Honeywell
THE POWER OF CONNECTED

HON R100NG SERIES HIGH PRESSURE REGULATOR

Ensuring Reliable Gas Operations

Today's natural gas industry requires precision instrumentation to maintain proper gas pressure at all times. Pilot-controlled gas regulators are the preferred solution for these applications, which are found in all types of network stations, from city gate to district stations. The regulators are also used in large industrial stations for natural gas supply.

Robust & Dependable

Honeywell's HON R100NG Series high-pressure regulators provide precise pressure control throughout the gas infrastructure. These robust and dependable regulators are also designed for use with gas metering applications. The pilot-controlled HON R100NG Series gas regulators have lower maintenance requirements, fewer parts, ease of assembly and disassembly, and a reduced total cost-of-ownership.

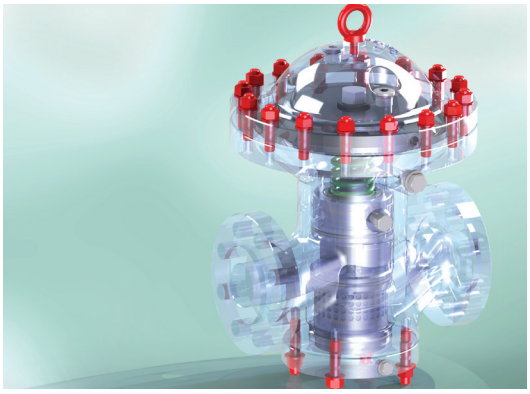
Honeywell's HON R100NG Series (former Gorter brand) of high-pressure gas regulators are a best-in-class solution for demanding environments. They offer unsurpassed operating reliability to ensure delivery of gas to customers with critical requirements. Gas systems utilize these advanced pressure-control regulators to satisfy downstream demand while maintaining pressure within acceptable limits.

With the HON R100NG Series, Users Benefit from:

- Optimal noise reduction
- Optimal control at pressure differences from 0.5 bar
- Special patented valve seat
- Excellent control characteristics, including high control accuracy and low lock-up pressure
- High specific flow rate
- Remote or flow control capabilities to maintain pressure control even if external power is lost.

Proven Gas Solutions

In fuel gas and commercial/industrial service applications, HON R100NG regulators are the key to maintaining a constant set outlet pressure even when inlet pressure fluctuations or variations in gas demand occur. This exceptionally versatile and innovative product line offers a cost-effective solution to the most challenging regulator applications.



