HON 330 gas pressure regulator

PRODUCT INFORMATION

Serving the Gas Industry Worldwide

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Application

- Direct-acting gas pressure regulator (GPR) (working without auxiliary power) with incorporated SSV for commercial and industrial gas installations as well as local supply systems
- Particularly well-suited for dynamic processes (e.g. gas furnaces, burner circuits, gas engine operations)
- Can also be used as an equipment part for gas consumer facilities pursuant to EC Directive (90/396/EWG)
- As gas pressure regulator with electrical setpoint follower (motorized actuator) and pneumatic setpoint follower
- Can be used for gases according to DVGW worksheet G 260 and neutral non-aggressive gases; other gases upon request

Features

- Design inherently pressure-tight (IS)
- GPR with integrated SSV, optionally SBV for gas leakage quantities as well as variant with safety diaphragm
- Large inlet pressure range
- Installation of different valve seat diameters possible
- Maintenance-friendly due to replaceable functional units (pluggable design)
- SSV optionally function class A or B
- Pressure compensation valve (inner circumference) incorporated in SSV actuator

Variants, optionally

- Without SSV
- With SSV - manual triggering
- With SSV - electromagnetic remote triggering
- With electrical position display for SSV "Closed" using inductive proximity initiator and intrinsically safe power circuit
- Regulator system with leakage gas SBV (p_d up to 0.5 bar) or safety diaphragm
- With HON 915 breather valve (SSV/RE) or HON 919 switching valve (SSV)
- With noise reduction

Specification						
Design	Inherently pressure-tight (IS)					
Maximum permitted pressure PS	16 bar					
Maximum inlet pressure $p_{u\ max}$	16 bar					
	Regulator system RE 1			**Regulator system RE 2**		
	Setpoint spring			**Setpoint spring**		
Specific guide range W_{ds}	**Spring no.**	**Wire diameter (mm)**	**Color coding**	**Spring no.**	**Wire diameter (mm)**	**Color coding**
20 mbar to 30 mbar	0	3.6	blue	0	5	blue
25 mbar to 50 mbar	1	4	gray	1	6.3	gray
45 mbar to 100 mbar	2	4.5	yellow	2	7	yellow
90 mbar to 200 mbar	3	5.3	brown	3	8	brown
150 mbar to 300 mbar	4	6.3	light red	4	9	light red
250 mbar to 400 mbar	5	7	dark red	5	10	dark red
350 mbar to 500 mbar	6	7.5	light blue	6	11	light blue
450 mbar to 600 mbar	7	8.5	white	7	12	white
550 mbar to 800 mbar	8	9.5	green	8	13	green
650 mbar to 1000 mbar	9	10.5	black	9	14	black
Precision class AC and closing pressure group SG Outlet pressure range p_d	**AC**	**SG**		**AC**	**SG**	
20 mbar to 30 mbar	20	50		10	30	
> 30 mbar to 100 mbar	10	30		10	20	
> 100 mbar to 500 mbar	5	20		5	10	
> 500 mbar to 1000 mbar	5	10		2.5	10	
Closing pressure zone group	SZ 2.5					
Rated width	DN 25, DN 50, DN 80, DN 100					
Connection type	Flange PN 16 ANSI 16.5 Class 150 upon request					
Material	Actuator housing and SSV			Cast aluminum alloy		
	Actuator housing			Sheet steel		
	Diaphragms; gaskets			NBR/ECO		
	Internal parts			Aluminum alloy, steel, brass		
Temperature range Class 2	Ambient and working temperature range -20°C to +60°C					
Function and resistance	according to DIN EN 334 and DIN EN 14382					
CE mark according to PED **Type examination according to**	Honeywell CE 0085 • PED (DGRL) • GAD (GGRL) as equipment part for gas consumer facilities					
Ex-protection	The mechanical components of the device themselves have no potential sources of ignition and no hot surfaces, and are therefore not subject to ATEX 95 (94/9/EC). Electronic equipment used meets ATEX requirements.					

