

U11 SERIES TIED-DIAPHRAGM ULTRA HIGH PURITY REGULATOR

U11 series single stage Tied-Diaphragm ultra high purity regulator is developed for the semiconductor industry, it is manufactured in accordance with SEMI requirement and assembled, tested and packaged in a class 100 clean room.



» U11SLBK-DHP-VSM4-E



» U11SLAK-DHW-VSF4-E

Features

- 316L or 316L VAR 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
- Fully internal electropolished
- Cleaned, assembled, and packaged for high-purity semi-conductor applications
- High-cycle life
- 100% Helium-leak tested

Materials

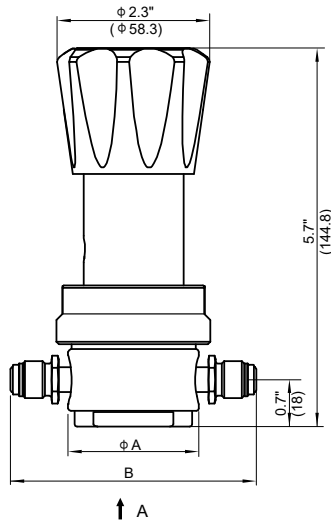
- Body: 316L, 316L VAR
- Seat: PCTFE*, Vespel®
- Diaphragm: HC22

Specifications

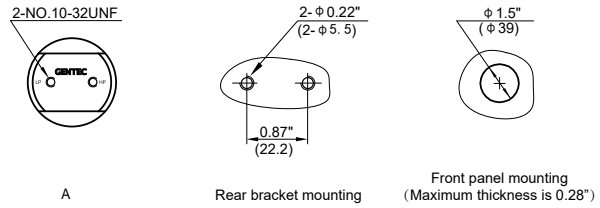
- Max. Inlet Pressure: 500psi (35 bar), 3000psi (206 bar), 4500psi (310 bar)
- Max. Outlet Pressure: 0~25psi (1.7 bar), 0~50psi (3 bar), 0~75psi (5.2 bar), 0~100psi (7bar), 0~150psi (10bar), 0~250psi (17 bar), 0~500psi (34 bar)
- 30" Hg Vac~30psi, 30" Hg Vac~60psi, 30" Hg Vac~100psi
- Temperature: -40°F ~ 165°F(-40°C ~ 74°C)
- U11 Series Cv: 0.09
U11A Series Cv: 0.15
- Inboard leakage: 1×10^{-9} atm/sec He
- Across seat leakage: 4×10^{-8} atm/sec He
- Proof pressure: 150% of maximum rated pressure
- Burst pressure: 400% of maximum rated pressure
- Surface Finish: 10 uin
- Internal Volume: 8.4 cc

*: Standard material

Dimensions

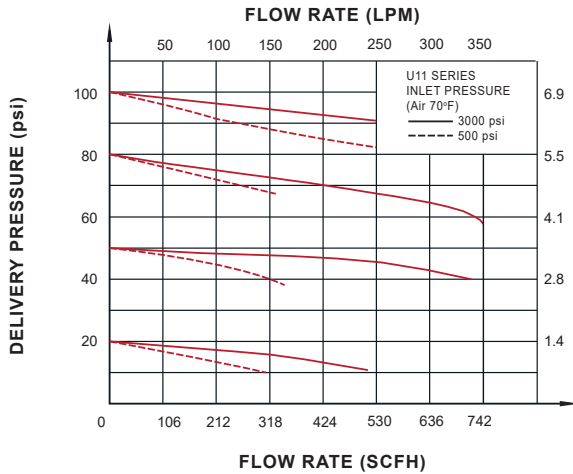


Connection Type	Dimension in.(mm)	
	A	B
VSF4	1/4" swivel female FSR	3.7" (94)
VSM4	1/4" swivel male FSR	3.7" (94)
VSF8	1/2" swivel female FSR	4.7" (119.4)
VSM8	1/2" swivel male FSR	4.7" (119.4)
TW4	1/4" weld stub	2.96" (75.2)
TW6	3/8" weld stub	2.96" (75.2)

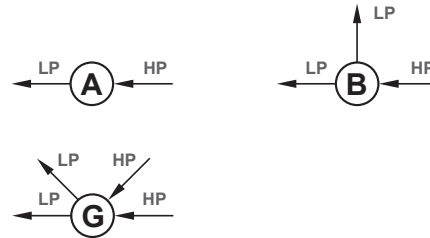


Dimension: in.(mm)

