

## General-Purpose, Spring-Loaded Pressure-Reducing Regulators—RS(H)10, RS(H)15, and RS(H)20 Series

### Features

- Balanced poppet design
- RS(H)10 and RS(H)15—diaphragm or piston sensing
- RS(H)20—diaphragm sensing only

### Options

- NACE MR0175/ISO 15156-compliant models
- Special cleaning to ASTM G93 Level C



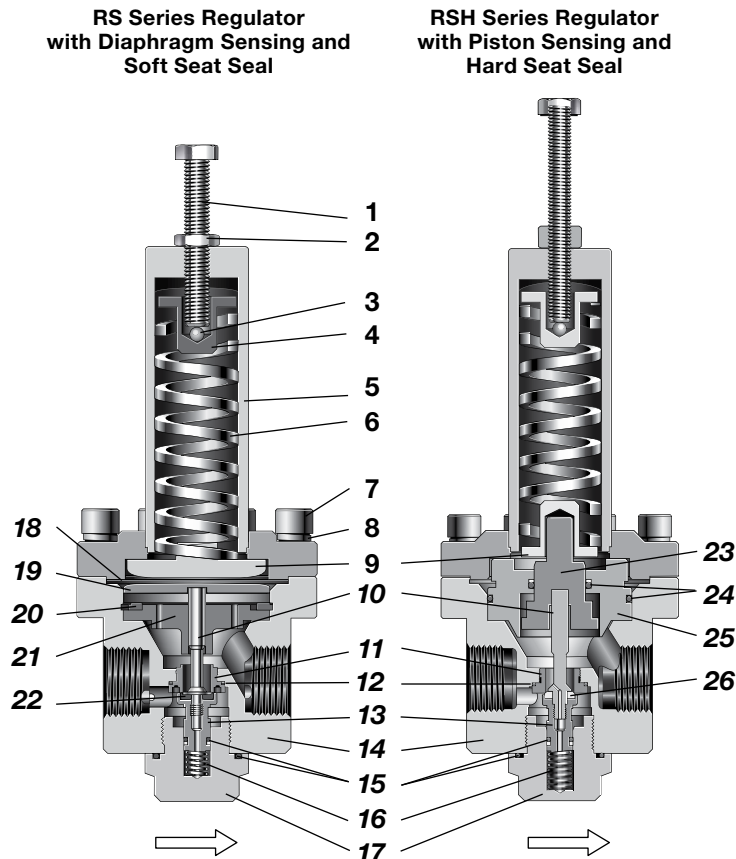
### Technical Data

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 (Without Flanges) lb (kg)
							Inlet and Outlet		Gauge	
							Size	Type		
RS(H)10	RS: 1015 (70.0)	RS: 290 (20.0)	Diaphragm: 0 to 290 psig (20.0 bar)	-4 to 176 (-20 to 80) See <b>Pressure-Temperature Ratings</b> , page 8.	3.79	RS: 0.55 (14.0)	1 in. DN25	NPT ISO/BSP parallel thread ASME or EN flange	1/4 in. NPT or ISO/BSP parallel thread <sup>①</sup>	16.5 (7.5)
RS(H)15	RSH: 5800 (400)	RSH: 3625 (250)	Piston: 0 to 3625 psig (0 to 250 bar)			RSH: 0.53 (13.5)				
RS(H)20		290 (20.0)	Diaphragm			13	0.98 (25.0)			

See page 18 for flow data.

① Regulators with NPT inlet / outlet connections have 1/4 in. NPT gauge connections.