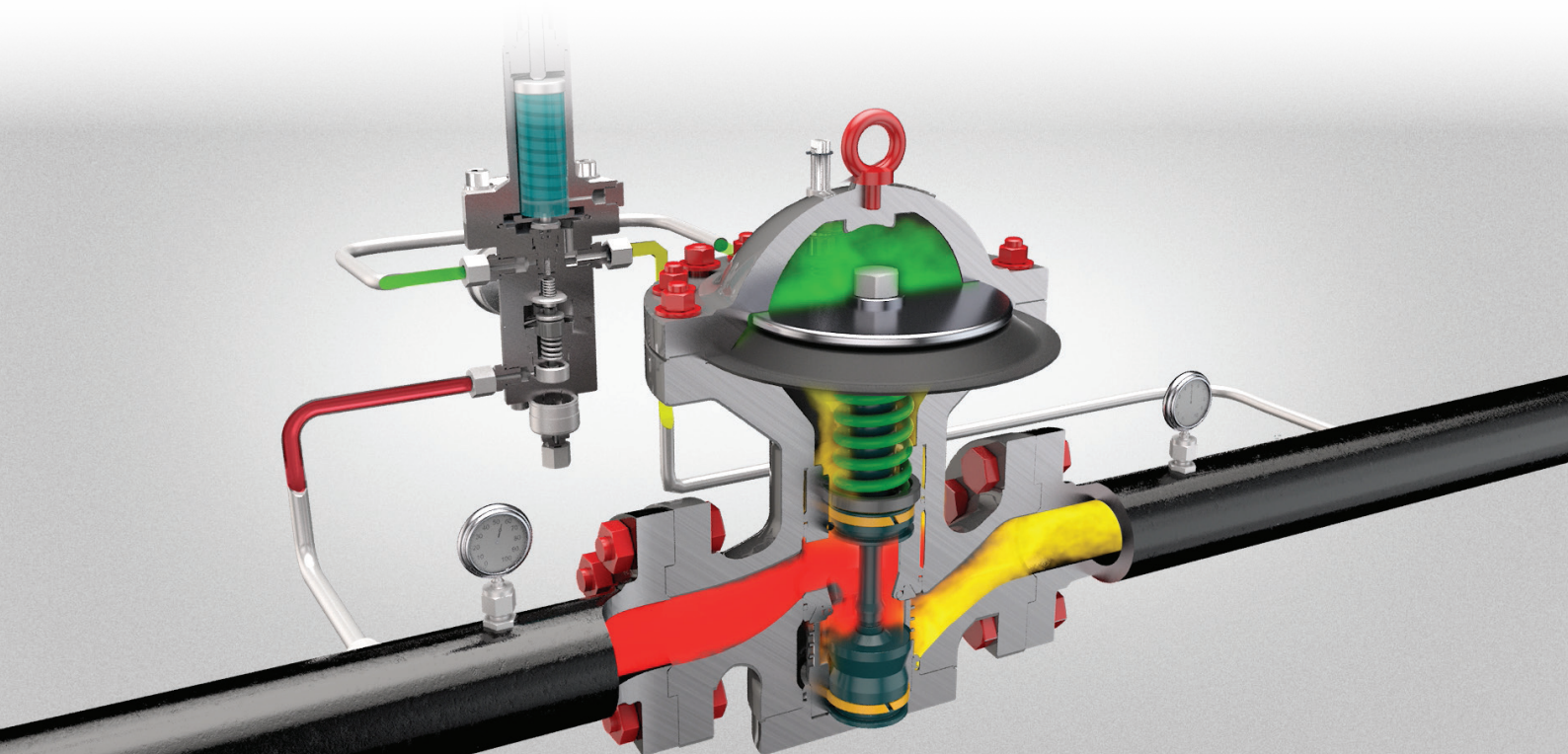
The HON R100NG Series Comprises Different Types of Regulators:

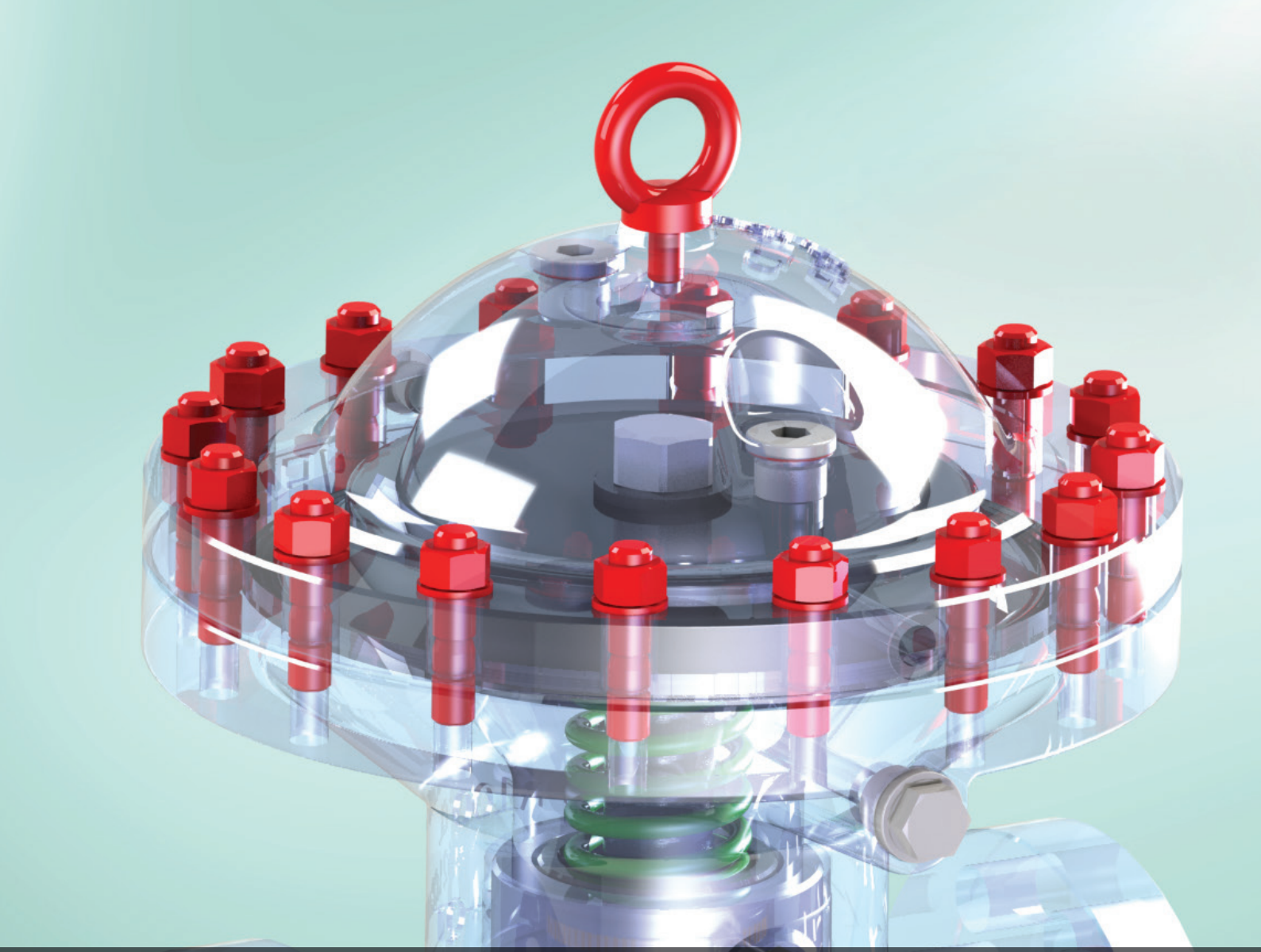
- Standard fail-close version with low-noise cage
- Fail-open version
- NACE version according to MR 154
- Hybrid low-noise cage with full capacity

Available Regulator Models

The HON R100NG is the standard fail-closed, pilot-operated high pressure regulator that can be equipped with a low-noise cage that reduces noise at the source instead of damping it.

The fail-close version can be used as a monitor regulator. A monitor is an emergency regulator that is activated immediately after the main (active) regulator fails open. In contrast to other safety devices, such as safety shut-off or safety cut-off devices, the gas supply is not interrupted if the main regulator fails to open. The construction and operation of the fail-open are similar to the standard regulator, while also offering fast action, low lock-up pressure, and high accuracy and stability. This makes the device superior to other fully-open and working monitor designs. Both regulators can be supplied with a low-noise cage.





Best-in-Class Features

- Low maintenance costs
- Long maintenance interval due to minimal friction and number of working parts
- Easy to assemble/disassemble
  - Regulator body remains in-line during maintenance
  - Seat ring is easy to inspect.
- Use of economical materials
- Enhanced noise reduction
  - With patented techniques and a noise-reducing cage.
- Optimal control at pressure differences
  - HON R100(S) has a unique ability to control gas pressure perfectly at pressure differences from 0.8 bar/11.6 psi. The regulator's optimally balanced valve construction makes it highly suitable for extreme applications.
- Special patented valve seat
  - Long maintenance interval due to the erosion-free enclosure of the seat ring
  - Bubble-tight even at low temperatures
  - Low lock-up pressure.
- Excellent control characteristics: minimal hysteresis, low set point deviation with different pilot designs
  - High degree of control accuracy (+1%)
  - Low lock-up pressure (+2.5%)
  - Fast response.
- High specific flow rate
  - Hydro-dynamically favorable design of regulator body.
- Remote or flow control
  - By using a special pilot, the regulator can be remote controlled or used as a flow controller in combination with the proper instrumentation. Unlike normal control valves, this capability ensures pressure control is continued even if external power is lost.
- Clear and complete technical documentation
  - Available in different languages.
- Optical and remote position indicator
- NACE version according to MR 154

Make the Right Choice

Honeywell offers industry-leading gas control, measurement and analysis equipment to gas utilities and other users around the world. We have expertise along the entire gas supply chain, with products and systems that enable you to exercise full control over your regulating and measuring needs.