Flow Data



Regulator Port Configurations



	Material Configuration			
	U11SL	U11SLV	U11SLV***-SH	U11SLV***-H
Body	316L	316L VAR	316L VAR	316L VAR
Diaphragm	HC-22	HC-22	HC-22	HC-22
Stem	316L	316L	HC-22	HC-22
Nozzle	316L	316L	316L	HC-22
Seat	PCTFE	PCTFE	PCTFE	PCTFE
Surface Finish	10µin	10µin	10µin	10µin

Ordering Information

EX:	U11	SL	B	K	- D	H	P	- VSF4	- E	- H	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Pressure Gauge	Inlet / Outlet Connection	Surface Finish	Corrosion Resistance	Options
	U11	SL: 316L	A	K: PCTFE	D: 3000 psi	F: 0 ~ 500 psi	W: Without Gauge	VSF4, VSM4	E: Ra 10 µin	None: 316L	None: Rear
	U11A	SLV: 316L VAR	B G	V: Vespel®	C: 4500 psi F: 500 psi	G: 0 ~ 250 psi H: 0 ~ 150 psi I: 0 ~ 100 psi J: 0 ~ 75 psi K: 0 ~ 50 psi L: 0 ~ 25 psi	P: psi / bar Gauge K: psi / kPa Gauge	VSF8, VSM8 TW4, TW6		SH: HC22 stem and 316L nozzle H: HC22 stem and nozzle	Bracket Mounting P: Panel Mounting



U12 SERIES TIED-DIAPHRAGM ULTRA HIGH PURITY REGULATOR

U12 series single stage Tied-Diaphragm ultra high purity regulator is developed for the semiconductor industry, it is manufactured in accordance with SEMI requirement and assembled, tested and packaged in a class 100 clean room.



U12SLBK-DHP-VSM4-E



U12SLAK-DHW-VSF4-E

Features

- 316L or 316L VAR 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
- Fully internal electropolished
- Cleaned, assembled, and packaged for high-purity semi-conductor applications
- High-cycle life
- 100% Helium-leak tested

Materials

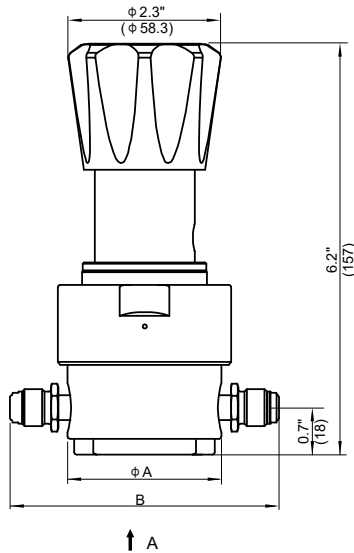
- Body: 316L, 316L VAR
- Seat: PCTFE*, Vespel[®]
- Diaphragm: HC22

Specifications

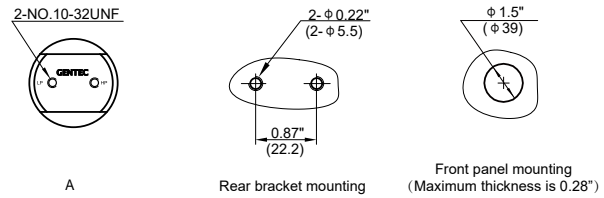
- Max. Inlet Pressure: 500psi (35 bar), 3000psi (206 bar)
- Max. Outlet Pressure: 0~25psi (1.7 bar), 0~50psi (3 bar), 0~75psi (5.2 bar), 0~100psi (7bar), 0~150psi (10bar)
30" Hg Vac~30psi, 30" Hg Vac~60psi, 30" Hg Vac~100psi
- Temperature: -40°F ~ 165°F(-40°C ~ 74°C)
- Cv: 0.45
- Inboard leakage: 1×10^{-9} atm/sec He
- Across seat leakage: 4×10^{-8} atm/sec He
- Proof pressure: 150% of maximum rated pressure
- Burst pressure: 400% of maximum rated pressure
- Surface Finish: 10 uin
- Internal Volume: 17.4 cc

