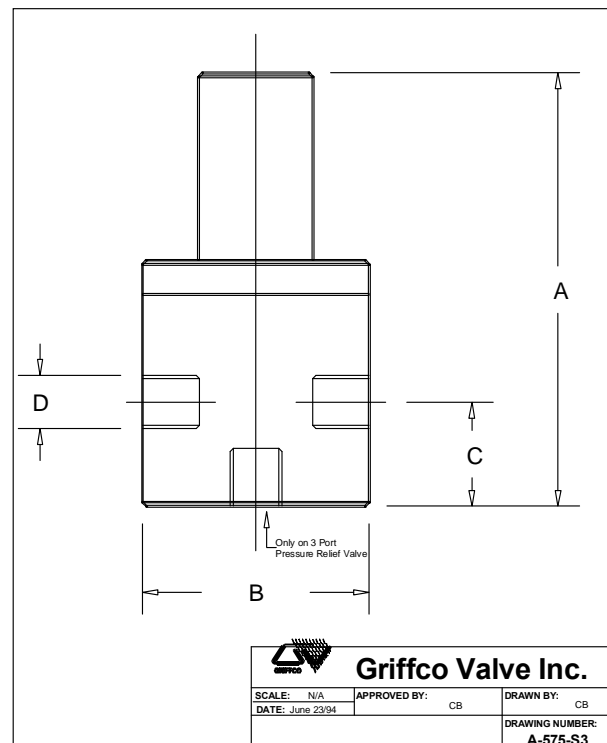
The pressure relief and back pressure valves were designed with minimizing the amount of maintenance required to keep the valves in operation. However, periodic replacement of the diaphragm is required. To facilitate inspection and replacement, the valve layout is such that removal of the diaphragm can be done without taking the valve out of the chemical line.

Caution: Ensure the system is not under pressure and that the chemical lines are flushed with water before disassembly.

Unscrew the pressure adjuster to remove the pressure from the diaphragm. Unthread the valve top and lift off. After the diaphragm has been inspected and replaced if necessary check the adjustment spring. Make sure there is no rust or corrosion. Replaced the spring if necessary. Place the spring and support disc onto the valve, then thread the valve top back over the valve body. Hand snug then tighten 1/8 of a turn.

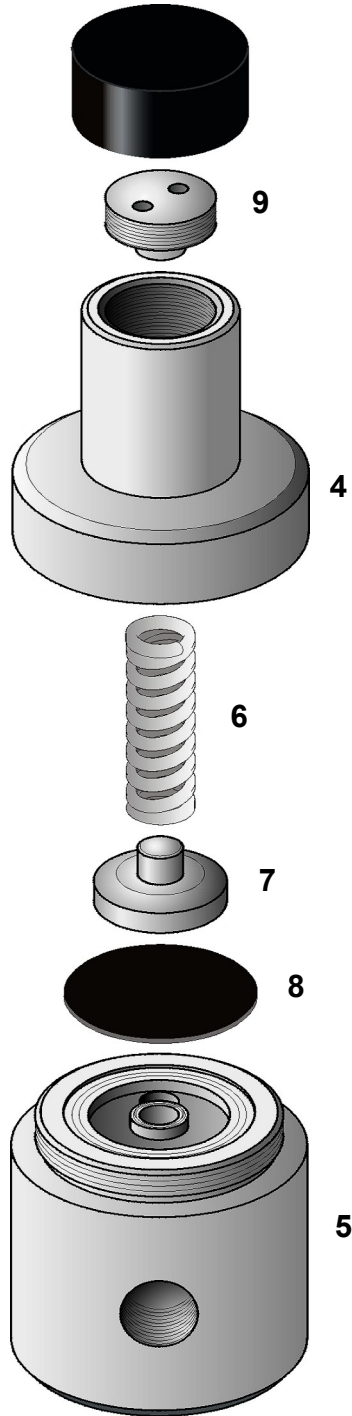
Screw in the adjustment screw to approximately the same position as it was prior to disassembly. If an exact pressure setting is required or a different pressure is desired a pressure gauge should be used to verify the setting. Turning the adjustment screw clockwise will increase pressure.

