

## High Sensitivity, Spring-Loaded Pressure-Reducing Regulators— LPRS4, LPRS6, and LPRS8 Series

### Features

- Balanced poppet design
- Diaphragm sensing
- Large diaphragm for higher accuracy
- Suction tube for reduced droop
- Ideal as second-stage regulator

### Options

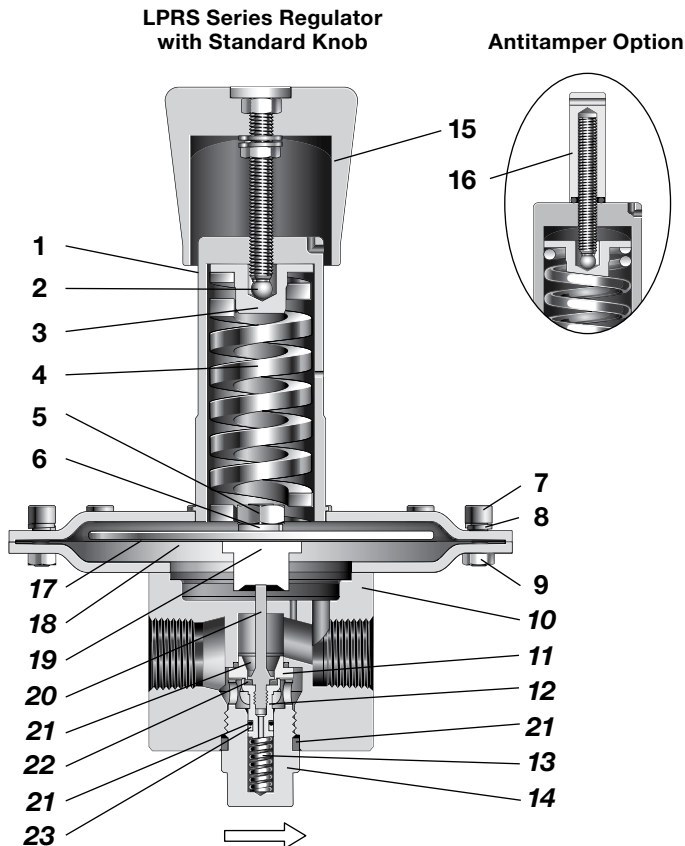
- Antitamper
- Gauge connections—choice of 4 configurations
- NACE MR0175/ISO 15156-compliant models
- Special cleaning to ASTM G93 Level C



### Technical Data

Series	Maximum Inlet Pressure psig (bar)	Maximum Outlet Control Pressure psig (bar)	Sensing Type	Temperature Range °F (°C)	Flow Coefficient (C <sub>v</sub> )	Seat Diameter in. (mm)	Connections			Weight
							Inlet and Outlet		Gauge	
							Size	Type		
LPRS4	232 (16.0)	43.0 (3.0)	Diaphragm	-4 to 176 (-20 to 80) See <b>Pressure-Temperature Ratings</b> , page 8.	1.84	0.39 (10.0)	1/2 in. DN15	NPT	1/4 in. NPT	See <b>Dimensions</b> , page 26.
LPRS6							3/4 in. DN20	ISO/BSP parallel thread		
LPRS8							1 in. DN25	ASME or EN flange		

### Materials of Construction



Component	Material / Specification
1 Spring housing assembly	316L SS / A479 or EN10088
2 Ball	Commercial stainless steel
3 Spring guide	316L SS / A479 or EN10088
4 Set spring	CR50V4
5 Nut	A2
6 Washer	A4
7 Cap screw	A4-80
8 Washer	A2
9 Nut	A2
10 Body	316L SS / A479 or EN10088
11 Seat	
12 Poppet housing	302 SS / A240
13 Poppet spring	
14 Body plug	316L SS / A479 or EN10088
15 Knob assembly with adjusting screw, nuts	Red ABS with A2-70
16 Antitamper assembly with O-ring, adjusting screw	316L SS, nitrile, A2-70
17 Diaphragm plate	316L SS / A479 or EN10088
18 Diaphragm	PTFE, EPDM, FKM, or nitrile
19 Diaphragm screw	316L SS / A479 or EN10088
20 Poppet	
21 O-rings	EPDM, FKM, or nitrile
22 Seat seal	
23 Backup ring	PTFE

*Wetted lubricants: Silicone-based, synthetic hydrocarbon-based*

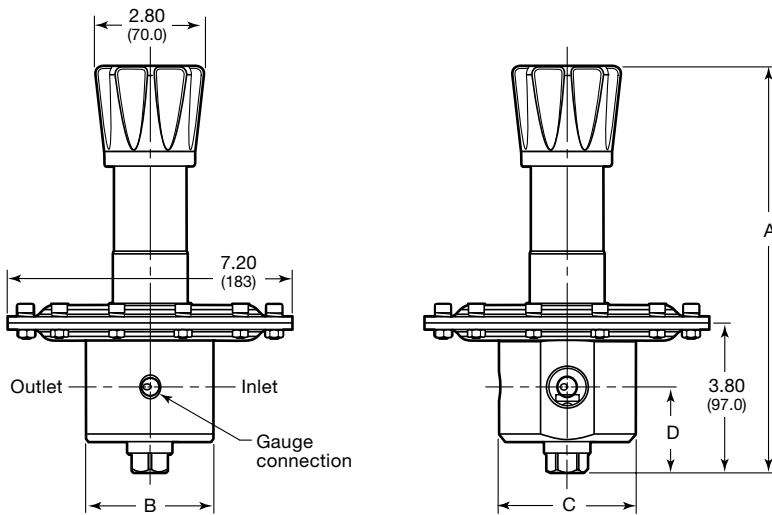
Wetted components listed in *italics*.  
Gauge plugs (not shown): 431 SS / A276.

