APTech

ADVANCED PRESSURE TECHNOLOGY

STERLING SL 5500

Springless Positive Shut-off Regulator

Defining New Levels of Ultraclean

- Hot DI cleaned and baked
- Particle Tested
- 10μ in. surface finish (7 and 5μ in. optional)
- Absolute to 100 psig delivery
- Vacuum to 3500 psig (241 bar)
- Low internal volume and surface area

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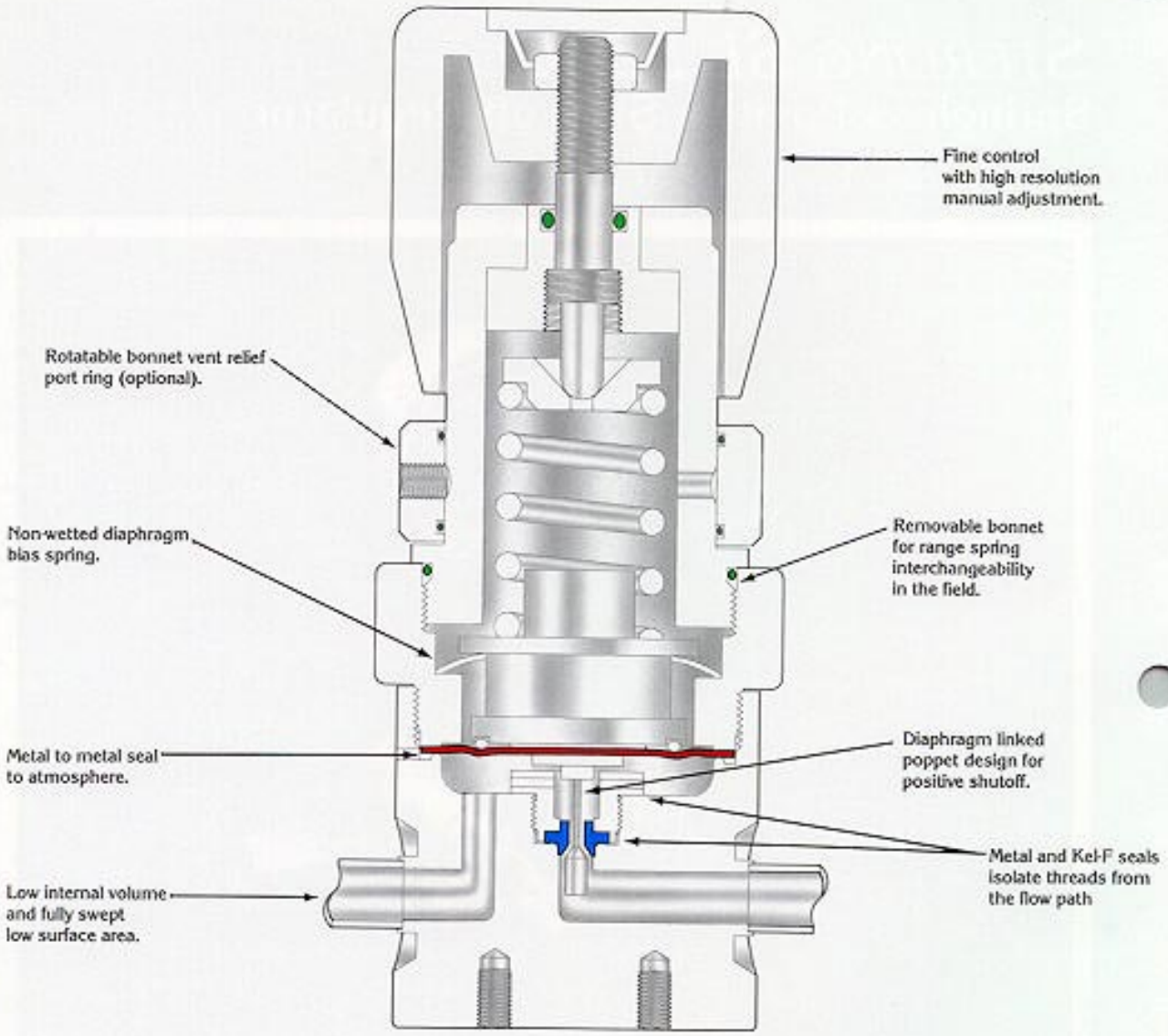
Ultraclean technology backed by service and support.



