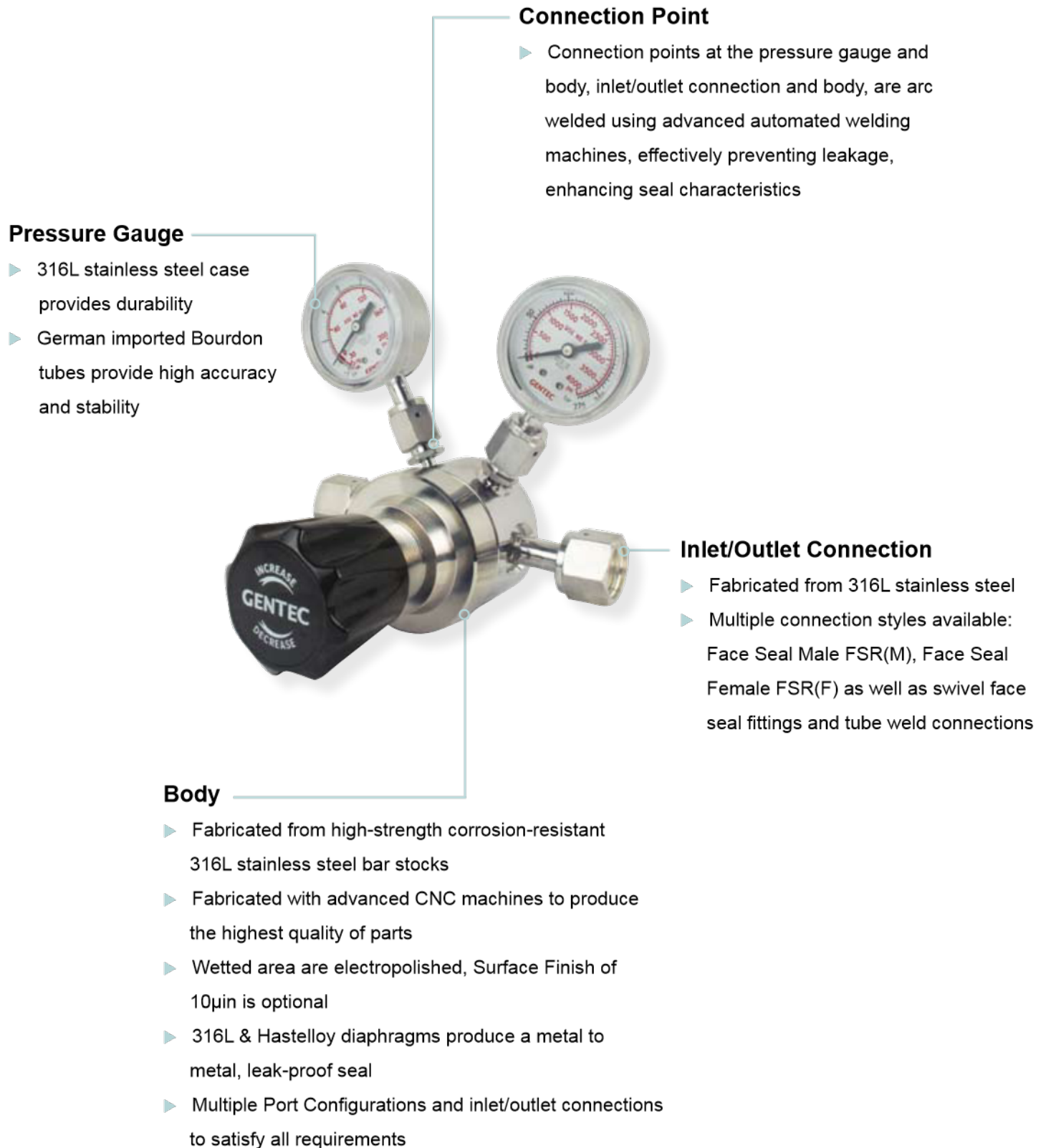


UHP REGULATORS

U Series



100% Helium Leak Test



■ U21 Series

GENTEC U21 Series single-stage regulators are hand adjustable, pressure reducing regulators for applications ranging from non-corrosive, corrosive, and toxic gases. Our metal-to-metal diaphragm to body seal is designed to minimize leakage and to provide excellent accuracy and longevity.



