

Gas Pressure Regulator HON 200



PRODUCT INFORMATION

**Serving the Gas Industry
Worldwide**

Honeywell

Gas Pressure Regulator HON 200

Applications, characteristics, technical data


Application

- Gas supply to municipal, industrial and individual consumers
- Regulator for low-load rails in larger gas pressure regulating stations
- Standard version can be used with natural gas and all non-aggressive gases
- Oxygen version, open-air version and other special versions on request

Characteristics

- Simple, maintenance-friendly design
- Installation of different valve seat diameters is possible
- Can be used for large turn down ratios
- Use of proven pilot series HON 610 (RS 10 d) and HON 650
- Can be used for electrical automation mechanisms with a proportional stage

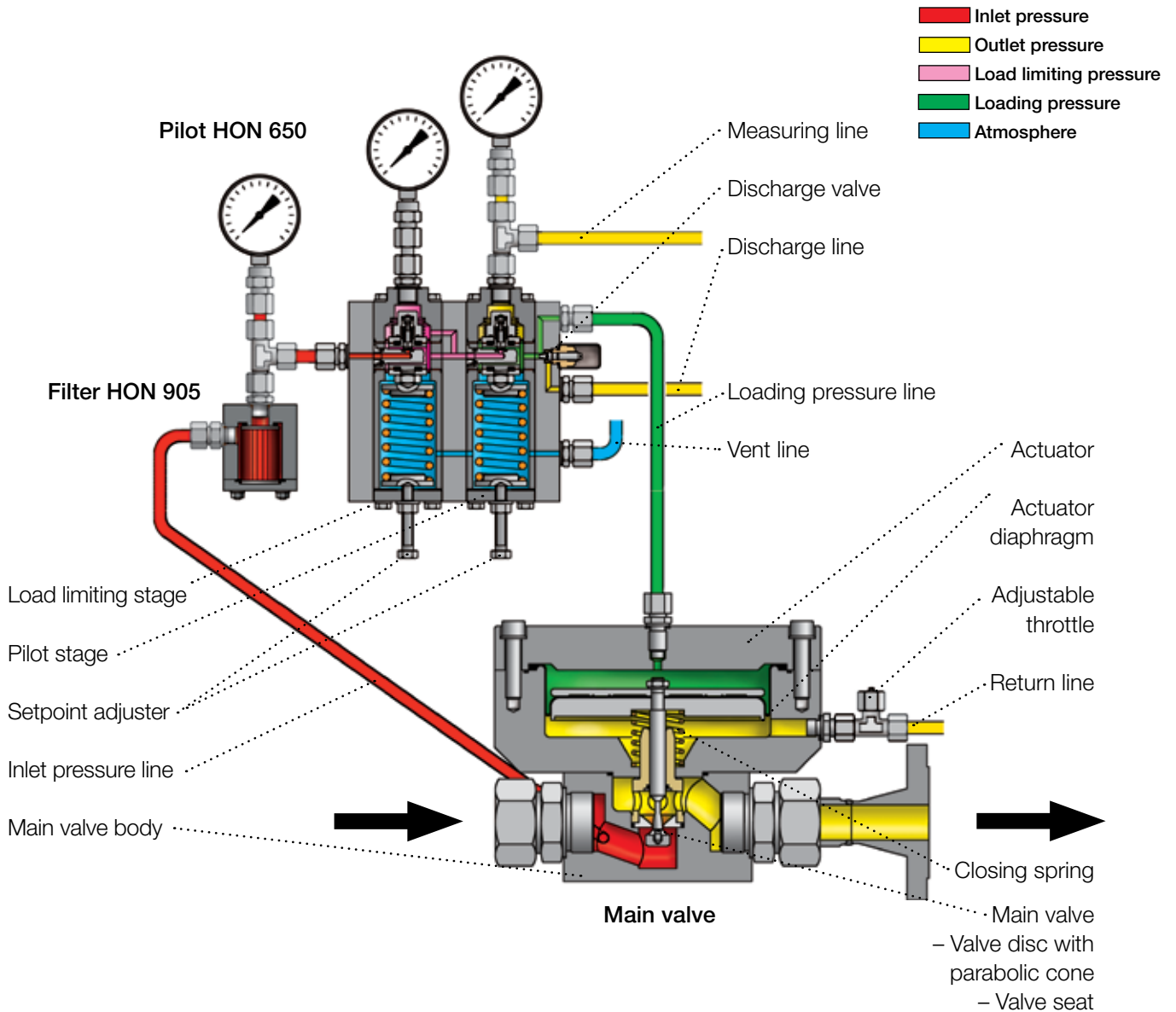
TECHNICAL DATA							
Perm. inlet pressure PS	Depending on flange pressure stage up to 100 bar						
Max. inlet pressure p_{max}	Up to 100 bar (depending on valve seat diameter)						
Spec. outlet pressure range W_a	Load limiting stage			Pilot stage			
	Measuring unit	Specific outlet pressure range W_a (bar)	Spring wire \varnothing (mm)	Measuring unit	Specific outlet pressure range W_a (bar)	Spring wire \varnothing (mm)	Spring colour
Pilot HON 610 (RS10d)	M	0.5 to 5.0	4.7 (brown)	N	0.010 to 0.040 0.020 to 0.060 0.040 to 0.120 0.080 to 0.200 0.100 to 0.500	2.5 3.0 3.5 4.0 5.0	white yellow green red blue
				M	0.1 to 1.5 0.2 to 2.5 0.3 to 3.5	3.3 4.0 4.5	green blue brown
Pilot HON 650		1.0 to 50	8.0 (green)	*)	1.0 to 5.0 2.0 to 10.0 5.0 to 20.0 10.0 to 40.0	5.6 6.3 7.0 8.0	yellow brown red green
		to 10 + p_a	5.0 (green)	**)	20.0 to 90.0	9.0	white
*) Diaphragm measuring unit **) At $p_a > 40$ bar a metal-bellows measuring unit is used							
Actuator selection	Size 1 for p_a 1 bar (with pilot HON 650) Size 2 for p_a 3.5 bar (preferably with pilot HON 610)						