The Sterling SL 5500 – the ultimate in ultraclean

The Sterling is a new generation of pressure regulators. Its unique design employs a non-wetted diaphragm bias spring to eliminate springs from the flow path. The net result is a regulator with unprecedented performance over a broad range of applications. The SL 5500 provides the optimum in precise and stable pressure control as a line regulator at point of use in addition to being extremely rugged and reliable for cylinder use.

The SL 5500 is manufactured, cleaned 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 5500 Springless Pressure Regulators

Operating parameters

Source pressure	vacuum to 3500 psig (241 bar)
Delivery pressure (SL 5502)	1 to 30 psig (.07 to 2 bar)
Delivery pressure (SL 5502A)	23in. Hg to 30 psig (580 torr to 2 bar)
Delivery pressure (SL 5506)	1 to 60 psig (.07 to 4 bar)
Delivery pressure (SL 5510)	2 to 100 psig (.14 to 7 bar)
Proof pressure	5000 psig (345 bar)
Burst pressure	10,000 psig (690 bar)

Other parameters

Inlet and outlet connectors	¼ or ⅜ inch face seal or tube weld
Actuation/relief port (optional)	10–32 inch
Flow coefficient (Cv)	0.09
Internal volume	0.26 in^3 (6 cm^3)
Operating temperature	-40˚ to +160˚F (-40˚ to +71˚C)*
Surface finish	10µin. (0.25µm) standard 7µin (0.18µm); and 5µin (0.13µm) optional
Inboard leakage	2×10^{-10} sccs
Outboard leakage	2×10^{-9} sccs He at 1500 psig inlet pressure
Leakage across seat	4×10^{-8} sccs He at 1000 psig inlet pressure
Installation	surface or panel (optional)
Delivery pressure rise	0.25 psi per 100 psig source pressure drop

Materials

Type of Service	Series SL 5500 S Noncorrosive	Series SL 5500 SH Corrosive
Wetted Parts		
Body	stainless steel 316L secondary remelt	stainless steel 316L secondary remelt
Poppet, diaphragm	stainless steel 316L	Hastelloy® alloy C–22
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Vespel® optional)	PCTFE
Non-wetted Parts		
Bonnet, cap, plate	nickel–plated brass	nickel–plated brass
Diaphragm spring	stainless steel 302	stainless steel 302
O–ring	Viton®	Viton
Stem	brass	brass

*High temperature ratings available. Please contact factory.

Hastelloy® Haynes Corporation
Viton® DuPont

Vespel® DuPont

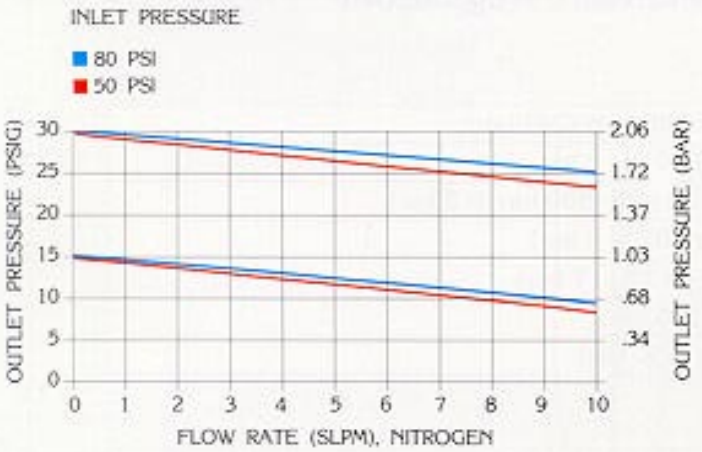
All specifications subject to change without notice.