Features

- ▶ 316L stainless steel body
- ▶ Metal to metal diaphragm to body seal
- ▶ Easy front panel and rear bracket mounting
- ▶ Gauge ports are standard with 1/4" face seal male. Internal 1/4" face seal female is also available
- ▶ Fully internal electropolished
- ▶ Cleaned, assembled and packaged for high purity semiconductor applications
- ▶ High-cycle life
- ▶ 100% Helium-leak tested

Operating Conditions

- ▶ Maximum inlet pressure: 500 psi (35 bar), 3000 psi (206 bar)
- ▶ Outlet pressure: 0-25 psi (1.7 bar), 0-50 psi (3 bar), 0-100 psi (7 bar), 0-250 psi (17 bar), 0-500 psi (35 bar)
- ▶ Temperature: -40°F to 165°F (-40°C to 74°C)

Materials

- ▶ Body: 316L stainless steel
- ▶ Seat: PCTFE*, Vespel®
- ▶ Diaphragm: 316L stainless steel
- ▶ Poppet: 304 stainless steel
- ▶ Remaining part: 316 stainless steel

Surface Finish

- ▶ Standard Ra: 20 µin
- ▶ Optional Ra (EP): 10 µin

Functional Performance

- ▶ Flow capacity: Cv=0.14
- ▶ Maximum leak Rate:
 - Inboard leakage: 2×10^{-8} atm cc/sec He
 - Across seat leakage: 4×10^{-8} atm cc/sec He
- ▶ Proof pressure: 150% of maximum rated pressure
- ▶ Burst pressure: 400% of maximum rated pressure

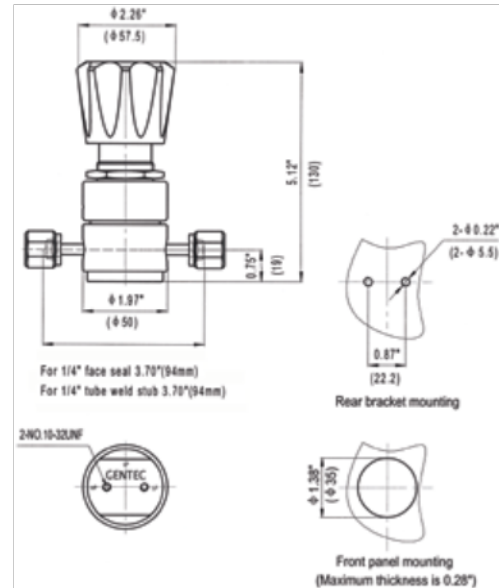
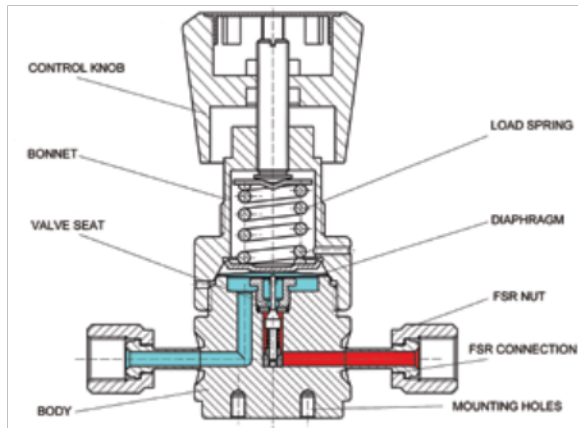
Internal Volume

