APTech

ADVANCED PRESSURE TECHNOLOGY

STERLING SL 5800

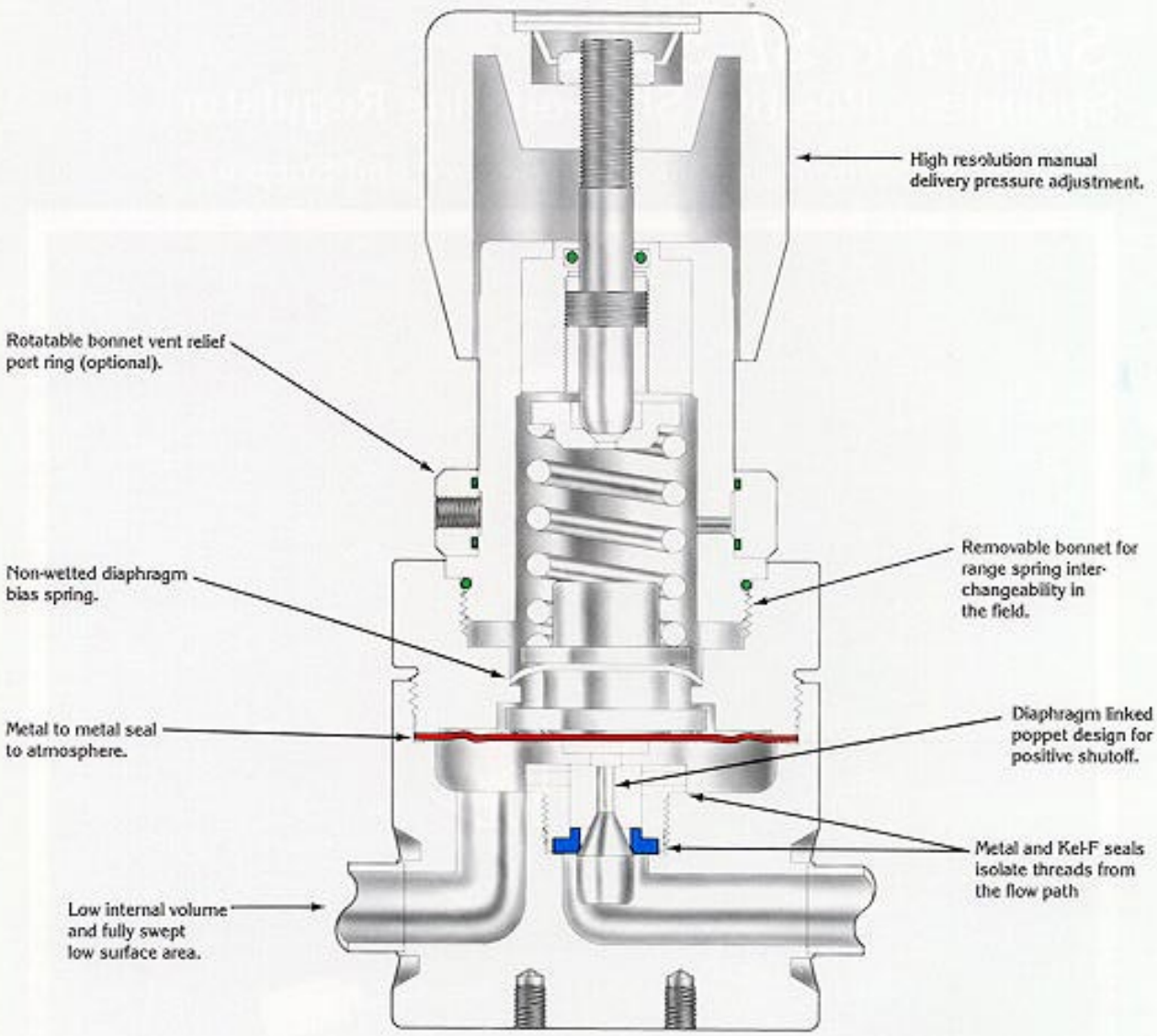
Springless Positive Shut-off Line Regulator