TECHNICAL DATA							
Accuracy class and closing pressure group							
Outlet pressure range (p_a range) in bar	Accuracy class AC with valve seat \varnothing 8 mm	Accuracy class AC with valve seat \varnothing 12 mm	Closing pressure group SG				
0.010 to 0.030	5	10	30				
> 0.030 to 0.100	5	5*/10	20				
> 0.1 to 0.5	5	5	10				
> 0.5 to 1.0	2.5	2.5*/5	10				
> 1.0 to 2.5	2.5	2.5	10				
> 2.5 to 5.0	1	1	10				
> 5.0	1	1	5				
Closing pressure zone group SZ 2.5							
Minimum pressure difference p_{min}	Approx. 1 bar to 1.5 bar If the pressure difference decreases to this minimum value, and p_e continues to drop, then likewise p_a drops off while $D_{p_{min}}$ is retained.						
Valve specifications	Valve seat diameter in mm	5	6	8	12	18	23
	Max. inlet pressure p_{emax} in bar*	100	100	100	80	40	25
	Flow rate coefficient K_G in m^3/h (Natural gas $r_n = 0.83 \text{ kg}/m^3$)	12	25	50	125	200	250
Pipe size	DN 25 (see pages 5 and 6 for connections and face-to-face dimensions)						
Materials	Main valve body	Optionally aluminium alloy or steel					
	Actuator body	Aluminium alloy					
	Internal parts	Aluminium alloy, brass, steel, polyamide					
	Diaphragms, O-rings	Perbunan					
Temperature range class 2	-20 °C to +60 °C						
Function and strength	In accordance with DIN EN 334						
DIN DVGW registration no.	NG-4301AR0881						
CE mark in accordance with PED							
Explosion protection	Since the device is not fitted with potential ignition sources of its own, it is not subject to ATEX 95 regulations (all electronic accessories used satisfy ATEX requirements).						

*) The inlet pressure may, in compliance with accuracy classes AC, exceed the p_{emax} values stated in the tables by up to twice the value, maximum however to the limit of the rated pressure stage, if the specified inlet pressure changes p_e are not greater than the numeric value of the p_{emax} specification.