*: Standard material

Dimensions

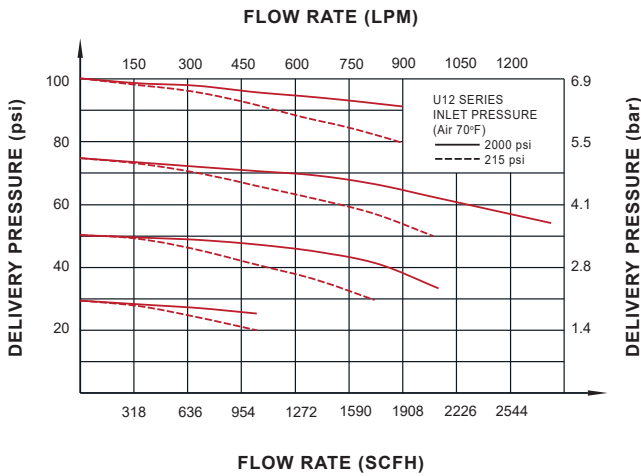


Connection Type	Dimension in.(mm)	
	A	B
VSF4	1/4" swivel female FSR	3.7" (94)
VSM4	1/4" swivel male FSR	4" (101.6)
VSF8	1/2" swivel female FSR	5.22" (132.6)
VSM8	1/2" swivel male FSR	5.22" (132.6)
TW6	3/8" weld stub	4" (101.6)
TW8	1/2" weld stub	4.34" (110.2)

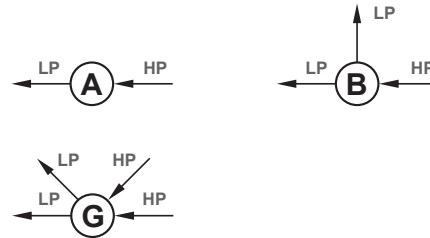


Dimension: in.(mm)

Flow Data



Regulator Port Configurations



	Material Configuration			
	U12SL	U12SLV	U12SLV***-SH	U12SLV***-H
Body	316L	316L VAR	316L VAR	316L VAR
Diaphragm	HC-22	HC-22	HC-22	HC-22
Stem	316L	316L	HC-22	HC-22
Nozzle	316L	316L	316L	HC-22
Seat	PCTFE	PCTFE	PCTFE	PCTFE
Surface Finish	10µin	10µin	10µin	10µin

Ordering Information

EX: U12	SL	B	K	- D	I	P	- VSF4	- E	- H	- P
Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Pressure Gauge	Inlet / Outlet Connection	Surface Finish	Corrosion Resistance	Options
U12	SL: 316L SLV:316L VAR	A B G	K: PCTFE V: Vespel®	D: 3000 psi F: 500 psi	H: 0 ~ 150 psi I: 0 ~ 100 psi J: 0 ~ 75 psi K: 0 ~ 50 psi L: 0 ~ 25 psi Q: 30" Hg Vac~30 psi R: 30" Hg Vac~60 psi S: 30" Hg Vac~100 psi	W: Without Gauge P: psi / bar Gauge K: psi / kPa Gauge	VSF4, VSM4 VSF8, VSM8 TW6, TW8	E: Ra 10 µin	None: 316L nozzle and stem SH: HC22 stem and 316L nozzle H: HC22 stem and nozzle	None: Rear Bracket Mounting P: Panel Mounting



U13 SERIES TIED-DIAPHRAGM ULTRA HIGH PURITY REGULATOR

U13 series single stage Tied-Diaphragm ultra high purity regulator is developed for the semiconductor industry, it is manufactured in accordance with SEMI requirement and assembled, tested and packaged in a class 100 clean room.



» U13SLBK-DHP-VSM8-E

Features

- 316L or 316L VAR 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
- Fully internal electropolished
- Cleaned, assembled, and packaged for high-purity semi-conductor applications
- High-cycle life
- 100% Helium-leak tested

