

SKOFLO

INJECTION VALVES FOR METHANOL AND MEG



- *CONSTANT FLOW REGARDLESS OF PRESSURE FLUCTUATIONS*
- *ADJUSTABLE FLOW RATES*
- *NO SCHEDULED MAINTENANCE*
- *TURNDOWN 50:1*
- *FLOW RATES UP TO 10 GPM AND HIGHER*
- *OPTIONAL ACTUATOR*
- *AVAILABLE IN SKOFLO ROV RETRIEVABLE SUBSEA MODELS*

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www.skoflo.com

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WHY PRESSURE INDEPENDENT CONTROL VALVES?

Control valves have been used for centuries. Until the **Skoflo** Valve, we have lived with the problem of changing flows as the pressure (ΔP) across the valve changes by the following flow equation:

$$Q = C_v \sqrt{\Delta P / S_g}$$

Q = Flow (gallons per minute)

ΔP = Pressure Drop across valve (PSID)

S_g = Specific Gravity (equals 1 for water at 60°F)

C_v = Flow Rate of the valve. The rating of a valve is a numerical value which corresponds to the flow rate occurring at a 1 PSID pressure differential across the valve.

eg: A valve with a Cv rating of 10 has a pressure drop of 1PSID when 10 GPM pass through it.

The **Skoflo** Valve takes the ΔP out of the flow equation and holds it constant internally across orifices at each flow rate setting.

In the **Skoflo** Valve, we internally set the ΔP across the control surfaces so it can't change. Therefore, the flow remains constant. Most all piping systems are dynamic (varying pressures and flows). The **Skoflo** Valve solves the problem caused by pressure changes in the system.

QUESTIONS & ANSWERS

Q. Why is this valve different from other flow control valves?

A. This flow control valve maintains a constant flow through it regardless of pressure changes across it.

Q. Does this valve have more than one setting?

A. Yes. You just turn the rate adjustment handle to change the flow.

Q. Can you supply valves to operate at less than 300 psi (20.7 bar) differential pressure?

A. Yes, please contact the factory with your requirements.

Q. What engineering principle does this valve use to give constant flow regardless of pressure fluctuations across it?

A. This unit uses a unique spring system to maintain a constant differential pressure across the valve Cv section.

Q. What does the unit use for control power?

A. The fluid passing through the unit provides the control power. The flow rate remains constant as long as the minimum differential pressure is maintained.

Q. What is required to operate the unit?

A. No hands-on operation and maintenance are required after initial start-up and calibration. No scheduled maintenance is required. You change the flow rate by turning the rate adjustment handle.

Q. How many moving parts are in the unit?

A. This unit has one moving part.

Q. Is this unit leak free?

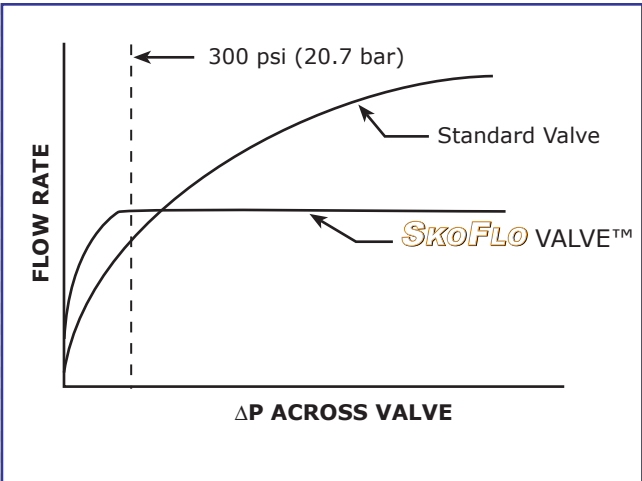
A. Yes, static O-rings and high pressure seals are used to seal the unit.

Q. How many units can be installed on a single pump or supply header system?

A. You can connect as many units as the pump or supply source will satisfy.

THE INJECTION VALVE

Valve Performance Curve



Notes: (Assuming Cv remains constant for both valves)

