HON 380
GAS PRESSURE REGULATOR

Versatility and ease of maintenance

The HON 380 features excellent control and lock-up properties which makes it ideal for use in public gas supply grids and in industrial systems. Another plus point is the fact that it delivers outstanding ease of maintenance.

The device with inlet pressure compensation has a spring-loaded measuring unit. The HON 380 is fitted with an integral safety shut-off valve for overpressure and underpressure shut-off.

The HON 380 has a modular design. This means that the entire regulating assembly can be removed and replaced while the housing can remain in the pipeline. This, in turn, means that routine maintenance work can be carried out at the workshop.

The HON 380 is suitable for a wide range of applications such as use in district regulating stations and installations for process gas supply. It can be used for the gases listed in DVGW Code of Practice G 260 and neutral, non-aggressive gases, with other gases on request.

The devices hold an EC-type examination certificate under the PED 2014/68/EU for CE and PE(S)R 2016 for UKCA in association with EN 334 and EN 14382. Registration number: CE-0085DM0566.

FEATURES

- Max. inlet pressure: 20 bar
- High flow rate
- Easy maintenance as the function units can be exchanged
- Integrated SSV
- SSV optionally available in function class A or B
- Pressure equalization valve (internal bypass) integrated in the SSV control element
- Nominal sizes DN 25, DN 50, DN 80, DN 100
- Flanged connections to EN 1092-2, PN 16 or ANSI 150
- Ambient and operating temperature range: Class 2, -20°C to +60°C

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TECHNICAL DATA					
Maximum allowable pressure PS	16 bar/20 bar differential safe (DS) (depending on flange design)				
Max. inlet pressure $p_{u\,max}$	16 bar/20 bar**				
Characteristic device size HON 380	**Inlet/Outlet**	**Valve seat diameter [mm]**	**Valve flow coefficient KG* in (m^3/h)/bar; Without noise reduction**		
HON 380	DN 25/DN 25	25	390		
	DN 50/DN 50	50	1490		
	DN 80/DN 80	80	3600		
	DN 100/DN 100	100	4900		
Noise reduction	-10% of specified KG value				
Type of connection Cast steel body	PN 16 DIN flanges and Class 150 to ANSI 16.5				
Accuracy class and Lock-up pressure class	**p_d range [bar]**	**Accuracy class AC**	**Lock-up pressure class SG**		
			RE0	**RE1**	**RE2**
	Pd [bar]	**AC**	**SG**	**SG**	**SG**
	0,02 - 0,03	10	-	50	30
	0,03 - 0,1	10	-	30	20
	0,1 - 0,2	5	-	20	10
	0,2 - 0,5	5	-	10	
	0,5 - 1,0	2,5	-		5
	1,0 – 2,0		5	-	-
Lock-up pressure zone class	SZ 2.5				
Ambient and operating temperature range (DIN EN 334)	Class 2: -20°C to +60°C				
Strength, tightness and function	According to DIN EN 334 and DIN EN 14382				
Explosion protection	The mechanical components of the device do not have any inherent potential ignition sources among them, nor do they have any hot surfaces and therefore do not fall into the scope of ATEX 2014/34/EU. The electronic accessories used satisfy the ATEX requirements.				
CE mark according PED 2014/68/EU, UKCA mark according PE(S)R 2016	Honeywell CE 0085 UK CA				

