Pilot HON 630a, HON 640

PRODUCT INFORMATION

Serving the Gas Industry Worldwide

Honeywell

Application

- pilot for gas pressure regulators HON 402, HON 502, HON 503, HON 505
- suitable for natural gas and all non-corrosive gaseous media

Characteristics

- one-stage or two-stage pilot composed of interchangeable cartridge assemblies
- the two-stage version ensures a high regulating accuracy even under high inlet pressure changes
- equipped with inlet pressure (load limiting pressure) gauges, with or without outlet pressure gauge as an optional feature, and fine filter HON 905
- can be provided with electric remote setpoint adjustment as an optional feature

TECHNICAL DATA					
max. inlet pressure p_{umax}		100 bar			
HON 630a		• two-stage version • for high regulating accuracy • adjustment range (see page no. 3)			
HON 640		• one-stage version • application at inlet pressure changes: $p_u \leq 15$ bar • adjustment range (see page no. 3)			
weights		**Pilot**	**adjustment range W_h up to**		
			1 bar	**40 bar**	**90 bar**
		HON 630a HON 640	6.0 kg 4.0 kg	5.0 kg 3.5 kg	6.5 kg 4.5 kg
materials		body internal parts diaphragms sealings	aluminium alloy aluminium alloy/steel rubber-like plastic material (NBR) rubber-like plastic material (NBR)		
accuracy class (AC) and lock-up pressure class (SG)	HON 630a	AC ≥ 2.5	SG ≥ 10		
	HON 640	AC ≥ 5	SG ≥ 10		
lock-up pressure zone class (SZ)		SZ 2.5			
temperature range		-20°C ... +60°C (class 2)			
function and strength		according to EN 334			
DIN-DVGW registration		the pilots are components of the regulators			
CE/PED		approved			

ADJUSTMENT RANGES

Pilot HON 630a

adjustment range W_a control stage	setpoint spring			special feature
	No.:	colour	wire-dia. in mm	
0.15 ... 1 bar	1	black	4.5	larger measuring diaphragm
1.00 ... 5 bar	2	yellow	5.6	control stage with diaphragm assembly
2.00 ... 10 bar	3	brown	6.3	control stage with diaphragm assembly
5.00 ... 20 bar	4	red	7.0	control stage with diaphragm assembly
10.0 ... 40 bar	5	green	8.0	control stage with diaphragm assembly
20.0 ... 90 bar	6	white	9.0	control stage with metal harmonica type measuring unit
load limiting stage 5 ... 15 bar		green	5.0	automatically > p_a

pilot HON 640 (one stage version, for inlet pressure $\Delta p \leq 15$ bar)