Ultraclean Technology Backed By Service and Support

- Particle Tested
- Hot DI cleaned and baked
- 10μ in. surface finish (7 and 5μ in. optional)
- Low internal volume and surface area
- High flow rate applications with low delivery pressure
- Vacuum to 300 psig (21 bar)

687 Technology Way / Napa, CA 94558 / Telephone (707) 259-0102 / Fax (707) 259-0117

Defining New Levels of Ultraclean



The Sterling SL 5800 – the ultimate in ultraclean

The Sterling is a new generation of pressure regulators. It is the culmination of efforts to produce a line regulator with the optimum in performance and cleanliness. Its unique design employs a non-wetted diaphragm bias spring to assure crisp and stable flow characteristics with positive shut-off across the seat.

The SL 5800 is manufactured and tested to rigorous standards using the most advanced techniques available. Minimal surface area, free of unswept zones, combined with proper surface chemistry and low Ra finishes minimize the potential for adsorption of contamination. These features ensure the absolute minimum contribution of contamination to the process stream.

Please consult your local representative or our staff for further information or technical assistance.

Engineering data –
Sterling Series SL 5800 Springless Pressure Regulators

Operating parameters

Source pressure	vacuum to 300 psig (21 bar)
Delivery pressure (SL 5802)	1 to 30 psig (.07 to 2 bar)
Delivery pressure (SL 5806)	1 to 60 psig (.07 to 4 bar)
Delivery pressure (SL 5810)	2 to 100 psig (.14 to 7 bar)
Proof pressure	2000 psig (140 bar)
Burst pressure	4000 psig (276 bar)

Other parameters

Inlet and outlet connectors	¼, ⅜ or ½ inch face seal or tube weld
Actuation/relief port (optional)	10–32 inch
Flow coefficient (Cv)	0.4
Internal volume	0.65 in^3 (10.6 cm^3)
Operating temperature	-40° to +160°F (-40° to +71°C)*
Surface finish	10µin. (.25µm) standard; 7µin (0.18µm); and 5µin (0.13µm) optional
Inboard leakage	2×10^{-10} sccs
Outboard leakage	2×10^{-9} sccs He at 300 psig inlet pressure
Leakage across seat	4×10^{-8} sccs He at 100 psig inlet pressure
Installation	surface or panel (optional)
Delivery pressure rise	5 psi per 100 psig inlet pressure drop

Materials

Wetted Parts	
Body, poppet, diaphragm	stainless steel 316L secondary remelt
Finish	electropolished and passivated
Seat	PCTFE (Vespel® optional)
Non-wetted Parts	
Bonnet, cap, plate	nickel–plated brass
Diaphragm spring	stainless steel 302
O–ring	Viton®
Stem	brass

*High temperature ratings available. Please contact factory.

Viton® DuPont

Vespel® DuPont

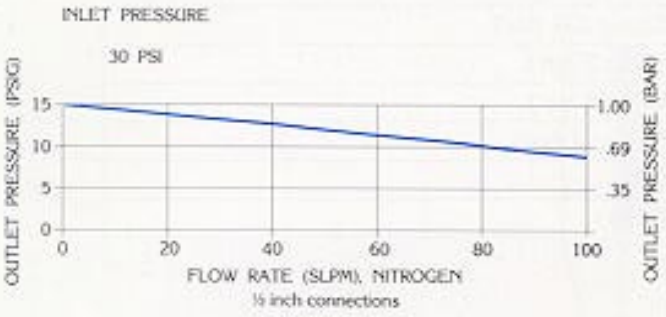
All specifications subject to change without notice.

