Product Datasheet
Surface High Flow SF10000 and 15000NMFE

General Design Features:

- Designed for High Flow applications (MEG, Methanol)
- Maximum Allowable Working Pressure (MAWP) of 10,000 and 15,000 psi
- Flow rates up to 12 GPM with max 48:1 turndown ratio
- Compatible sealing with all chemicals. Available elastomer selections include: Viton, EPDM, FFKM
- Designed to accommodate mounting of actuator
- ¾" AE MP Process connections with optional Grayloc (consult factory)
- Proven and reliable technology since 1988.

Pressure-Balanced Piston:

- **Pressure Independence** – Upstream and downstream pressure fluctuations create a net force on the patented pressure balanced piston, which is countered by a spring force to maintain constant flow.
- **Stable and Accurate Flow Delivery** – Pressure-balanced piston provides instantaneous means of control at different injection points from a common line that is more tolerant to debris and fluid filming. No pneumatic or electric power sources required for control.
- **Debris Management** - Accumulated debris results in a net force on the piston that instantaneously lifts the pin slightly from the seat, passing the debris through the outlet. This net force is countered by the spring force that returns the piston to its balanced flow rate position.

Stable and Accurate Flow Rates for High Flow Applications:

- Flow range of **0.1 GPM to 12 GPM**
- **Maximum Turndown Ratio of 48:1**
- **Maximum debris and filming tolerance** – Spring balanced throttling piston opens automatically to pass debris at the tightest throttling point.

Flow Characteristics

Flow Range	0.1 to 2 GPM (22.7 to 454 liters/hr) 0.25 to 12 GPM (56 to 2725 liters/hr)
Turn-down Ratio	Ratio of maximum calibrated flow to minimum calibrated flow 12 GPM: 48:1 2 GPM: 20:1
Flow Delivery	Maintains set flow rate despite debris and upstream or downstream pressure fluctuations.
Minimum Differential Pressure (@Maximum flow)	500 psi (35 bar) required to regulate flow independent of pressure. (50% MEG in water at room temperature. For fluid viscosities 50-100cP, consult factory for minimum required pressure drop)

Design Ratings

Design Standards	API6A: Bolting; NACE MRO175 Material Selection			
Design Life	25 years			
Working Pressure Rating	10,000 or 15,000 psig (690 or 1034 barg)			
Proof Test Pressure	15,000 or 22,500 psig (1034 or 1551 barg)			
Operating Temperature Rating	**FKM**	**FFKM**	**EPDM**	
	0°F to 160°F (-20°C to 70°C)	-20°F to 160°F (-29°C to 70°C)	-50°F to 160°F (-45°C to 70°C)	
Storage Temperature Rating	-50°F to 160°F (-45°C to 70°C)			
Viscosity	0.5 - 100 cp			
Debris tolerance	SAE AS4059 Class 12B-F			
Installation Orientation	Horizontal or Vertical			
Envelope Dimensions	12.8in x Ø7in. (325mm x Ø178 mm)			
Weight (no actuator)	32 lbs (14.5 Kg)			
Process Connections	¾" AE MP Female; Optional Grayloc (consult factory)			

Materials (Chemically wetted)

Valve Body	Nitronic 50HS
Metallic components	Nitronic 50HS, 316/316L SS, Inconel x750
Non-metallic components	PEEK, PTFE, FFKM, FKM, EPDM, Carbide, Ceramic
High Drop Valve Trim	Carbide