Materials

- Body: 316L, 316L VAR
- Seat: PCTFE*, Vespel®
- Diaphragm: HC22



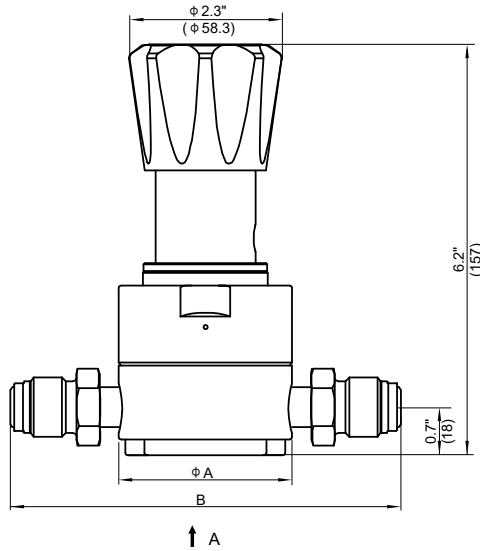
» U13SLAK-DHW-VSF8-E

Specifications

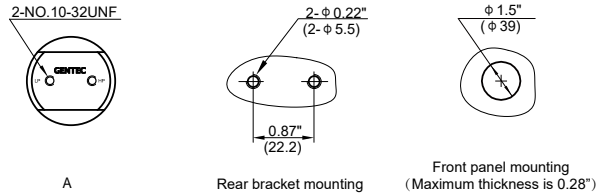
- Max. Inlet Pressure: 500psi (35 bar), 3000psi (206 bar)
- Max. Outlet Pressure: 0~25psi (1.7 bar), 0~50psi (3 bar), 0~75psi (5.2 bar), 0~100psi (7bar), 0~150psi (10bar), 0~250psi (17 bar)
- Temperature: -40°F ~ 165°F(-40°C ~ 74°C)
- U13 Series Cv: 0.9
U13A Series Cv: 1.1
- Inboard leakage: 1×10^{-9} atm/sec He
- Across seat leakage: 4×10^{-8} atm/sec He
- Proof pressure: 150% of maximum rated pressure
- Burst pressure: 400% of maximum rated pressure
- Surface Finish: 10 uin
- Internal Volume: 17.6 cc

*: Standard material

Dimensions

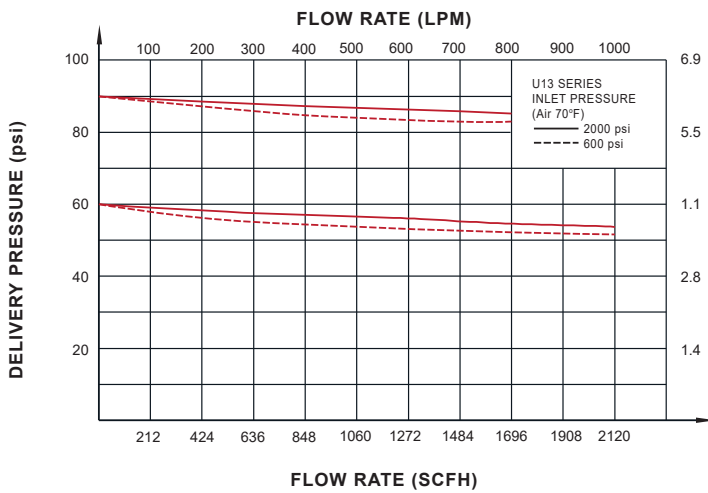


Connection Type	Dimension in.(mm)	
	A	B
VSF4	1/4" swivel female FSR	3.7" (94)
VSM4	1/4" swivel male FSR	4" (101.6)
VSF8	1/2" swivel female FSR	5.22" (132.6)
VSM8	1/2" swivel male FSR	5.22" (132.6)
VSF12	3/4" swivel female FSR	6.26" (159.0)
VSM12	3/4" swivel male FSR	6.26" (159.0)
TW6	3/8" weld stub	4" (101.6)
TW8	1/2" weld stub	4.34" (110.2)

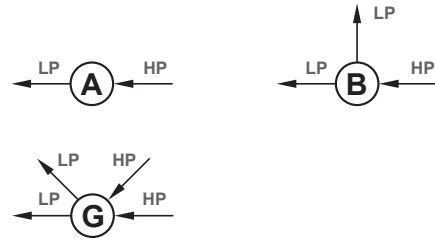


Dimension: in.(mm)

Flow Data



Regulator Port Configurations



	Material Configuration			
	U13SL	U13SLV	U13SLV***-SH	U13SLV***-H
Body	316L	316L VAR	316L VAR	316L VAR
Diaphragm	HC-22	HC-22	HC-22	HC-22
Stem	316L	316L	HC-22	HC-22
Nozzle	316L	316L	316L	HC-22
Seat	PCTFE	PCTFE	PCTFE	PCTFE
Surface Finish	10µin	10µin	10µin	10µin

Ordering Information

EX:	U13	SL	B	K	- D	I	P	- VSF4	- E	- H	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Pressure Gauge	Inlet / Outlet Connection	Surface Finish	Corrosion Resistance	Options
	U13	SL: 316L	A	K: PCTFE	D: 3000 psi	G: 0 ~ 250 psi	W: Without Gauge	VSF4, VSM4	E: Ra 10 µin	None: 316L	None: Rear
	U13A	SLV:316L VAR	B G	V: Vespel®	F: 500 psi	H: 0 ~ 150 psi I: 0 ~ 100 psi J: 0 ~ 75 psi K: 0 ~ 50 psi L: 0 ~ 25 psi	P: psi / bar Gauge K: psi / kPa Gauge	VSF8, VSM8 TW6, TW8		nozzle and stem SH: HC22 stem and 316L nozzle H: HC22 stem and nozzle	Bracket Mounting P: Panel Mounting



U31 SERIES TIED-DIAPHRAGM ULTRA HIGH PURITY REGULATOR

U31 Series dual-stage Tied-Diaphragm ultra high purity 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.