Device metric					
Rated width	Valve seat diameter (mm)	Valve flow coefficient K_G* in (m³/h)/bar		Inlet pressure range** $\Delta p_{u\,max}$ (bar) for regulator	
		without noise reduction	with noise reduction	RE 1	RE 2
DN 25	20	200	180	16	-
	33	420	-	10	-
DN 50	20	200	180	16	-
	33	500	450	10	-
DN 80	25	400	370	16	16
	31	850	770	10	16
	41	1400	1200	8	16
	50	1750	-	5	10
DN 100	25	400	370	-	16
	31	850	770	-	16
	41	1400	1200	-	16
	50	1750	-	-	10
	60	3000	2700	-	10
	80	4200	3600	-	6
	100	4700	-	-	4

* Valve flow coefficient for natural gas: d = 0.64 (ρ_n = 0.83 kg/m³), t_u = 15°C
** The maximum inlet pressure range $\Delta p_{u\,max}$ is not limited for reasons of resistance, but rather to comply with the AC precision class.

Integrated safety blowout valve (leakage gas SBV) can only be used up to $p_{ds\,max}$ = 0.5 bar			
	Setpoint spring	Regulator system	Trigger pressure
No.	Wire diameter (mm)		Set via p_{ds} (mbar)
1	3.5	RE 1	10 to 100
2	5		75 to 300
1	3	RE 2	15
2	3.6		40
3	4.5		130

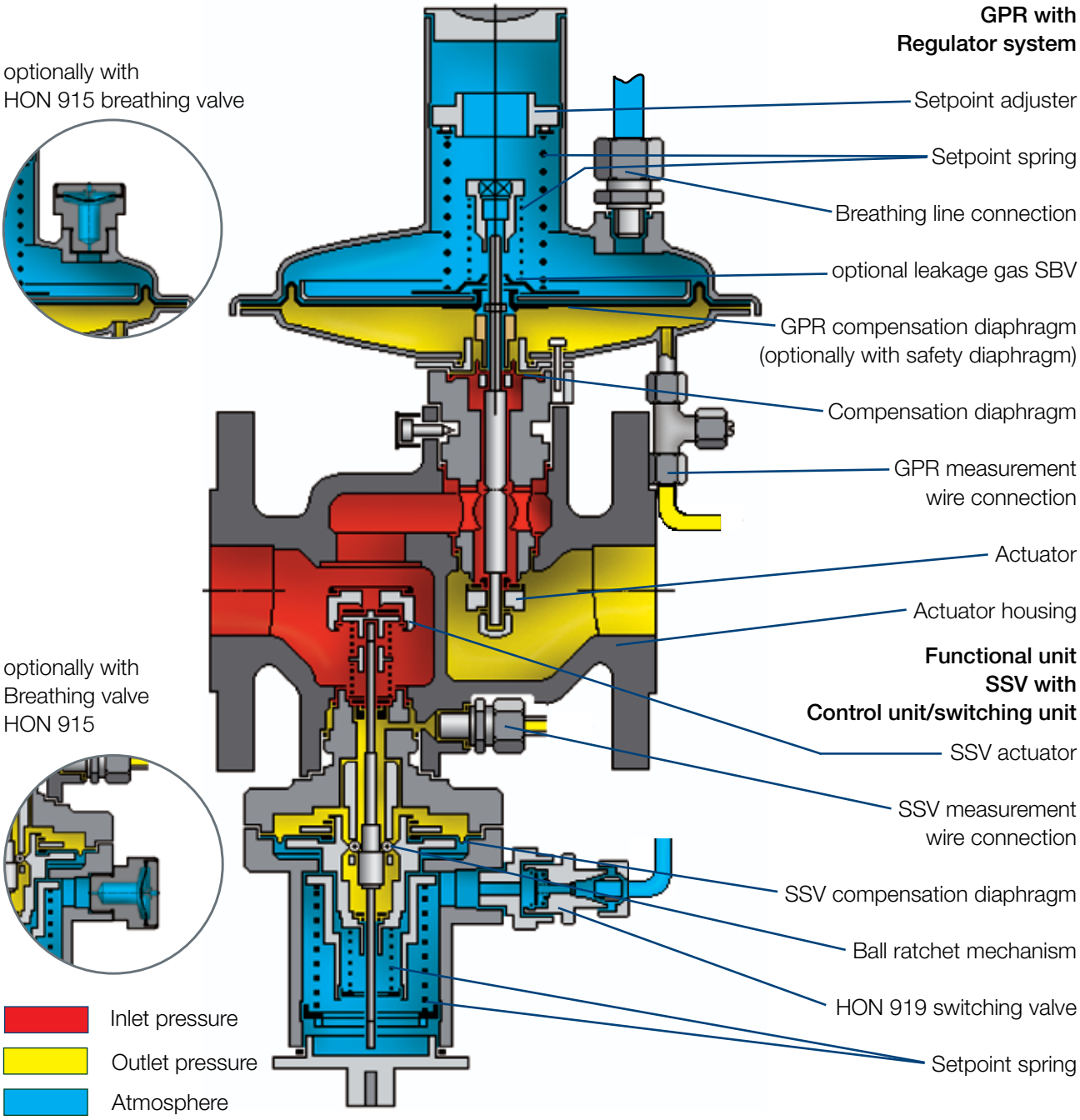
SSV adjustment range for control unit model HON 673, K1A/ K2A and model HON 674 K4/ K5/ K6

