

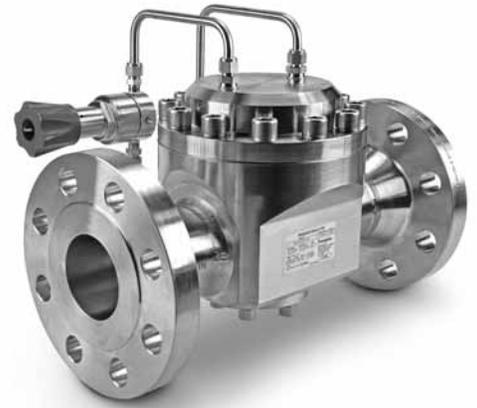
Integral Pilot-Operated, Dome-Loaded Pressure-Reducing Regulators—RD(H)30 and RD(H)40 Series

Features

- Balanced poppet design
- Diaphragm sensing
- Integral pilot regulator with dynamic regulation
- Dome-to-outlet pressure ratio approximately 1:1
- Large dome for stability

Options

- External feedback (EF) for improved performance
 - EF to main regulator limited by standard outlet pressure range
 - EF to pilot regulator limited to 290 psig (20.0 bar)
- NACE MR0175/ISO 15156-compliant models
- Special cleaning to ASTM G93 Level C

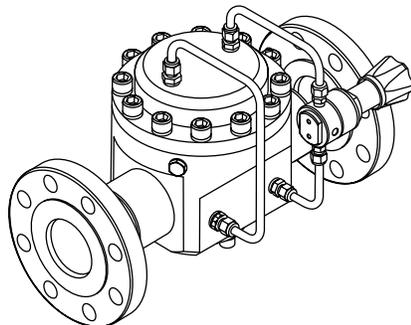
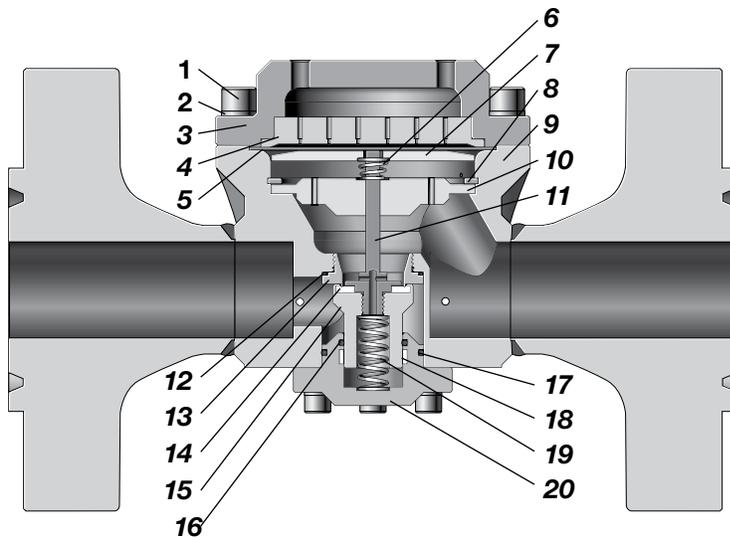


Technical Data

| 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) | Inlet and Outlet Connections | Gauge / Dome Connection | Weight (With Class 150 Flanges) lb (kg) |
|--------|--|---|--------------|---|------------------------------------|---------------------------|---|--|--|
| RD | 1015 (70.0) (507 [35.0] with LRS4 pilot regulator) | 1015 (70.0) | Diaphragm | -4 to 176 (-20 to 80) See Pressure-Temperature Ratings , page 32. | RD(H)30: 36 | RD(H)30: 1.65 (42.0) | EN or ASME flanges— RD(H)30: 3 in. RD(H)40: 4 in. | Use P1 gauge connection of pilot regulator. Dome: 1/4 in. ISO/BSP parallel thread | RD(H)30: 136 (62) |
| RDH | 4060 (280) | 2900 (200) | | | RD(H)40: 73 | RD(H)40: 2.36 (60.0) | | | RD(H)40: 183 (83) |

Materials of Construction

RDH30 Series Regulator with Hard Seat Seal



RDH30 with RS2 Pilot Regulator

| Component | Material / Specification |
|---|----------------------------|
| 1 Cap screw | A4-80 |
| 2 Washer | A4 |
| 3 Dome | 316L SS / A479 or EN10088 |
| 4 Dome plate | 316L SS / A479 or EN10088 |
| 5 Diaphragm | EPDM, FKM, or nitrile |
| 6 Conical spring | 302 SS / A240 |
| 7 Diaphragm plate | 316L SS / A479 or EN10088 |
| 8 Retaining ring | Commercial stainless steel |
| 9 Body assembly (body, reducers, flanges) | 316L SS / A479 or EN10088 |
| 10 Body plate | |
| 11 Poppet | 316L SS / A479 or EN10088 |
| 12 O-ring | EPDM, FKM, or nitrile |
| 13 Seat | 316L SS / A479 or EN10088 |
| 14 Seat seal | RD EPDM, FKM, or nitrile |
| | RDH Polyurethane |
| 15 Poppet housing | 316L SS / A479 or EN10088 |
| 16 O-ring | EPDM, FKM, or nitrile |
| 17 Plug O-ring | |
| 18 Guide ring | PTFE |
| 19 Poppet spring | 302 SS / A240 |
| 20 Body plug | 316L SS / A479 or EN10088 |

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

Wetted components listed in *italics*.