- ▶ 4.6 cc

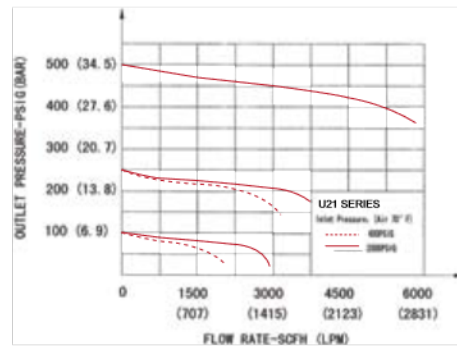
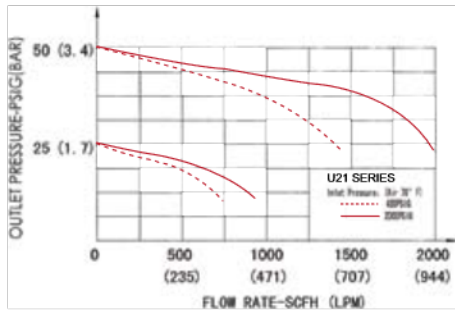
*: Standard Material

■ U21 Series

Dimensions



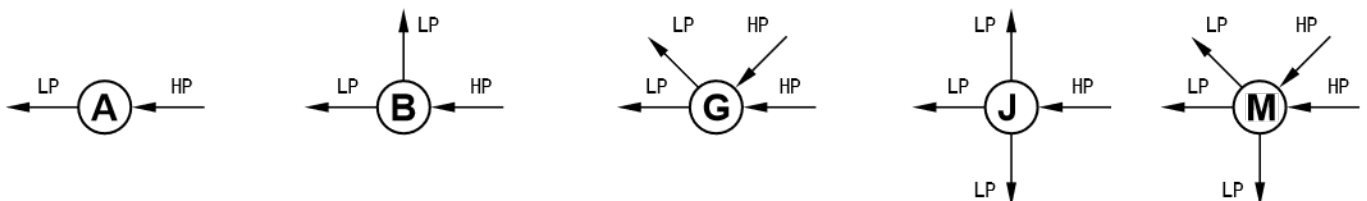
Flow Data



Ordering Information

EX:	U21	SL	B	K	- D	F	P -	91 - 92	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Gauge	Inlet / Outlet Connection	Options
	U21	SL: 316L	A B G J M	K: PCTFE V: Vespel®	D: 3000 psi F: 500 psi	F: 0~500 psi G: 0~250 psi I: 0~100 psi K: 0~50 psi L: 0~25 psi	W: Without Gauge P: with psi / bar gauge	90: 1/4" internal female FSR 91: 1/4" swivel female FSR 92: 1/4" swivel male FSR 41: 1/4" weld stub	E: Ra 10 μ in P: Panel Mounting H: Hastelloy® Diaphragm

Port Configurations



■ U22 Series

GENTEC U22 Series single-stage regulators are purge gas, pressure reducing regulators. Applicable to gas system for non-corrosive, corrosive, and toxic gases. Our metal-to-metal diaphragm to body seal is designed to minimize leakage and to provide excellent accuracy and longevity.



Features

- ▶ 316L stainless steel body
- ▶ Metal to metal diaphragm to body seal
- ▶ Easy front panel and rear bracket mounting
- ▶ Gauge ports are standard with 1/4" face seal male. Internal 1/4" face seal female is also available
- ▶ Fully internal electropolished
- ▶ Cleaned, assembled and packaged for high purity semiconductor applications
- ▶ High-cycle life
- ▶ 100% Helium-leak tested

Operating Conditions

- ▶ Maximum inlet pressure: 500 psi (35 bar), 3000 psi (206 bar)
- ▶ Outlet pressure: 0-25 psi (1.7 bar), 0-50 psi (3 bar), 0-100 psi (7 bar), 0-150 psi (10 bar), 0-250 psi (17 bar)
- ▶ Temperature: -40°F to 165°F (-40°C to 74°C)

Materials

- ▶ Body: 316L stainless steel
- ▶ Seat: PCTFE*, Vespel®
- ▶ Diaphragm: 316L stainless steel
- ▶ Poppet: brass (nickel plated)
- ▶ Remaining part: 316 stainless steel