Control unit	Setpoint spring			Upper trigger pressure *		Lower trigger pressure *		Smallest re-engagement difference between the upper and lower trigger pressure with spring:			Trigger pressure group value**
	no.	Wire diam-eter (mm)	Color coding	Upper adjustment range W_{dso} (mbar)	Minimum re-engagement difference between the trig-ger pressure and normal working pressure Δp_{wo} (mbar)	Lower adjustment range W_{dsu} (mbar)	Minimum re-engagement difference between normal working pres-sure and the trigger pressure Δp_{wu} (mbar)	No. 5 (mbar)	No.6 (mbar)	no.7 (mbar)	
K1a	1	2,5	yellow	50 ... 100	30	-	-	50	70	-	10/5
	2	3,2	light red	80 ... 250	50	-	-	70	90	130	10/5
	3	3,6	dark red	200 ... 500	100	-	-	120	140	180	5/2,5
	4	4,75	white	500 ... 1500	250	-	-	290	310	330	5/2,5
	5	1,1	light blue	-	-	10 ... 15	12	-	-	-	10
	6	1,2	white	-	-	14 ... 40	30	-	-	-	10/5
	7	1,4	black	-	-	35 ... 120	60	-	-	-	5
K2a	2	3,2	light red	400 ... 800	100	-	-		-		10/5
	3	3,6	dark red	600 ... 1600	200	-	-		-		10/5
	4	4,75	white	1500 ... 4500	300	-	-		-		5/2,5
	5	1,1	light blue	-	-	60 ... 150	50	-	-	-	10/5
	7	1,4	black	-	-	120 ... 400	100	-	-	-	5
K4	2	3,2	light red	40 ... 100	20	-	-	45	55	-	5/2,5
	3	3,6	dark red	80 ... 250	30	-	-	55	65	-	2,5
	4	4,5	black	200 ... 500	60	-	-	85	95	-	2,5/1
	5	1,1	light blue	-	-	5 ... 20	10	-	-	-	10/5
	6	1,4	black	-	-	15 ... 60	20	-	-	-	5
K5	5	3,6	dark red	200 ... 800	100	-	-	170	200		2,5
	6	4,5	black	600 ... 1500	200	-	-	270	300		2,5/1
	5	1,1	light blue	-	-	15 ... 50	30	-	-	-	10/5
	6	1,4	black	-	-	40 ... 120	60	-	-	-	10/5
K6	3	3,6	dark red	600 ... 2000	200	-	-			-	2,5
	4	4,5	black	1500 ... 4500	400	-	-			-	2,5/1
	5	1,1	light blue	-	-	40 ... 120	60	-	-	-	10/5
	6	1,4	black	-	-	120 ... 300	120	-	-	-	5

* NOTE: If the control unit is set up for an upper and lower trigger pressure at the same time, the difference between the setpoints of the upper and lower trigger pressure (p_{dso} and p_{dsu}) must be at least 10% greater than the total of the values specified for Δp_{wo} und Δp_{wu}
$(p_{dso} - p_{dsu})_{min} = 1.1 \cdot (\Delta p_{wo} + \Delta p_{wu})$