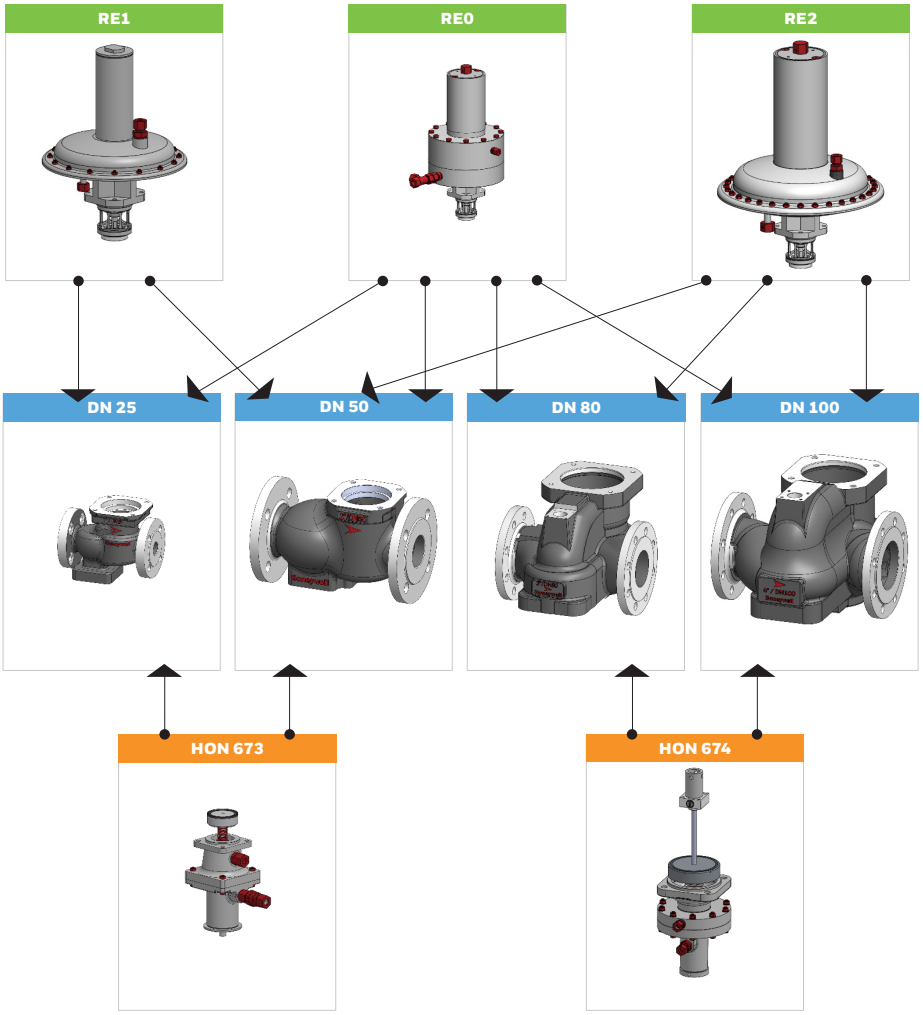
Material details	**Regulator**	**SSV**
Valve body	Cast steel	
Diaphragm case	Sheet steel/Al alloy	Al cast alloy and Al wrought alloy
Valve seats	Al alloy	Cast steel
Valve plate and O-rings	NBR	
Valve stem	Stainless steel	Stainless steel
Diaphragms	NBR	
Plastic parts	POM	
Adjusting springs	Spring steel wire	

* Valve flow coefficient for natural gas: d = 0,64 (pn = 0,83 kg/m^3), tu = 15°C

**maximum inlet pressure 10 bar for DN100 at Pd 20 to 150 mbar

OPTIONS

- Noise reduction
- Without SSV
- SSV with manual release
- SSV with electromagnetic remote release
- Electrical SSV “CLOSED” position indicator using inductive proximity initiator and intrinsically safe circuit
- Vent limiter HON 915 (SSV/RA) or On/Off valve HON 919 (SSV)



PRESSURE RANGE ASSIGNMENT BY REGULATING ASSEMBLY [BAR]

	Outlet pressure range		
DN	RE0	RE1	RE2
25	1 – 2	0.02 – 1	
50	1 – 2	0.02 – 1	0.02 – 1
80	1 – 2		0.02 – 1
100	1 – 2		0.02 – 1

- Regulating assembly
- Valve body
- Safety device

TABLE OF SPRING RANGES PER REGULATING ASSEMBLY

	Spring						
	RE0		RE1		RE2		Color
Set range Wds [mbar]	Part No.	Wire Ø [mm]	Part No.	Wire Ø [mm]	Part No.	Wire Ø [mm]	
20 – 30			10007241	3.6	1505607	5	Signal blue
25 – 50			10003629	4	10009068	6.3	Gray
45 – 75			15055022	4.5	15056072	7	Gentian blue
70 – 100			10003630	4.5	10009069	7	Yellow
90 – 160			15055023	5.3	15056073	8	Flame red
150 – 200			10003631	5.3	10009070	8	Brown
190 – 260			15055024	6.3	15056074	9	Nut brown
250 – 300			10003632	6.3	15056075	9	Light red
290 – 360			15055025	7	15056076	10	Colza yellow
350 – 400			10003633	7	10009072	10	Dark red
390 – 500			15055026	7.5	10009073	11	Light blue
490 – 560			15055027	8.5	15056077	11	Colza yellow
550 – 660			15055028	9	15056078	12	Cream
650 – 760			15055029	9.5	15056079	12	Gentian blue
750 – 800			10012564	9.5	10009164	13	Emerald green
790 – 900			15055030	10	15056081	13	Flame red
890 – 1000			15055031	10	10009165	14	Black
1000 – 2000	1000916	12					White
1500 – 2000	1000916	13					Green

