



ULTRA HIGH PURITY PRESSURE REGULATORS

URG



- ✓ Cleaned for ultra-high purity service
- ✓ Push & Lock handle to ensure stable gas delivery
- ✓ Various designs and options available



URG - UHP PRESSURE REGULATORS

FEATURES

- Single stage
- Stainless steel 316L / 316L VAR secondary remelt
- Pressure rating
 - Outlet pressure ranges: 1-250 psi (0.1-17 bar)
 - Inlet pressure ranges: 600-3500 psi (42-240 bar)
 - Design proof pressure: 150% of maximum rated
- Flow coefficient C_v = ranges 0.06 to 1.2 (pending regulator size)
- Operating temperature ranges: -40°C to 60°C
-40°C to 170°C Vespel option
- Size connections: 1/4", 3/8", 1/2", 3/4" face seal or tube weld
- Surface finish ranges: B.A.-25Ra μ in or E.P.- 5/10Ra μ in



Compact Miniature Model

CLEANING & PACKAGING

All welding, assembly, test and cleaning procedures are performed in class 100 and class 10 clean-rooms. Cleaning is according to CGA 4.1. and ASTM G-93 for O2 service.

TESTING

- 100% Helium Leak Testing of All Regulators
- Inboard Leak Rate $<1 \times 10^{-9}$ mBar L/sec He, per ASTM E449
- Seat Shut Off Leak Rate $<1 \times 10^{-6}$ mBar L/sec He

GENERAL

UCT's FS URG pressure reducing regulator series features a load spring mechanism, high quality sensing element and unique push & lock handle to prevent slight changes in preset outlet pressure.

Perfect for high purity applications and engineered to meet the highest standards of performance, ensuring that your operations run smoothly and efficiently. Designed for use in harsh environments for semiconductor manufacturing, specialty gases, bulk gas lines, and more.

MAIN ADVANTAGES

- Internally springless and threadless design models available to minimize internal particle generation
- Tied / Non-tied design (tied diaphragm design reduces risk of diaphragm rupture)
- Regulator Knob can be locked to isolate delivery pressure from any changes upstream
- Extended versatility in size and flow capacity options
- **Compact miniature series** available

MATERIALS OF CONSTRUCTION

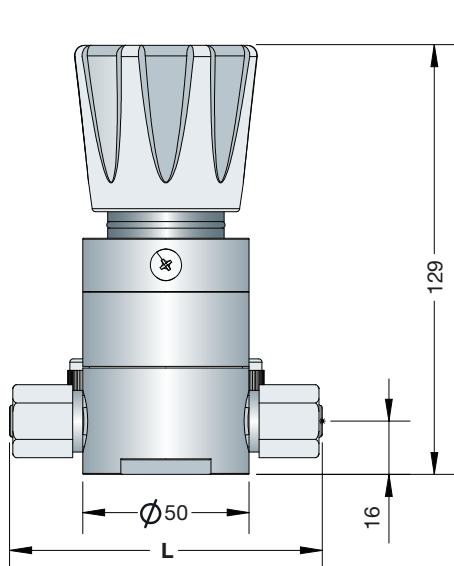
Components	Materials
Body	SST316L / 316L VAR
Diaphragm	SST316 / Hastelloy
Seat	PCTFE / Teflon / Vespel



