What is it?

A Combination Valve is a compact assembly consisting of two spring-loaded diaphragm valves, which are connected by a T-fitting. The pump discharge is connected to the T-fitting between the two valves.

What does it do?

The Combination Valve provides for adjustable back pressure and pressure relief in the event that the discharge piping, downstream from the pump, becomes blocked.

The Back Pressure Valve component ensures proper seating and dosing of a metering pump's check valves, while the Pressure Relief Valve component protects metering pumps from damage caused by blockage in the discharge lines or accidental valve closure.

Why do you need it?

To ensure that check valves seat properly for accurate metering of chemical, all metering pump applications benefit from constant back pressure and pressure relief capabilities.

What happens without it?

Inaccurate metering can occur without some type of pressure pushing the check valve balls closed on the seat. For higher viscosity fluids, check valves can "float" in the pumped chemical. Pressure Relief Valves will ensure adequate relief should a Back Pressure Valve be mistakenly closed downstream.

Where does it go?

For best performance, a Combination Back Pressure and Pressure Relief Valve should be mounted as close to the pump as possible.

What pumps benefit the most?

Regardless of pump model or manufacturer, all pumps will benefit from the use of a Combination Back Pressure and Pressure Relief Valve.

Combination Back Pressure and Pressure Relief Valves

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What is it?

Lutz-JESCO America Corporation's Back Pressure Valve is a vital component of a chemical feed system used to create positive discharge pressure to an installed metering pump, creating accurate performance and preventing siphoning.

What does it do?

A Back Pressure Valve is used for metering pump applications, where suction pressure is greater than the discharge pressure.

What happens without it?

Without accurate back pressure, a pump may overfeed, thus not achieving its designed accuracy.

How does it work?

When line pressure increases, a ball or PTFE-coated diaphragm pushes against a pre-set pressure spring, which is then compressed. Flow is then metered into the process line.

Where does it go?

The Back Pressure Valve should be located in the discharge line as close to the metering pump as possible.

What is it made of?

This accessory is available in plastic with PVC or polypropylene housings and a Teflon diaphragm. Back Pressure Valves are also available in 316SS or Carpenter 20 bodies with spring-loaded ball.

Which pumps benefit most?

All pumps and piping systems benefit from the use of a Back Pressure Valve by ensuring precise repetitive metering.

Plastic Housing
(Pressures to 150 psi)

Total Metering
Fluid Transfer
Management Chem Feed
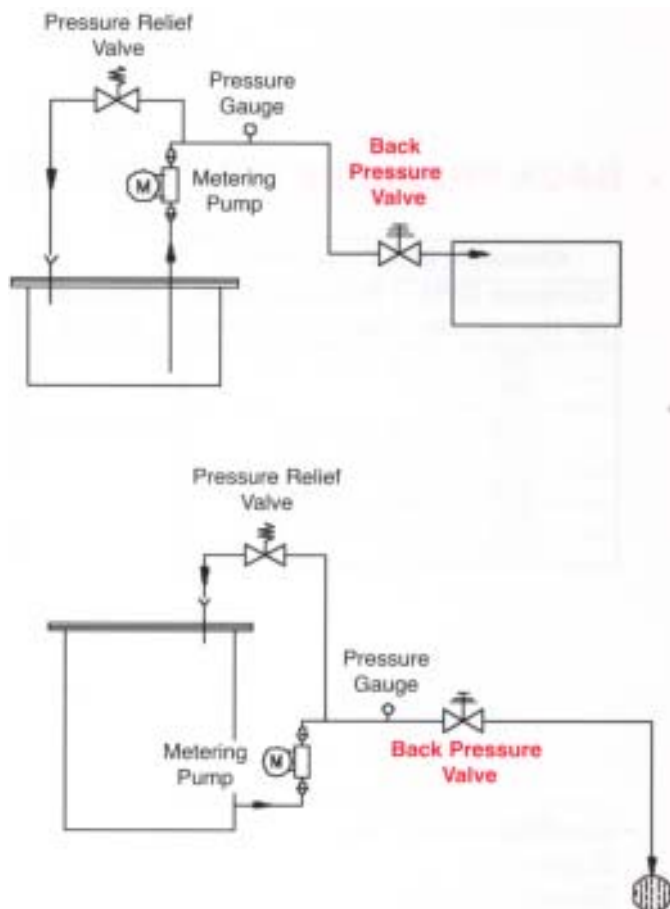
Selection Notes

1. Determine pump flow rate in gallons per hour (gph) and maximum system pressure (not the pump's maximum design pressure).

2. Select Back Pressure Valve materials compatible with fluid pumped.

3. To determine proper Back Pressure Valve setting, calculate the suction/discharge pressure difference. Add this value to the suction line pressure, thus determining the total Back Pressure Valve setting.

4. Based on the above requirements, select the proper valve from the Back Pressure Valve Size Table below.

Plastic Housings
(Pressure to 150 psi)
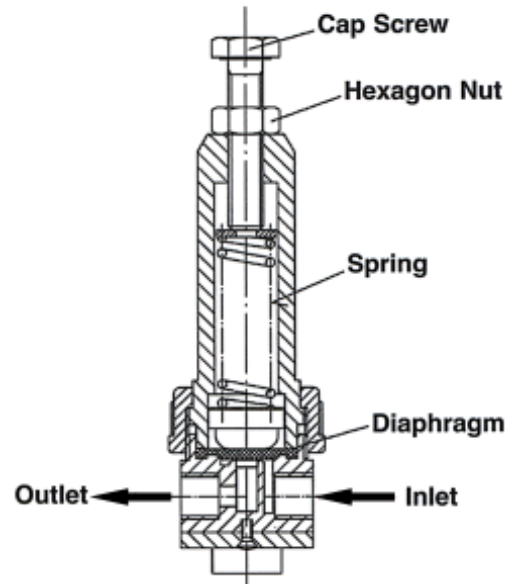
Selection Table

Allowable Maximum Flow (gph)		Pressure Range	Connection Size	Construction Material	Part Number
Constant Flow (w/dampener)	Pulsating Flow (w/o dampener)				
20	7		1/4" x 7/16" Tubing	PVC/PTFE	J260148-BPV
20	7		1/4" NPT	PVC/PTFE	J260149-BPV
132	44		1/2" NPT	PVC/PTFE	J260150-BPV
225	75	0-150 psig	1" NPT	PP/PTFE	J260156-BPV
595	198		1-1/2" NPT	PP/PTFE	J260151-BPV
952	317		2" NPT	PP/PTFE	J260155-BPV
1320	440		2-1/2" NPT	PP/PTFE	J260152-BPV