Surface Finish

- ▶ Standard Ra: 20 μ in
- ▶ Optional Ra (EP): 10 μ in

Internal Volume

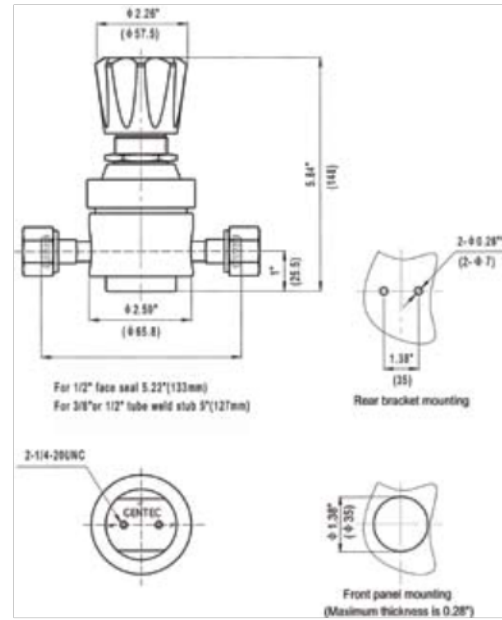
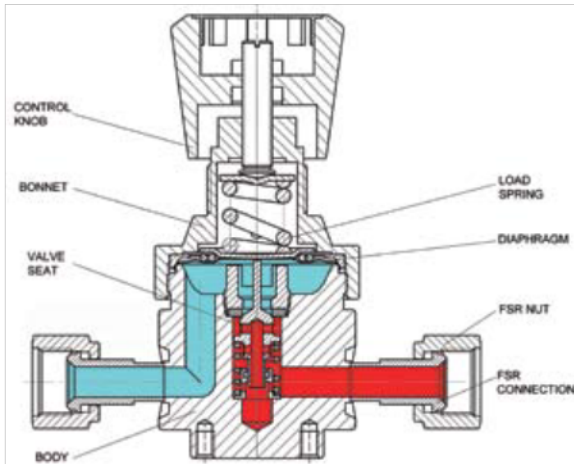
- ▶ 22.6 cc

Functional Performance

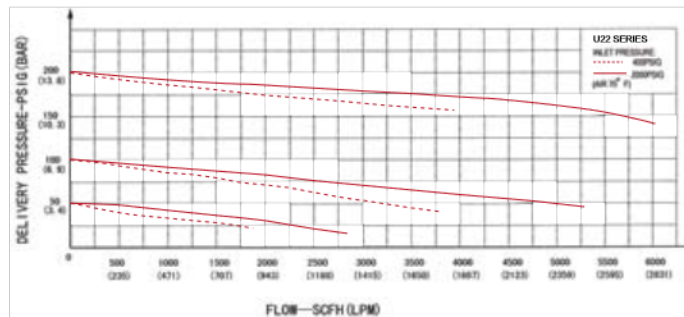
- ▶ Flow capacity: $C_v=1.1$
- ▶ Maximum leak rate:
 - Inboard leakage: 2×10^{-8} atm cc/sec He
 - Across seat leakage: 4×10^{-8} atm cc/sec He
- ▶ Proof pressure: 150% of maximum rated pressure
- ▶ Burst pressure: 400% of maximum rated pressure