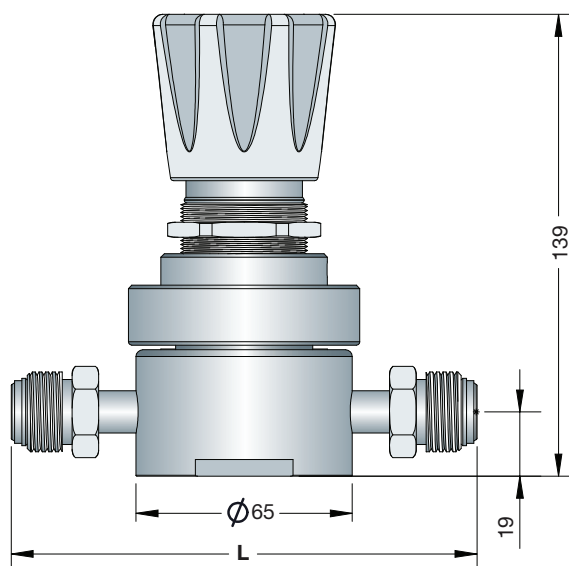
URG1 NON-TIED DIAPHRAGM

URG2 TIED DIAPHRAGM

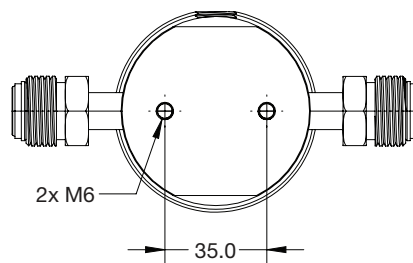
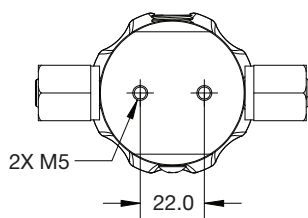
DIMENSIONS



1/4" & 3/8"



1/2" & 3/4"

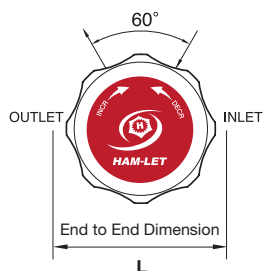


Size	Connection	L	Cv
1/4"	Face seal / TS	94mm	0.06 / 0.2
1/4"	Face seal Long	110mm	0.06 / 0.2
3/8"	Face seal / TS	120mm	0.2
3/8"	Face seal Long	140mm	0.2

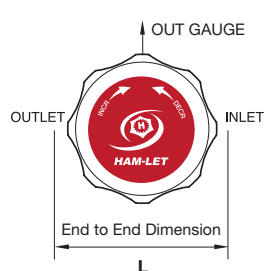
Size	Connection	L	Cv
1/2"	Face seal	140mm	0.5 / 1.0
1/2"	Face seal Long	180mm	0.5 / 1.0
3/4"	Face seal / TS	160mm	1.2

PORT CONFIGURATION

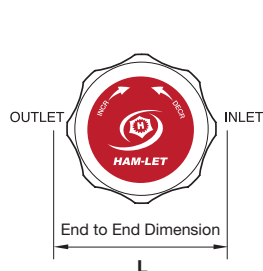
G2 / M2 / F2
(GAUGES / PORTS)



G1 / GH / M1 / F1
(GAUGE / PORT)



G0
(NO GAUGE)



