



HALE HAMILTON[®]

Excellence in Pressure & Flow Control

A CIRCOR International, Inc. Company

RH Series (Balanced) High-Pressure Dome-Loaded Regulator

Description

The RH series are dome-loaded regulators that provide a flow of gas or liquid at controlled pressure. The outlet pressure is set by adjusting the pressure in the dome. A flexible diaphragm separates the gas in the dome from the process fluid.

The valve in the regulator is balanced by a piston. This piston is sized for the required outlet pressure range. A selection of piston sizes is available for each body size.

The dome must be charged with an inert gas such as air or nitrogen. If the process gas is inert, it may be used to charge the dome – we call this “Body Loading”. Alternatively, the dome may be charged from an external source – we call this “Mono Loading”. The external source can also be used to set the outlet pressure remotely. Provision can be made for either or both (“Dual Loading”) methods. The outlet pressure is substantially unaffected by flow rate or by changes in the inlet pressure.

Additional outlet ports are provided on RH20 and RH30 for convenient direct fitting of our RS type relief valves.



Standard Specification

See following pages for specification of individual types

- External charging port: G1/8 female
- Temperature range: -20 to +70°C (extended temperature range versions can be supplied)

Options

Please contact us for details

- Ports: alternative port configurations can be supplied
- Relief Valves: close coupled RS type relief valves can be supplied
- Materials: suitable combinations of materials can be supplied for various applications such as Oxygen service.
- Certification: variants are available approved for use with Oxygen, for medical Oxygen service or for ATEX service

Standard Materials

Alternative materials can be supplied

- Body & Dome: Nickel Aluminium Bronze or Aluminium Alloy
- Valve: Stainless Steel or Nickel Aluminium Bronze
- Valve Seat: Nylon
- Diaphragm: Nitrile or Butyl

Ordering Information

Please supply the following information when ordering

- Required flow capacity or nominal bore
- Maximum inlet pressure
- Outlet pressure range
- Flow medium
- Dome charging method (see Description)
- Port configuration
- Temperature ranges
- Certification and QA requirements

In addition to our standard product range, we have an extensive range of special designs and offer a custom build service. Contact our Sales office if you don't see what you want in our catalogue.

The information contained within this catalogue is for reference purposes only and is subject to change.

When selecting a product, the total system design must be considered to ensure safe, trouble free performance. Component function, material compatibility, adequate ratings, proper installation, operation and maintenance are the responsibility of the system designer and user.

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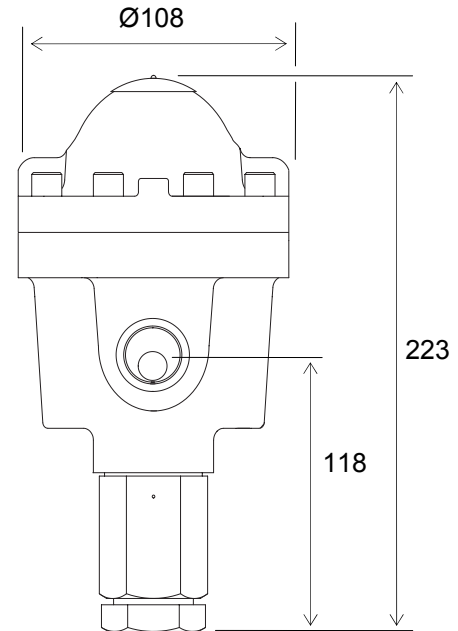
RH20 (9mm)

Specification

- Nominal Bore: 9 mm (3/8")
 - Flow capacity (Cv): 1.8
 - Maximum inlet pressure: 310 bar (4500psi)
 - Weight: 7.5kg (Bronze body)
- | | | | |
|-------------|-----------|-----------|----------|
| Balance | 12.5 | 19 | 28 |
| Piston Size | (1/2) | (3/4) | (1 1/8) |
| mm (inch) | | | |
| Minimum | 131bar | 27bar | 2.7bar |
| Outlet | (1900psi) | (400psi) | (40psi) |
| Pressure | | | |
| Maximum | 241bar | 138bar | 31bar |
| Outlet | (3500psi) | (2000psi) | (450psi) |
| Pressure | | | |
- Inlet & outlet Ports G1 female (alternative ports can be supplied. Note that alternative port configurations may affect the overall dimensions)

Typical Dimensions

in mm except where shown otherwise



RH25 (9mm)

Specification

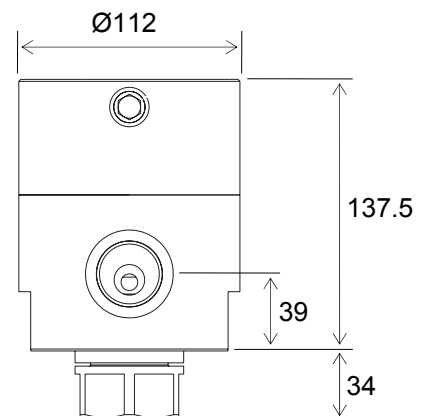
See our datasheet "CNG Service High-Pressure Dome-Loaded Regulator (Balanced)" for more details

Typical Dimensions

in mm except where shown otherwise

A Stainless Steel version is available - see our datasheet "Stainless Steel Balanced Dome Loaded Pressure Regulators"

- Nominal Bore: 9 mm (3/8")
 - Flow capacity (Cv): 1.8
 - Maximum inlet pressure: 414 bar (6000psi)
 - Weight: 4.2kg (Aluminium body)
- | | | | |
|-------------|-----------|-----------|----------|
| Balance | 12.5 | 19 | 28 |
| Piston Size | (1/2) | (3/4) | (1 1/8) |
| mm (inch) | | | |
| Minimum | 131bar | 27bar | 2.7bar |
| Outlet | (1900psi) | (400psi) | (40psi) |
| Pressure | | | |
| Maximum | 241bar | 138bar | 31bar |
| Outlet | (3500psi) | (2000psi) | (450psi) |
| Pressure | | | |
- Inlet & outlet Ports G1 female (alternative ports can be supplied. Note that alternative port configurations may affect the overall dimensions)