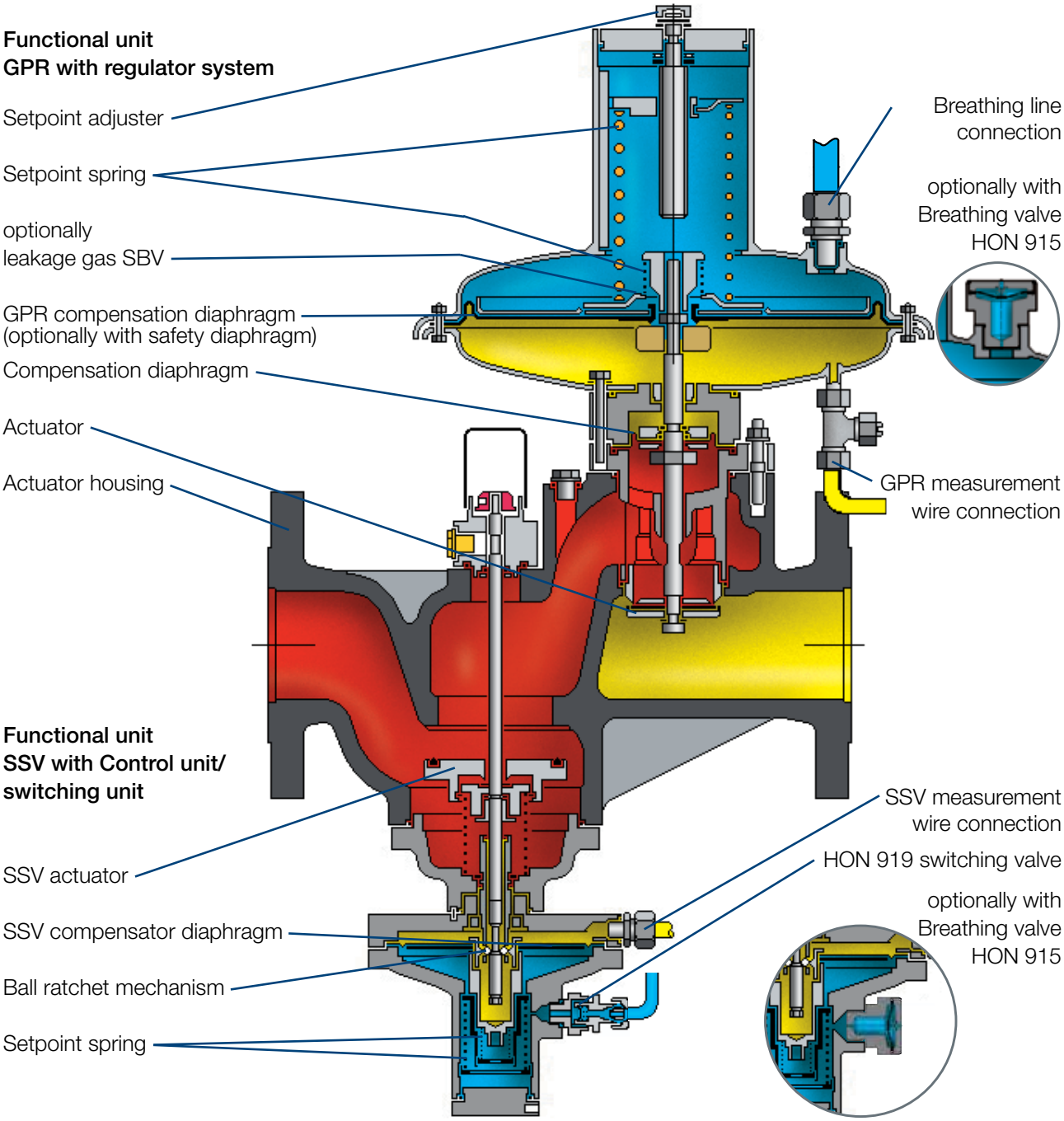
** The higher group of values applies to the first half, while the lower group of values applies to the second half of the adjustment range.

HON 330, DN 25, and DN 50



The direct-acting (working without auxiliary power) HON 330 gas pressure regulator has the task of keeping the outlet pressure of a gaseous medium in a connected outlet side pipeline (regulated segment) largely constant, independent of interfering influences such as changes in inlet pressure and/or gas takeoff The regulator consists of an actuator housing and the functional units "GPR with regulation system" and SSV controller/switching unit. After the screw fasteners are loosened, the complete functional unit can easily be removed from the "GPR actuator housing" and subjected to a visual inspection during maintenance rounds. In case of a defect, it is possible to replace the functional units quickly with tested replacement units and move the required maintenance work from the gas pressure regulator into the workshop.
The actuator of the regulator system can have different valve seat diameters. The valve seat variants are pressure-equalized. Regulator system can optionally be equipped with a leakage gas SBV or a safety diaphragm. The outlet pressure to be regulated is guided to the GPR regulator system and the SSV controller via measurement lines.