» U31SLBK-DHP-VSF4-E

Features

- 316L or 316L VAR 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
- Fully internal electropolished
- Cleaned, assembled, and packaged for high-purity semi-conductor applications
- High-cycle life
- 100% Helium-leak tested

Materials

- Body: 316L, 316L VAR
- Seat: PCTFE*, Vespel®
- Diaphragm: HC22



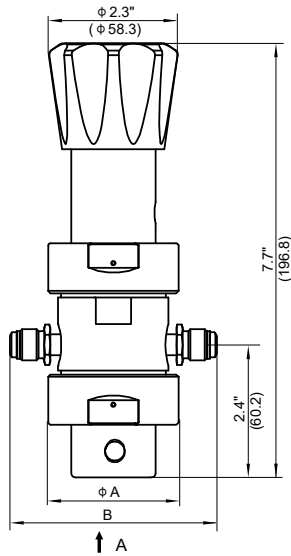
» U31SLAK-DHW-VSM4-E

Specifications

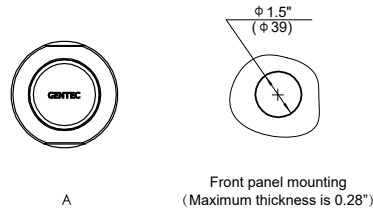
- Max. Inlet Pressure: 3000psi (206 bar), 4500psi (310bar)
- Max. Outlet Pressure: 0~25psi (1.7 bar), 0~50psi (3 bar), 0~75psi (5.2 bar), 0~100psi (7bar), 0~150psi (10bar), 0~250psi (17 bar)
- Temperature: -40°F ~ 165°F(-40°C ~ 74°C)
- U31 Series Cv: 0.05
U31A Series Cv: 0.07
- Inboard leakage: 1×10^{-9} atm/sec He
- Across seat leakage: 4×10^{-8} atm/sec He
- Proof pressure: 150% of maximum rated pressure
- Burst pressure: 400% of maximum rated pressure
- Surface Finish: 10 uin
- Internal Volume: 15.1cc

*: Standard material

Dimensions

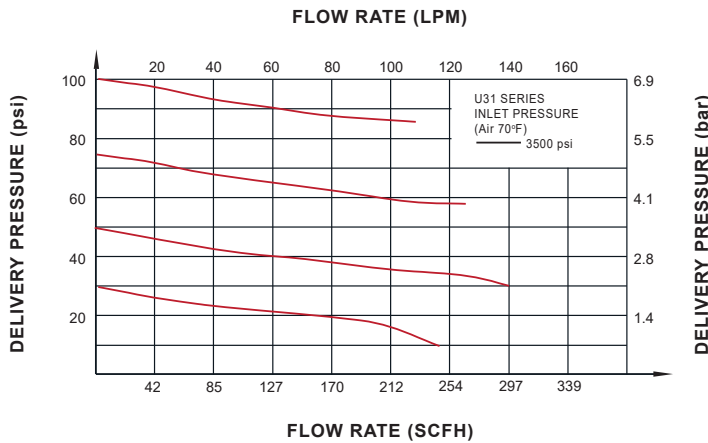


Connection Type		Dimension in.(mm)	
		A	B
VSF4	1/4" swivel female FSR	2.25" (57.2)	3.7" (94)
VSM4	1/4" swivel male FSR		3.7" (94)
VSF8	1/2" swivel female FSR		4.7" (119.4)
VSM8	1/2" swivel male FSR		4.7" (119.4)
TW4	1/4" weld stub		2.96" (75.2)
TW6	3/8" weld stub		2.96" (75.2)

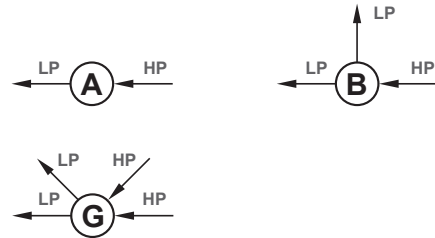


Dimension: in.(mm)

