



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 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

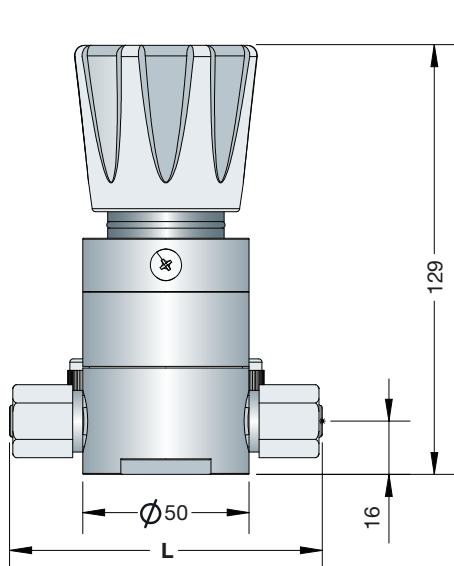
Components	Materials
Body	SST316L / 316L VAR
Diaphragm	SST316 / Hastelloy
Seat	PCTFE / Teflon / Vespel



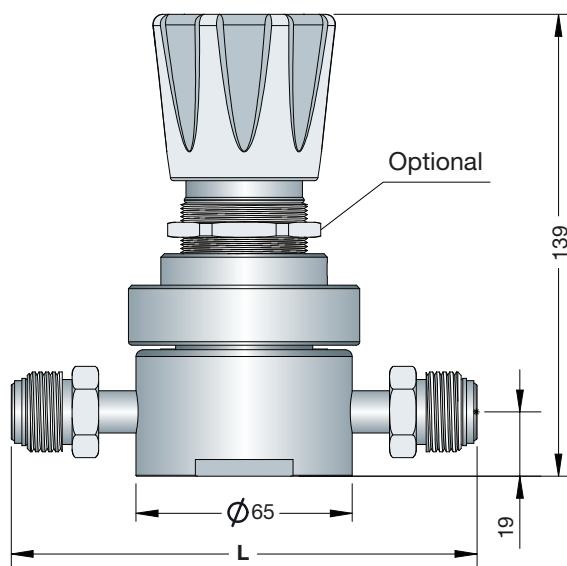
URG1 NON-TIED DIAPHRAGM

URG2 TIED DIAPHRAGM

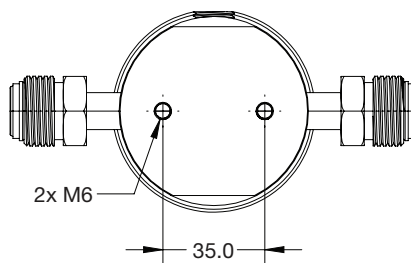
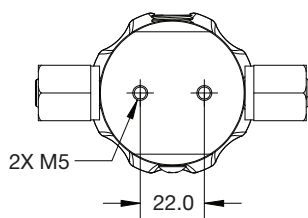
DIMENSIONS



1/4" & 3/8"



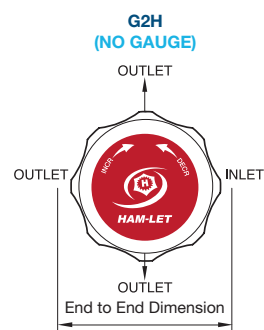
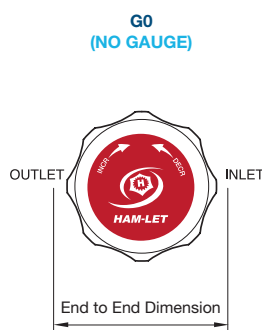
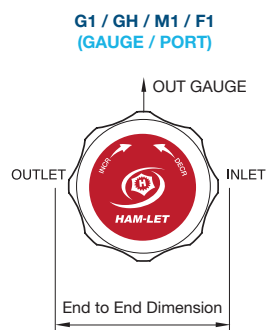
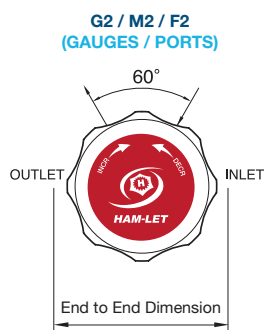
1/2" & 3/4"



