



Ampliflow Pneumatic Seal Gas Booster

Improve dry gas seal reliability

The pneumatic Ampliflow delivers a continuous supply of clean seal gas to compressor gas seals, eliminating a source of contamination and equipment downtime. Driven by instrument air or nitrogen, the pneumatic Ampliflow improves operational reliability during periods of low differential pressure across the compressor when the available seal gas supply is insufficient.

Features and benefits

- Employs dual dynamic rod seals to prevent mixing of drive gas with process gas.
- Monitoring of leakage line allows evaluation of the health of the dynamic seals.
- Optional feedback sensor allows monitoring of unit operation.
- Low energy consumption.
- Operated by a reliable 5/2 high-speed acting solenoid

Materials of Construction

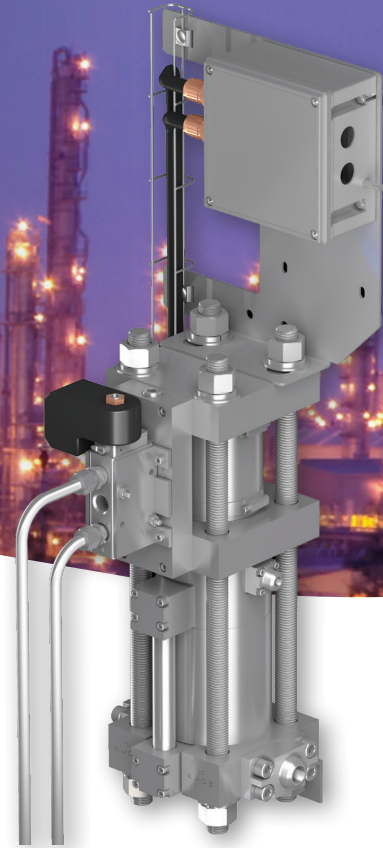
Process Side: 316 Stainless Steel

Drive Side: 6061-T6 (316 SS option)

Solenoid Valve: 6061-T6 (316 SS option)

Seals: Polymer material compatible with process media

Dimensions: 812 mm x 355 mm x 204 mm (32" x 14" x 8")



Design Specifications

NEC / CEC Class 1, Div. 2, Group BCD

ATEX / IEC Zone 1, II 2 G EEx me II T4...T6 (Ex d option available)

MAWP: Up to 552 bar @ -40 °C to 200 °C (8000 psi @ -40 °F to 400 °F)

Maintenance Interval: > 2500 hours (> 10,000,000 cycles)

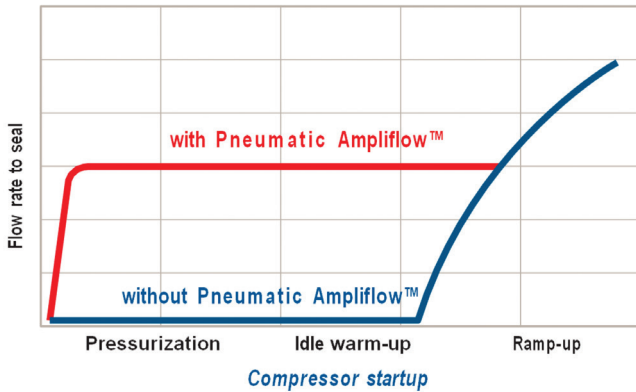
Drive Gas Connections: 3/8-18 NPT, (1/2-14 NPT SS)