Flow Data



Regulator Port Configurations



	Material Configuration			
	U31SL	U31SLV	U31SLV***-SH	U31SLV***-H
Body	316L	316L VAR	316L VAR	316L VAR
Diaphragm	HC-22	HC-22	HC-22	HC-22
Stem	316L	316L	HC-22	HC-22
Nozzle	316L	316L	316L	HC-22
Seat	PCTFE	PCTFE	PCTFE	PCTFE
Surface Finish	10µin	10µin	10µin	10µin

Ordering Information

EX:	U31	SL	B	K	- D	I	P	- VSF4	- E	- H	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Pressure Gauge	Inlet / Outlet Connection	Surface Finish	Corrosion Resistance	Options
	U31	SL: 316L	A	K: PCTFE	C: 4500 psi	G: 0 ~ 250 psi	W: Without Gauge	VSF4, VSM4	E: Ra 10 µin	None: 316L nozzle and stem	P: Panel Mounting
	U31A	SLV:316L VAR	B G	V: Vespel®	D: 3000 psi	H: 0 ~ 150 psi I: 0 ~ 100 psi J: 0 ~ 75 psi K: 0 ~ 50 psi L: 0 ~ 25 psi	P: psi / bar Gauge K: psi / kPa Gauge	VSF8, VSM8 TW4, TW6		SH: HC22 stem and 316L nozzle H: HC22 stem and nozzle	



U41 SERIES ULTRA HIGH PURITY REGULATOR

U41 series single stage ultra high purity regulator is developed for the semiconductor industry, it is manufactured in accordance with SEMI requirement and assembled, tested and packaged in a class 100 clean room.



» U41SLBK-DEP-VSM4-E



» U41SLAK-DEW-VSF4-E

Features

- 316L stainless steel body
- Based on the proven bellows technology
- Bellows seal valves to safeguard against leakage
- Easy front panel and rear bracket mounting
- Gauge ports are standard with 1/4" face seal male
- Fully internal electropolished
- Cleaned, assembled, and packaged for high-purity semiconductor applications
- High-cycle life
- 100% Helium-leak tested

Materials

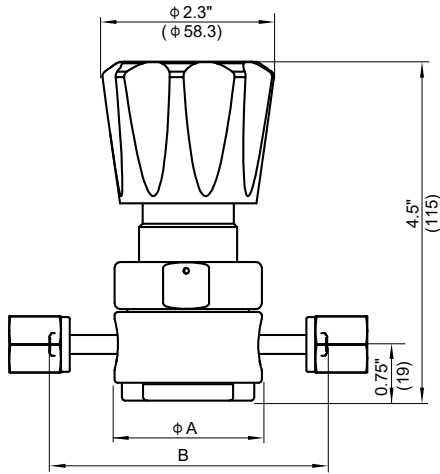
- Body: 316L
- Seat: PCTFE*, Vespel®
- Bellows: 316L

Specifications

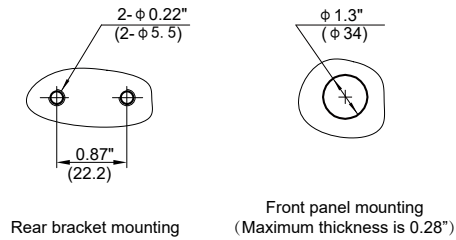
- Max. Inlet Pressure: 3000psi (206 bar)
- Max. Outlet Pressure: 0~500psi (34 bar), 0~1500psi (100 bar)
- Temperature: -40°F ~ 165°F (-40°C ~ 74°C)
- Cv: 0.14
- Inboard leakage: 1×10^{-9} atm/sec He
- Across seat leakage: 4×10^{-8} atm/sec He
- Proof pressure: 150% of maximum rated pressure
- Burst pressure: 400% of maximum rated pressure
- Surface Finish: 10 uin
- Internal Volume: 4.5 cc