Wherever You Are, You Can Count on Honeywell's Commitment to Product Quality, Reliability, Safety and Performance

Honeywell is recognized for long-term reliability and performance; lowest total cost-of-ownership and installation; and outstanding technical training, field support and customer service.

Today, no other regulator manufacturer offers more products and services for the gas industry than Honeywell. With the most complete line of gas regulators and global service and support capabilities, we have the products you need, ready for immediate delivery.

Technical Specifications

Type Indication	Connection	Inlet Pressure Range	Outlet Pressure Range	Min. Pressure Difference Needed for Correct Operation	Operating Temperature
HON R100NG	Flanges in the Dimension ANSI 150, 300 or ANSI 600*	3.0 up to 100 bar 43.5 up to 1450 psi	1.0 up to 60 bar 14.5 up to 870 psi	0.8 bar 11.6 psi	-20˚C to +60˚C/ -4˚F to +140˚F, Class 2

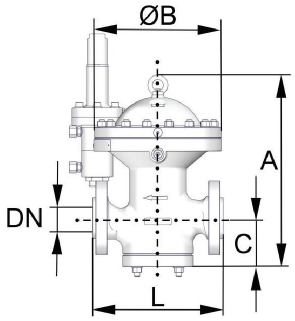
**Other pressure classes on request.*

Classification acc. EN334			
Accuracy Class (AC) Lock-up Pressure Class (SG)		Lock-up Pressure Zone	DIN-DVGW Registered and CE Marked
1.0 to 3.0 bar/14.5 to 43.5 psi; AC5/SG10	3.0 to 60 bar/43.5 to 870.2 psi; AC1/SG2.5	SZ = 2.5	Honeywell CE 0085

Note: All pressures listed are Gauge pressure

Material Specifications (Standard)	
Part	Material
Valve Body	S355J2G3
Silencer	Metal Foam (CvNi)
Guide Bushing	S355J2G3 or Equal
Body Flange	S355J2G3
Diaphragm	NBR with Nylon Reinforcement
Dynamic O-Rings	NBR
Static O-Rings	NBR
Pilot Body	S355J2G3 or Equal

Special materials upon request



Dimensional Sketch (Example)
HON R100NG

Classification acc. DIN 3380/EN334						
Size	A mm/Inch	B mm/Inch	C mm/Inch	L mm/Inch	Weight*	
					Cl.300 kg/Lb	Cl.600 kg/Lb
1"	310/12.20	243/9.57	81/3.19	216/8.50	27/60	27/60
2"	430/16.93	285/11.22	110/4.33	292/11.50	61/134	62/137
3"	509/20.04	350/13.78	124/4.88	356/14.02	112/247	113/249
4"	639/25.16	424/16.69	169/6.65	432/17.01	185/408	194/428
6"	917/36.10	630/24.80	243/9.57	559/22.01	499/1100	511/1127
8"	1008/39.69	630/24.80	263/10.35	660/25.98	644/1420	674/1486

** Weight includes Pilot P095*

Flow Coefficient		
Size	K_G without Silencer	K_G with Silencer
1"	420	370
2"	1,690	1500
3"	2,920	2600
4"	6,030	5300
6"	11,000	9800
8"	19,500	17400

Capacity Calculation

The following formulas can be used to determine the capacity

$$K_G = \frac{Q_b}{\sqrt{p_d \cdot (p_u - p_d)}} \quad \text{in } m^3/(h \cdot bar)$$

