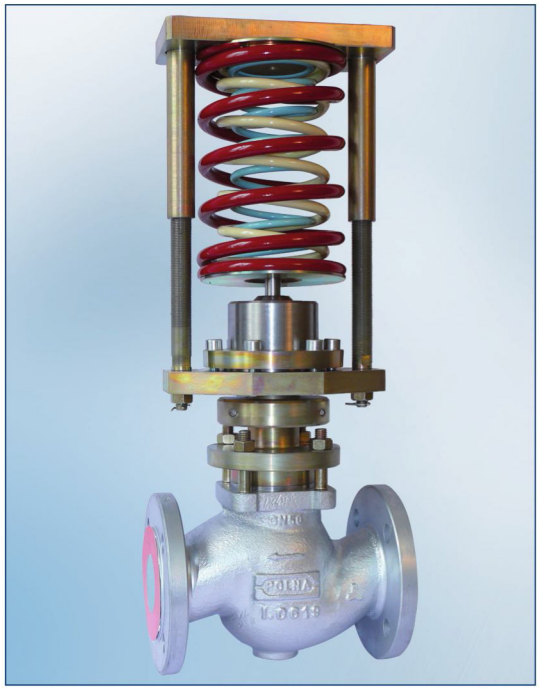
PRESSURE REGULATOR TYPE RC-5-2T

FUNCTION

The self-actuating pressure regulator with a piston actuator is designed to control the pressure in the installation and to keep the pressure upstream the valve at the desired level. It is especially suitable for those applications in which cold and hot water, oils, air and other gases with higher pressure ratings, within the range of 12-38 bar, need to be controlled.



CONSTRUCTION

The regulator comprises three main units:

- valve (01) with pressure - balanced plug ;
- actuator with piston, which constitutes its regulating component part (02);
- control pressure adjuster (03).

CHARECTERISTICS

- single-seated regulator with pressure - balanced plug
- high tightness of the shut-off due to the application of plugs with PTFE, EPDM and NBR sealings
- wide range of Kvs flow coefficients available
- steel and stainless steel materials used
  design reducing the noise level or increasing the resistance to cavitation
- when assembling the regulator, connecting impulse pipes is not required

PRINCIPLE OF OPERATION

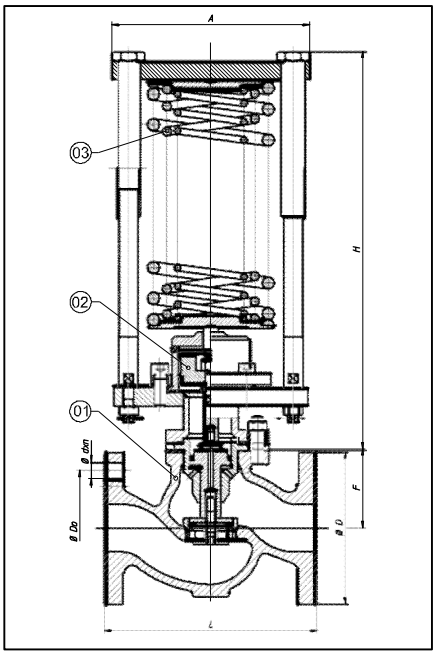
The self-actuating pressure regulator is a regulating device which is driven by the flowing medium that provides the necessary energy to control the valve's operation. The regulator is closed under normal operating conditions; the increase in regulated pressure causes the valve to open. The impulse of regulated pressure, as measured upstream the valve (01), is applied to the actuator chamber through the impulse pipe (02) and the force acting on the actuator piston, which is caused by the regulated pressure, is counterbalanced by the spring(s) tension in the adjuster set (03).Thus, the change in the regulated pressure in relation to that one set by the adjuster causes a proportional change in the position of the valve plug until reaching the regulated pressure setpoint value.

Pressure		
Nominal Pressure	body	PN40
	flanges	PN16/40
Max. medium pressure		4 MPa
Proportionality range		Xp=16%

Medium	Max. medium temperature	Shut-off tightness
Air, Gases	90°C	VI Cl. as per PN-EN 60534-4
Water	130°C	VI Cl. as per PN-EN 60534-4
Steam	240°C	VI Cl. as per PN-EN 60534-4
	240°C "metal-to-metal"	IV Cl. as per PN-EN 60534-4

MATERIALS

	Materials		Ref. Standard
Body	GP240GH	1.0619	PN-EN 10213-2
	GX5CrNiMo19-11-2	1.4408	PN-EN 10213-4
Bonnet	C15E	1.1141	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	
Plug sealing	PTFE+ bronze or graphite		
	EPDM		
	NBR		



DIMENSIONS

Regulator's size DN			15	20	25	32	40	50	65	80	100	125	150	200
Kvs coefficient[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

Other Kvs coefficients available on request

SETTING RANGES OF THE REGULATED PRESSURE[2)]

Actuator Diaphragm effective area [cm^2] Ø A		Setting range [kPa]	
22	53	1000-3500	1000-3600
37	69	400-2000 500-2200	500-3200
65	91	200-1100 500-1300	500-2600
106	116		500-1800
Max. Height	H	400	625

1) Other setting ranges available on request

INSTALLATION

Regulator is to be installed on a horizontal pipeline. Medium flow direction must conform to the arrow on the valve body. It is necessary to install a strainer upstream the regulator.