

ULTRA-PURE PRESSURE REGULATOR SUPERIOR FLOW WITH A NEW STANDARD OF PURITY



SPECIAL FEATURES:

- Machined body constructed of Kynar® 740 PVDF
- Metal-ion free EPDM
- Fused spigots standard
- Proprietary Plast-O-Matic pre-assembly cleaning procedure
- 8 hour cold/8 hour hot DI rinse
- Final Class 100 clean and double bag procedure

PLUS PLAST-O-MATIC PERFORMANCE:

- Maximum flow with minimal drop-off from set pressure
- New non-rising, smooth-flow stem design
- Converts varying inlet pressure up to 150 PSI, to a stabilized, lower pre-set downstream pressure.
- Protects sensitive downstream instruments, tubing and filters against damage from overpressure/pressure surges; permits the entire system to operate safely and effectively.
- Downstream pressure settings adjustable from 10 to 125 PSI.
- Large surface area of its frictionless rolling diaphragm provides exceptional sensitivity.
- Free movement of the diaphragm on a balanced shaft assures smooth, accurate performance and reliable sealing for millions of cycles.
- Double U-cups prevent leakage along the shaft and eliminates the possibility of “creep”.

PRESSURE REGULATOR SELECTION:

In the selection of a liquid pressure regulator, flow capacity with minimum system pressure loss are critical criteria, but it should be recognized that all similar-size competitive regulators do not provide similar performance levels. The new Series PRH-U regulators provide not only higher set pressures and flow capacities with each model, but these are achieved with less pressure losses than with similar size competitive regulators. These lower pressure drop-offs can be seen from the performance curve chart shown on the next page.

DESIGN:

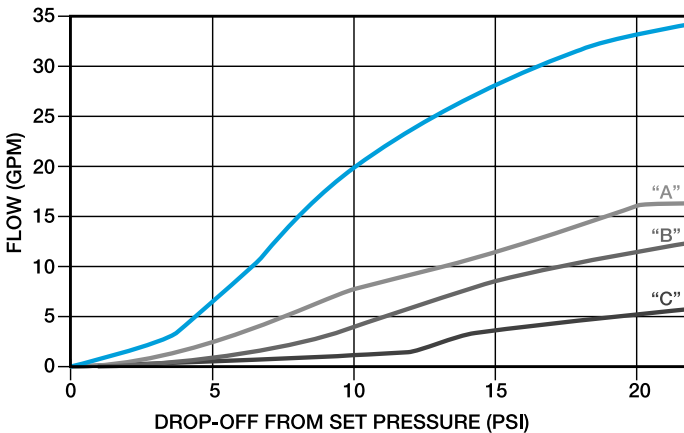
Plast-O-Matic Series PRH-U Pressure Regulators are designed to handle corrosive and ultra-pure liquids with inlet pressures up to 150 PSI at 75°F. Standard downstream set pressure range is 10 to 125 PSI. The normally-open regulators incorporate a poppet seat at the valve orifice to prevent sticking and affecting the sensing of the downstream line pressure. Also, one piece body construction and dual U-cup shaft seals help to eliminate internal leakage that could cause the set pressure to creep beyond a safe limit. A unique, large-surface, rolling diaphragm seal isolates the spring chamber from downstream pressure sensing liquid. This unique design, in conjunction with a pressure balanced shaft, assures smooth performance and stable control. **CAUTION:** Avoid quick closing valve downstream of a regulator to eliminate “water hammer” shock that can cause breakage.

SERIES PRH-U PRESSURE REGULATOR

TYPICAL PERFORMANCE CURVES OF FLOW VS. DROP OFF FROM SET PRESSURE:

Drop-off is the difference between the pressure regulator set pressure and the downstream pressure. Performance curves chart below identifies the high flow capacities and the low pressure drop-off of Plast-O-Matic regulators which result in their greater sensitivity, finer adjustability and superior accuracy as compared to competitive models.

