

General Design Features:

- ▶ Compact valve design using Nitronic 50HS body.
- ▶ Field proven variable orifice design with over a 1000:1 turndown ratio.
- ▶ NACE MRO175 compliant as standard.
- ▶ Compatible sealing with all chemicals (Scale, Corrosion, Asphaltene, Wax inhibitors, Demulsifier, Antifoam and Methanol).
- ▶ Designed to accommodate mounting of actuator and PDFM (Positive Displacement Flow Meter).
- ▶ Proven and reliable technology since 1988.
- ▶ Process connections and mounting pattern match field proven SF5000C CIMVs.



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.

New Variable Orifice Design for Higher Turndown:

- ▶ Flow rate of **0.6 GPD to 700GPD** with one orifice gate
- ▶ **Higher turndown** ratio of over a **1000:1**; Better **Rangeability**
- ▶ **Maximum debris and filming tolerance** - The ceramic coated surface eliminates filming and helps prevent clogging



Product Datasheet
Surface Low Flow SF5000HTV

Flow Characteristics

Flow Range	0.6 to 700 gpd (0.095to 110.48 liters/hr)
Turn-down Ratio	1167:1 (Ratio of the maximum calibrated flow to minimum calibrated flow)
Flow Delivery	Maintains set flow rate despite debris and upstream or downstream pressure fluctuations.
Minimum Differential Pressure (@Maximum flow)	300 psi (21 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	5,000 psig (345 barg)			
Proof Test Pressure	7,500 psig (517 barg)			
Operating Temperature Rating	FKM	FFKM	EPDM	VG109-90 (FKM)
	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)	-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	8in. x Ø5in. (230mm x Ø127 mm)			
Weight (no actuator)	11.3 lbs (5.13 Kg)			
Process Connections	¼" NPT Female			

Materials (Chemically wetted)

Valve Body	Nitronic 50HS
Metallic components	Nitronic 50HS, 316/316L SS, Inconel 718, Elgiloy
Non-metallic components	PEEK, PTFE, FFKM, FKM, EPDM, Alumina, Zirconia
Valve Trim	Ceramic