$$\frac{p_d}{p_u} \geq 0.5$$

$$K_G = \frac{2 \cdot Q_b}{p_u} \quad \text{in } m^3/(h \cdot bar)$$

$$\frac{p_d}{p_u} \leq 0.5$$

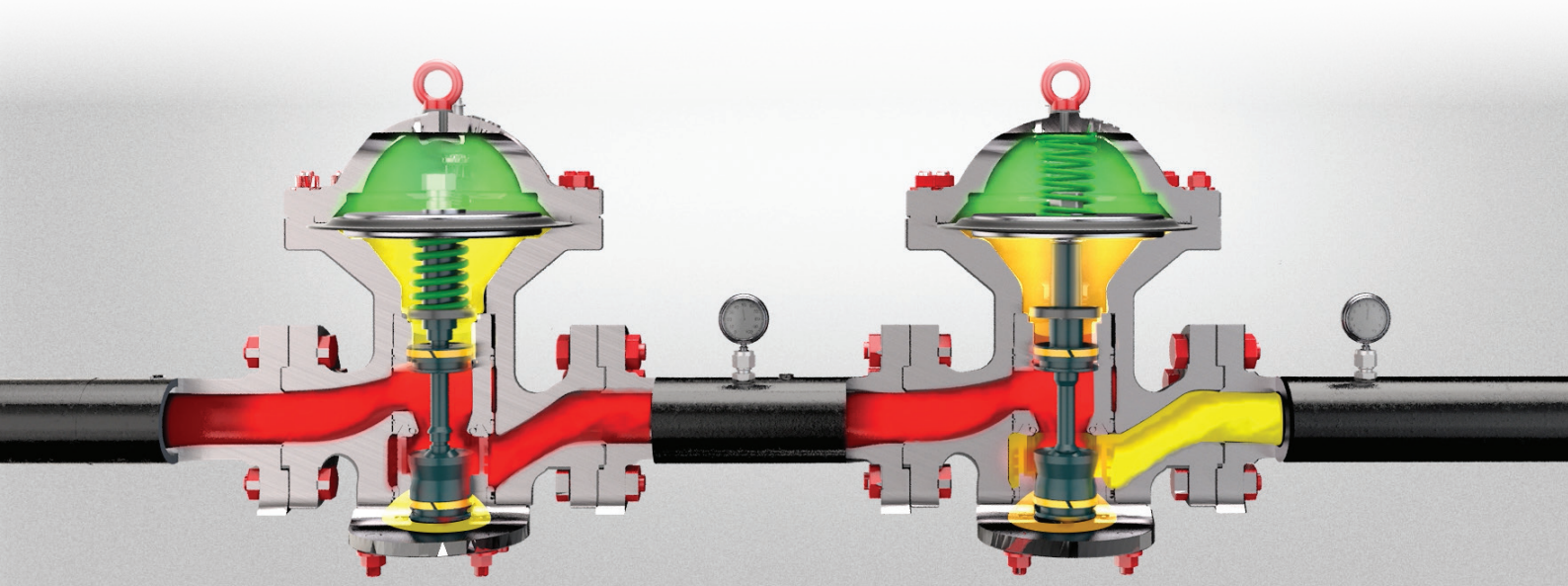
Q_b = standard flow rate in m^3/h
Pu = upstream pressure in bar (g)
Pd = downstream pressure in bar (g)
K_G = flow coefficient

- The standard flow rate Qb refers to natural gas at ρb = 0,83 kg/m³ at Tb = 273.15 K (t = 0 °C) and pb = 1.01325 bar. The KG value uses an operating gas temperature of 15 °C.
- When entering pressures into the equations, use absolute values (generally p + 1 bar). The values in the diagram, however, are gauge pressure.

In case of a combination regulator and monitor, use the following serial thesis:

$$K_{G_{tot}} = \sqrt{\frac{1}{\underbrace{\left(\frac{1}{K_G}\right)^2}_{Regulator} + \underbrace{\left(\frac{1}{K_G}\right)^2}_{Monitor}}}$$

This K_G-tot can be filled in as K_G in one of the above mentioned formulas.



For more information

To learn more about Honeywell's Advanced Gas Solutions, visit www.honeywellprocess.com or contact your Honeywell account manager.

Honeywell Process Solutions

Honeywell Gas Technologies GmbH
Osterholzstrasse 45
34123 Kassel, Germany
Tel: +49 (0)561 5007-0
Fax: +49 (0)561 5007-107
www.honeywellprocess.com

BR-18-25-ENG | 06/18

Honeywell
THE POWER OF **CONNECTED**