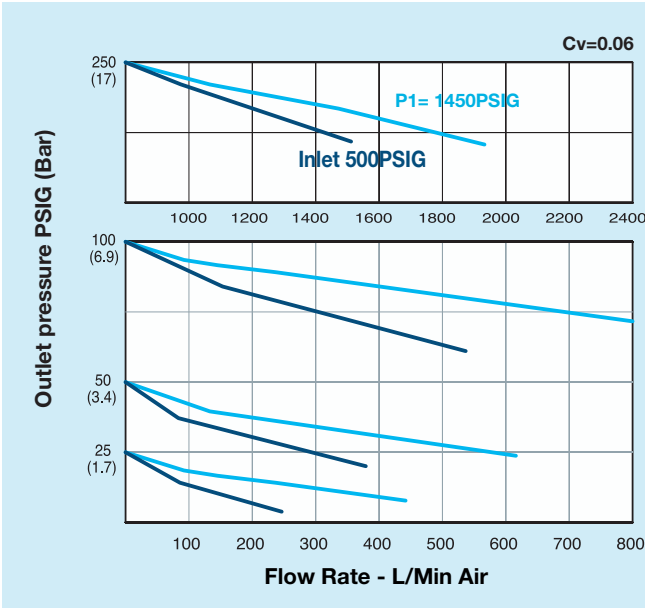
URG1 NON-TIED DIAPHRAGM

URG2 TIED DIAPHRAGM

FLOW CHARTS

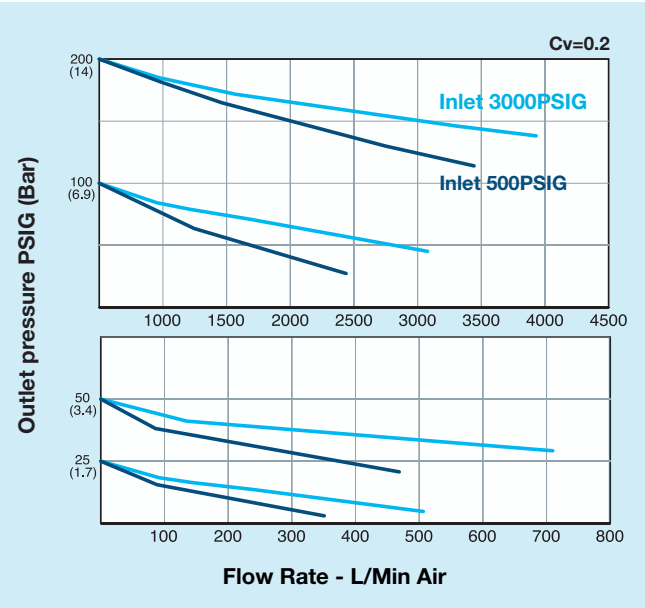
1/4"

REGULATOR DISCHARGE CHARACTERISTICS CURVES



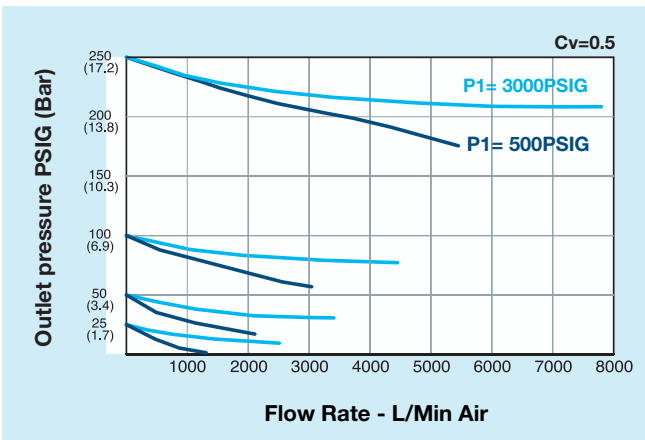
1/4" & 3/8"

REGULATOR DISCHARGE CHARACTERISTICS CURVES



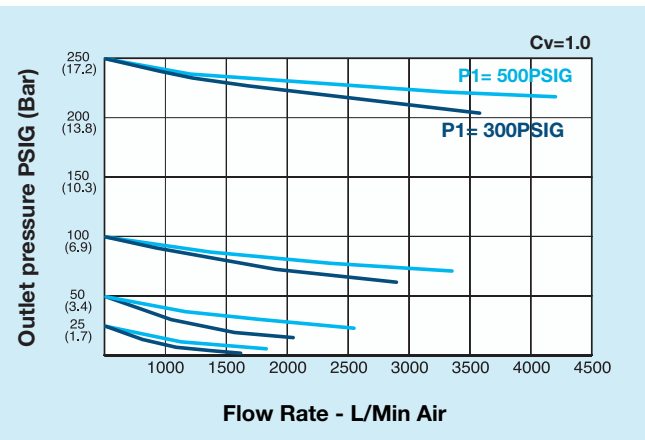
1/2"

REGULATOR DISCHARGE CHARACTERISTICS CURVES



1/2"

