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Valves & Fittings

FEATURE a unique proven design — SI 220

The **SI 220 Regulator** was created in response to the industry's need for a **Highflow, High Pressure, Springless, Tied Diaphragm Regulator** for specialty source gas service, i.e. gas cabinets.The design and materials of construction, plus some unique features make it an ideal choice for gas source applications with reactive and hazardous gases the Semiconductor and Allied Industries use.

- Unique features include a special leak test port that enables the diaphragm seal to be outboard leak tested ‹10^{-9} mbar.l/sec range at high pressure.
- Precise control of the gas discharge with minimum deviation caused by the supply pressure effect.
- Counter balance springs outside the gas stream to ensure the unit functions correctly with downstream vacuum and upstream high pressure
- A unique spherical ball pressure pad to give ultra smooth delivery pressure adjustment
- Choice of delivery pressure: 3, 8, 10, 15, 25 or 50 bar / 45, 116, 145, 217, 365 or 725 psi

Individual Serial number, for full traceability

Ergonomic Design

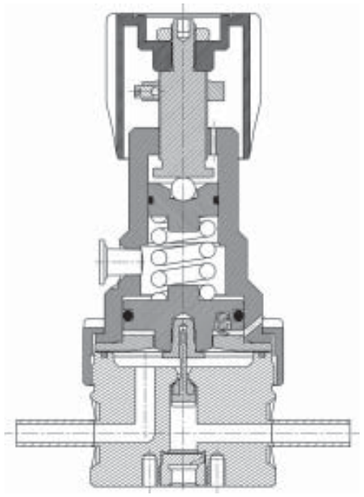
Spherical ball for ultra smooth control

Metal to metal seal to Atmosphere

Sealed bonnet for extra protection

Minimal wetted surfaces for optimal purging

Gas specific solutions (Body and Seat Materials)



Assembling, testing & Packaging in cleanroom Cl. 10

Controlled (PC) electropolishing for better corrosion resistance

No spring in the wetted area for zero particle emission

2,3,4 or 6 ports options available

diaphragm counter balance springs

Excellent response at high and low pressures (droop, hysteresis, creep)

Manufactured to the THREE STAR PROCESS®

CONSTRUCTION MATERIALS

	Parts	Materials
Wetted parts	Body	AISI 316L, VAR, Hastelloy®
	Diaphragm	Hastelloy®
	Seat	PCTFE (Kel-F®)
	Poppet	AISI 316L, VAR, Hastelloy®
Non-wetted parts	Bonnet	Nickel Plated Brass
	Handle	Extruded Plastic
	Others	Stainless Steel or others

SURFACE FINISH		
U: < Ra 0,15µm Ep. (6µin Ra)	V: < Ra 0,25µm Ep. (10µin Ra)	S:< Ra 0,4µm nonEP(15µin Ra)

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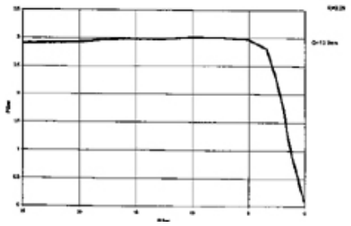
TECHNICAL DATA — SI 220

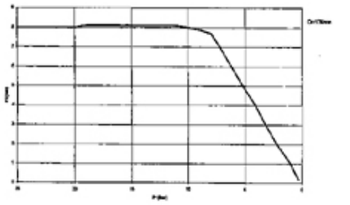
TECHNICAL DATA	
Fluid Media	Standard, High and Ultra High Purity, corrosive and non-corrosive gases
Inlet pressure	240 bar (3500 PSI)
Outlet pressure	3 - 8 - 10 - 15 - 25 - 50 bar (45-116-145-217-365-725 PSI)
Temperature range	-20°C to + 60°C (-2F to 140F)
Nominal Flow	170 slpm (N_2)
Flow Coefficient (C_v)	C_V = 0,2
Certified max. Helium inboard leak rate	< 1.10^{-9} mbar.l/sec
Certified max. Helium outboard leak rate (at max. pressure)	< 1.10^{-9} mbar.l/sec
Certified max. Helium across the seat leak rate (at max. pressure)	< 1.10^{-9} mbar.l/sec
Number of ports	2, 3, 4, 5 or 6

