

SQ 420E

High Purity Point-Of-Use Regulator



technological
leadership
by design
an ISO 9001
certified company

Veriflo's SQ Series was created in response to the need for high performance point-of-use regulators for modern semiconductor processing. The SQ's were designed from scratch, with no preconceptions, no ties to older, high purity designs.

Precise control of the gas discharge pressure at or near the tool served makes possible stable process control by a mass flow controller. The resulting accurate delivery from the mass flow controller goes right to the bottom line in process repeatability.



features

- ▶ Hastelloy C-22[®] Poppet and Diaphragm are standard.
- ▶ High flow capacity with minimal pressure, drop and low supply pressure.
- ▶ Tied-diaphragm for added safety.
- ▶ Hurricane cleaning for "near-absolute" contamination control.
- ▶ Capable of operating at a wide range of flows — from 0.5 cc/min to more than 800 liters/min.
- ▶ Design and materials of construction ensure compatibility with the high flow of corrosive gases.
- ▶ The only seal to atmosphere other than the inlet and outlet connections is the PCTFE assisted seal of the diaphragm to the body.
- ▶ No wetted spring.
- ▶ No threads exposed to the wetted area.

materials of construction

Wetted

Body "VeriClean", Veriflo's high purity AOD/VAR 316L Stainless Steel, Hastelloy C-22[®]

Seat PCTFE (formerly known as Kel-F81[®])

Diaphragm. Hastelloy C-22[®]

Poppet Hastelloy C-22[®]

Non-wetted

Cap Nickel Plated Brass

Nut Nickel Plated Brass

operating conditions

Inlet pressure 250 psig (17.2 bar)

Outlet pressure 0-30 psig (2 bar)adjustable
0-50 psig (3 bar) adjustable,
0-100 psig (7 bar) adjustable

Temperature -40°F to 150°F
(-40°C to 66°C)

surface finishes

Standard Ra 10 micro inch
(.25 micro meter) or less

Optional Ra EV=5 micro inch
(.13 micro meter) or less

functional performance

Design proof pressure 375 psig (26 bar)

Design burst pressure 750 psig (52 bar)

Leakage:

Across Seat 5×10^{-8} scc/sec He

Inboard 2×10^{-10} scc/sec He

Outboard 2×10^{-9} scc/sec He

internal volume

Total 20 cc

standard connections

Any combination of FS male and/or female fittings:

1/4" Gland to gland length. 4.64 ± .02 in.
(117.9 ± .5 mm)

1/2" Gland to gland length 5.59 ± .02 in
(142 mm ± .5mm)

1/2" tube stubs inlet and outlet available:

End to end length 4.64 ± .03
(117.9 ± .5 mm)

approximate weight

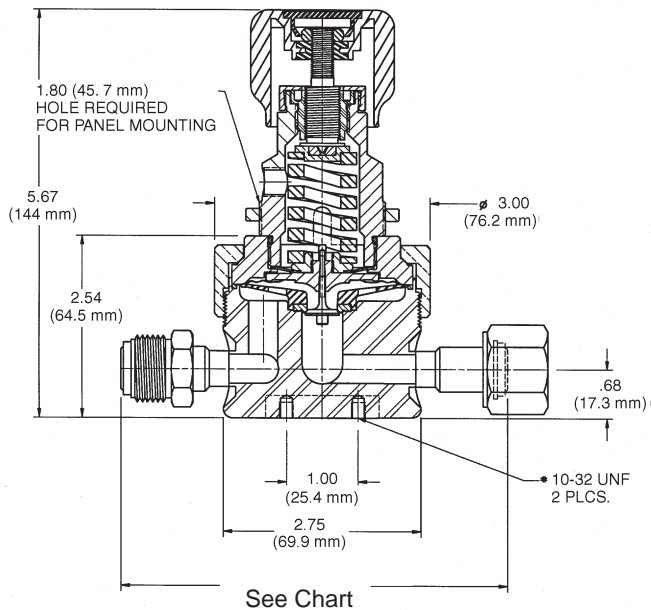
4 lbs 10 oz. (2.1 kg)

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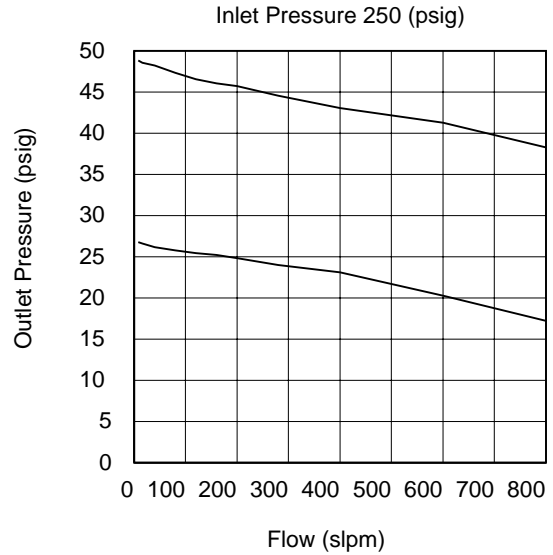
Cross Sectional Drawing

Cross Sectional Chart

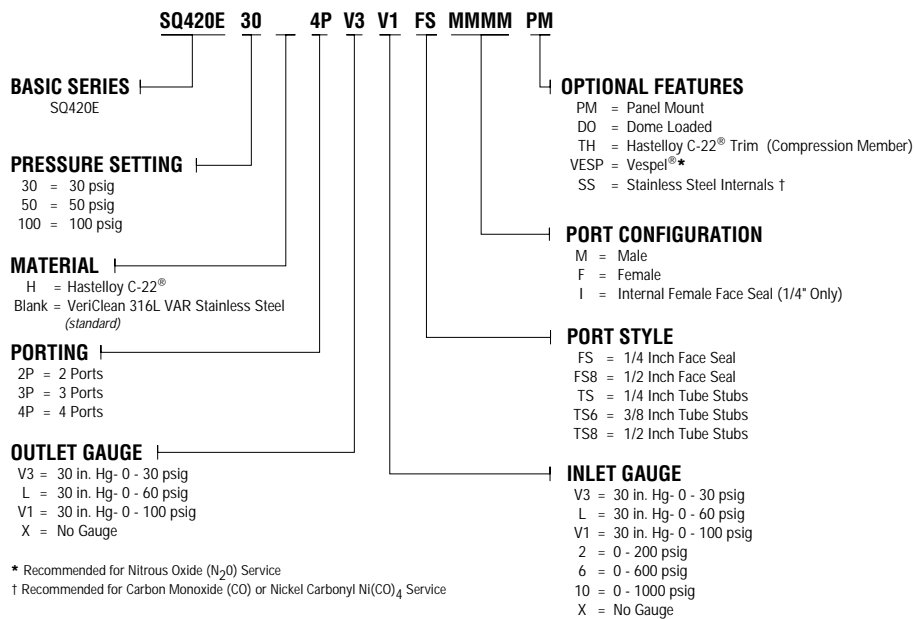
1/4" FS	4.64" (118 mm)
1/2" FS	5.59" (142 mm)
1/2" TS	4.64" (118 mm)



Flow Curve



Ordering Information



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P/N: 25000056 Revision 2 • 2/98