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Structure and mode of operation



The HON 200 gas pressure regulator has the task of keeping the outlet pressure p_a constant within certain tolerances at the measuring point in the outlet-side line system, regardless of fluctuations in the inlet pressure and consumption. It is comprised of the "main valve" assembly (consisting of main valve and actuator) and the "pilot" assembly (2-stage version with load limiting stage and pilot control stage). In addition, a fine mesh filter is installed upstream to protect the pilot. The design of the gas pressure regulator HON 200 is maintenance-friendly. By unscrewing 4 screws the complete functional unit (consisting of actuator and main valve) can be removed from the actuator housing.

The pressure difference between inlet pressure and outlet pressure is used as auxiliary energy. Through the adjustable auxiliary energy the static amplification can be influenced and the gas pressure regulator can be adapted to the conditions of the regulating line. (See also Honeywell document, "General Operating Manual for Gas Pressure Regulators and Safety Devices"). The outlet pressure to be regulated is detected at the measuring point and fed to the pilot via the measuring line of the pilot control stage of the pilot. Here the outlet pressure acts on a sensitive diaphragm system and is compared with the adjustable setpoint value (force of the setpoint spring). According to consumption the loading pressure is changed in the sense of an adaptation of the actual outlet pressure value to the setpoint. In this regard the loading pressure acts on the main valve via the actuator and thus automatically executes the flow-through changes necessary for a constant outlet pressure p_a . The main valve (valve) is designed for sensitive and stable outlet pressure regulation with a parabolic cone. Six valve seat sizes are available for adaptation to the respective operating conditions. The maximum permissible inlet pressure is determined by the size of the valve seat diameter. The regulator has a sealed closure at zero consumption.

DIMENSIONS AND CONNECTIONS										
Device dimensions in mm										
HON 200 version with	ø A	B	C	D	E	F*		G		
						HON 610	HON 650	HON 610	HON 650	
Actuator 1	200	194	87	47	90		max. 345		245	
Actuator 2	260	204	87	47	90	max. 447	max. 353	302	275	
Face-to-face dimension for pipe connection (PS = 100 bar)										
Pipe outer diameter				18	22	25	28	38	42	
Dimension H in mm				120	122	136	123	130	115	
Face-to-face dimension for flange connection										
DN	Dimension J in mm	Flange (connection via screwed pipe connection without brazing)			With noise-reducing outlet piece (welded part)					
		PN 40	ANSI 300 RF/RTJ	ANSI 600 RF/RTJ	PN 40	ANSI 600 RF				
25		188	213	213	–	–				
40		188	212	218	–	–				
50		188	218	218	–	–				
80		–	–	–	290	320				
100		–	–	–	305	350				
Line connection**										
For pilot HON 610		Main valve		Pilot						
		Return line	Measuring line	Discharge line	Vent line					
Pipe outer diameter		12	12	12	12					
Thread connection		M 16 x 1.5	G 3/8	G1/2	M 16 x 1.5					
For pilot HON 650		Main valve		Pilot						
		Return line	Measuring line	Discharge line	Vent line					
Pipe outer diameter		12	12	Direct connection on the main valve		12				
Thread connection		M 16 x 1.5	M 14 x 1.5			M 14 x 1.5				