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



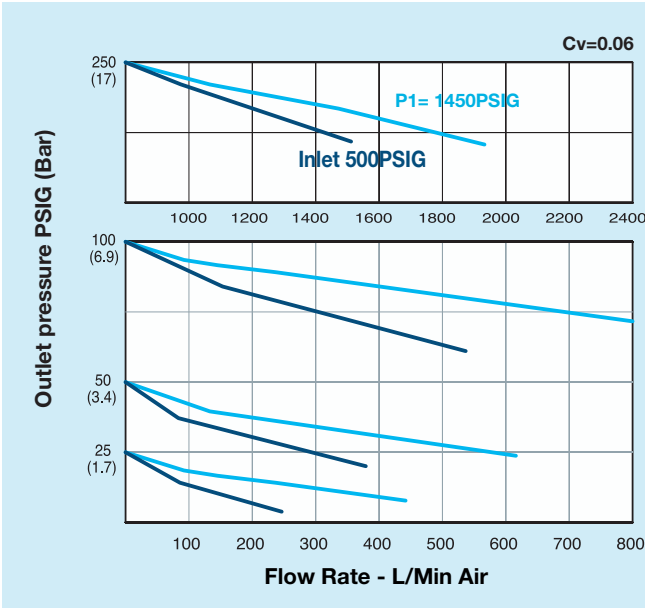
URG1 NON-TIED DIAPHRAGM

URG2 TIED DIAPHRAGM

FLOW CHARTS

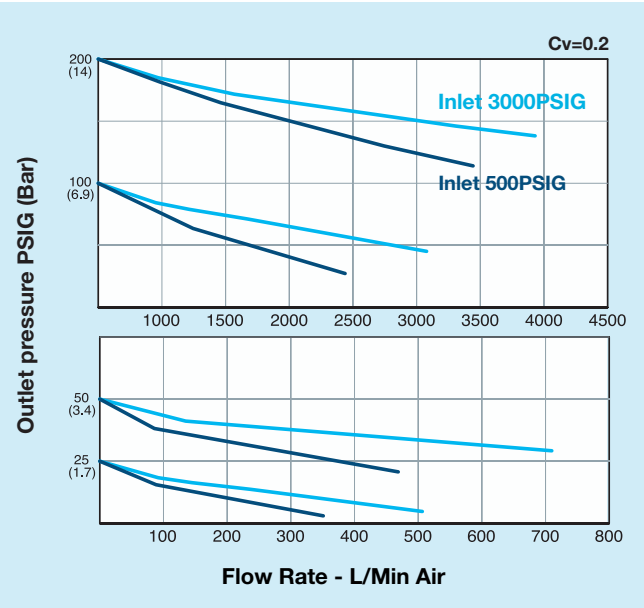
1/4"

REGULATOR DISCHARGE CHARACTERISTICS CURVES



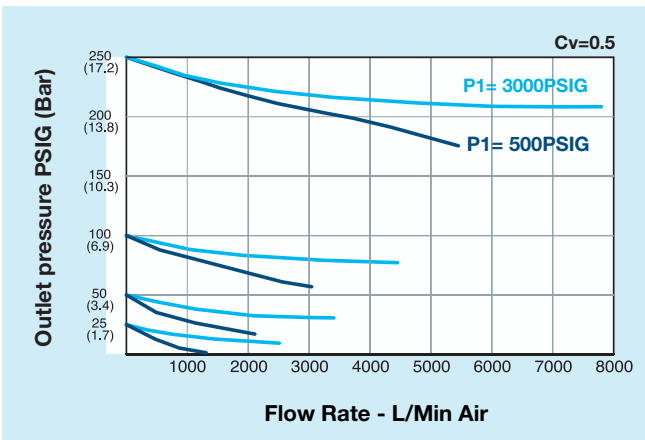
1/4" & 3/8"