Process Connections: 1/2-14 NPT, 1/2", 3/4", 1" BW

Operation Monitoring: Velocity Sensor, Solid State Magnetic Sensor

Seal Gas Supply Rate

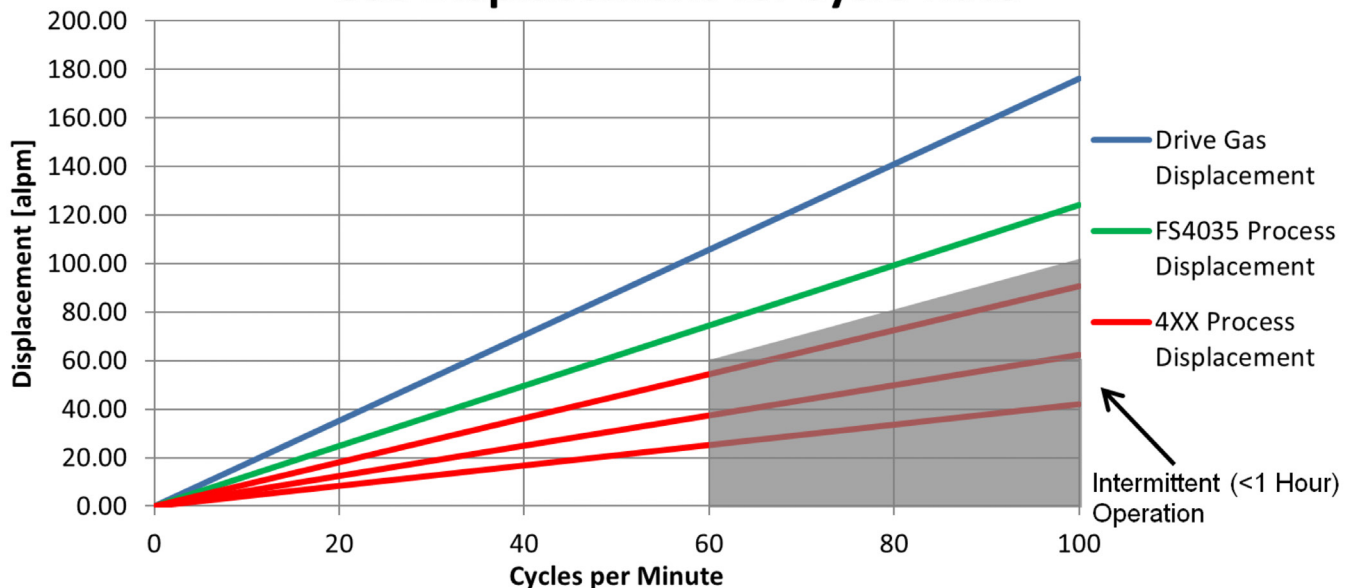
This graph illustrates the seal supply gas flow with and without the use of a pneumatic Ampliflow. During the startup phases of a gas compressor, the Ampliflow delivers sufficient seal gas flow to protect dry gas seals from process contamination.



Options

- **Corrosion Resistance:** Process gas wetted parts can be materials compliant with NACE MR0175/ISO15156-2 and MR0103-2007.
- **Flame Proof Hazardous Area Certification:** Ampliflow assemblies can be rated to ATEX / IEC Zone 1, II 2 G EEx md IIC T4...T6 upon request.
- **Booster Model Options:**