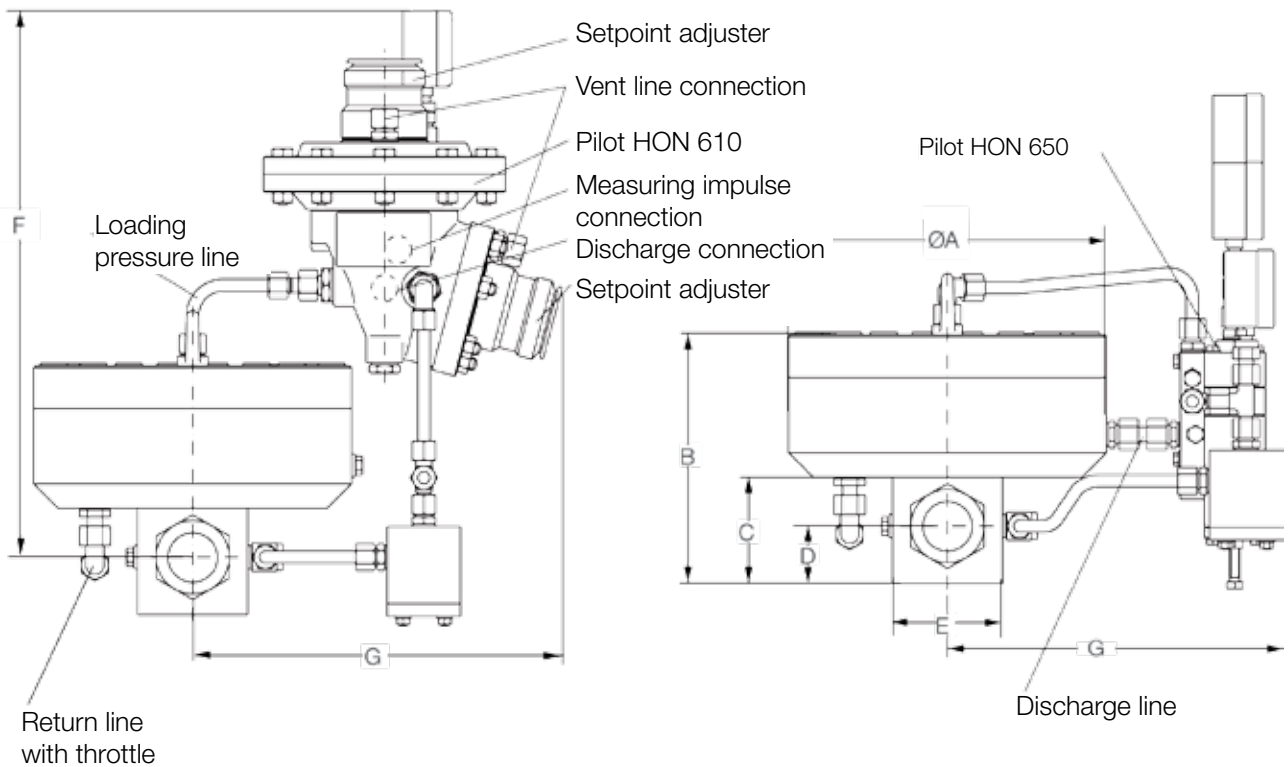
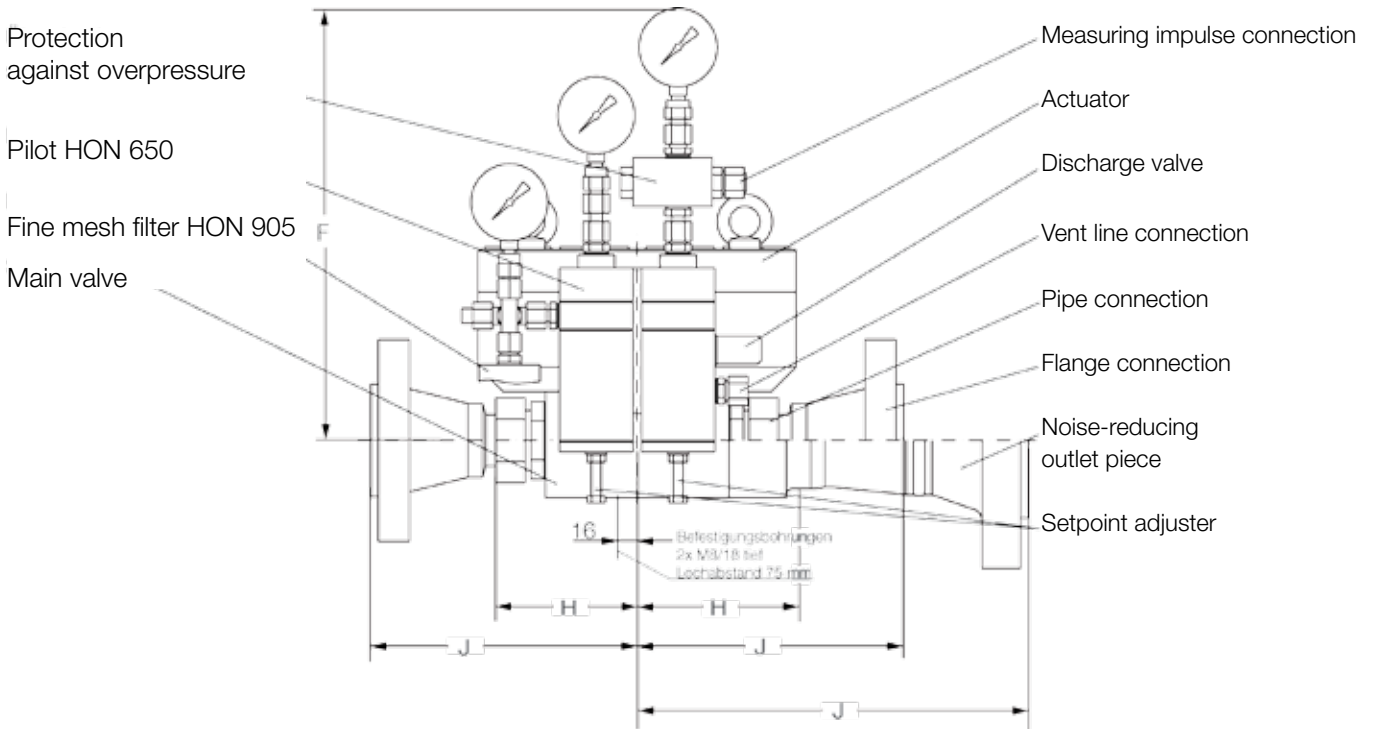
*) Depending on version