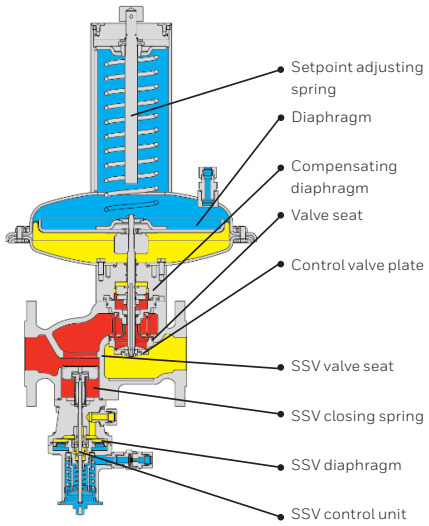
SSV SETTING RANGE FOR CONTROLLERS OF TYPE HON 673, K1A/K2B AND TYPE HON 674, K4/K5/K6								
	Setpoint spring			Upper trip pressure[1]		Lower trip pressure[1]		
Controller	No.	Wire diameter (mm)	Color code	Upper setting range w_{dso} (mbar)	Min. relocking differential between normal operating pressure and trip pressure Δp_{wo} (mbar)	Lower setting range w_{dsu} (mbar)	Min. relocking differential between normal operating pressure and trip pressure Δp_{wu} (mbar)	Accuracy Group AG[2]
HON673 K1a	1	2.5	Yellow	50 ... 110	30	-	-	10/5
	2	3.2	Light red	80 ... 250	50	-	-	10/5
	3	3.6	Dark red	200 ... 500	100	-	-	5/2.5
	4	4.75	White	500 ... 1500	250	-	-	5/2.5
	5	1.1	Light blue	-	-	10 ... 15	20	20/10
	6	1.2	White	-	-	14 ... 40	30	10/5
	7	1.4	Black	-	-	35 ... 120	60	5
HON673 K2b	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
HON674 K4	2	3.2	Light red	40 ... 110	20	-	-	5/2.5
	3	3.6	Dark red	80 ... 250	30	-	-	2.5
	4	4.5	Black	200 ... 500	60	-	-	2.5/1
	5	1.1	White	-	-	10...20	15	20/5
	6	1.4	Green	-	-	15 ... 60	20	5
HON674 K5	5	3.6	Dark red	200 ... 800	100	-	-	2.5
	6	4.5	Black	600 ... 1500	200	-	-	2.5/1
	5	1.1	Light blue	-	-	15 ... 50	30	10/5
	6	1.4	Black	-	-	40 ... 120	60	10/5
HON674 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	20/5
	6	1.4	Black	-	-	120 ... 300	120	5

1. PLEASE NOTE: If the controller is set for both the upper and lower trip pressure, setpoint values for the upper and lower trip pressure (p_{dso} and p_{dsu}) must be at least 10% greater than the total of the values specified for Δp_{wo} and Δp_{wu} (p_{dso}-p_{dsu})min = 1.1 * (Δp_{wo} + Δp_{wu})
2. The higher AG group applies to the first half of the setting range, the lower AG to the second half.

MECHANICAL CONSTRUCTION

The direct acting gas pressure regulator HON 380 is designed to keep the outlet pressure of a gaseous medium as constant as possible in the connected downstream pipeline (regulating line), regardless of the influence of interfering values such as inlet pressure and/or gas consumption changes. The device consists of the valve body and the function units “GPR with regulating assembly” and “SSV controller/control unit”.

After undoing the fastening screws, the complete function units can easily be removed from the valve body so that they can be subjected to a visual inspection during scheduled maintenance work. In the event of a defect, it is possible to replace the function units quickly with tested replacement units and relocate the maintenance work from the gas pressure regulating station to the workshop. The outlet pressure for regulating is supplied to the GPR regulating assembly and the SSV controller through measuring lines.