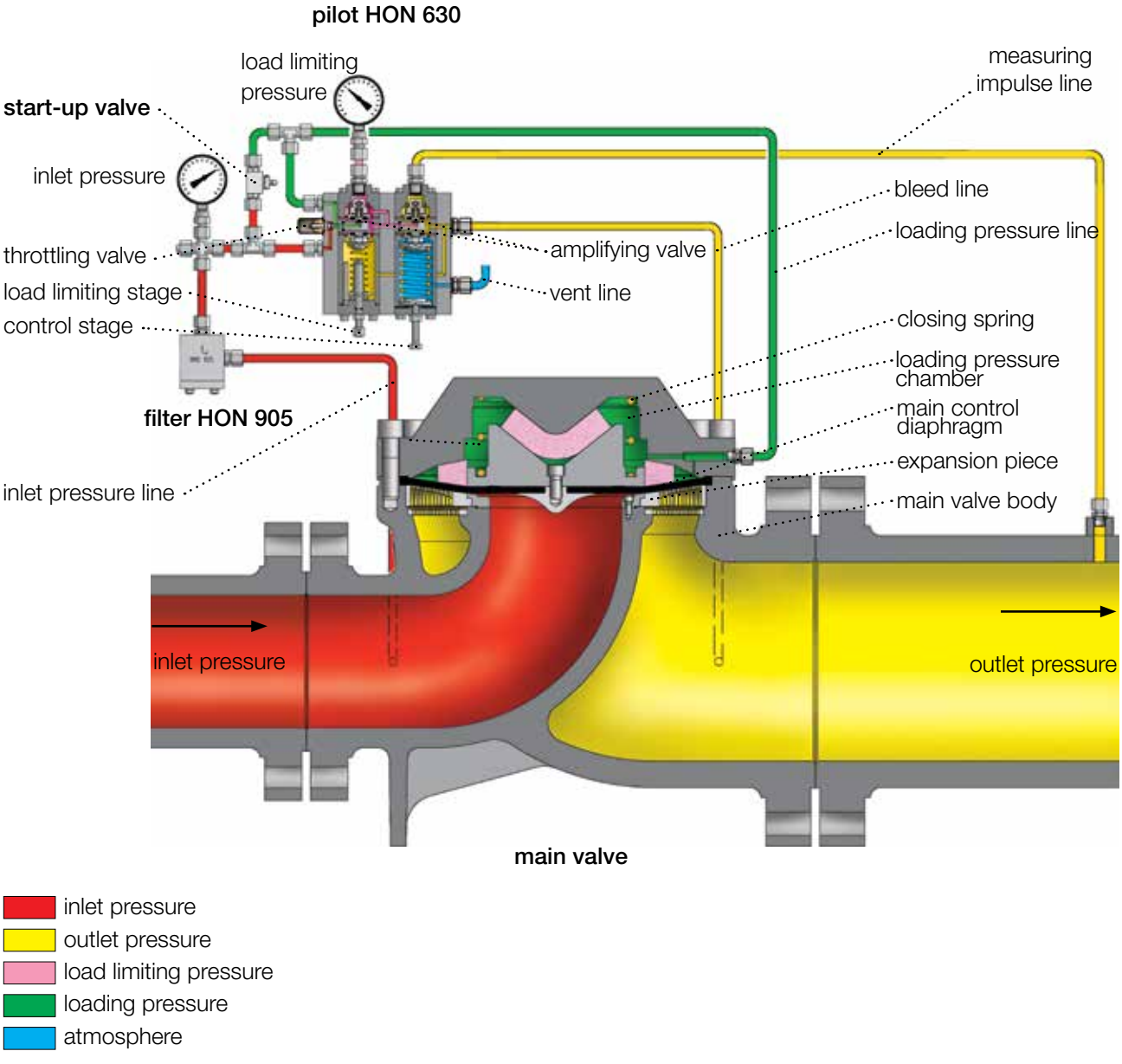
adjustment range W_a control stage	setpoint spring			special feature
	No.:	colour	wire-dia. in mm	
0.15 ... 1 bar	1	black	4.5	larger measuring diaphragm
1.00 ... 5 bar	2	yellow	5.6	control stage with diaphragm assembly
2.00 ... 10 bar	3	brown	6.3	control stage with diaphragm assembly
5.00 ... 20 bar	4	red	7.0	control stage with diaphragm assembly
10.0 ... 40 bar	5	green	8.0	control stage with diaphragm assembly
20.0 ... 90 bar	6	white	9.0	control stage with metal harmonica type measuring unit

ACCURACY CLASS AC AND LOCK-UP PRESSURE CLASS SG

	adjustment range	accuracy class AC	lock-up pressure class SG
HON 630a	0.15 ... 1 bar	AC 20	SG 30
	> 1 ... 3 bar	AC 10	SG 30
	> 3 ... 5 bar	AC 5	SG 10
	> 5 ... 90 bar	AC 2,5	SG 10
HON 640	0.15 ... 3 bar	AC 20	SG 30
	> 3 ... 5 bar	AC 10	SG 20
	> 5 ... 90 bar	AC 5	SG 10