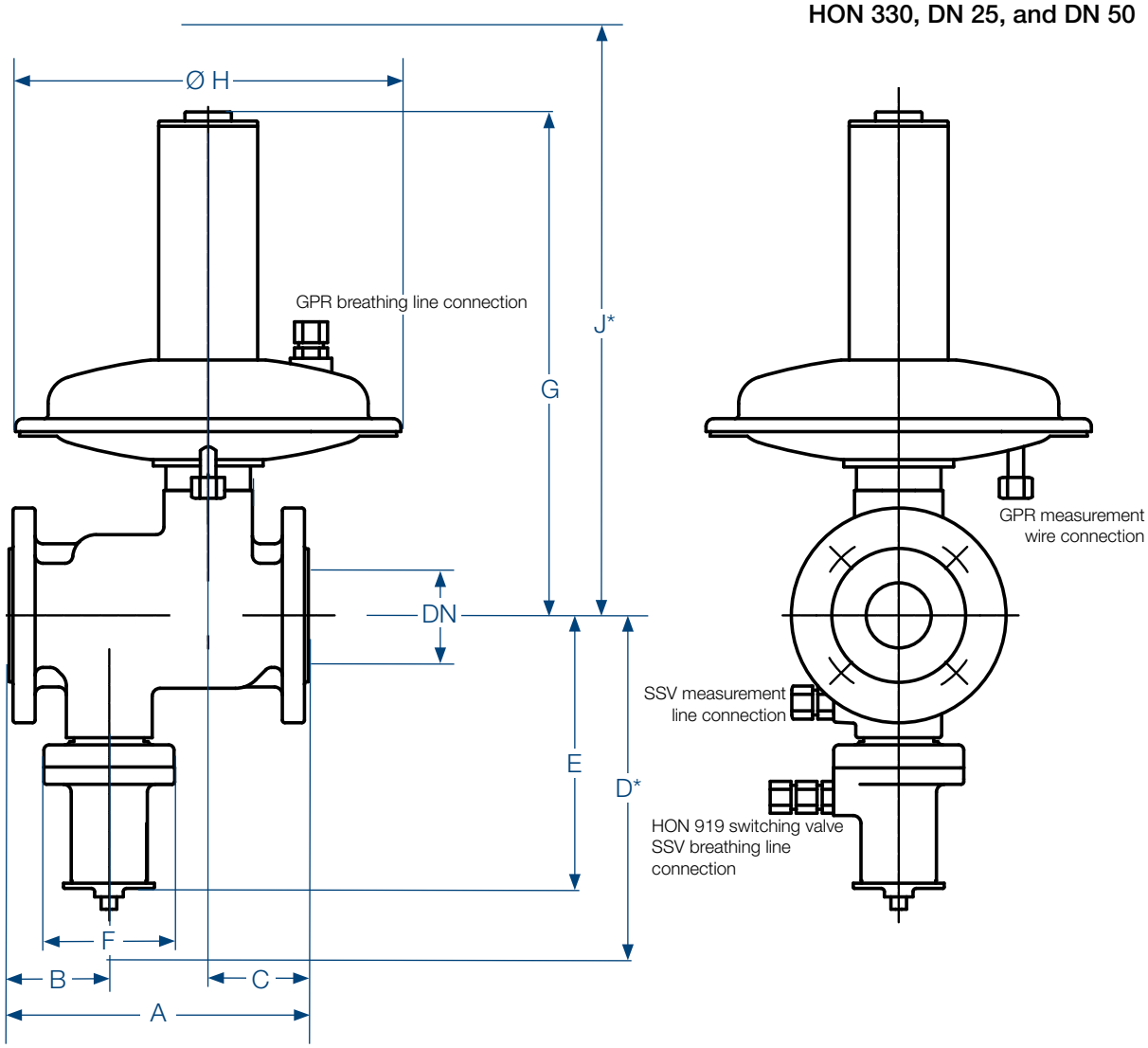
HON 330, DN 80, and DN 100



The compensation diaphragm of the regulator records the actual value of the outlet pressure and compares it with the set value specified by the setpoint spring. A regulation deviation has a direct influence through the valve rod to the actuator position. The resulting change in flow causes an equalization of the actual outlet pressure value with the setpoint. At zero consumption, the device seals tight and the closing pressure is set.
The actuator of the safety blocking valve on the inlet side blocks the gas flow when the outlet pressure in the regulated segment exceeds or falls below a certain trigger pressure. In this process, the SSV measurement diaphragm with the switch sleeve moves into the appropriate ratchet position, the ball ratchet mechanism releases the SSV valve rod, and the SSV actuator closes. The SSV can only be ratcheted into the open position by hand when the outlet pressure at the measurement point differs from the trigger pressure setpoint by the specified re-engagement differences for excess pressure and pressure deficit. The SSV can optionally also be equipped with a manual and a remote trigger. It can optionally also be designed in function class A (with diaphragm break safety) or B (without diaphragm break safety).