**Typical Pressure Regulator Performance Curves
Flow Capacity vs. Pressure Drop-Off (PSI)
Comparison of Representative Plast-O-Matic Models
with Competitors "A", "B", & "C"**



PRH-U Model Numbers & Maximum Flow

Pipe Size	IPS Model #	Pipe Size	Metric Model #
1/2"	PRHU050EPSP3-PF	20 MM	PRHU20EPSP1-PF
3/4"	PRHU075EPSP3-PF	25 MM	PRHU25EPSP1-PF
1"	PRHU100EPSP3-PF	32 MM	PRHU25EPSP1-PF
1 1/4"	PRHU125EPSP3-PF	40 MM	PRHU40EPSP1-PF
1 1/2"	PRHU150EPSP3-PF	50 MM	PRHU50EPSP1-PF
2"	PRHU200EPSP3-PF	63 MM	PRHU63EPSP1-PF
3"	PRHU300EPSP3-PF	90 MM	PRHU90EPSP1-PF

NOTE: IPS model numbers shown with schedule 80 IPS spigots (SP3). Metric model numbers shown with ASAHI spigots (SP1). For GF spigots, change SP1 to SP2.

*F dimension is identical for all types of spigots.

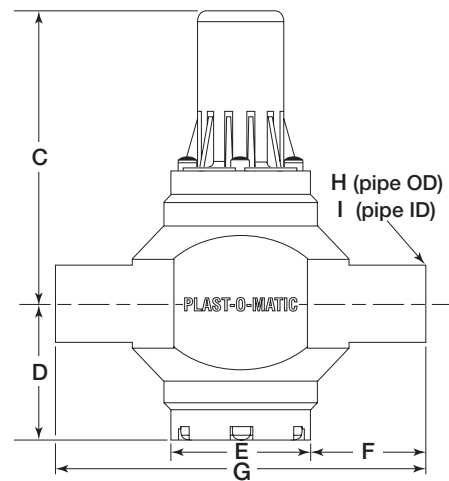
NOTE: 1/2" and 3" sizes have adjustment screws that extend beyond the "C" dimensions.

OPERATION:

Series PRH-U pressure regulators prevent downstream pressure from exceeding the desired set pressure. Regulator will remain closed as long as set pressure is maintained. As equipment or valve downstream of regulator begin to open and demand flow, the downstream pressure begins to fall and the regulator begins to open. As valves or equipment downstream open further, the pressure regulator continues to open until the maximum opening is reached. As the process is reversed, downstream pressure begins to increase and the regulator starts closing. When the downstream pressure again reaches set pressure the regulator closes bubble-tight.

IMPORTANT: It should be noted from the preceding explanation that a pressure regulator does not maintain a specific downstream pressure, but only prevents the downstream pressure from exceeding a set point.