REGULATOR DISCHARGE CHARACTERISTICS CURVES



URG1 NON-TIED DIAPHRAGM

URG2 TIED DIAPHRAGM

HOW TO ORDER:

URG1	-	C	025	S	-	L	P	A	-	4	MS	-	G0	
Series	Body Material		Outlet pressure psi (bar)		Inlet Pressure psi (bar)		Seat Material	Flow Capacity (Cv)		Gauge/Port Configuration				
URG1	A	316L (25µin Ra)	025	1-25 (0.1-1.7)	L	600 (40)	T TEFLON P PCTFE V Vespel	A	0.06 (1/4" Inlet 3000 PSI)	G0 2 port no gauges G1 3 port outlet pressure gauge G2 4 port inlet & outlet pressure gauges GH 3 port H.P.I.C outlet M1 3 port Male Swivel outlet M2 4 port Male Swivel outlets F1 3 port Female Swivel outlet F2 4 port Female Swivel outlets				
URG2	B	316L EP (10µin Ra)	050	1-50 (0.1-3.5)	H	3000 (200)		B	0.2 (1/4", 3/8")					
	C	316L EP (5µin Ra)	100	1-100 (0.1-7)				C	0.5 (1/2")					
	D	316L VAR EP (10µin Ra)	250	1-250 (0.2-17)				D	1.0 (1/2")					
	E*	316L VAR EP (5µin Ra)						E	1.2 (3/4")					
* Contact your local representative														
		Diaphragm												
		S	SS 316L											
		H	Hastelloy C-22											
				Inlet & Outlet connection size		Inlet & Outlet connection type								
				4	1/4"	MS	Male Swivel							
				8	3/8"	FS	Female Swivel							
				2	1/2"	ML	Male Swivel Long							
				3	3/4"	FL	Female Swivel Long							
						TS	Tube Stub							
						HP	H.P.I.C (1/4" URG1,2,5)							
						MF	Inlet Male, Outlet Female							
						FM	Inlet Female, Outlet Male							

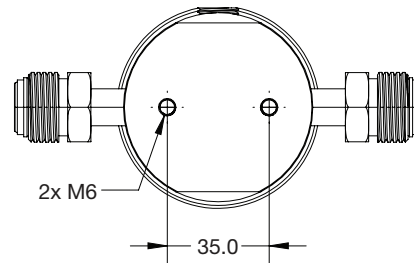
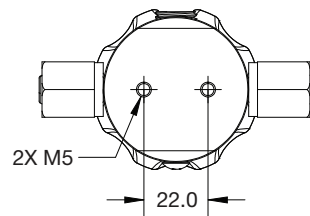
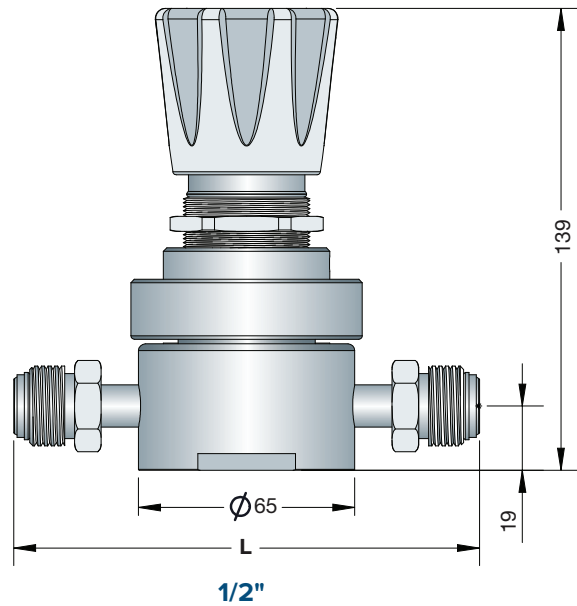
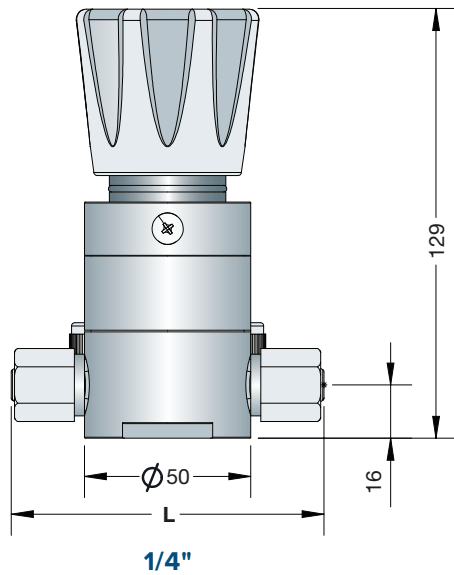
WARNING!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.