FLOW CURVES

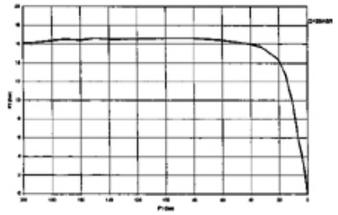
SI 220-3



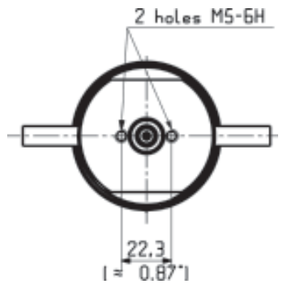
SI 220-8

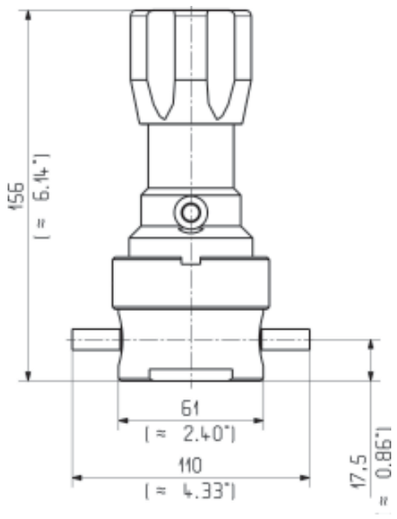


SI 220-15



DIMENSIONS





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HOW TO ORDER

SI 220

PART NUMBER							
Example :	SI 220U	2V1	A	/	K	10 b	A/B : V-3/8 F
	1	2	3		4	5	6

1 - Serie & Surface Finish

SI 220 U	Ra 0,15µm Ep. (6µin Ra)
SI 220 V	Ra 0,25µm Ep. (10µin Ra)
SI 220 S	Ra 0,4µm nonEP(15µin Ra)

2 - Ports Configurations

2V1 2 ports in line

See below for other ports configurations

3 - Body Material (others on request)

A	AISI 316L, VAR
I	AISI 316L
H	Hastelloy® (on request)

4 - Seat Material

K PCTFE (Kel-F®)

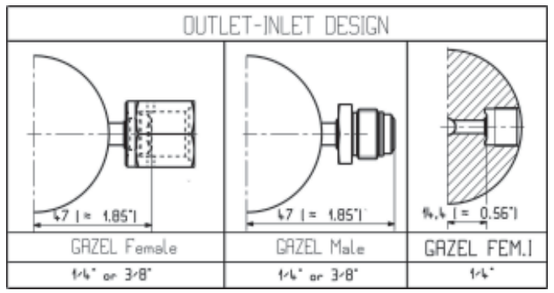
5 - Outlet regulated Pressure

3b	3 bar - 45 PSI
8b	8 bar - 116 PSI
10b	10 bar - 145 PSI
15b	15 bar - 217 PSI
25b	25 bar - 365 PSI
50b	50 bar - 725 PSI

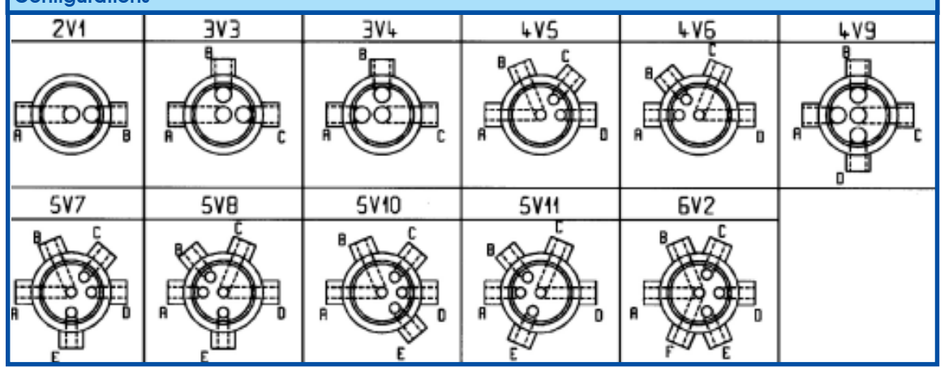
Note : Inlet Pressure: upto 240 bar (3500 PSI)

6 - End Connections

V-1/4 F	GAZEL® 1/4" - Female (face seal)
V-3/8 F	GAZEL® 3/8" - Female (face seal)
V 1/4 M	GAZEL® 1/4" - Male (face seal)
V-3/8 M	GAZEL® 3/8" - Male (face seal)
V-FI	GAZEL® 1/4" - Internal Female (face seal)



Configurations



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A total component solution, from source to process

SI 220
DIAPHRAGM
PRESSURE REGULATOR
FOR HP & UHP APPLICATIONS

SI 220

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