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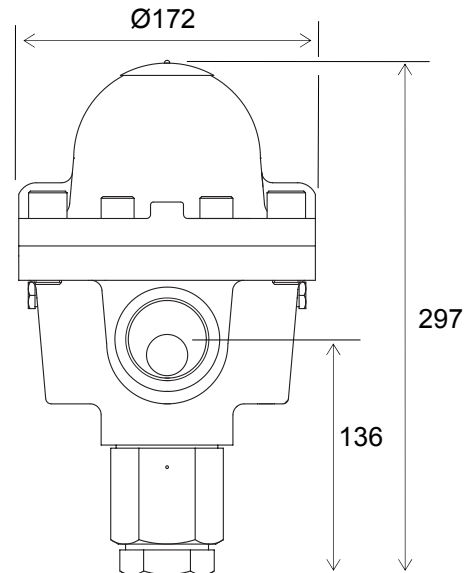
RH30 (19mm)

Specification

- Nominal Bore: 19 mm (3/4")
 - Flow capacity (Cv): 5
 - Maximum inlet pressure: 310 bar (4500psi)
 - Weight: 15kg (Bronze body)
- | | | |
|-------------------------|---------------------|-------------------|
| Balance Piston Size mm | 28 | 50 |
| (inch) | (1 1/8) | (2) |
| Minimum Outlet Pressure | 51bar
(750psi) | 2.7bar
(40psi) |
| Maximum Outlet Pressure | 172bar
(2500psi) | 51bar
(750psi) |
- Inlet & outlet Ports G1 1/2 female (alternative ports can be supplied. Note that alternative port configurations may affect the overall dimensions)

Typical Dimensions

in mm except where shown otherwise



RH35 (19mm)

Specification

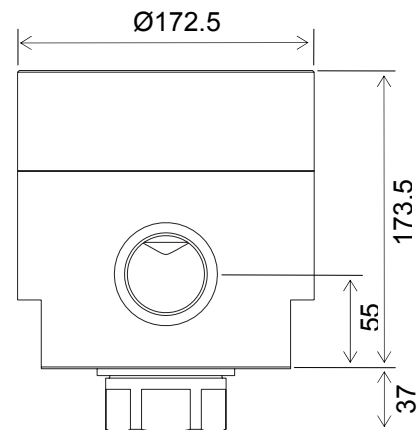
See our datasheet "CNG Service High-Pressure Dome-Loaded Regulator (Balanced)" for more details

- Nominal Bore: 19 mm (3/4")
 - Flow capacity (Cv): 5
 - Maximum inlet pressure: 310 bar (4500psi)
 - Weight: 12kg (Aluminium body)
- | | | |
|-------------------------|---------------------|-------------------|
| Balance Piston Size mm | 28 | 50 |
| (inch) | (1 1/8) | (2) |
| Minimum Outlet Pressure | 51bar
(750psi) | 2.7bar
(40psi) |
| Maximum Outlet Pressure | 172bar
(2500psi) | 51bar
(750psi) |
- Inlet & outlet Ports G1 1/2 female (alternative ports can be supplied. Note that alternative port configurations may affect the overall dimensions)

Typical Dimensions

in mm except where shown otherwise

A Stainless Steel version is available - see our datasheet "Stainless Steel Balanced Dome Loaded Pressure Regulators"



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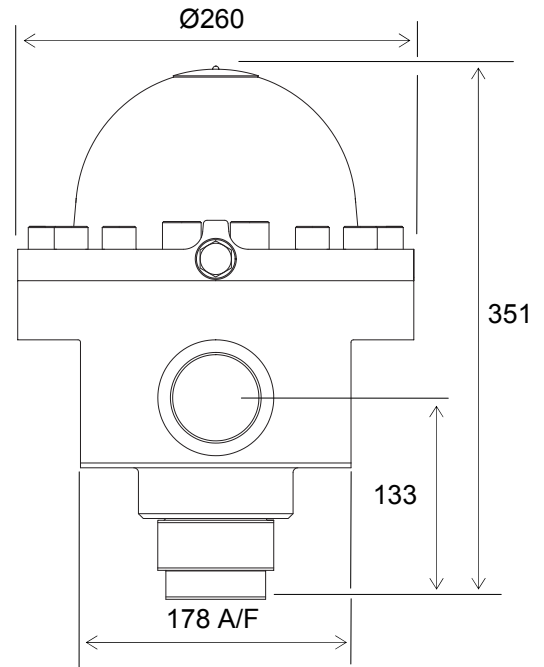
RH40 (32mm)

Specification

- Nominal Bore: 32 mm (1 1/4")
 - Maximum inlet pressure: 276 bar (4000psi)
 - Weight: less than 30kg (Aluminium body), 78kg (Bronze body)
- | | | |
|-------------------------|--------------------|-------------------|
| Balance Piston Size mm | 45 | 63 |
| (inch) | (1 3/4) | (2 1/2) |
| Minimum Outlet Pressure | 5bar
(75psi) | 5bar
(75psi) |
| Maximum Outlet Pressure | 90bar
(1300psi) | 34bar
(500psi) |
- Inlet & outlet Ports G2 female (alternative ports can be supplied. Note that alternative port configurations may affect the overall dimensions)

Typical Dimensions

in mm except where shown otherwise



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