Dimensions, connection, weight

HON 330, DN 25, and DN 50



*) Size when assembled

Dimensions (mm)

DN	Actuator housing			Safety blocking valve			Regulator with regulator system					
							RE 1			RE 2		
	A	B	C	D*	E	Ø F	G	Ø H	J*	G	Ø H	J*
25	200	66	66	350	230	Max. 130	385	297	510			
50	230	77	77									
80	420	165	127	580	360	Max. 180	450		560	600	395	710
100	500	175	150	580	330					690		860

Connection to measurement lines and breathing lines			
	Actuator		SSV control unit/switching unit
	Measurement line	Breathing/blowout line	Measurement and breathing line
RE 1	Connection* for: 12 x 1.5 pipe (12 x 1.5 pipe on unit)	Connection* for: 12 x 1.5 pipe (G 1/2 thread)	Connection* for: 12 x 1.5 pipe (M 16 x 1.5 thread)
RE 2	Connection* for: 16 x 2 pipe (16 x 2 pipe on unit)	Connection* for: 12 x 1.5 pipe (G 1/2 thread)	

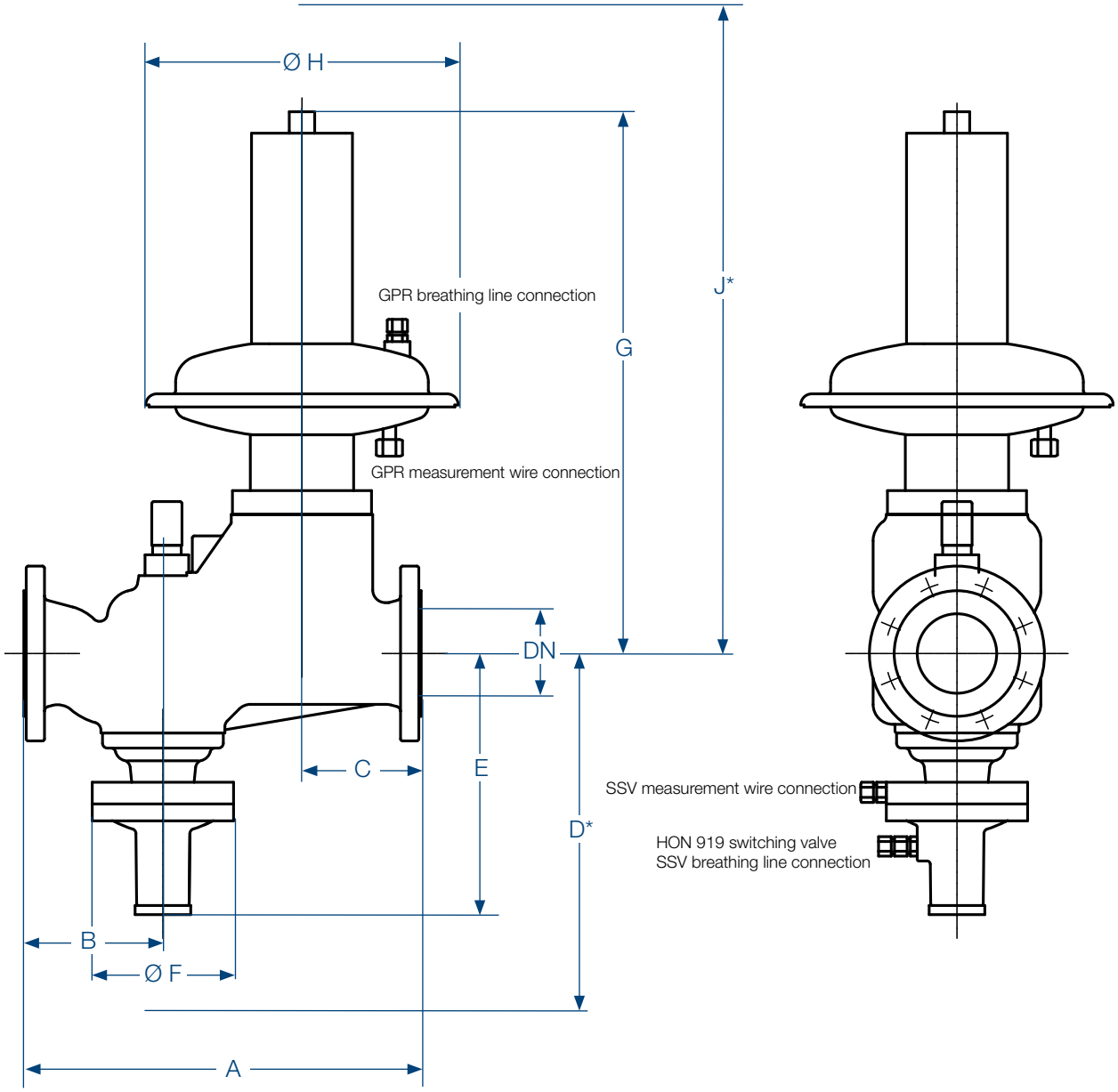
* DIN EN ISO 8434-1 (DIN 2353) compliant pipe screw fittings