Ampliflow Drive and Process Gas Displacement vs. Cycle Rate



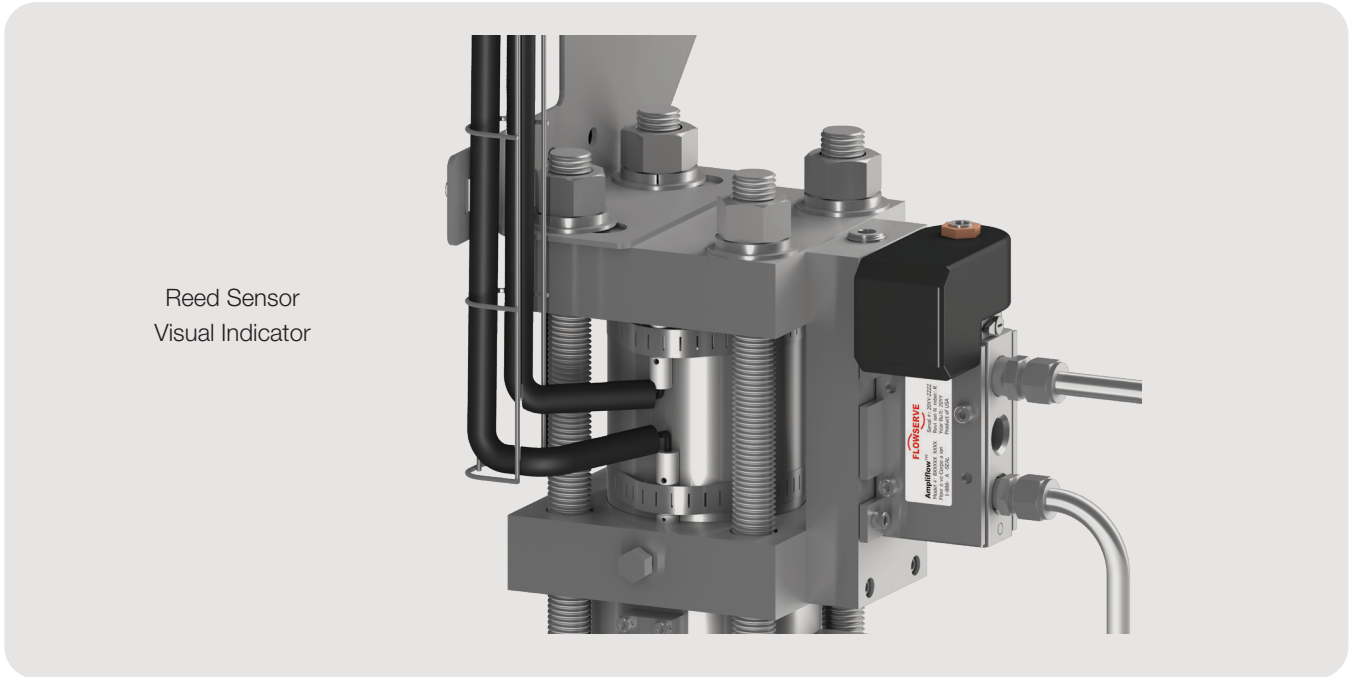
Booster Model Number

Specification	FS4035	434	430	425
Process MAWP	207 bar (3000 psi)	200 bar (2900 psi)	552 bar (8000 psi)	400 bar (5800 psi)
Process Temperature Range	-40 °C to 204 °C (-40 °F to 400 °F)	-48 °C to 200 °C (-54 °F to 392 °F)	-48 °C to 200 °C (-54 °F to 392 °F)	-48 °C to 200 °C (-54 °F to 392 °F)
Max. Continuous Cycle Rate	100 cycles/minute	60 cycles/minute	60 cycles/min	60 cycles/min
Max. Pressure Boost Ratio	1.3	1.2	1.4	2
Max. Process Flow Rate	126 L/min (33 gal/min)	98 L/min (26 gal/min)	76 L/min (20 gal/min)	52 L/min (14 gal/min)
Weight	40 kg (88 lb)	48 kg (105 lb)	56 kg (125 lb)	49 kg (108 lb)

Operation Monitoring: Adding a feedback sensor to your pneumatic Ampliflow allows continuous monitoring during operation. Combined with the leakage monitoring, an operator would be able to diagnose any performance changes immediately to plan for maintenance and ensure the Ampliflow is running at peak efficiency.

Feedback Sensor Option

Specification	Velocity Sensor	Reed Sensor	Solid State Magnetic Sensor
Signal Type	4-20 mA Analog	5, 12, 24 or 110 VDC Digital	5, 12, 24 or 110 VDC Digital
Ambient Temperature Range	-40 °C to 85 °C (-40 °F to 185 °F)	-20 °C to 50 °C (-4 °F to 122 °F)	-20 °C to 80 °C (-4 °F to 176 °F)
Case Material	303 Stainless Steel	Thermoplastic with Stainless Steel Mounting Enclosure	6061-T6 Aluminum
Turn On Time	< 10 Seconds	< 0.1 Seconds	< 0.1 Seconds
Visual Indicator	No	Yellow LED	No
Cost	\$	\$\$	\$\$
When to Install	Preferred for single units, field upgradeable	Preferred when multiple units are installed or drive gas supply is limited	Preferred when multiple units are installed or drive gas supply is limited
Full Stroke Monitoring	No, only operational response	Yes, feedback ensures booster is reaching full stroke at all times	Yes, feedback ensures booster is reaching full stroke at all times
Max. Power Consumption	.82 W	4.5 W	10 W
Electrical Hazardous Area Rating	NEC / CEC Cl. 1, Div. 2, Group ABCD ATEX / IEC Zone 1, Ga Ex d IIC T3	ATEX / IEC Zone 1 Ex nA op is IIC T4	NEC / CEC Cl. 1, Div. 2 Group ABCD



Reed Sensor
Visual Indicator

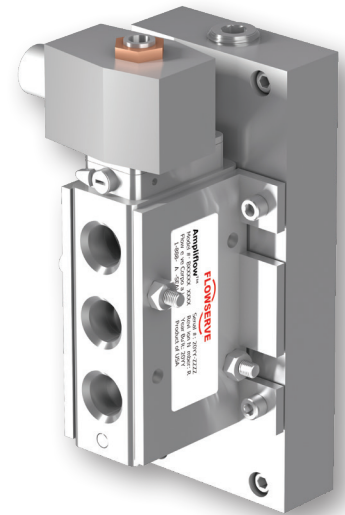
Ampliflow Control: The pneumatrix Ampliflow can be controlled by a timing relay (with a repeat cycle function), a PLC (such as Flowserve's SealVIEW) or your own DCS system

Drive Gas Upgrade

All new Ampliflow units come with a re-designed drive gas assembly.

- Uses a 5/2 high speed solenoid valve operator to minimize maintenance requirements.
- Increased reliability at the full operating temperature range.
- Existing Ampliflow units can be field upgraded to the solenoid operator.

Ask your local Flowserve representative to find out more on how to upgrade your existing Ampliflow.



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