### Materials of Construction



	Component	Material / Specification
Common Components	1 Adjusting screw	A2-70
	2 Nut	A2
	3 Ball	420 SS (Hardened)
	4 Upper spring guide	316L SS / A479 or EN10088
	5 Spring housing assembly	316L SS / A479 or EN10088
	6 Set spring	50CRV4
	7 Cap screw	A4-80
	8 Washer	A4
	9 Bottom spring guide	316L SS / A479 or EN10088
	10 Poppet	431 SS / A276
	11 Seat	316L SS / A479 or EN10088
	12 Seat O-ring	EPDM, FKM, or nitrile
	13 Poppet housing	316L SS / A479 or EN10088
	14 Body	316L SS / A479 or EN10088
	15 O-rings	EPDM, FKM, or nitrile
	16 Poppet spring	302 SS / A313
	17 Body plug	316L SS / A479 or EN10088
Diaphragm	18 Diaphragm	EPDM, FKM, or nitrile
	19 Diaphragm plate	316L SS / A479 or EN10088
	20 Retaining ring	Commercial stainless steel
	21 Body plate	316L SS / A479 or EN10088
	22 Seat seal	EPDM, FKM, or nitrile
Piston	23 Piston	316L SS / A479 or EN10088
	24 Piston O-rings	EPDM, FKM, or nitrile
	25 Piston plate	316L SS / A479 or EN10088
	26 Seat seal	PEEK or PCTFE

Wetted lubricant: Silicone-based, synthetic hydrocarbon-based

Wetted components listed in *italics*.

Gauge plugs (not shown): 431 SS / A276.

### Flow Data

The graphs illustrate the change or “droop” in outlet pressures as the flow rate increases. For more flow curve information, contact your authorized Swagelok representative.

### RS10 Series

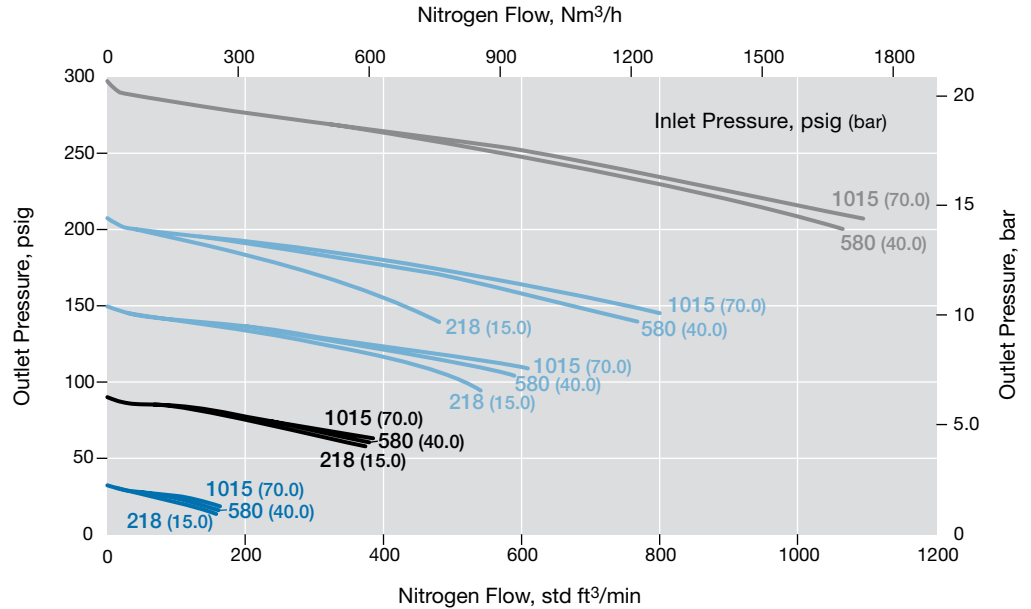
**Flow Coefficient: 3.79**

**Maximum Inlet Pressure: RS10—1015 psig (70.0 bar)**

**Outlet Pressure Control Range: 0 to 406 psig (0 to 28.0 bar)**

#### Pressure Control Range

- 0 to 43 psig (0 to 3.0 bar)
- 0 to 145 psig (0 to 10.0 bar)
- 0 to 290 psig (0 to 20.0 bar)
- 0 to 580 psig (0 to 40.0 bar)



### RS15 Series and RS20 Series

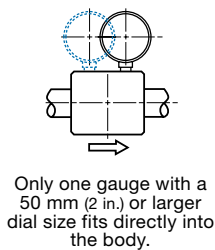
For flow curve information, contact your authorized Swagelok representative.