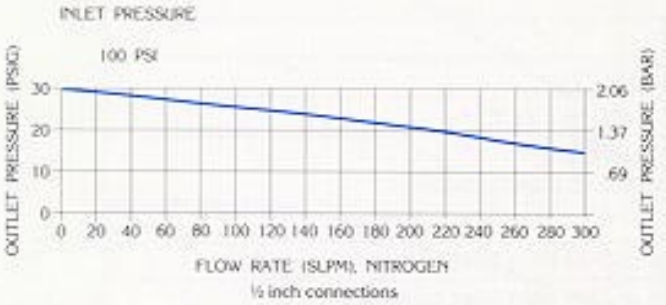
Cleaning and packaging

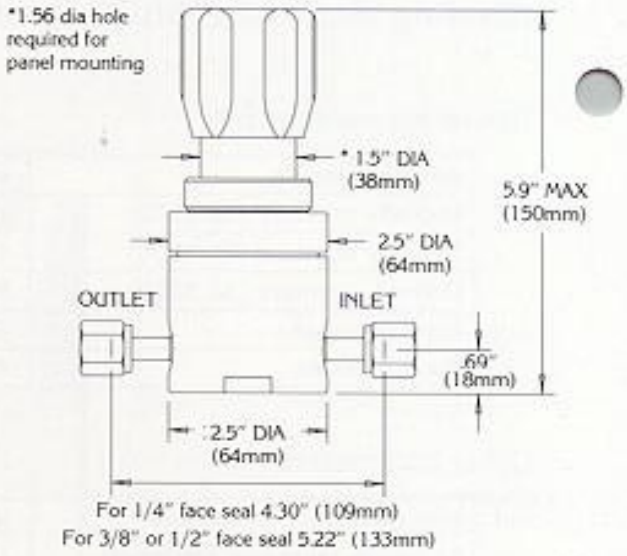
Cleaning is a multi-step process performed in a Class 100 clean room. Parts are ultrasonically cleaned with a wetting agent initially and then progressively with hot and cold DI water. Cleaned parts are then blown dry with ultra pure nitrogen prior to being baked completely dry in a nitrogen atmosphere.

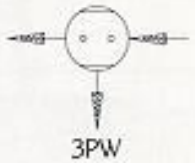
Each regulator is then individually assembled, pressure tested, functionally tested, helium leak tested and particle tested. Labels, including a unique serial number, are installed prior to products being double packaged under ultra pure nitrogen.

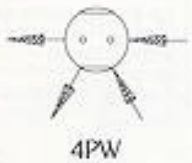
Uncompromising quality, performance and reliability from a company known for service and support.











ORDERING INFORMATION

Series SL 5800	S Material	M Material Surface Finish	4PW Ports	FV4 – FV4 Connectors Inlet Outlet	10 – V3 Gauges* Source Delivery	p Options
SL5802 = 1 – 30 psi (.07 to 2 bar) SL5806 = 1 – 60 psi (.07 to 4 bar) SL5810 = 2 – 100 psi (.14 to 7 bar)	S = Stainless steel	M = 10µ in. Ra (standard) V = 7µ in. Ra X = 5µ in. Ra	2PW = 2 ports butt weld 3PW = 3 ports butt weld 4PW = 4 ports butt weld	FV4 = ¼ inch face seal female MV4 = ¼ inch face seal male TW4 = ¼ inch tube weld stub FV6 = ⅜ inch face seal female MV6 = ⅜ inch face seal male TW6 = ⅜ inch tube weld stub FV8 = ½ inch face seal female MV8 = ½ inch face seal male TW8 = ½ inch tube weld stub	0 = No gauge V3 = 30–0–30 psi/bar L = 30–0–60 psi/bar 1 = 30–0–100 psi/bar 2 = 0–200 psi/bar	P = Panel installation BV = Bonnet vent ring VS = Vespel seat

*Gauge ports are standard with 1/4" face seal male.

Products by AP Tech

AP Tech manufactures a wide array of products exclusively for the semiconductor industry. Pressure regulators, valves, check valves and a variety of flow devices are available for applications ranging from the source cylinder cabinet, bulk delivery systems through point of use including VMB distribution boxes and process tool gas trays. Products can be tailored for specific needs with custom fittings, dimensions, porting or testing with an option of multiport, monoblock and surface mount configurations.