U22 Series

Dimensions



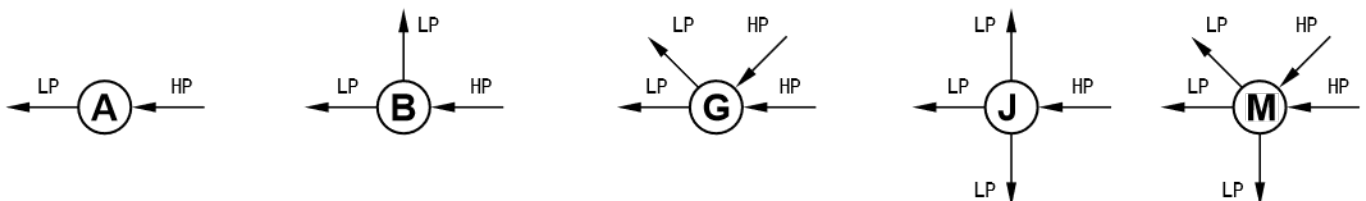
Flow Data



Ordering Information

EX:	U22	SL	B	K	- D	H	P -	95 - 95	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Gauge	Inlet / Outlet Connection	Options
	U22	SL: 316L	A: 2 port B: 3 port G: 4 port J: 4 port M: 5 port	K: PCTFE V: Vespel®	D: 3000 psi F: 500 psi	G: 0~250 psi H: 0~150 psi I: 0~100 psi K: 0~50 psi L: 0~25 psi	W: without gauge P: with psi / bar gauge	95: 1/2" FSR(F) 96: 1/2" FSR(M)	E: 10 μ m P: Panel mounting H: Hastelloy® Diaphragm

Port Configurations



■ U23 Series

GENTEC U23 Series single-stage regulators are ideal purge regulators for low pressure and high purity systems, especially for heavy duty gas flow applications. Our metal-to-metal diaphragm to body seal is designed to minimize leakage and to provide excellent accuracy and longevity.



Features

- ▶ 316L stainless steel body
- ▶ Metal to metal diaphragm to body seal
- ▶ Easy front panel and rear bracket mounting
- ▶ Gauge ports are standard with 1/4" face seal male. Internal 1/4" face seal female is also available
- ▶ Fully internal electropolished
- ▶ Cleaned, assembled and packaged for high purity semiconductor applications
- ▶ High-cycle life
- ▶ 100% Helium-leak tested

Operating Conditions

- ▶ Maximum inlet pressure: 500 psi (35 bar), 3000 psi (206 bar)
- ▶ Outlet pressure: 0-25 psi (1.7 bar), 0-50 psi (3 bar), 0-100 psi (7 bar), 0-150 psi (10 bar)
- ▶ Temperature: -40°F to 165°F (-40°C to 74°C)

Materials

- ▶ Body: 316L stainless steel
- ▶ Seat: PCTFE*, Vespel®
- ▶ Diaphragm: 316L stainless steel
- ▶ Poppet: 316 stainless steel
- ▶ Remaining part: 316 stainless steel

Surface Finish

- ▶ Standard Ra: 20 μ in
- ▶ Optional Ra (EP): 10 μ in

Internal Volume

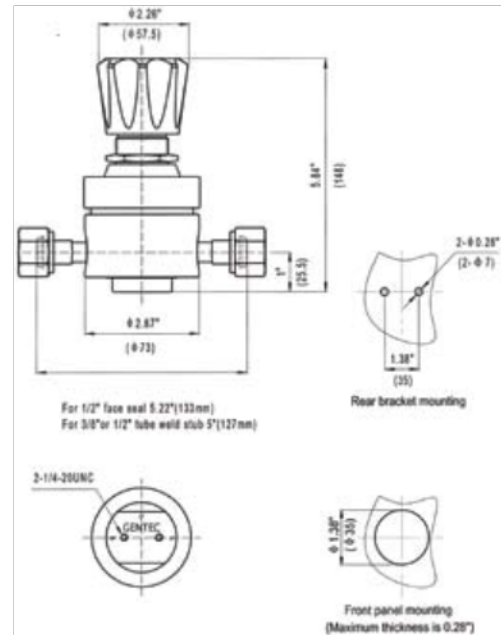
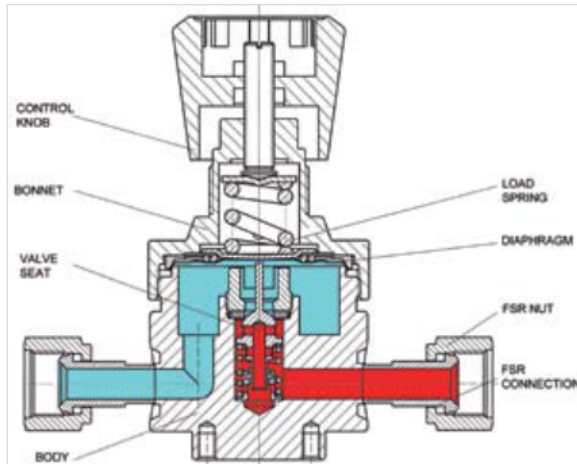
- ▶ 59.9 cc