*: Standard material

Dimensions

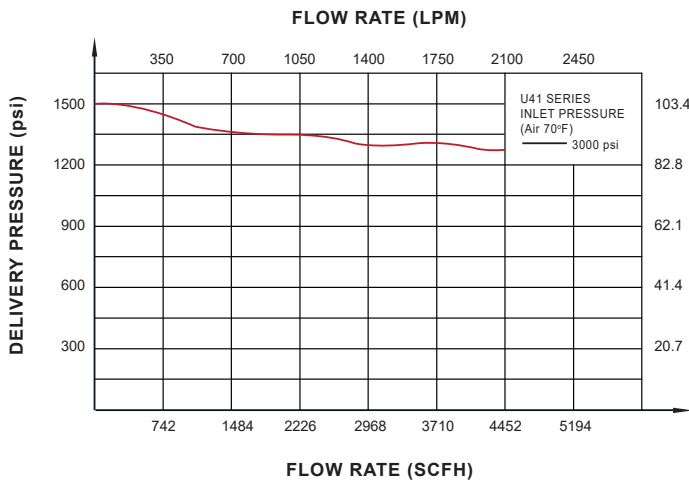


Connection Type	Dimension in.(mm)	
	A	B
VSF4	1/4" swivel female FSR	3.7" (94)
VSM4	1/4" swivel male FSR	3.7" (94)
VSF8	1/2" swivel female FSR	4.7" (119.4)
VSM8	1/2" swivel male FSR	4.7" (119.4)
TW4	1/4" weld stub	2.96" (75.2)
TW6	3/8" weld stub	2.96" (75.2)

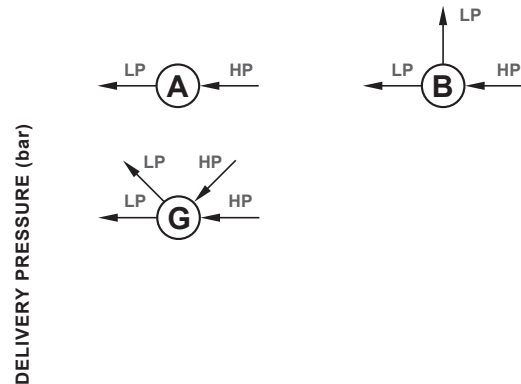


Dimension: in.(mm)

Flow Data



Regulator Port Configurations



Ordering Information

EX:	U41	SL	B	K	- D	E	P	- VSF4	- E	- P
	Series	Body	Ports	Seat	Inlet Pressure	Outlet Pressure	Pressure Gauge	Inlet / Outlet Connection	Surface Finish	Options
	U41	SL: 316L	A B G	K: PCTFE V: Vespel®	D: 3000 psi	E: 0 ~ 1500 psi F: 0 ~ 500 psi	W: Without Gauge P: psi / bar Gauge K: psi / kPa Gauge	VSF4, VSM4 VSF8, VSM8 TW4, TW6	E: Ra 10 μin	None: Rear Bracket Mounting P: Panel Mounting



U61 SERIES TIED-DIAPHRAGM ULTRA HIGH PURITY REGULATOR

U61 series Tied-Diaphragm ultra high purity regulator is developed for the semiconductor industry, it is manufactured in accordance with SEMI requirement and assembled, tested and packaged in a class 100 clean room.



» U61SLAK-DHW-VSF8-E

Features

- 316L stainless steel body
- Based on the proven bellows technology
- Bellows seal valves to safeguard against leakage
- Rear bracket mounting
- Gauge ports are standard with 1/4" face seal male
- Fully internal electropolished
- Cleaned, assembled, and packaged for high-purity semiconductor applications
- High-cycle life
- 100% Helium-leak tested

Materials

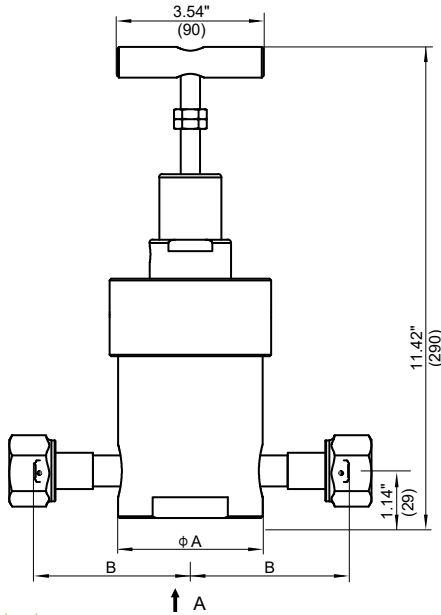
- Body: 316L
- Seat: PCTFE*, Vespel®
- Bellows: 316L, HC22

