

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



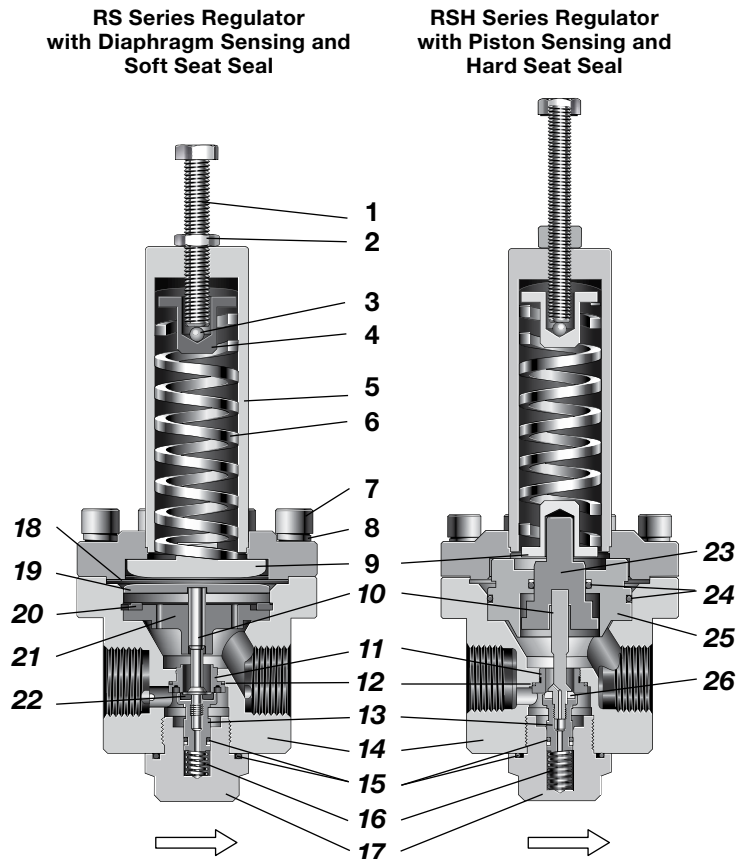
Technical Data

Series	Maximum Inlet Pressure psig (bar)	Maximum Outlet Control Pressure psig (bar)	Sensing Type	Temperature Range °F (°C)	Flow Coefficient (C _v)	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 Pressure-Temperature Ratings , 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 ^①	16.5 (7.5)
RS(H)15	RSH: 5800 (400)	RSH: 3625 (250)	Piston: 0 to 3625 psig (0 to 250 bar)			7.30				0.75 (19.0)
RS(H)20		290 (20.0)	Diaphragm			13	0.98 (25.0)	2 in. DN50	39.6 (18.0)	

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	Commercial stainless steel
	4 Upper spring guide	316L SS / A479 or EN10088
	5 Spring housing assembly	316L SS / A479 or EN10088
	6 Set spring	CR50V4
	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 / A240
	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

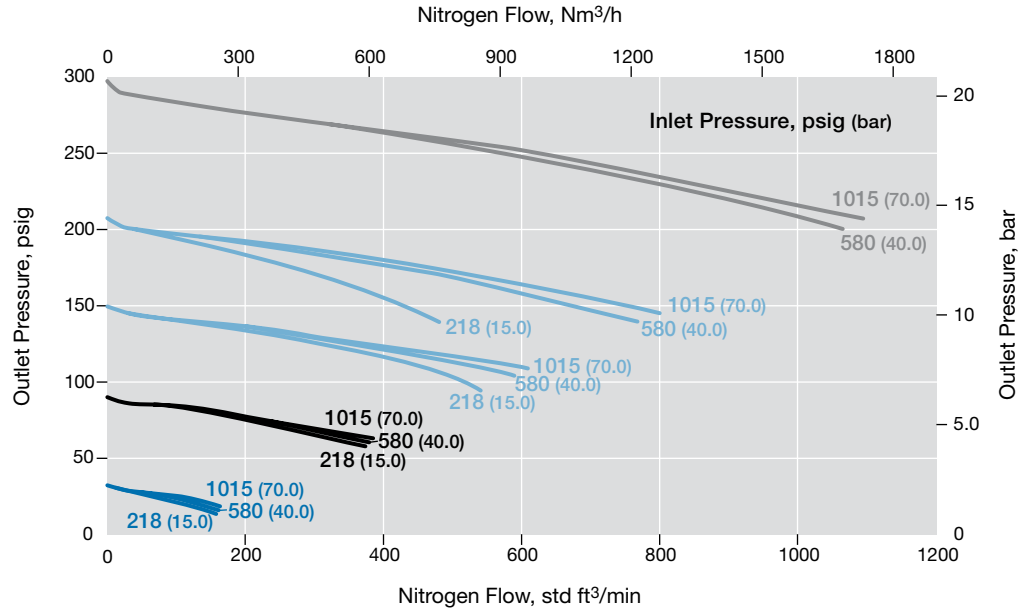
Flow Coefficient: 3.79

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

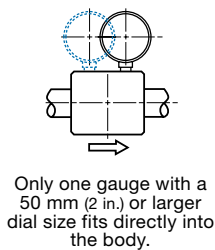
For flow curve information, contact your authorized Swagelok representative.

Dimensions

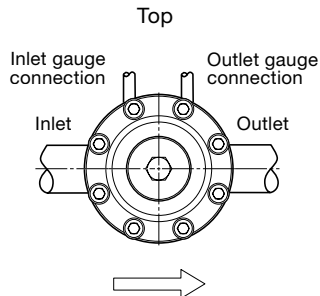
Dimensions, in inches (millimeters), are for reference only and are subject to change.

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)

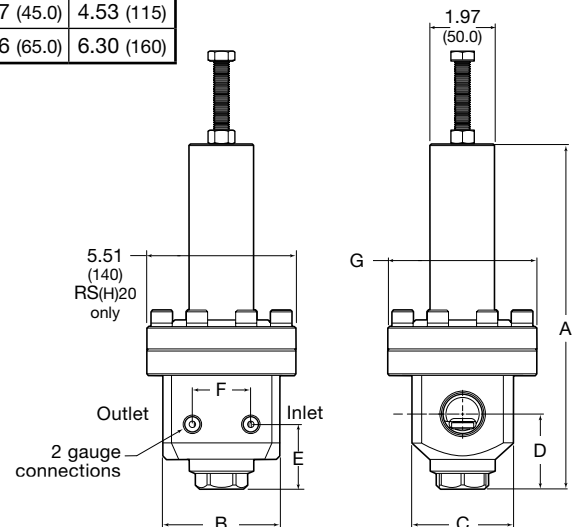
Gauge Connection



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)^①
6 = 0 to 1450 psig (0 to 100 bar)^①
7 = 0 to 2610 psig (0 to 180 bar)^①
8 = 0 to 3625 psig (0 to 250 bar)^①

^① RS(H)10 and RS(H)a5 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