

# R81 Series

## Minimizes Supply Pressure Effect

Inlet Pressure	Max.24 MPaG (Max.3,480 PSIG)
Outlet Pressure	Max.0.6 MPaG (Max.87 PSIG) (Pressure Range: 0~0.2 MPa, 0~0.4 MPa, 0~0.6 MPa)
Supply Pressure Effect	0.00004 MPaG (0.0058 PSIG) per 0.1 MPaG (14.5 PSIG)
Proof Pressure	31.5 MPa (4,567 PSIG)
Temperature	-10°C to +40°C
Outboard Leakage	Screw (P); $1 \times 10^{-9}$ Pa · m <sup>3</sup> /sec · He ( $1 \times 10^{-8}$ atm · cc/sec · He) Welding (W); $1 \times 10^{-11}$ Pa · m <sup>3</sup> /sec · He ( $1 \times 10^{-10}$ atm · cc/sec · He)
Internal Volume	14.5 cc (0.88 in <sup>3</sup> ) w/o fittings
Approximate weight	2.4 kg (5 lbs. 5 oz.)
Installation	Threaded holes on the rear surface or Panel mounting

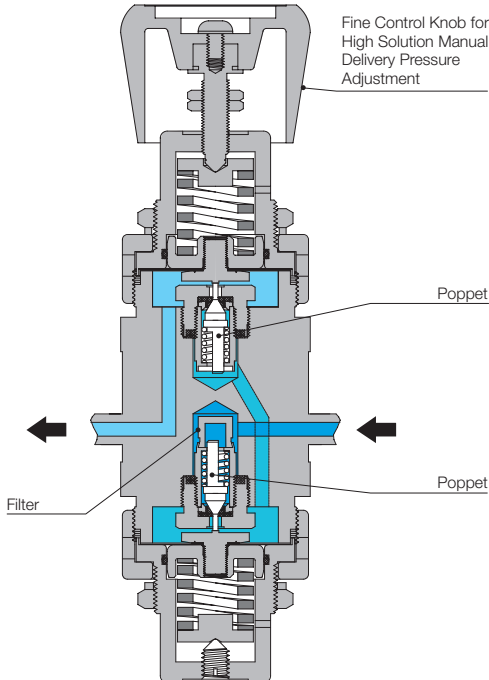
[NOTE]

1MPa = 10.2 kgf/cm<sup>2</sup> = 145.04 PSI

1MPa = 7504.36 mmHg = 295.4 inHg



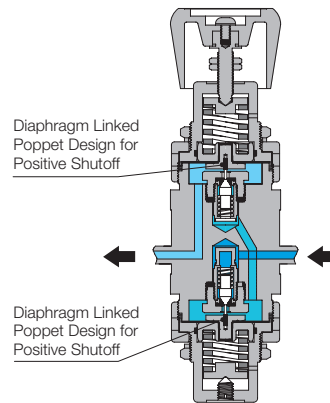
### Cross sectional drawing



[NOTE]

· Avoid turning the control knob excessively.

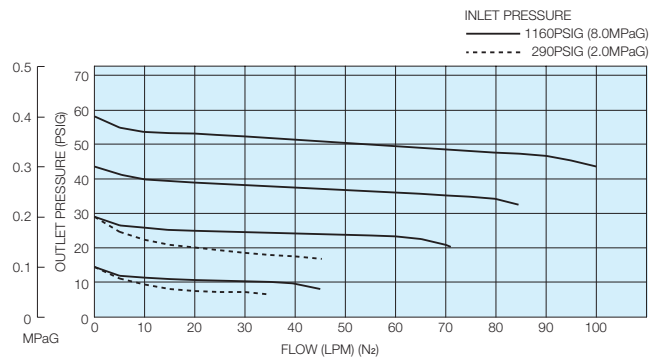
### Tied Diaphragm (Optional)



[NOTE]

Operating the Tied Diaphragm Type: In order to minimize premature wear of regulator's internal parts. Be sure not to close regulator while under pressure.

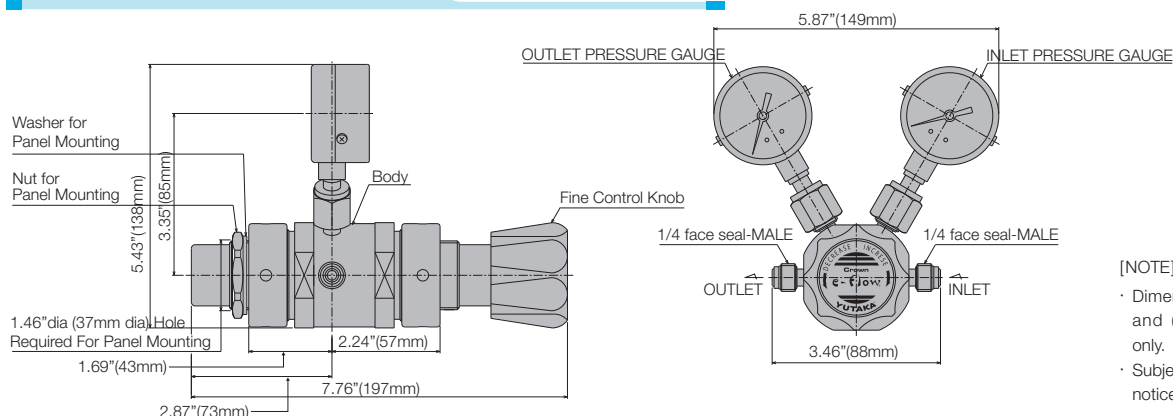
### Flow characteristics



[NOTE]

· These tests were performed at ambient conditions.

## Outline drawing



[NOTE]  
 · Dimensions are in inches and (mm) for reference only.  
 · Subject to change without notice.

## Materials of construction

MODEL & TYPE	R81SS	R81SH	R81SS-N20	R81SS-CO
Wetted Parts				
Body	SUS316L			
Poppet	SUS316L	Hastelloy® C-22	SUS316L	
Seat Retainer	SUS316	Hastelloy® C-22	SUS316	
Diaphragm	SUS316L	Hastelloy® C-22	SUS316L	
Seat	PCTFE		Vespel®	PCTFE
Spring	SUS316			
Gasket	PCTFE and PTFE		PTFE and Vespel®	PCTFE and PTFE
Gasket to seal for gauge	Ni		SUS316	
Non-wetted Parts				
Bonnet	Nickel Plated Brass			
Control Knob	ABS Resin			
O-ring	NBR			

## Wetted surface finishes

Standard Ra (GRADE "B"&"C")	32µin. (0.80µm) or less
Optional Ra (GRADE "A")	7µin. (0.18µm) or less

## Standard connections

1/4" NPT body length ..... 2.13in. (54mm)  
 1/4" face to face length of the male and female are the same. (Male) ..... 3.46in. (88mm)  
 1/4" face to face length of the male and female are the same. (Female) ..... 4.13in. (105mm)

[NOTE]  
 · Any combination of Face Seal male and/or female fittings are available for inlet and outlet.  
 · Size and configuration of pressure gauge port is 1/4" Face Seal male.

## Ordering information