Connection fastening element:

DN 25 M 12 x 55 EN 24014 - 5.6 screws

DN 50 to 100 M 16 x 70 EN 24014 - 5.6 screws

HON 330, DN 80, and DN 100



*) Size when assembled

approximate Weight (kg)				
Gas pressure regulator with regulator system				
DN	RE 1		RE 2	
	with SSV	without SSV	with SSV	without SSV
25	10,5	9,5	-	-
50	12	11	-	-
80	28	21	42	35
100	-	-	46	39

80	RE 2 SBV blocked	25	25	2
		31	31	
		41	41	
		50	50	
	RE 2 with SBV	25	25	2L
		31	31	
		41	41	
		50	50	
	RE 2 with SM	25	25	2 S
		31	31	
		41	41	
		50	50	
100	RE 2 SBV blocked	25	25	2
		31	31	
		41	41	
		50	50	
		60	60	
		80	80	
		100	100	
	RE 2 with SBV	25	25	2L
		31	31	
		41	41	
		50	50	
		60	60	
		80	80	
		100	100	
	RE 2 with SM	25	25	2S
		31	31	
		41	41	
		50	50	
		60	60	
		80	80	
		100	100	

Specific Guide range

W_{ds}	Setpoint spring no.		
20 mbar to 30 mbar	0		0
25 mbar to 50 mbar	1		1
45 mbar to 100 mbar	2		2
90 mbar to 200 mbar	3		3
150 mbar to 300 mbar	4		4
250 mbar to 400 mbar	5		5
350 mbar to 500 mbar	6		6
450 mbar to 600 mbar	7		7
550 mbar to 800 mbar	8		8
650 mbar to 1000 mbar	9		9

Rated width				
DN 25				25
DN 50				50
DN 80				80
DN 100				100
Control unit				
	Adjustment range in bar			
	W_{do}	W_{du}		
K1a	0.05 to 1.5	0.01 to 0.12		K1a
K2a	0.4 to 4.5	0.06 to 0.4		K2a
K4	0.04 to 0.5	0.005 to 0.06		K4
K5	0.2 to 1.5	0.015 to 0.12		K5
K6	0.6 to 4.5	0.04 to 0.3		K6
Function class				
A				A
B				B
Electromagnetic remote trigger				
Triggering on:		Power applied / power failure		E1 / E2
Manual triggering				
Manual triggering with HON 912 touch valve				HA
Remote transmission				
Electrical remote transmission of valve position "Closed"				F
Regulator system				
DN	Size	Valve		
25 / 50	RE 1 SBV blocked	20	20	1
		33	33	
	RE 1 with SBV	20	20	1L
		33	33	
	RE 1 with SM	20	20	1S
		33	33	
	RE 1 SBV blocked	25	25	1
		31	31	
		41	41	
		50	50	
	RE 1 with SBV	25	25	1L
		31	31	
		41	41	
		50	50	
	RE 1 with SM	25	25	1S
		31	31	
		41	41	
		50	50	

HON 330 - 50 - K1a / A / E 1 / HA / F - 33 / 1 L / 3 - So

- Type
- Rated width
- Control unit
- Function class
- Electromagnetic remote trigger
- Manual triggering
- Remote transmission
- Valve seat diameter
- Regulator system
- Setpoint spring
- Special design (must be specified in detail)

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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