Functional Performance

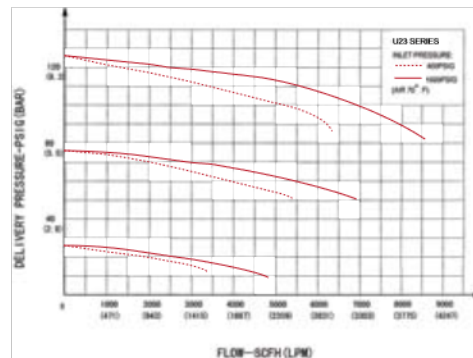
- ▶ Flow capacity: $C_v=1.8$
- ▶ Maximum leak rate:
 - Inboard leakage: 2×10^{-8} atm cc/sec He
 - Across seat leakage: 4×10^{-8} atm cc/sec He
- ▶ Proof pressure: 150% of maximum rated pressure
- ▶ Burst pressure: 400% of maximum rated pressure

■ U23 Series

Dimensions



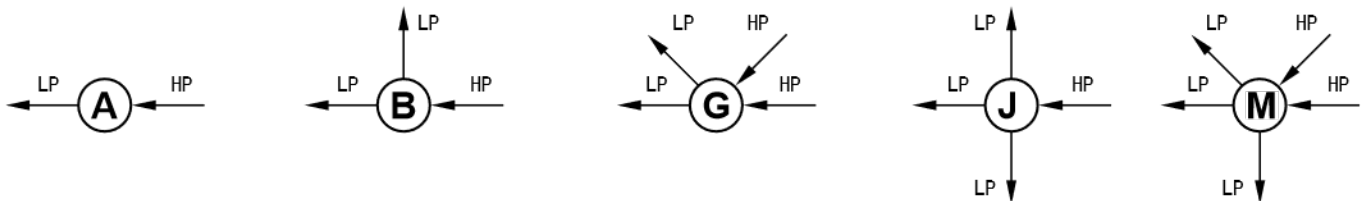
Flow Data



Ordering Information

EX:	U23	SL	B	K	- D	H	P -	95 - 95	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Gauge	Inlet / Outlet Connection	Options
	U23	SL: 316L	A B G J M	K: PCTFE V: Vespel®	D: 3000 psi F: 500 psi	H: 0-150 psi I: 0~100 psi K: 0~50 psi L: 0~25 psi	W: without gauge P: with psi / bar gauge	95: 1/2" FSR(F) 96: 1/2" FSR(M)	E: 10 μ m P: Panel mounting H: Hastelloy® Diaphragm

Port Configurations



■ U53 Series

GENTEC U53 Series single-stage regulators are a threadless, high purity, non-tied diaphragm design. Our metal-to-metal diaphragm to body seal is designed to minimize leakage and to provide excellent accuracy and longevity.



Features

- ▶ 316L body
- ▶ Metal to metal diaphragm to body seal
- ▶ Easy front panel and rear bracket mounting
- ▶ Gauge ports are standard with 1/4" face seal male. Internal 1/4" face seal female is also available
- ▶ Internally threadless nozzle assembly
- ▶ Standard fully internal electropolished
- ▶ Designed for very low particle generation
- ▶ Cleaned, assembled and packaged for high purity semiconductor applications
- ▶ High-cycle life
- ▶ 100% Helium-leak tested

Operating Conditions

- ▶ Maximum inlet pressure: 300 psi (20 bar)
- ▶ Outlet pressure: 0-30 psi (2 bar)
- ▶ Temperature: 0°F to 140°F (-18°C to 60°C)

