

Gas Pressure Regulator HON 505



PRODUCT INFORMATION

**Serving the Gas Industry
Worldwide**

Honeywell

Gas Pressure Regulator HON 505

Application, Characteristics, Technical Data

Application

- for gas supply
- for natural gas and all non-corrosive gaseous media

Characteristics

- compact construction
- active and monitor regulator within one body
- active unit with a »fail-open« function
- monitor unit with a »fail-closed« function
- few pieces, construction easy to maintain

TECHNICAL DATA	
Max. inlet pressure p_{max}	100 bar
Outlet pressure range W_a	0.15 ... 1 bar (active only with HON 630) 0.50 ... 2 bar (monitor only with HON 650) 1.00 ... 5 bar 2.00 ... 10 bar 5.00 ... 20 bar 10.0 ... 40 bar 20.0 ... 90 bar (with metal harmonica type measuring unit)
Active Unit	two stage version pilot HON 630 one stage version pilot HON 640 for inlet pressure changes less than 15 bar
Monitor Unit	pilot HON 650
Differential pressure between inlet and outlet	$\Delta p_{\text{min}} = 2 \text{ bar}$ $\Delta p_{\text{max}} = 70 \text{ bar}$
Size (inlet/outlet) and K_G -value	DN 50/100 $K_G = 1540 \text{ m}^3/\text{h}$ DN 80/150 $K_G = 3960 \text{ m}^3/\text{h}$ DN 100/200 $K_G = 6050 \text{ m}^3/\text{h}$
Connections	flanged to DIN PN 40 and to ANSI 300, ANSI 600 in RF and RTJ
Temperature range class 2	-20 °C to +60 °C
Function and tightness	acc. to EN 334

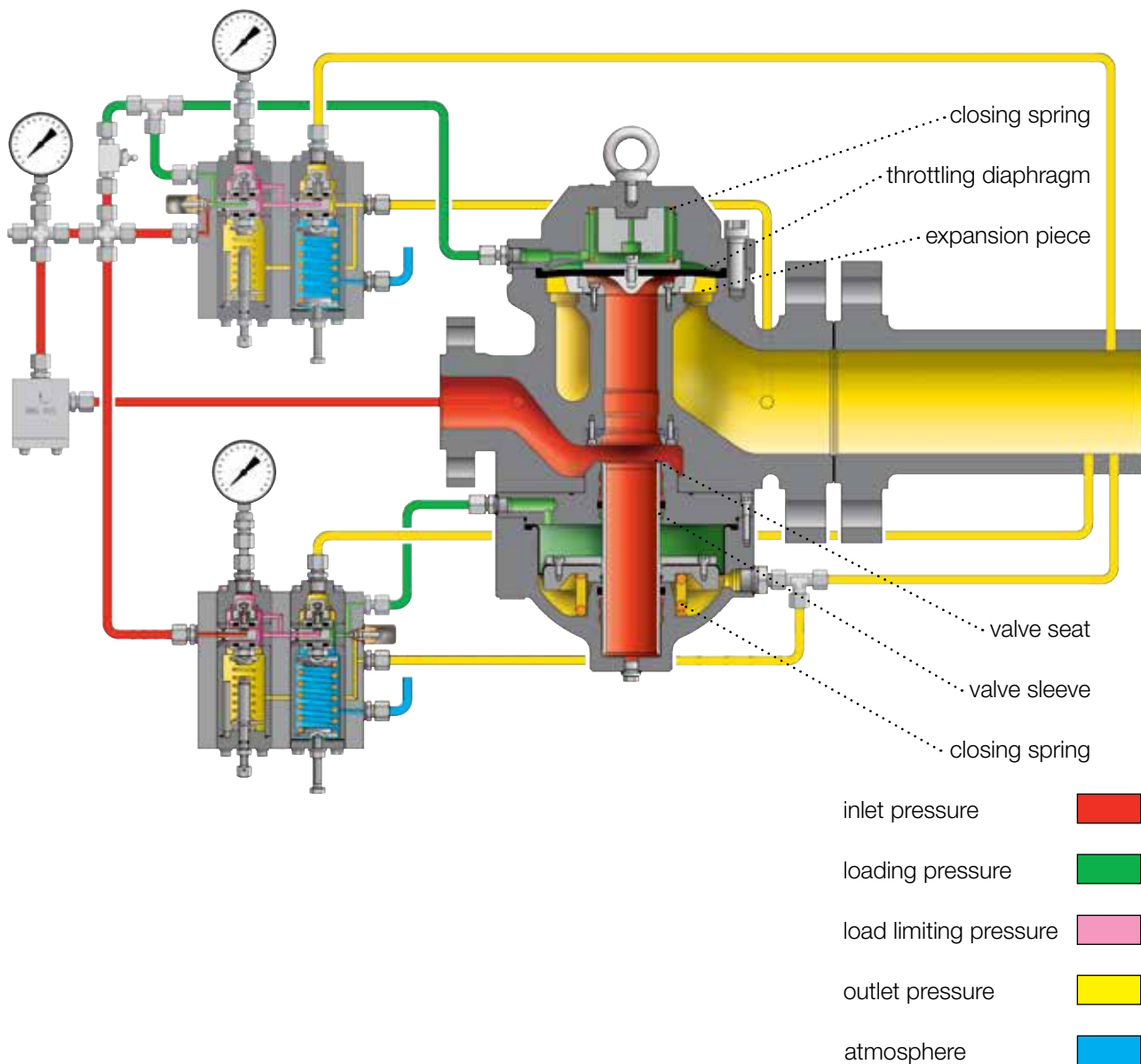
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TECHNICAL DATA				
DIN-DVGW registration no.	NG-4301AS0435			
Materials	main valve body	steel cast /steel		
	main valve internal parts	steel, aluminium alloy, brass		
	pilot	steel, aluminium alloy		
	diaphragms	NBR, ECO		
	gaskets	NBR		
Accuracy class for the active unit				
pilot HON 630	outlet pressure range W _h		accuracy class	
	1 ... 3 bar		AC 10	
	3 ... 5 bar		AC 5	
	5 ... 90 bar		AC 2.5	
pilot HON 640	1 ... 3 bar		AC 20	
	3 ... 5 bar		AC 10	
	5 ... 90 bar		AC 5	
Accuracy class and closing precision category for the monitor unit				
pilot HON 650	outlet pressure range W _h		accuracy class	closing precision category
	1 ... 2 bar		AC 2.5	SG 30
	2 ... 90 bar		AC 2.5	SG 10