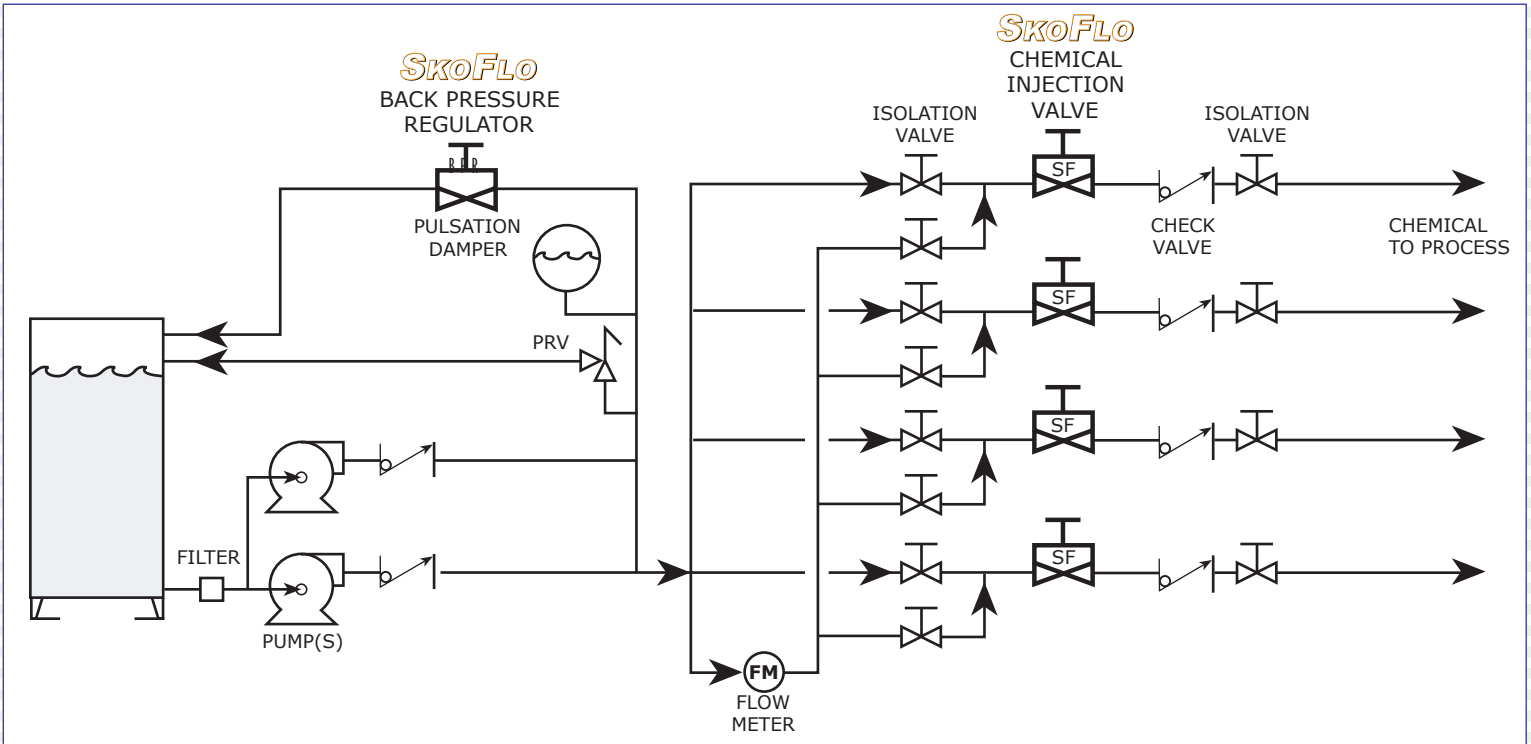
- Standard Valve:** the flow rate varies as the square root of the differential pressure across the standard control valve.
- SkoFlo Valve:** the flow rate remains constant once the minimum differential pressure is reached across the SkoFlo valve.

Specifications

Standard Materials:	316 SS, Nitronic SS, Ceramic
Pressure Rating:	SF5000NC 5000 PSIG SF10000NB 10000 PSIG SF15000NMFB 15000 PSIG
Seal Materials:	Cup Seals - Reinforced Teflon O-Rings - Viton (Standard) Kalrez, EPR (Optional)
Nominal Flow Range:	SF5000NC 0 to 2.8 gpm SF10000NB 0 to 2.8 gpm SF15000NMFB 0 to 10 gpm (up to 15 gpm with slightly higher ΔP across valve)
Connections:	SF5000NC 1/4" NPT SF10000NB 3/8" AE SF15000NMFB 3/4" AE
Actuator:	Available with XP electric multi-turn actuator
SubSea:	Both electric actuated and ROV operated SkoFlo SubSea valves are available with valve cores equivalent to the model SF15000NMFB

THE SYSTEM

Typical Multiple Injection Point System



THE BACK PRESSURE REGULATOR



► Specifications

Standard Materials:	316 SS, Nitronic SS, Ceramic
Pressure Rating:	BPR5000MFA 5000 PSIG BPR10000MFB 10000 PSIG BPR15000MFC 15000 PSIG
Seal Materials:	Cup Seals - Reinforced Teflon O-Rings - Viton (Standard) Kalrez, EPR (Optional)
Nominal Flow Range:	0 to 10 gpm (0 - 2270 ltr/hour) [Nominal flow range based on minimum of 500 psi drop across valve]
Connections:	BPR5000MFA 3/4" AE (3/4" NPT optional) BPR10000MFB 3/4" AE BPR15000MFC 3/4" AE

- **PROVEN RELIABILITY (SINCE 1989)**
- **NO SCHEDULED MAINTENANCE**

► BPR5000MFA - 2

Basic Series

BPR5000MFA
BPR10000MFB
BPR15000MFC

Set Pressure

1 = 0 to 3000 psig (0 - 207 barg)
2 = 2500 to 5000 psig (172 - 345 barg)
4 = 2500 to 10000 psig (172 - 690 barg)
6 = 2500 to 15000 psig (172 - 1034 barg)

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