URG5 TIED DIAPHRAGM SPRINGLESS

DIMENSIONS



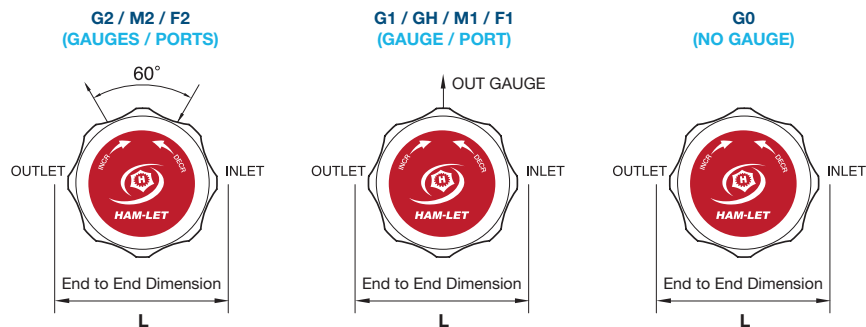
Size	Connection	L	Cv
1/4"	Face seal / TS	94mm	0.5
1/4"	Face seal Long*	110mm	0.5

*upon special demand

Size	Connection	L	Cv
1/2"	Face seal	142mm	0.5 / 1.0
1/2"	Face seal Long*	152mm	0.5 / 1.0