DIMENSIONS:



D	1/4"	3/8"	1/2"
A	3.90	3.90	4.60
B	2.375	2.375	2.375
C	0.750	0.750	1.125

PARTS LIST



ITEM	PART #	DESCRIPTION
4	PV-004011	1/4+1/2+T-Series Valve Top, Bolted - Noryl
	PV-00403	1/4+1/2+Alloy Body Valve Top, Bolted . 316 SS
	PV-004015	1/4+1/2+T-Series Valve Top, Threaded - Noryl
5	BPV/PRV-005011	1/4+BPV OR PRV T-Series Valve bottom - PVC
	BPV/PRV-005021	1/4+BPV OR PRV T-Series Valve bottom - PP
	BPV/PRV-005031	1/4+BPV OR PRV T-Series Valve bottom - PTFE
	BPV/PRV-005041	1/4+BPV OR PRV T-Series Valve bottom - PVDF
	BPV/PRV-00505	1/4+BPV OR PRV T-Series Valve bottom - 316 SS
	BPV/PRV-00506	1/4+BPV OR PRV T-Series Valve bottom - A 20
	BPV/PRV-00507	1/4+BPV OR PRV T-Series Valve bottom . Hast C
	BPV/PRV-005081	1/4+BPV OR PRV T-Series Valve bottom . CPVC
	BPV/PRV-005611	3/8+BPV OR PRV T-Series Valve bottom - PVC
	BPV/PRV-005621	3/8+BPV OR PRV T-Series Valve bottom - PP
	BPV/PRV-005631	3/8+BPV OR PRV T-Series Valve bottom - PTFE
	BPV/PRV-005641	3/8+BPV OR PRV T-Series Valve bottom - PVDF
	BPV/PRV-00565	3/8+BPV OR PRV T-Series Valve bottom - 316 SS
	BPV/PRV-00566	3/8+BPV OR PRV T-Series Valve bottom - A 20
	BPV/PRV-00567	3/8+BPV OR PRV T-Series Valve bottom . Hast C
	BPV/PRV-005681	3/8+BPV OR PRV T-Series Valve bottom . CPVC
	BPV/PRV-005111	1/2+BPV OR PRV T-Series Valve bottom - PVC
	BPV/PRV-005121	1/2+BPV OR PRV T-Series Valve bottom - PP
	BPV/PRV-005131	1/2+BPV OR PRV T-Series Valve bottom - PTFE
	BPV/PRV-005141	1/2+BPV OR PRV T-Series Valve bottom - PVDF
BPV/PRV-005151	1/2+BPV OR PRV T-Series Valve bottom - 316 SS	
BPV/PRV-005161	1/2+BPV OR PRV T-Series Valve bottom - A 20	
BPV/PRV-005171	1/2+BPV OR PRV T-Series Valve bottom . Hast C	
BPV/PRV-005181	1/2+BPV OR PRV T-Series Valve bottom . CPVC	
6	PV-00601	Pressure Spring 10 . 150 psi
	PV-006011	Pressure Spring 0 . 50 psi
	PV-006012	Pressure Spring 50 . 350 psi
7	PV-00701	Support Disc - PP
	PV-00702	Support Disc . 316 SS
8	PV-00800	Diaphragm . PTFE / EPDM
	PV-00802	Diaphragm . Viton
	PV-00803	Diaphragm . PTFE / Viton
9	PV-00900	Adjustment screw - PVC
	PV-00901	Adjustment screw . Coated Steel

Warranty: GRIFFCO Valve, Inc. warrants its products against defects in workmanship or materials for one year under normal use or 18 months from date of shipment whichever occurs first. All obligations and liabilities under this warranty are limited to repair or replacement (at our option), FOB our plant such allegedly defective units as are returned to our factory transport prepaid. Repairs or replacements are made subject to inspection of returned items.

This warranty does not extend to damage by corrosion or erosion. The materials of construction offered are recommendations subject in all cases to acceptance by the customer. These recommendations, based on previous experience and best available information, do not constitute guarantees against wear or chemical action.

Expressly excluded from this warranty are defects caused by misuse, abuse or improper application, installation or operation of the unit. No liability for consequential damages or reinstallation labor is accepted. GRIFFCO Valve, Inc. will not assume responsibility for contingent liability for alleged failure of its products.