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Design and Operation



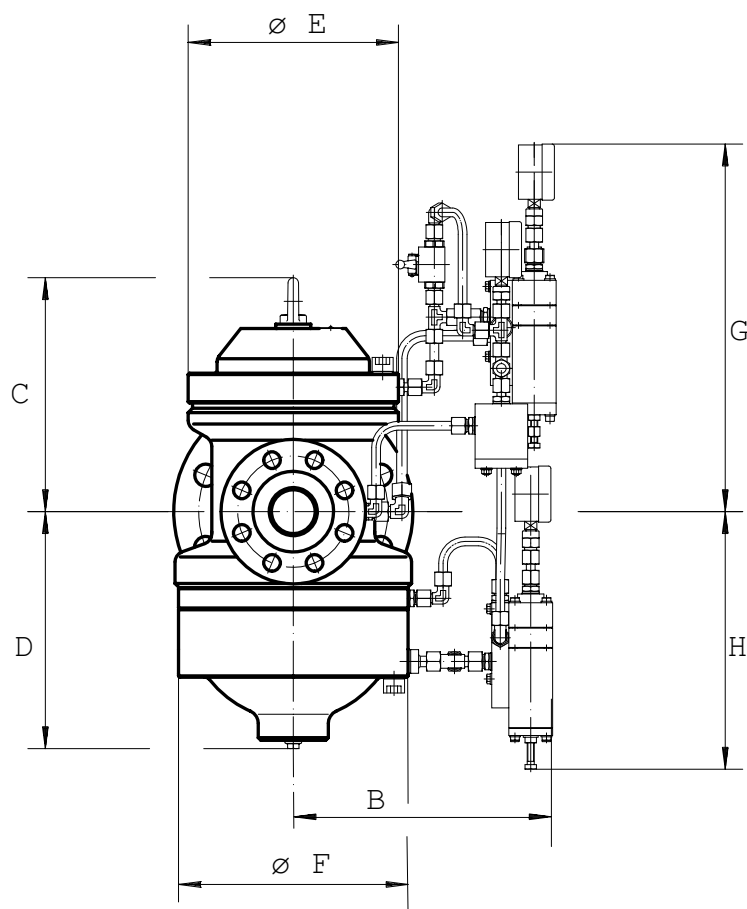
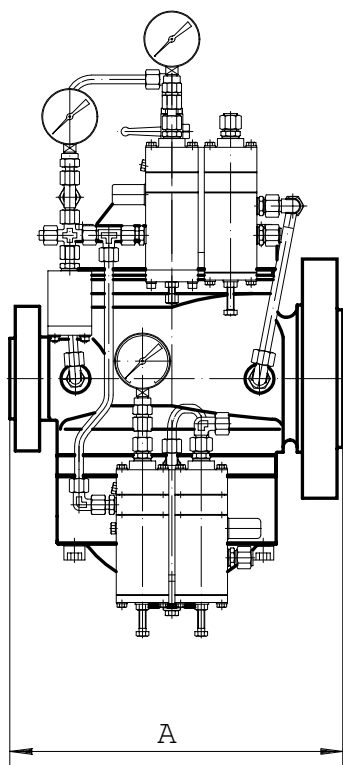
The compact device HON 505 MonitAc consists of two operating units, the first one is responsible for the active control of the outlet pressure, and the second unit for the monitor tasks:

The pilot of the active unit (pilot-series HON 640 or HON 630a) compares the actual value of the outlet pressure with the setpoint value and drives the movements of the throttling diaphragm. The gas flow is controlled by the rolling movement of the diaphragm on the expansion piece. Thus the outlet pressure remains constant and independent from variations of the inlet pressure and the flow rate. For zero flow, the closing spring presses the diaphragm against the sealing edge.

The outlet pressure is additionally checked by the monitor unit. As the setpoint of this unit is set to a higher value as the controlled pressure of the active unit, the monitor device is normally completely open.

In case of failure, the active unit opens according to the »fail-open« principle, and the outlet pressure rises. The setpoint value of the monitor unit is reached and this unit starts to control the outlet pressure. A valve sleeve which is controlled by the corresponding pilot HON 650 is used for the gas flow regulation within the monitor unit. The closing force for zero flow is produced by the closing spring, which presses the sleeve against the valve seat.

Dimensions



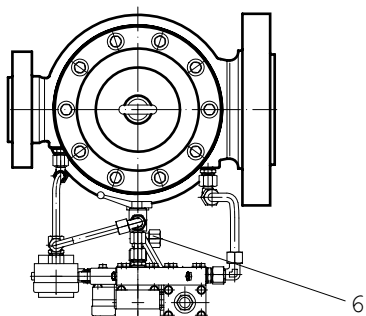
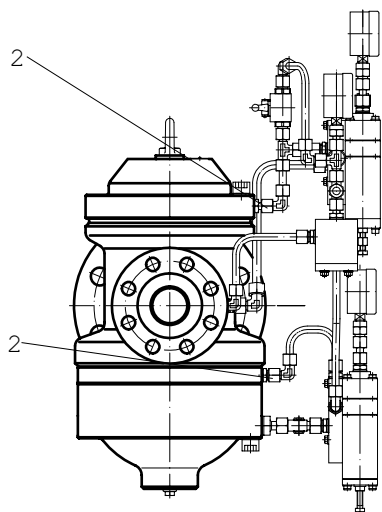
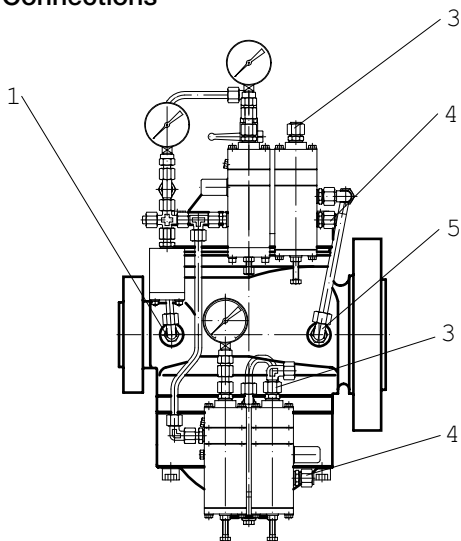
DIMENSIONS IN MM

	pipe size inlet / outlet		
	DN 50 / 100	DN 80 / 150	DN 100 / 200
A	380	550	550
B	300	400	400
C	267	390	395
D	271	360	380
Ø E	240	378	378
Ø F	262	368	368
G	419	440	440
H	294	375	375