**) Screwed pipe connection without brazing with compression joint in accordance with DIN 2353. For pipe dimensioning the required permissible pressure load PS must be complied with. For technical function reasons, avoid reducing the connecting lines.

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Dimensions and connections

6



Example:

HON 200 - 42/42 - AL - 1 / 6 - 610MN - 703 - So

DEVICE DESIGNATION			
Inlet connection/outlet connection			
Pipe outer diameter 18		18	
Pipe outer diameter 22		22	
Pipe outer diameter 25		25	
Pipe outer diameter 28		28	
Pipe outer diameter 38		38	
Pipe outer diameter 42		42	
Flange PN 40	DN 25	25/40	
Likewise satisfies PN 25 for these pipe sizes	DN 40	40/40	
	DN 50	50/50	
Flange ANSI 300 RF	DN 25	25/3F	
	DN 40	40/3F	
	DN 50	50/3F	
Flange ANSI 300 RTJ	DN 25	25/3J	
	DN 40	40/3J	
	DN 50	50/3J	
Flange ANSI 600 RF	DN 25	25/6F	
	DN 40	40/6F	
	DN 50	50/6F	
Flange ANSI 600 RTJ	DN 25	25/6J	
	DN 40	40/6J	
	DN 50	50/6J	
Noise attenuation (outlet side)	PN 40	DN 80	80/40
		DN 100	100/40
	ANSI 600 RF	DN 80	80/6F
		DN 100	100/6F
Main valve body			
Aluminium alloy version		AL	
Steel version		ST	
Size 1	Ø 5	1 / 5	
	Ø 6	1 / 6	
	Ø 8	1 / 8	
	Ø 12	1 / 12	
	Ø 18	1 / 18	
	Ø 23	1 / 23	
Size 2	Ø 5	2 / 5	
	Ø 6	2 / 6	
	Ø 8	2 / 8	
	Ø 12	2 / 12	
	Ø 18	2 / 18	
	Ø 23	2 / 23	
Pilot version			
HON 610	with MN measuring unit	610 MN	
	with MN measuring unit	610 MM	
HON 650		650	
Connection combination with SSV (Inlet connection only E 42)	HON 703	703	
	HON 704	704	
Special version and other pilot types of series HON 610 and HON 650 must be described in detail.		So	

For More Information

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

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