### Dimensions

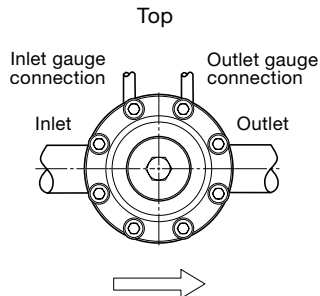
Dimensions, in inches (millimeters), are for reference only and are subject to change.

Series	End Connection Size	Dimensions, in. (mm)						
		A	B	C	D	E	F	G
RS(H)10	1 in.	10.5 (266)	3.54 (90.0)	3.07 (78.0)	2.28 (58.0)	1.97 (50.0)	1.77 (45.0)	4.53 (115)
RS(H)15	1 1/2 in.	10.8 (275)	4.53 (115)	3.78 (96.0)	2.44 (62.0)	2.01 (51.0)	1.77 (45.0)	4.53 (115)
RS(H)20	2 in.	11.3 (288)	5.51 (140)	3.93 (100)	2.44 (62.0)	1.85 (47.0)	2.56 (65.0)	6.30 (160)

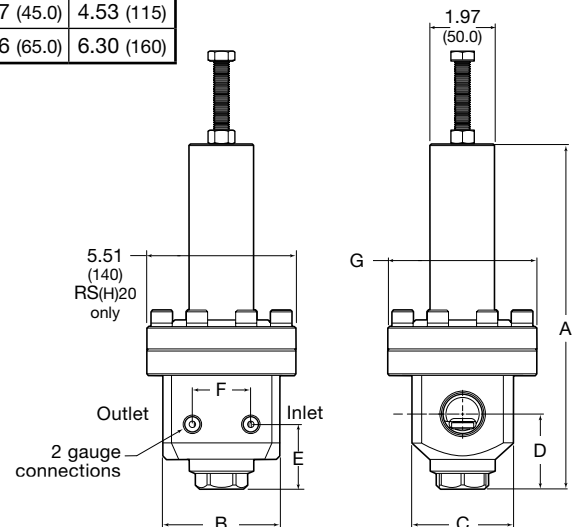
#### Gauge Connection



#### Configuration



Shown with tubing for clarity; tubing not included.



## Ordering Information

Build an RS(H)10, RS(H)15, and RS(H)20 series regulator ordering number by combining the designators in the sequence shown below.

**1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **11**  
**RS FA 10 A 1 - 02 - 1 - V V V - G93**

### 1 Series

**RS** = 1015 psig (70.0 bar) maximum inlet pressure  
**RSH** = 5800 psig (400 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

**10** = 1 in. / DN25  
**15** = 1 1/2 in. / DN40  
**20** = 2 in. / DN50

### 4 Pressure Class

Omit designator if flanges are not ordered.  
**A** = ASME class 150  
**B** = ASME class 300  
**C** = ASME class 600  
**E** = ASME class 1500  
**F** = ASME class 2500  
**M** = DN class PN16  
**N** = DN class PN40

### 5 Flange Facing

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

### 6 Body Material

**02** = 316L SS

### 7 Pressure Control Range

*Diaphragm sensing*

**1** = 0 to 43 psig (0 to 3.0 bar)  
**2** = 0 to 72 psig (0 to 5.0 bar)  
**3** = 0 to 145 psig (0 to 10.0 bar)  
**4** = 0 to 290 psig (0 to 20.0 bar)

*Piston sensing*

**5** = 0 to 580 psig (0 to 40.0 bar)<sup>①</sup>  
**6** = 0 to 1450 psig (0 to 100 bar)<sup>①</sup>  
**7** = 0 to 2610 psig (0 to 180 bar)<sup>①</sup>  
**8** = 0 to 3625 psig (0 to 250 bar)<sup>①</sup>

<sup>①</sup> RS(H)10 and RS(H)15 series only.

### 8 Seal Material

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

### 9 Diaphragm / Piston O-Rings

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

### 10 Seat Seal Material

*RS series*

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

*RSH series*

**K** = PCTFE  
**P** = PEEK

### 11 Options

**N** = NACE MR0175/ISO 15156  
**G93** = ASTM G93 Level C-cleaned