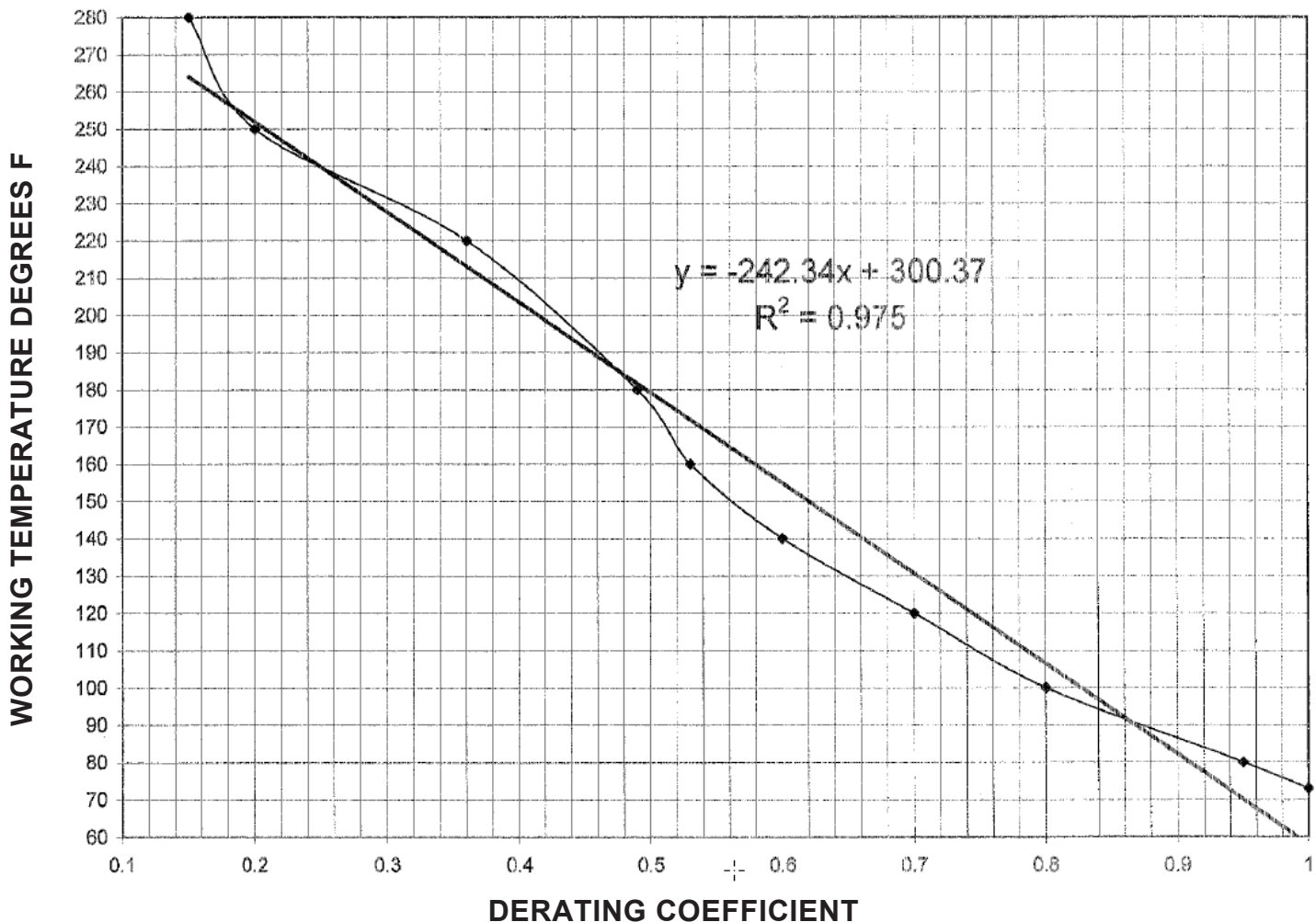
Series "PRH-U" Pressure Regulator Dimensions



Pressure Regulator / Spigot Ends							
Pipe Size	20mm	25mm	32mm	40mm	50mm	63mm	90mm
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"
C	4	7 1/2	7 1/2	8 3/16	8 3/16	9 3/8	12 19/32
D	1 15/16	2 3/4	2 3/4	3 3/16	3 3/16	4 3/8	6 3/16
E	2 1/2	4 15/32	4 15/32	5	5	7	8
F*	2	2	2	2 1/2	2 1/2	2 1/2	2 1/2
G	6 1/2	8 15/32	8 15/32	10	10	11 31/32	13
H1	.790	.980	1.26	1.575	1.97	2.48	3.500
I1	.640	.830	1.072	1.283	1.752	2.244	2.864
H2	.787	.984	1.260	1.575	1.969	2.480	3.543
I2	.638	.835	1.071	1.386	1.732	2.244	3.205

Product includes POM proprietary cleaning, 8 hour cold/hot DI rinse, CDB procedure.

SERIES PRH-U PRESSURE REGULATOR PVDF PRESSURE/TEMPERATURE DERATING



Plast-O-Matic Series PRH-U Pressure Regulators are designed to handle corrosive and ultra-pure liquids with inlet pressures up to 150 PSI at 75°F. At 160° F the pressure derating coefficient is .53 which determines max inlet pressure 79.5 PSI. It is important to note that this information should be used only as a guide. In many cases a physical test of the material under operating conditions is the only way to ensure the success of a particular material for that application.