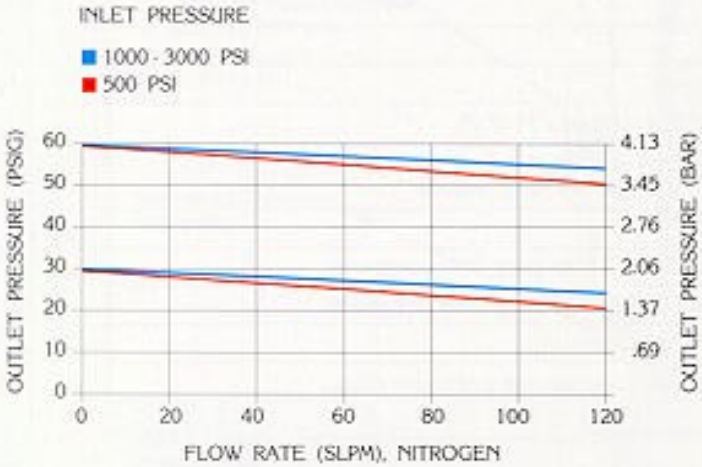
Cleaning and packaging

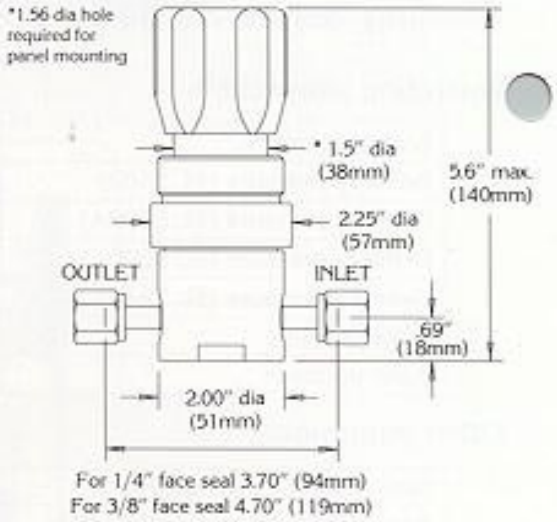
Cleaning is a multi-step process performed in a Class 100 clean room. Parts are ultrasonically cleaned with a wetting agent initially and then progressively with hot and cold DI water. Cleaned parts are then blown dry with ultra pure nitrogen prior to being baked completely dry in a nitrogen atmosphere.

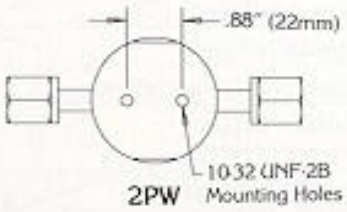
Each regulator is then individually assembled, pressure tested, functionally tested, helium leak tested and particle tested. Labels, including a unique serial number, are installed prior to products being double packaged under ultra pure nitrogen.

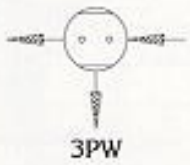
Uncompromising quality, performance and reliability from a company known for service and support.

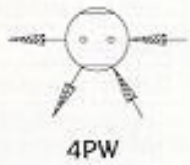












ORDERING INFORMATION

Series SL 5500	S Material	M Material Surface Finish	4PW Ports	FV4 – FV4 Connectors Inlet Outlet	10 – V3 Gauges* Source Delivery	p Options
SL5502 = 1–30 psi (.07–2 bar) SL5502A = 23in Hg–30 psi (580 torr–2 bar) SL5506 = 1–60 psi (.07–4 bar) SL5510 = 2–100 psi (.14–7 bar)	S = Stainless steel SH = Stainless steel with Hastelloy internals	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	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 4 = 0–400 psi/bar 10 = 0–1000 psi/bar 40 = 0–4000 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.