Specifications

- Max. Inlet Pressure: 500psi (35 bar), 1500psi (103 bar), 2200psi (152 bar), 3000psi (206 bar)
- Max. Outlet Pressure: 0~25psi (1.7 bar), 0~50psi (3 bar), 0~75psi (5.2 bar), 0~100psi (7bar), 0~150psi (10bar), 0~250psi (17 bar)
- Temperature: -40°F ~ 165°F (-40°C ~ 74°C)
- U61 Series Cv: 3.0
U61A Series Cv: 4.0
- Inboard leakage: 1×10^{-9} atm/sec He
- Across seat leakage: 4×10^{-8} atm/sec He
- Proof pressure: 150% of maximum rated pressure
- Burst pressure: 400% of maximum rated pressure
- Surface Finish: 10 uin
- Internal Volume: 197 cc

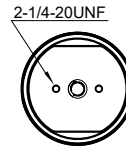
*: Standard material

Dimensions

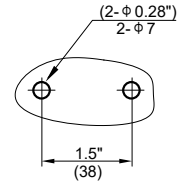


Dimension: in.(mm)

Connection Type		Dimension in.(mm)	
		A	B
VSF8	1/2" swivel female FSR	3.5" (89)	3.11" (79)
VSM8	1/2" swivel male FSR		3.11" (79)
VSF12	3/4" swivel female FSR		3.64" (92.5)
VSM12	3/4" swivel male FSR		3.64" (92.5)
VSF16	1" swivel female FSR		3.92" (99.6)
VSM16	1" swivel male FSR		3.92" (99.6)
TW12	3/4" weld stub		4.75" (120.7)
TW16	1" weld stub		4.75" (120.7)

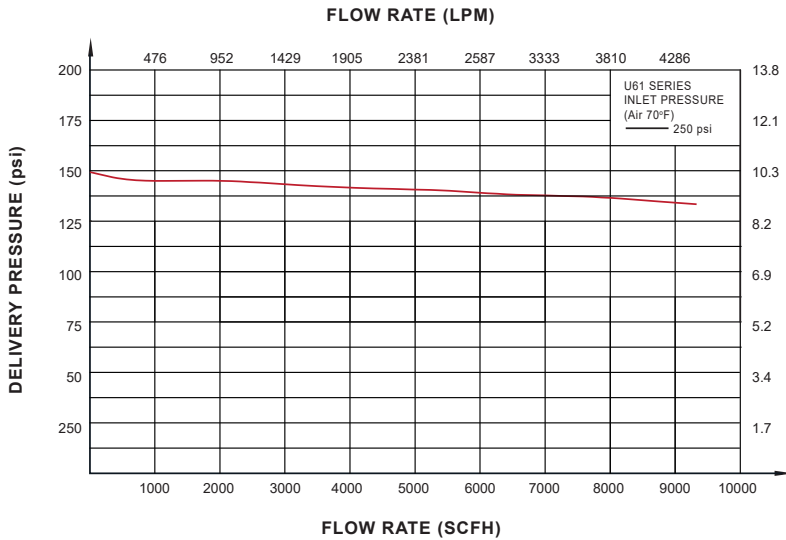


A

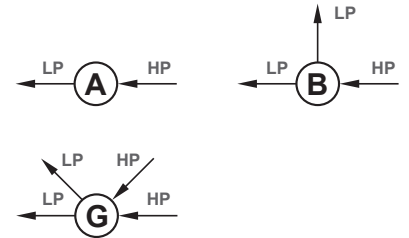


Rear bracket mounting

Flow Data



Regulator Port Configurations



Material Configuration		
	U61SL	U61SL***-SH
Body	316L	316L
Diaphragm	HC-22	HC-22
Stem	316L	HC-22
Nozzle	316L	316L
Seat	PCTFE	PCTFE
Surface Finish	10µin	10µin

Ordering Information

EX:	U61 Series	SL Body	B Ports	K Seat	- D Inlet Pressure	I Outlet Pressure	P Pressure Gauge	- VSF8 Inlet / Outlet Connection	- E Surface Finish	- H Corrosion Resistance
	U61 U61A	SL: 316L	A B G	K: PCTFE V: Vespel®	D: 3000 psi X: 2200 psi E: 1500 psi F: 500 psi	G: 0 ~ 250 psi H: 0 ~ 150 psi I: 0 ~ 100 psi J: 0 ~ 75 psi K: 0 ~ 50 psi L: 0 ~ 25 psi	W: Without Gauge P: psi / bar Gauge K: psi / kPa Gauge	VSF8, VSM8 VSF12, VSM12 VSF16, VSM16 TW12, TW16	E: Ra 10 µin	None: 316L nozzle and stem SH: HC22 stem and 316L nozzle