REGULATOR DISCHARGE CHARACTERISTICS CURVES



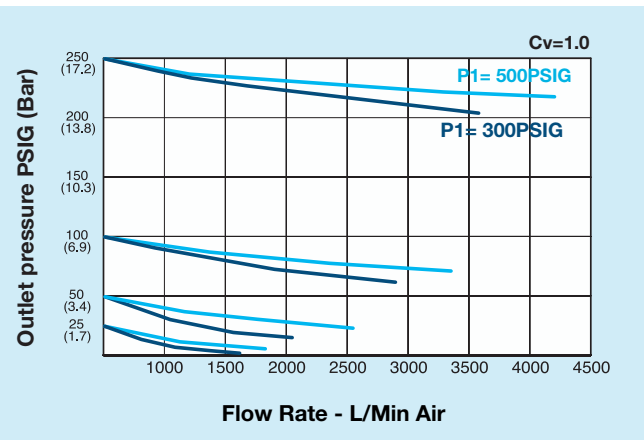
1/2"

REGULATOR DISCHARGE CHARACTERISTICS CURVES

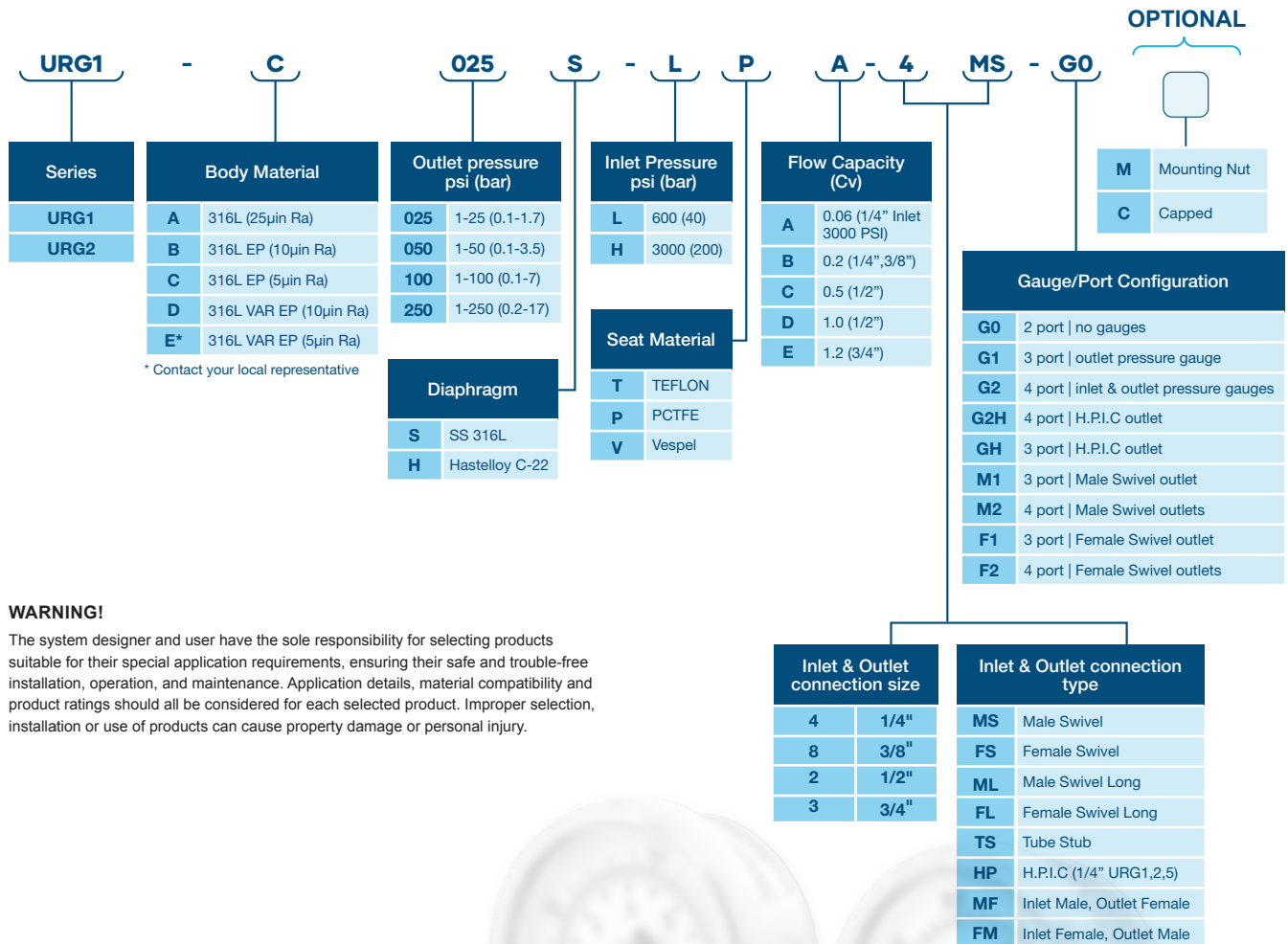


1/2"

REGULATOR DISCHARGE CHARACTERISTICS CURVES

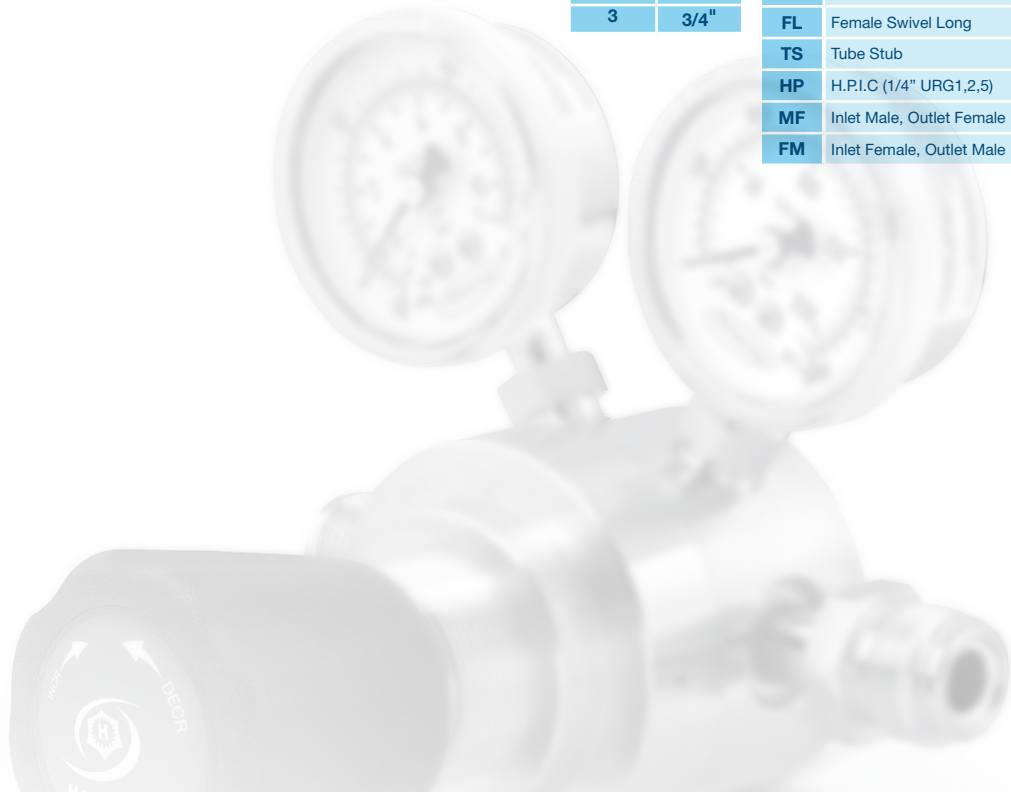


HOW TO ORDER:



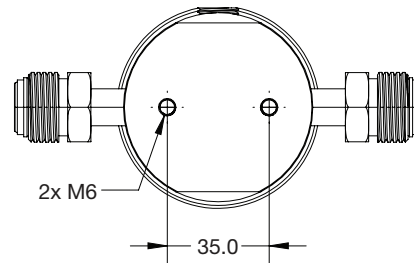
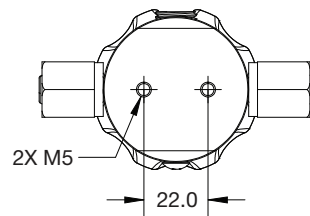
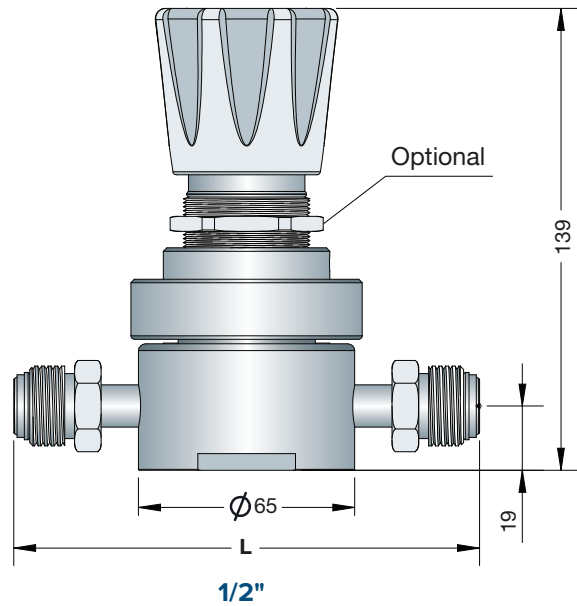
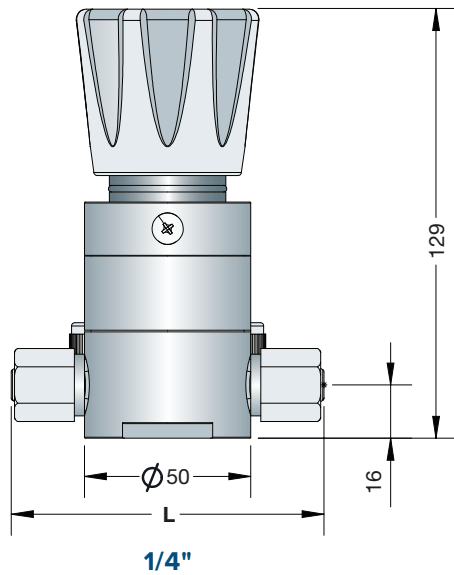
WARNING!

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



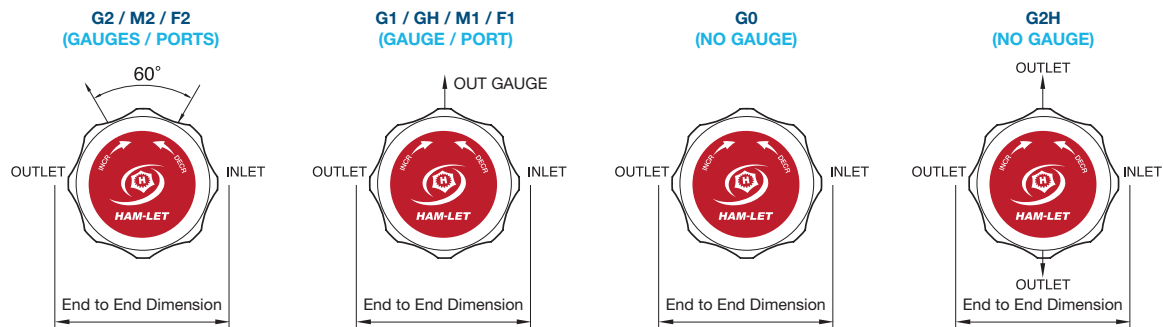
Size	Connection	L	Cv
1/4"	Face seal / TS	94mm	0.5
1/4"	Face seal Long*	110mm	0.5