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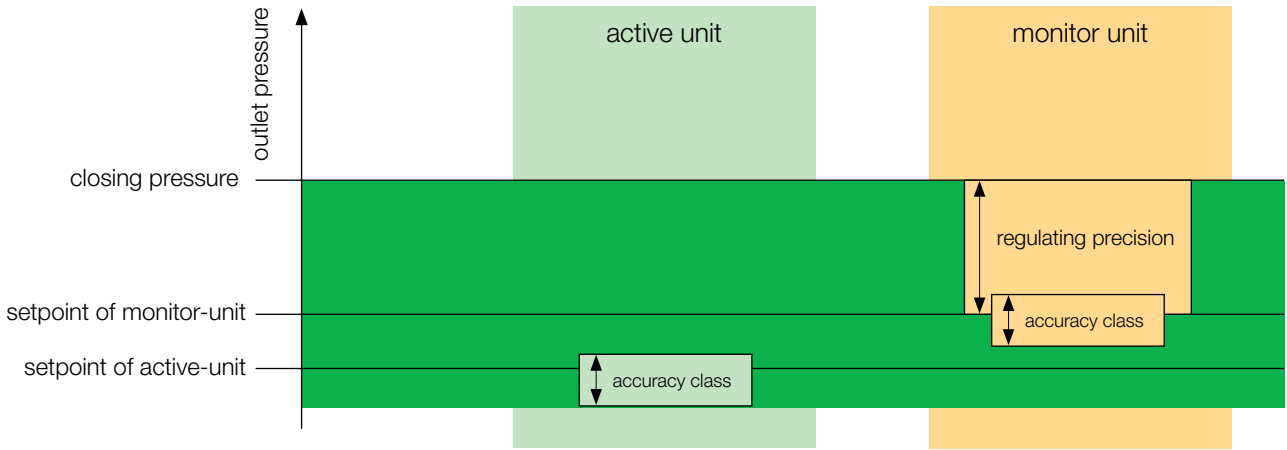
Dimensions and Connections

Connections



CONNECTIONS			
position	line	pipe size inlet/outlet	connection
1	inlet line		E 10
2	loading pressure line		E 10
3	measuring line		E 12
4	breathing line		E 12
5	vent pipe (active unit)		E 12
6	return-/	DN 50/100	E 12
	bleed line	DN 80/150	E 16
	(monitor unit)	DN 100/200	E 16

Example of pressure graduation:



The outlet pressure to be controlled is set within the pilot of the active unit, HON 630 or HON 640. The outlet pressure value of the monitoring unit is governed by the pilot HON 650 and is adjusted at a higher level than the active outlet pressure setpoint. At zero flow the outlet pressure rises up to the closing pressure limit of the monitor unit.

example:

HON 505 - 50/100 - 630 / 2 - 650 / 2 - So

TYPE DESCRIPTION	
Type	
pipe size	
DN 50/100	DN 50/100
DN 80/150	DN 80/150
DN 100/200	DN 100/200
pilot for active unit	
HON 630	630
HON 640	640
outlet pressure range	
0.15 ... 1 bar (only HON 630)	1
1.00 ... 5 bar	2
2.00 ... 10 bar	3
5.00 ... 20 bar	4
10.0 ... 40 bar	5
20.0 ... 90 bar	6
pilot monitor unit	
HON 650	650
outlet pressure range	
0.50 ... 2 bar (only HON 650)	1
1.00 ... 5 bar	2
2.00 ... 10 bar	3
5.00 ... 20 bar	4
10.0 ... 40 bar	5
20.0 ... 90 bar	6
special feature (to be specified)	
	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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HON 505.00
2017-01
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