### Dimensions

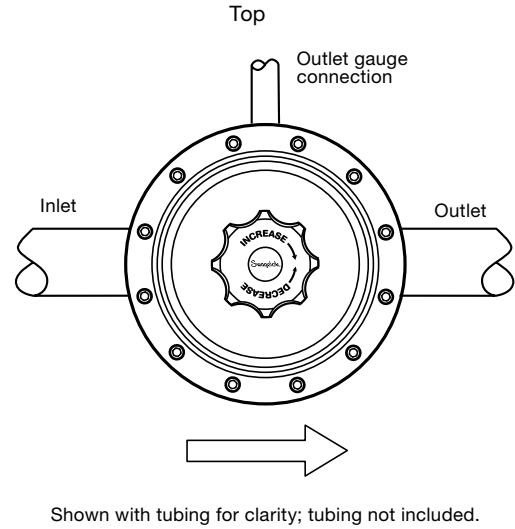
Dimensions, in inches (millimeters), are for reference only and are subject to change.

Series	End Connection Size and Type	Dimensions, in. (mm)				Weight lb (kg)
		A	B	C	D	
LPRS4	1/2 in. NPT or ISO/BSP parallel thread	10.2 (258)	2.83 (72.0)	3.07 (78.0)	2.09 (53.0)	11.0 (5.0)
	DN15 PN40—EN 1092		10.2 (260)			14.3 (6.5)
	1/2 in. ASME class 150—B16.5		11.0 (280)			
LPRS6	3/4 in. NPT or ISO/BSP parallel thread		3.23 (82.0)	3.50 (89.0)	2.20 (56.0)	12.1 (5.5)
	DN20 PN40—EN 1092		10.2 (260)			17.6 (7.8)
	3/4 in. ASME class 150—B16.5		11.2 (285)			
LPRS8	1 in. NPT or ISO/BSP parallel thread	3.07 (78.0)	3.50 (89.0)	2.20 (56.0)	12.1 (5.5)	
	DN25 PN40—EN 1092	10.2 (260)			18.3 (8.3)	
	1 in. ASME class 150—B16.5	11.5 (291)				

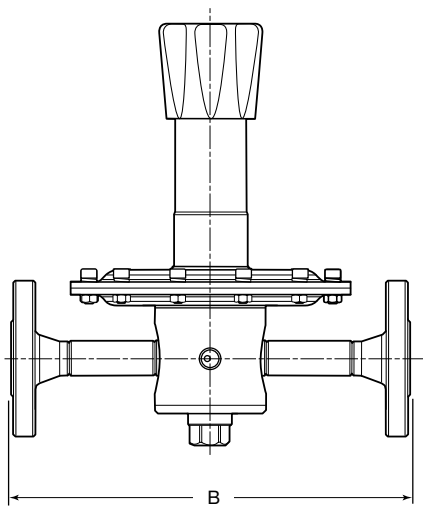
#### Regulators with Pipe Connections



#### Standard Configuration



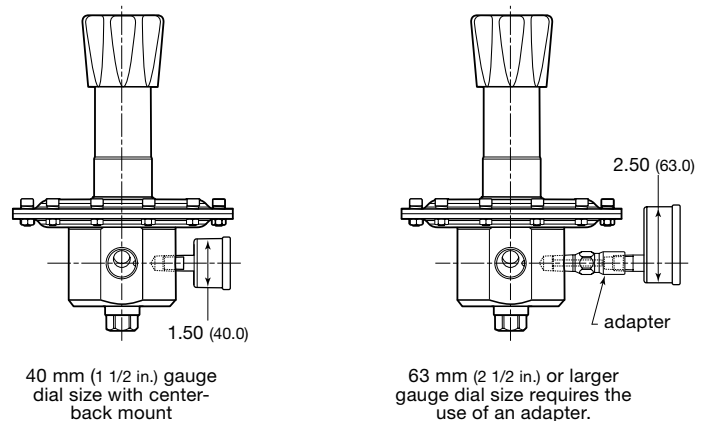
#### Regulators with Flange Connections



#### Gauges

Due to the size of the diaphragm enclosure it is not possible to fit a gauge without an adapter, unless a gauge with 40 mm (1 1/2 in.) dial and center-back mount is used.