*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

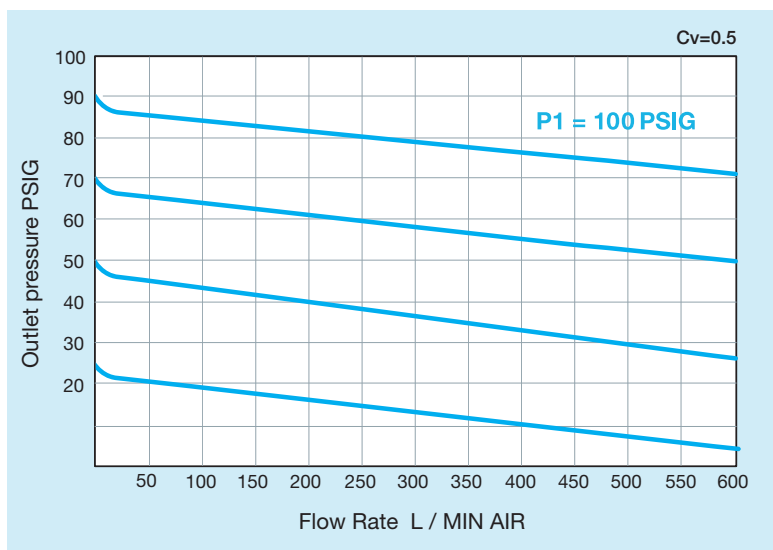


URG5 TIED DIAPHRAGM SPRINGLESS

FLOW CHARTS

1/4" & 1/2"

REGULATOR DISCHARG CHARACTERISTICS CURVES



HOW TO ORDER:

URG5 - **D** **025** **H** - **M** **P** **C** - **4** **MS** - **G0**

Series

URG5

Body Material

B	316L EP (10µin Ra)
C	316L EP (5µin Ra)
D	316L VAR EP (10µin Ra)
E*	316L VAR EP (5µin Ra)

* Contact your local representative

Outlet pressure psi (bar)

025	1-25 (0.1-1.7)
050	1-50 (0.1-3.5)
100	1-100 (0.1-7)
130	1-130 (0.1-8)
150	1-150 (0.1-10)

Diaphragm

S	SS 316L
H	Hastelloy C-22

Seat Material

T	TEFLON (600 psi)
P	PCTFE (1000/2200 psi)
V	VespeI (3500 psi)

Inlet Pressure psi (bar)

L	600 (40)
M	1000 (70)
S	2200 (150)
K	3500 (230)

Flow Capacity (Cv)

C	0.5 (1/4", 1/2")
D	1.0 (1/2")

Inlet & Outlet connection size

4	1/4"
2	1/2"

Inlet & Outlet connection type

MS	Male Swivel
FS	Female Swivel
ML	Male Swivel Long
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

