

SELFA

Valves & Fittings

A total component solution, from source to process

SI 220 TRITON
TIED DIAPHRAGM PRESSURE REGULATOR
FOR HP & UHP NF3 AND REACTIVE GAS
APPLICATIONS

220 TRITON



FEATURE a unique proven design SI 220 TRITON

The **SI 220 TRITON 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

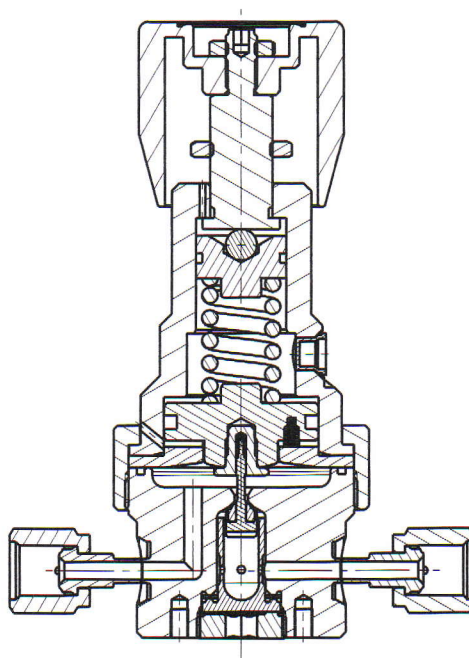
Spherical ball for ultra
smooth control

Metal to metal seal to
Atmosphere

Sealed bonnet for
extra protection

Minimal wetted surfaces for
easy purging

Gas specific solutions
(Body and Seat Materials)



Assembling, testing & Packaging
in cleanroom Cl. 10

Controlled (PC)
electropolishing
for better corrosion resistance

Springless & threadless
for zero particle emission

2,3,4,5 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

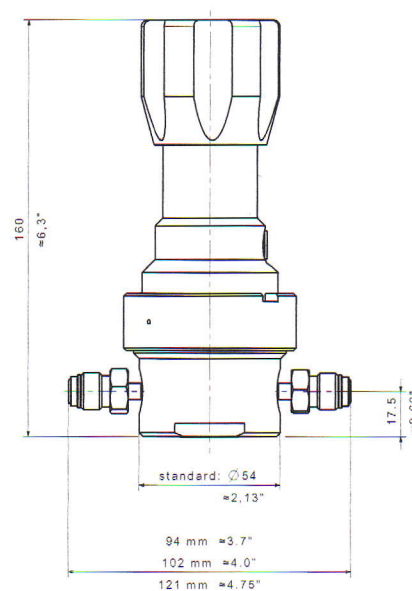
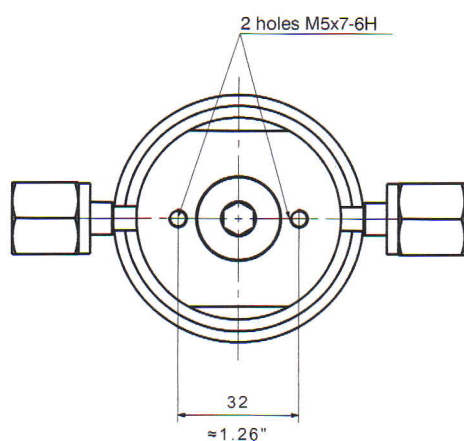
	Parts	Materials
Wetted parts	Body	AISI 316L, VAR, Hastelloy®
	Diaphragm	Hastelloy®
	Seat	PCTFE (Kel-F®), on request: PI(Vespel®) or PVDF
	Poppet	AISI 316L, on request: Hastelloy®
Non-wetted parts	Bonnet	Chrome Plated Brass
	Handle	Aluminium
	Others	Stainless Steel or others

TECHNICAL DATA

SI 220 TRITON

TECHNICAL DATA	
Fluid Media	Standard, High and Ultra High Purity, corrosive and oxydizing gases (NF3, F2, ...)
Inlet pressure (PCTFE seat)	240 bar (3500 PSI)
Inlet pressure (PVDF seat)	25 bar (365 PSI)
Outlet pressure	3 - 8 - 10 - 15 - 25 - 50 bar (45-116-145-217-365-725 PSI)
Temperature range	-20°C to + 60°C (-2°F to 140°F)
Nominal Flow	90 slpm (N ₂)
Flow Coefficient (C _v)	C _v = 0,1
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 ⁻⁶ mbar.l/sec
Number of ports	2, 3, 4, 5 or 6

DIMENSIONS



HOW TO ORDER

SI 220 TRITON

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

1 - Serie & Surface Finish	
SI 220 Triton U	Ra 0,15µm Ep. (6µin Ra)
SI 220 Triton V	Ra 0,25µm Ep. (10µin Ra)
SI 220 Triton S	Ra 0,4µm nonEP (15µin Ra)

3 - Body Material (others on request)	
A	AISI 316L, VAR
I	AISI 316L
H	Hastelloy® (on request)

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: up to 240 bar (3500 PSI)	

2 - Ports Configurations	
2V1	2 ports in line
See below for other ports configurations	

4 - Seat Material	
K	PCTFE (Kel-F®)
P	PVDF (optional)
V	PI (Vespel® optional)

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) for gauge connections only

OUTLET - INLET DESIGN					
GAZEL male fix		GAZEL male swivel		GAZEL female	
1/4"	47 mm 1.85"	51 mm 2.0"	47 mm 1.85"		
3/8"	51 mm 2.0"	60.5 mm 2.38"	60.5 mm 2.38"		

GAUGE CONNECTION	
GAZEL female internal	
1/4"	14.4 mm 0.57"

Configurations					

*All GAZEL® Face Seals are VCR® compatible. VCR® is a registered trade mark of SWAGELOK COMPANY. HASTELLOY® is a registered trade mark of CABOT Corp., Kel-F® is a registered trade mark of 3M company. Vespel® is a registered trade mark of DUPONT