

PRESSURE REGULATORS RC-5

FUNCTION

Pressure regulators are designed to maintain constant fluid pressure upstream the valve. Regulators are used in steam- and air-pipe networks (other fluids are also permissible). Regulator does not require external supply of energy.

CONSTRUCTION

Regulator comprises three main units: a single-seated valve (1), actuator (2) and adjuster set (3). Actuator is connected to the valve through adjuster set (which consists of a spring /s/ with spring spacers). Valve's and actuator's stems are sealed by means of elastic bellows made from stainless steel. The bellows do not require service during operation. In case of fluid being steam, it is necessary to equip regulator with condensation tank filled with water. In this case, it is also recommended to use a conical decompressing connection on the valve's outlet pipe.



PRINCIPLE OF OPERATION

Regulated pressure, which is applied to actuator inner chamber causes spring compression in adjuster set. Resulting spring tension should allow for attaining equilibrium of forces, when fluid pressure upstream the valve achieves required boundary value. Further increase in fluid pressure will disturb the equilibrium and cause valve plug to open and regulated pressure to drop down to its set-up value. Valves are in principle hydrostatically balanced at flow close.

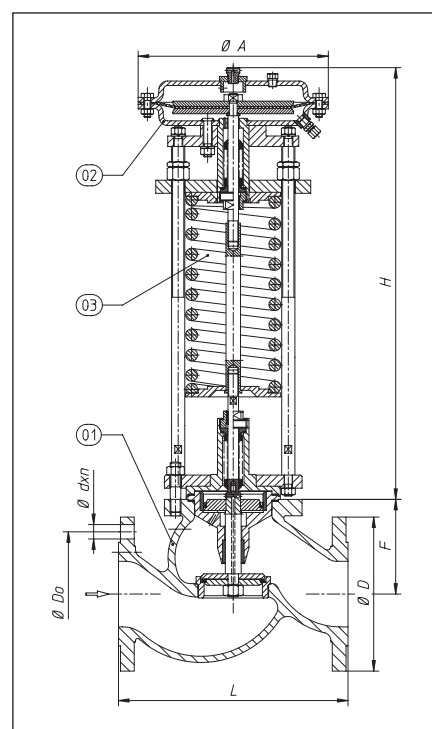
With tight design it is absolutely necessary to install a strainer on the supply side. In case of standard design, strainer's installation guarantees a safe operation of the regulator and increases its lifecycle.

Pressure		
Nominal pressure	valve	PN40
	flanges	PN16/40
Max. fluid pressure		2,5 MPa
Proportionality range		Xp=16%

Medium	Max. fluid temp	Szczelność zamknięcia
air, gases	90°C	VI kl. wg. PN-EN 60534-4
water	130°C	VI kl. wg. PN-EN 60534-4
Steam	240°C	VI kl. wg. PN-EN 60534-4
„metal-metal” DN15-50	300°C	IV kl. wg. PN-EN 60534-4

MSPECIFICATION OF MATERIALS

	Materials		Norm
Body	GP240GH	1.0619	PN-EN 10213-2
	GX5CrNiMo19-11-2	1.4408	PN-EN 10213-4
Bonnet	C15E	1.1141	PN-EN 10084
	X6CrNiTi18-10	1.4541	PN-EN 10088
Plug, Seat	X17CrNi16-2	1.4057	
	X6CrNiTi18-10	1.4541	
Stem	X17CrNi16-2	1.4057	
	X6CrNiTi18-10	1.4541	
Elastic Bellow	X6CrNiMoTi17-12-2	1.4571	
Plug sealing	PTFE+ bronze		
	EPDM		
	NBR		
Diaphragm	EPDM with polyester insert		
	NBR with polyester insert		



DIMENSIONS

Regulator's Size DN			15	20	25	32	40	50	65	80	100	125	150	200
Max. coefficient Kvs ¹⁾			4	5	6,5	13,5	22	33	46	66	94	130	170	250
Dimensions [mm]	D [mm]	PN16	95	105	115	140	150	165	185	200	220	250	285	340
		PN25-40									235	270	300	375
	L[mm]	PN 16-40	130	150	160	180	200	230	290	310	350	400	480	600
	D ₀ [mm]	PN16	65	75	85	100	110	125	145	160	180	210	240	295
		PN25-40									190	220	250	320
	d [mm]	PN16	14	14	14	18	18	18	18	18	18	18	22	22
		PN25-40									22	26	26	30
	n	PN16	4	4	4	4	4	4	4	8	8	8	8	12
		PN25-40							8					
F [mm]			63	63	63	80	82	86	118	118	124	150	173	216
Regulator's weight [kg]			18	20	30	33	38	41	49	58	75	110	157	220

1) Other Kvs coefficients available on request

SETTING RANGES OF REGULATED PRESSURE ²⁾

Actuator		Setting ranges [kPa]									
Area [cm²]	Ø A										
80	190	200-950 200-1100									
100	190	150-750									
160	230	30-160	50-240	60-300	80-400	100-480	100-560				
320	290	10-40	15-80	30-160	50-280				80-375	100-550	
Max. height	H	400								625	

2) Other setting ranges available on request

INSTALLATION

Regulator should be mounted on a horizontal pipeline with the spring facing downward. Direction of fluid flow must be as indicated on the regulator's valve body. It is recommended to install strainer type FS in front of the regulator. Regulators are equipped with impulse pipe connections, which are already fastened, and impulse pipes to be fastened. Additionally, steam regulators are equipped with condensers and connection stubs for the pipeline. Regulator is set at the regulated pressure required when supplied. Installation diagram on page 53.