Materials

- ▶ Body: 316L stainless steel
- ▶ Seat: PCTFE
- ▶ Diaphragm: Elgiloy®, Hastelloy®
- ▶ Poppet: 316 stainless steel, Hastelloy®
- ▶ Compression member: 316 stainless steel, Hastelloy®
- ▶ Remaining part: 316 stainless steel, Hastelloy®

Surface Finish

- ▶ Standard Ra (EP): 10 µin

Functional Performance

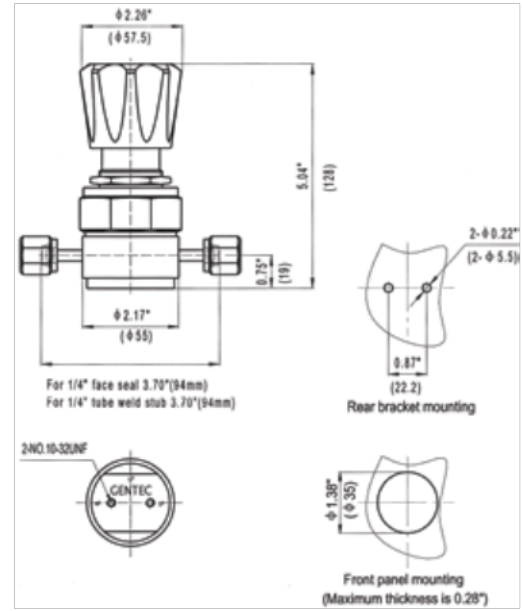
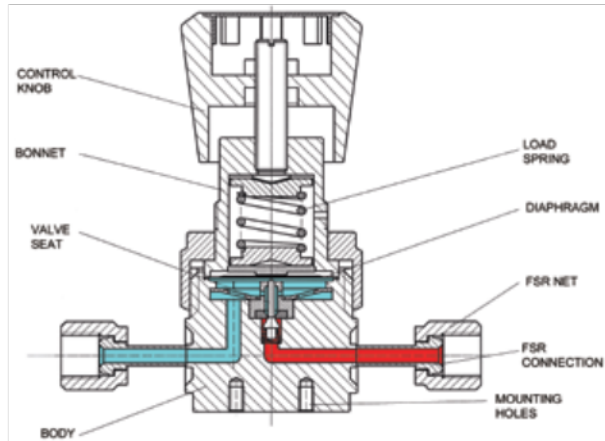
- ▶ Flow capacity: Cv=0.054
- ▶ Maximum leak rate:
 - Inboard leakage: 0.5×10^{-9} atm cc/sec He
 - Across seat leakage: 1×10^{-9} atm cc/sec He
- ▶ Proof pressure: 150% of maximum rated pressure
- ▶ Burst pressure: 400% of maximum rated pressure

Internal Volume

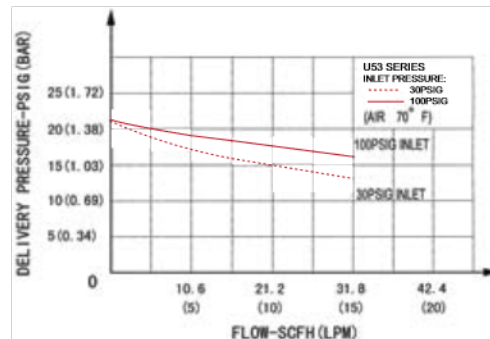
- ▶ 9.3 cc

■ U53 Series

Dimensions



Flow Data



Ordering Information

EX:	U53	SL	B	K	- G	L	P -	91 - 92	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Gauge	Inlet / Outlet Connection	Options
	U23	SL: 316L	A B G J	K: PCTFE	G: 300 psi	L: 0~30 psi	W: without gauge P: with psi / bar gauge	90: 1/4" internal female FSR 91: 1/4" swivel female FSR 92: 1/4" swivel male FSR 41: 1/4" weld stub	P: Panel mounting H: Hastelloy® Diaphragm

Port Configurations