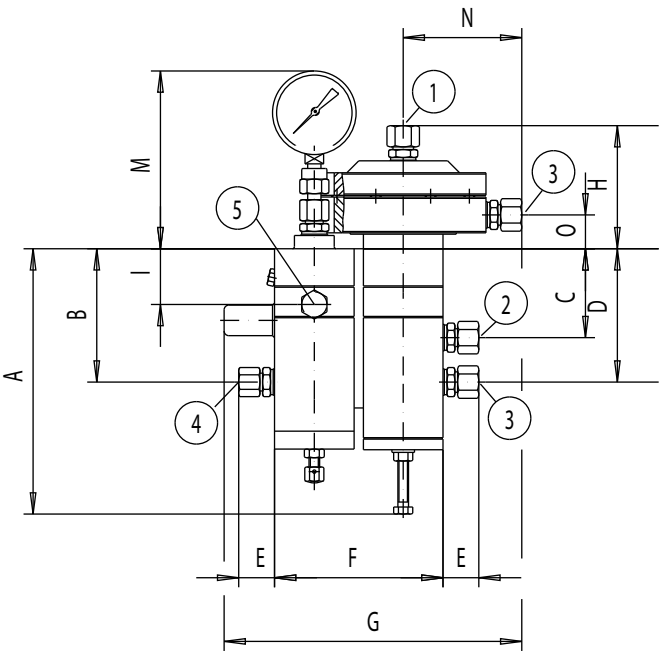
The gas pressure regulator is designed to keep the outlet pressure constant within given limits, independent of disturbing influences like inlet pressure and flow rate changes.
This regulating operation is controlled by the pilot which feeds loading pressure to the main diaphragm to change its opening position for a regulation of the gas flow within the main valve.
The amplifying valve in the double diaphragm system of the control unit is closed at zero flow. Due to the function of the throttling valve upstream of the pilot ensuring pressure compensation, inlet pressure will prevail in the loading pressure chamber above the main diaphragm. The closing spring gives the force to ensure tight shut-off on zero flow.

The valve in the control unit of the pilot reduces the loading pressure to open the regulator (when the two-stage pilot HON 630a is used, an initial decrease of the load limiting pressure is followed by a reduction of the loading pressure within the loading pressure chamber). The inlet pressure prevailling at the lower side of the main diaphragm moves the diaphragm upwards to set free as much of the slotted valve part as is necessary for outlet pressure control.

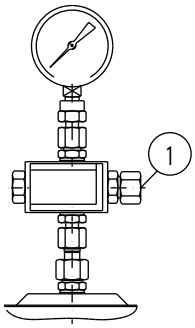


HON 630a
adjustment range W_a = (0.15 ... 1) bar
connection for measuring line:

without pressure gauge p_a

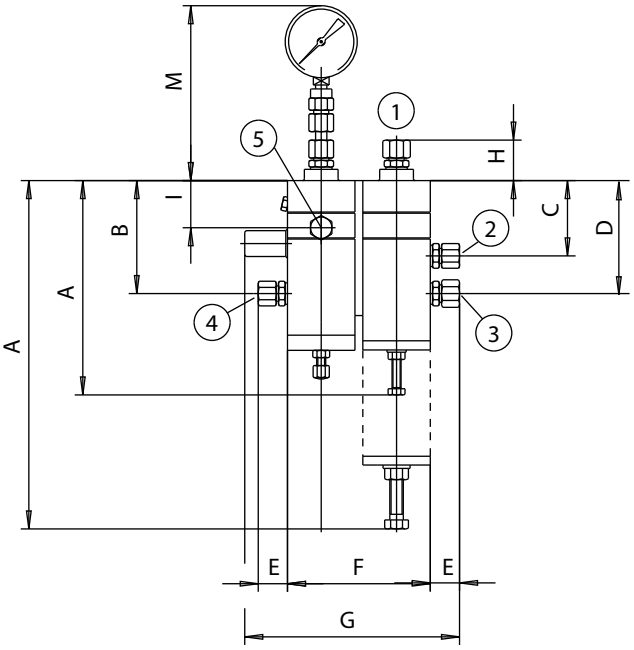


with pressure gauge p_a

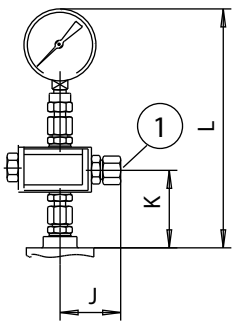


HON 630a
adjustment range W_a = (1 ... 90) bar
connection for measuring line:

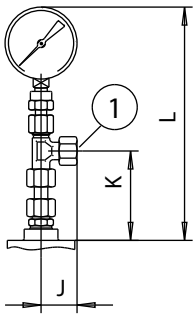
without pressure gauge p_a
W_h = (1 ... 90) bar



with pressure gauge p_a
W_h = (1...20) bar

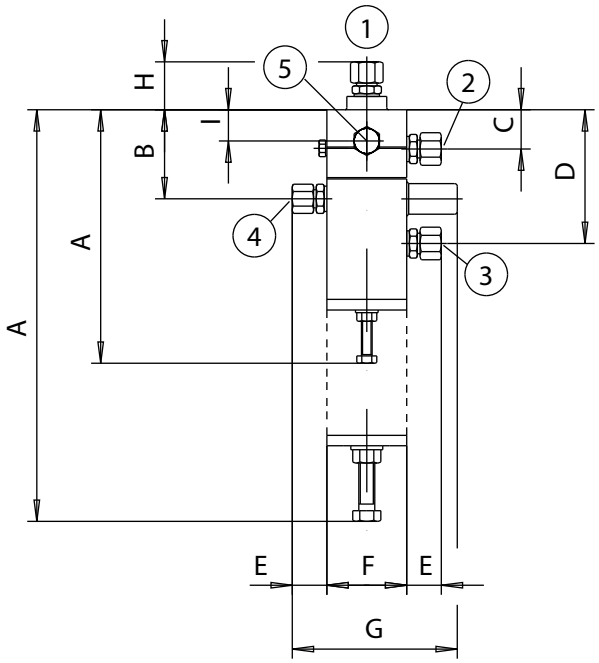


W_a = (10 ... 40) bar
W_a = (20 ... 90) bar

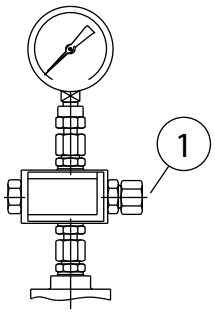


HON 640
adjustment range W_a = (1 ... 90) bar
connection for measuring line:

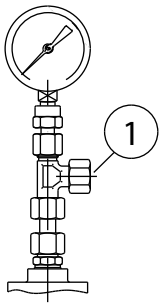
without pressure gauge p_a
W_h = (1 ... 90) bar



with pressure gauge p_a
W_h = (1...20) bar



W_a = (10 ... 40) bar
W_a = (20 ... 90) bar



DIMENSIONS IN MM																
Pilot	**adjusting range**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**
HON 630a	W_a = (0.15..1) bar	195	101	67	101	26	127	225	93	42	56	88	230	132	90	24
HON 630a	W_h = (1...40) bar	195	101	67	101	26	127	191	36	42	56	68	209	156	-	-
HON 630a	W_a = (20...90) bar	315									32	75	202			
HON 640	W_h = (1...40) bar	195	67	30	101	26	60	60	36	24	56	68	209	-	-	-
HON 640	W_a = (20...90) bar	315									32	75	202			

CONNECTIONS		
① **measuring line**	at outlet pressure line	E 12, thread M 14 x 1.5
② **bleed line**	at main valve or outlet pressure line	E 12, thread M 14 x 1.5
③ **vent line**	to the open air	E 12, thread M 14 x 1.5
④ **inlet pressure line**	at inlet pressure line	E 10, thread M 14 x 1.5
⑤ **loading pressure line**	at main valve	E 10, thread M 14 x 1.5

example:

HON 630a - 2 - So

PILOT	
pilot	HON 630a HON 640

SETPOINT SPRING OF PILOT CONTROL STAGE		
setpoint spring No.	setting range W_h in bar	
1	0.15 ... 1	1
2	1 ... 5	2
3	2 ... 10	3
4	5 ... 20	4
5	10 ... 40	5
6	20 ... 90	6

SPECIAL VERSION	
special version (is to be specified 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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