*upon special demand

PORT CONFIGURATION

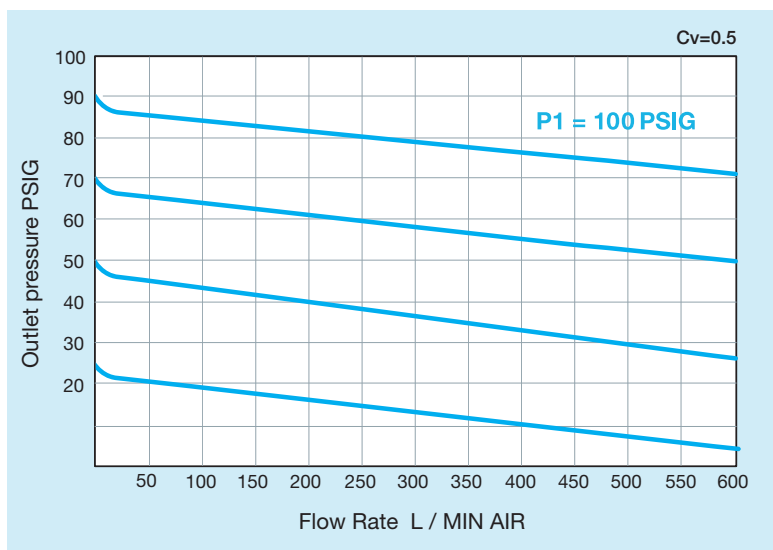


URG5 TIED DIAPHRAGM SPRINGLESS

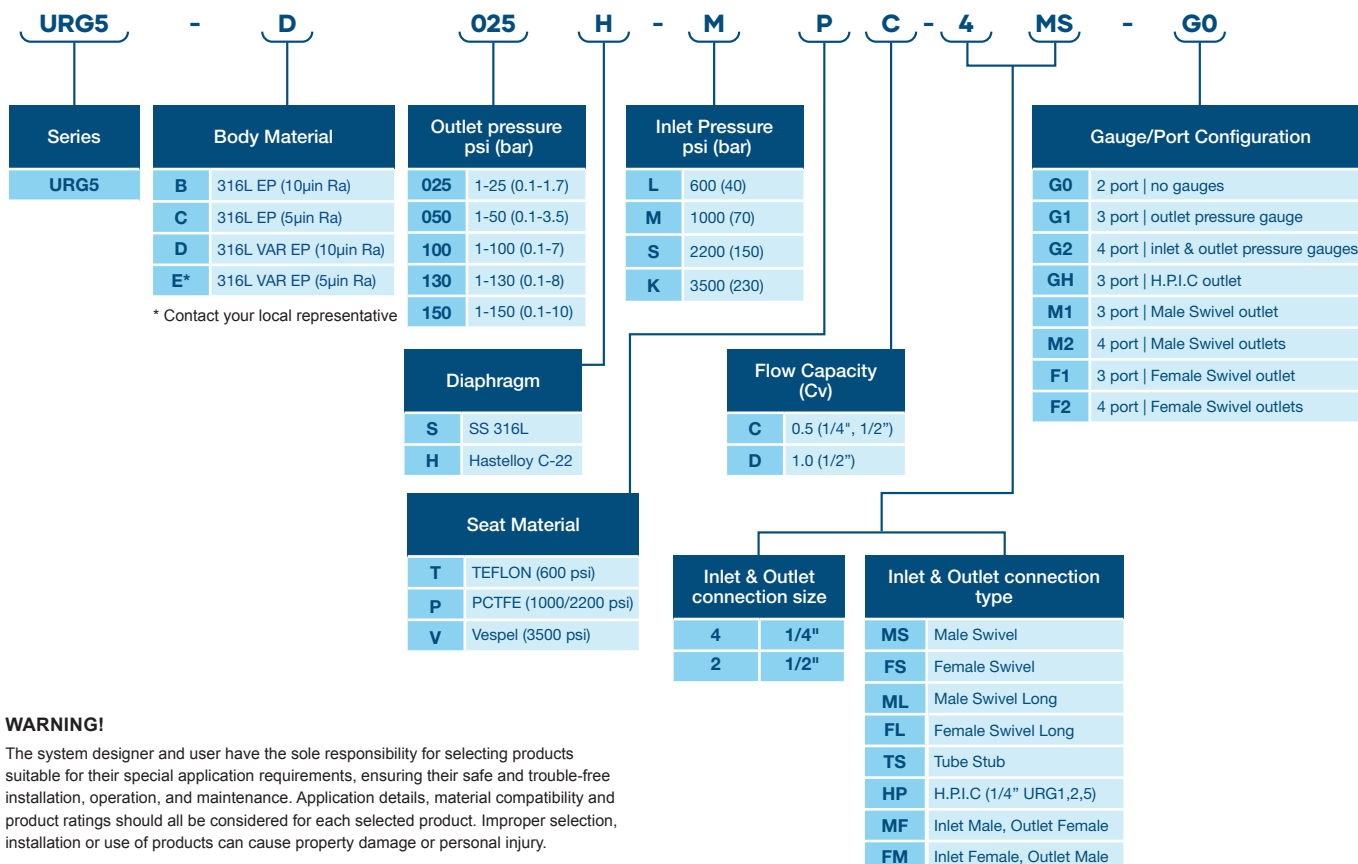
FLOW CHARTS

1/4" & 1/2"

REGULATOR DISCHARG CHARACTERISTICS CURVES



HOW TO ORDER:

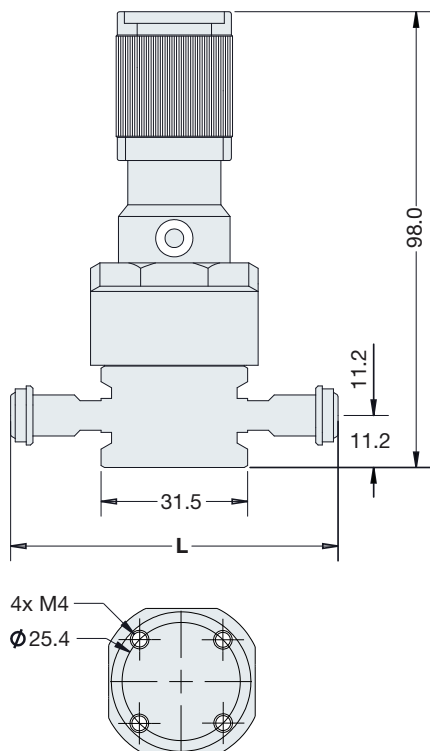


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URGM MINIATURE TIED DIAPHRAGM-SPRINGLESS

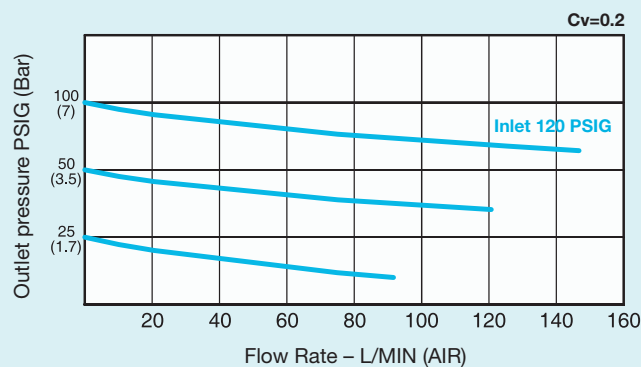
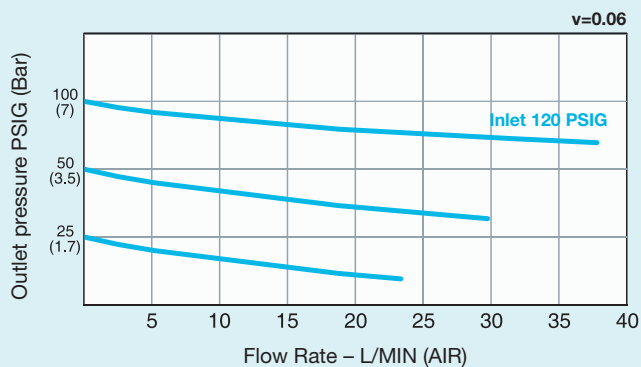
DIMENSIONS



Size	Connection	L	Cv
1/4"	Face seal / TS	70.6mm	0.06

FLOW CHARTS

REGULATOR DISCHARGE CHARACTERISTICS CURVE



HOW TO ORDER:

URGEM

Series

B

316L EP (10µin Ra)

C

316L EP (5µin Ra)

D

316L VAR EP (10µin Ra)

E*

316L VAR EP (5µin Ra)

-

D

Body Material

025

Outlet pressure
psi (bar)

025

1-25 (0.1-1.7)

050

1-50 (0.1-3.5)

100

1-100 (0.1-7)

-

S

Diaphragm

S

SS 316L

H

Hastelloy C-22

-

N

Inlet Pressure
psi (bar)

N

250 (17)

-

P

Seat Material

T

TEFLON

P

PCTFE

V

Vespel

-

A

Flow Capacity
(Cv)

A

0.06

B*

0.2

-

4

Inlet & Outlet
connection size

4

1/4

-

MS

Inlet & Outlet connection
type

MS

Male Swivel

FS

Female Swivel

TS

Tube Stub

MF

Inlet Male, Outlet Female

FM

Inlet Female, Outlet Male

-

G0

Gauge/Port Configuration

G0

2 port | no gauges

* Contact your local representative

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