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

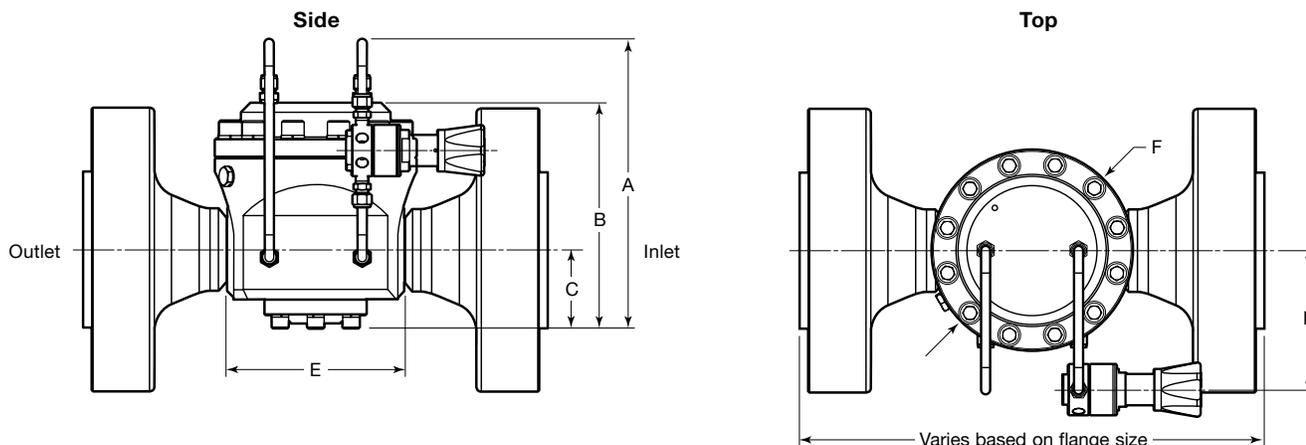
Flow Data

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 |
| RD(H)30 | 3 in. | 12.2 (310) | 9.55 (243) | 3.33 (84.6) | 5.91 (150) | 7.48 (190) | 8.50 (216) |
| RD(H)40 | 4 in. | 14.0 (356) | 11.4 (290) | 4.37 (111) | 5.91 (150) | 8.27 (210) | 8.50 (216) |



Shown with RS2 series pilot regulator.

Ordering Information

Build an RD(H)30 and RD(H)40 series regulator ordering number by combining the designators in the sequence shown below.

1 **2** **3** **4** **5** **6** **7** **8** **9** **10** **11**
RD FA 30 A 1 - 02 - 0 - V V V - EF

1 Series

RD = 1015 psig (70.0 bar) maximum inlet pressure (507 psig [35.0 bar] with pilot regulator, options **0**, **1**, or **2**)

RDH = 4060 psig (280 bar) maximum inlet pressure

2 Inlet / Outlet

FA = ASME B16.5 flange

FD = EN 1092 (DIN) flange

3 Size

30 = 3 in. / DN80

40 = 4 in. / DN100

4 Pressure Class

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

1 = Raised face smooth

3 = RTJ

6 Body Material

02 = 316L SS

7 Pilot Regulator Options

Pressure Control Range

X = No pilot regulator, optional

RD series with LRS4 series pilot regulator

0 = 0 to 43 psig (0 to 3.0 bar)

1 = 0 to 130 psig (0 to 9.0 bar)

2 = 0 to 290 psig (0 to 20.0 bar)

RD series with RS2 series pilot regulator

3 = 0 to 1015 psig (0 to 70.0 bar)

RDH series with RS2 series pilot regulator

4 = 0 to 145 psig (0 to 10.0 bar)

5 = 0 to 362 psig (0 to 25.0 bar)

6 = 0 to 1450 psig (0 to 100 bar)

7 = 0 to 2537 psig (0 to 175 bar)

8 = 0 to 2900 psig (0 to 200 bar)

8 Seal Material

V = Fluorocarbon FKM

N = Nitrile

E = EPDM

9 Diaphragm Material

V = Fluorocarbon FKM

N = Nitrile

E = EPDM

10 Seat Seal Material

RD series

V = Fluorocarbon FKM

N = Nitrile

E = EPDM

RDH series

PU = Polyurethane

11 Options

EF = External feedback to main regulator

EFP = External feedback to pilot regulator

N = NACE MR0175/ISO 15156

G93 = ASTM G93 Level C-cleaned