#### RHPS Gauge Adapter



**Flow Table**

**1/2 in. DN15, 3/4 in. DN20, 1 in. DN25 Connections**

Inlet Pressure P1 psig (bar)	Set Pressure P2 psig (bar)	Pressure Control Range psig (bar)	Flow std ft <sup>3</sup> /min (Nm <sup>3</sup> /h)
14.5 (1.0)	1.4 (0.10)	1.4 to 14.5 (0.10 to 1.0)	12.9 (22)
	4.3 (0.30)		17.6 (30)
43 (3.0)	1.4 (0.10)	1.4 to 14.5 (0.10 to 1.0)	12.9 (22)
	4.3 (0.30)		23.5 (40)
	11 (0.80)		35.3 (60)
	29 (2.0)	4.3 to 43 (0.30 to 3.0)	47.0 (80) <sup>①</sup>
72 (5.0)	1.4 (0.10)	1.4 to 14.5 (0.10 to 1.0)	12.9 (22)
	4.3 (0.30)		23.5 (40)
	11 (0.80)		35.3 (60)
	29 (2.0)	4.3 to 43 (0.30 to 3.0)	76.5 (130) <sup>①</sup>
145 (10.0)	4.3 (0.30)	1.4 to 14.5 (0.10 to 1.0)	23.5 (40)
	11 (0.80)		35.3 (60)
	29 (2.0)	4.3 to 43 (0.30 to 3.0)	76.5 (130) <sup>①</sup>
232 (16.0)	4.3 (0.30)	1.4 to 14.5 (0.10 to 1.0)	23.5 (40)
	11 (0.80)		35.3 (60)
	29 (2.0)	4.3 to 43 (0.30 to 3.0)	76.5 (130) <sup>①</sup>

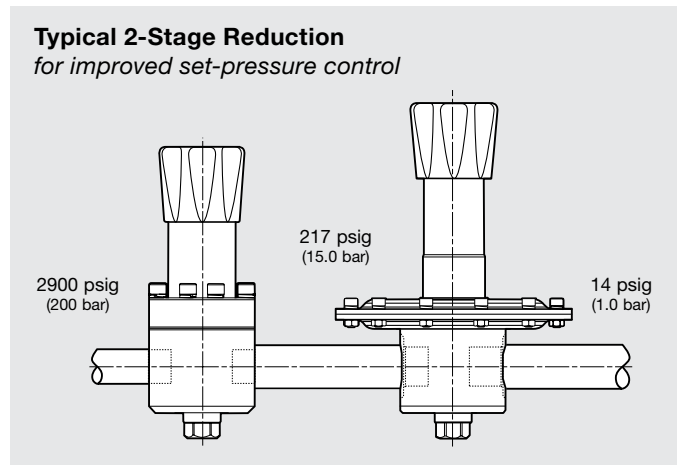
① Droop is approximately 15 %.

**Droop**

Due to the working of the suction tube, LPRS series regulators show little or no droop.

**Flow**

If the flows given in the table are exceeded, the set pressure P2 may rise above the original setting.



For flow curve information, contact your authorized Swagelok representative.

**Ordering Information**

Build an LPRS4, LPRS6, and LPRS8 series regulator ordering number by combining the designators in the sequence shown below.

**1 2 3 4 5 6 7 8 9 10 11**  
**LPRS FA 4 A 1 - 02 - 2 - V V V - AGN2**

**1 Series**

LPRS = 232 psig (16.0 bar) maximum inlet pressure

**2 Inlet / Outlet**

**B** = Female ISO/BSP parallel thread  
**N** = Female NPT  
**FA** = ASME B16.5 flange  
**FD** = EN 1092 (DIN) flange

**3 Size**

**4** = 1/2 in. / DN15  
**6** = 3/4 in. / DN20  
**8** = 1 in. / DN25

**4 Pressure Class**

Omit designator if flanges are not ordered.  
**A** = ASME class 150  
**N** = DN class PN40

**5 Flange Facing**

Omit designator if flanges are not ordered.  
**1** = Raised face smooth

**6 Body Material**

**02** = 316L SS

**7 Pressure Control Range**

**2** = 1.4 to 14.5 psig (0.10 to 1.0 bar)  
**3** = 4.3 to 43 psig (0.30 to 3.0 bar)

**8 Seal Material**

**V** = Fluorocarbon FKM  
**N** = Nitrile  
**E** = EPDM

**9 Diaphragm**

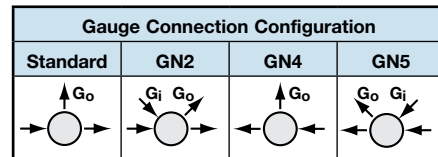
**V** = Fluorocarbon FKM  
**N** = Nitrile  
**E** = EPDM

**10 Seat Seal Material**

**V** = Fluorocarbon FKM  
**N** = Nitrile  
**E** = EPDM

**11 Options**

**A** = Antitamper  
**GN2** = Gauge connection, see below  
**GN4** = Gauge connection, see below  
**GN5** = Gauge connection, see below  
 None = Standard connection, see below



**N** = NACE MR0175/ISO 15156  
**S** = Self-venting (with 1/8 in. NPT)  
**G93** = ASTM G93 Level C-cleaned