HON 380 in DN 25, DN 50

OPERATION

The measuring diaphragm in the regulating assembly records the actual value of the outlet pressure and compares it to the reference value specified by the setpoint spring. A standard deviation directly influences the control element setting via the valve stem. The change in flow rate brought about by this results in adjusting the outlet pressure actual value to the setpoint value. If the consumption rate is zero, the device closes tight and the lock-up pressure is applied to it.

The control element on the safety shut-off valve on the inlet side shuts down the gas flow if the outlet pressure in the regulating line is above or below a specific trip pressure. During this process, the SSV measuring diaphragm moves with the switch sleeve into the appropriate release position while the spherical locking mechanism releases the SSV valve stem and the SSV control element closes. The SSV can only be locked in its open position by hand if the outlet pressure at the measuring site differs from the set trip pressure setpoint by at least the specified relocking differentials for high or low pressure. The SSV can also be fitted with a manual or remote release as an option. In addition, it can be designed in function class A (with a diaphragm break safety device) and B (without a diaphragm break safety device) as an option.

HON 380 in DN 80, DN 100

DIMENSIONS/WEIGHT

Nominal size	Valve body					Safety shut-off valve		
	A mm	B mm	C mm	X mm	Y mm	D mm	E* mm	ØF mm
DN 25 (1")	184	64	72			75	255	105
DN 50 (2")	254	87	87			80	255	105
DN 80 (3")	298	149	149	190	95	250	300	max. 180
DN 100 (4")	352	185	164	225	110	300	310	max. 180

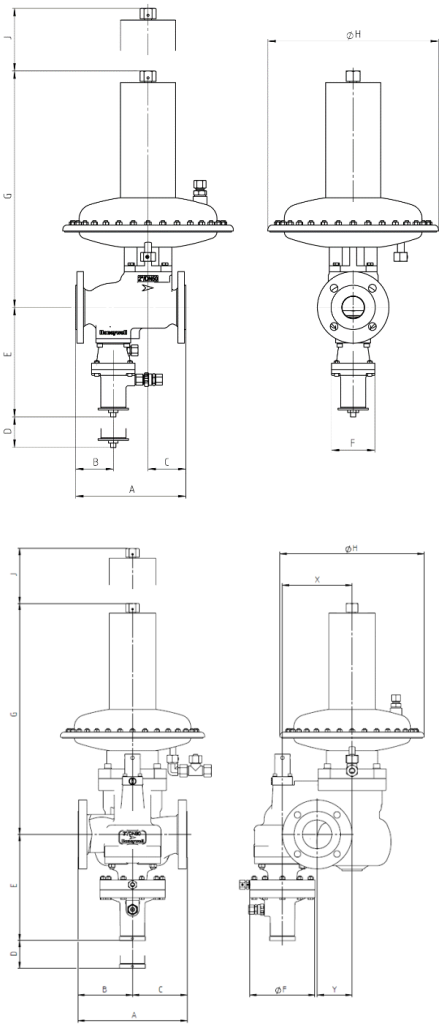
GAS PRESSURE REGULATOR WITH REGULATING ASSEMBLY

Nominal size	RE1			RE2			REO		
	G mm	ØH mm	J mm	G mm	ØH mm	J* mm	G mm	ØH mm	J mm
DN 25 (1")	405	297	105	-			525	250	105
DN 50 (2")	410		110	550	395	110	525		110
DN 80 (3")	-			640		200	620		200
DN 100 (4")				630		205	610		205

APPROX. WEIGHT [KG]

Nominal size	RE1		RE2		REO	
	With SSV	Without SSV	With SSV	Without SSV	With SSV	Without SSV
DN 25 (1")	18	16	-	34	32	34
DN 50 (2")	24	22	35	41	38	41
DN 80 (3")	-	-	73	79	71	79
DN 100 (4")	-	-	89	95	85	95

*) Space for removal



CONNECTION OF MEASURING AND BREATHER LINES			
	Actuator		SSV controller/control unit
	Measuring line	**Breather line**	**Measuring and breather line**
RE0	Pipe 12 x 1.5 (thread G ½)	Pipe 12 x 1.5 (thread G ½)	Pipe 12 x 1.5 (thread G 3/8)
RE1	Pipe 12 x 1.5 Pipe 12 x 1.5 on the device	Pipe 12 x 1.5 (thread G ½)	
RE2	Pipe 12 x 1.5 Pipe 12 x 1.5 on the device	Pipe 12 x 1.5 (thread (G ½)	

*Pipe unions to DIN EN ISO 8434-1 (DIN 2353)

For more information

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