OPTIONAL

M Mounting Nut

C Capped

Gauge/Port Configuration

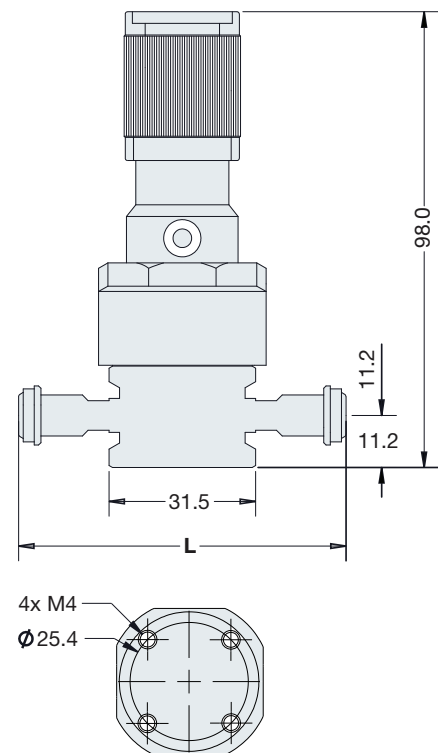
G0	2 port no gauges
G1	3 port outlet pressure gauge
G2	4 port inlet & outlet pressure gauges
G2H	4 port H.P.I.C outlet
GH	3 port H.P.I.C outlet
M1	3 port Male Swivel outlet
M2	4 port Male Swivel outlets
F1	3 port Female Swivel outlet
F2	4 port Female Swivel outlets

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URGM MINIATURE TIED DIAPHRAGM-SPRINGLESS

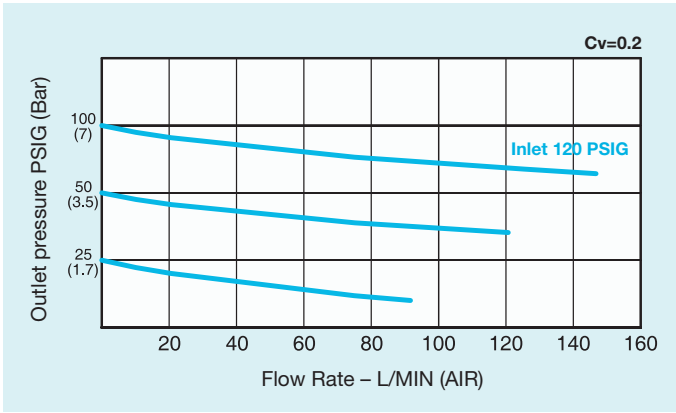
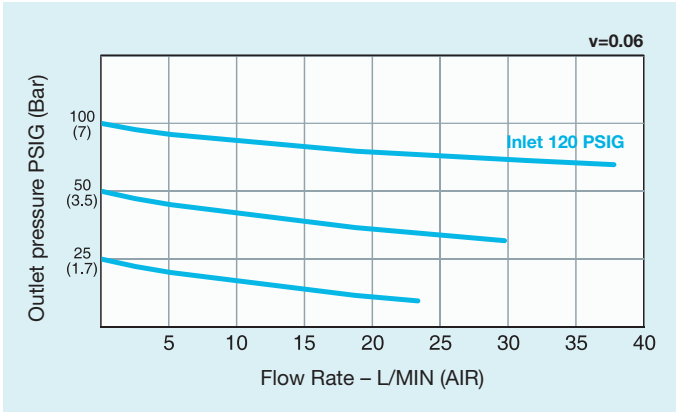
DIMENSIONS



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

FLOW CHARTS

REGULATOR DISCHARGE CARACHTERISTICS CURVE



HOW TO ORDER:

URGM	-	D		025	-	S	-	N	P	A	-	4	MS	-	G0
Series		Body Material		Outlet pressure psi (bar)		Inlet Pressure psi (bar)				Flow Capacity (Cv)			Gauge/Port Configuration		
	B	316L EP (10µin Ra)		025 1-25 (0.1-1.7)		N 250 (17)				A 0.06			G0 2 port no gauges		
	C	316L EP (5µin Ra)		050 1-50 (0.1-3.5)						B* 0.2					
	D	316L VAR EP (10µin Ra)		100 1-100 (0.1-7)											
	E*	316L VAR EP (5µin Ra)													
		* Contact your local representative		Diaphragm		Seat Material							Inlet & Outlet connection size		Inlet & Outlet connection type
				S SS 316L		T TEFLON							4 1/4		MS Male Swivel
				H Hastelloy C-22		P PCTFE									FS Female Swivel
						V Vespel									TS Tube Stub
															MF Inlet Male, Outlet Female
															FM Inlet Female, Outlet Male

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