

Gas Pressure Regulator RMG 322



PRODUCT INFORMATION

**Serving the Gas Industry
Worldwide**

Gas Pressure Regulator RMG 322

Application, characteristics, technical data

Application

- for gas supply in the community grid, in workshops and industrial plants
- for natural gas and all non-corrosive gaseous media

Characteristics

- large inlet pressure range
- can be provided with various valve sizes to improve rangeability
- valve inlet pressure compensation
- easy maintenance due to interchangeable cartridge assemblies (plug-in system)
- special versions for differential pressure regulation and as zero governor

TECHNICAL DATA			
Max. inlet pressure p_{max}	20 bar		
outlet pressure range	W_h 0,010 bar to 15 bar		
sizes	DN 25 to DN 100		
connections	DIN-flanges PN 16 acc. to DIN 2501 and flanges acc. to ANSI 150 RF		
Durchflussmedium	Erdgas, Stadtgas, Luft, Stickstoff, andere Gase auf Anfrage		
accuracy class (AC) and lock up pressure class (SG)	AC \geq 1	SG \geq 5	
lock-up pressure zone	SZ 2,5		
material	valve body diaphragm case internal parts diaphragms, gaskets pilot	cast steel, ductile iron (DN 80 and DN 100) sheet steel aluminium, brass, steel synthetic rubber aluminium, brass, steel	
ambient temperature range class 2	- 20 °C to + 60 °C		
function and strength	acc. to EN 334		
PED / CE; DIN- DVGW	approved		

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OUTLET PRESSURE RANGE						
pilot	load limiting unit			control unit		
		specific pressure range W_a in [bar]	spring wire-dia. in [mm]		specific outlet pressure range W_a in [bar]	spring wire-dia. in [mm]
RMG 610	measuring unit „M“	0,1 ... 1,5	3,3	measuring unit „N“	0,010 ... 0,040	2,5
					0,020 ... 0,060	3,0
					0,040 ... 0,120	3,5
					0,080 ... 0,200	4,0
		0,100 ... 0,500	5,0			
		0,5 ... 5,0	4,7	measuring unit „M“	0,1 ... 1,5	3,3
					0,2 ... 2,5	4,0
					0,3 ... 3,5	4,5
RMG 650		1,0 ... 15,0	8,0		1 ... 5	4,5
				2 ... 10	5,0	
				5 ... 15	6,3	

VALVE DATA					
size	valve seat-dia. in mm	K_G -value in m^3/h for natural gas $r_n=0,83 \text{ kg}/m^3$	max inlet pressure $p_{emax}^*)$ in bar for actuator		length A in mm
			size 1	size 2	
DN 25	20	220	16	-	184
	33	480	16	-	
DN 50	25	400	-	16	254
	31	800	-	16	
	41	1300	-	16	
	50	1600	-	16	
DN 80	25	400	-	16	298
	31	900	-	16	
	41	1500	-	16	
	50	1800	-	16	
	60	2700	-	10 (16)	
	80	4000	-	6 (12)	
DN 100	25	400	-	16	352
	31	900	-	16	
	41	1500	-	16	
	50	1800	-	16	
	60	3100	-	10 (16)	
	80	4500	-	6 (12)	
	100	5800	-	4 (8)	

*) The limitation of the inlet pressure range p_e for a diaphragm assembly is not given for reasons of material strength but in the interest of maintaining the regulating accuracy. The inlet pressure deviations though may not exceed the limit of the valve's nominal pressure rating.

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Design and function

This gas pressure regulator was designed to keep the outlet pressure of a gaseous medium constant in the mains and independent of disturbing influences like inlet pressure and/or flowrate changes.

The RMG 322 consists of a main valve with diaphragm assembly, and a pilot with preceding fine filter. For regular maintenance the integral parts of the main control element and the actuator can easily be taken out of the body and subjected to a visual inspection. In case of failure the modules can be replaced by spare units, and the repair works can be carried out in the workshop without having to shut down the system.

The main control element of the main valve is provided with an inlet pressure compensating diaphragm and can be equipped with orifices and actuators of various sizes.

The outlet pressure is controlled by a pilot with adjustable load limiter. The pressure differential between inlet pressure p_e and outlet pressure p_a serves as auxiliary energy to actuate the main valve control element via the diaphragm assembly. Optimal regulating stability can be reached by adjusting the load limiting pressure to adapt the regulator to particular site conditions.

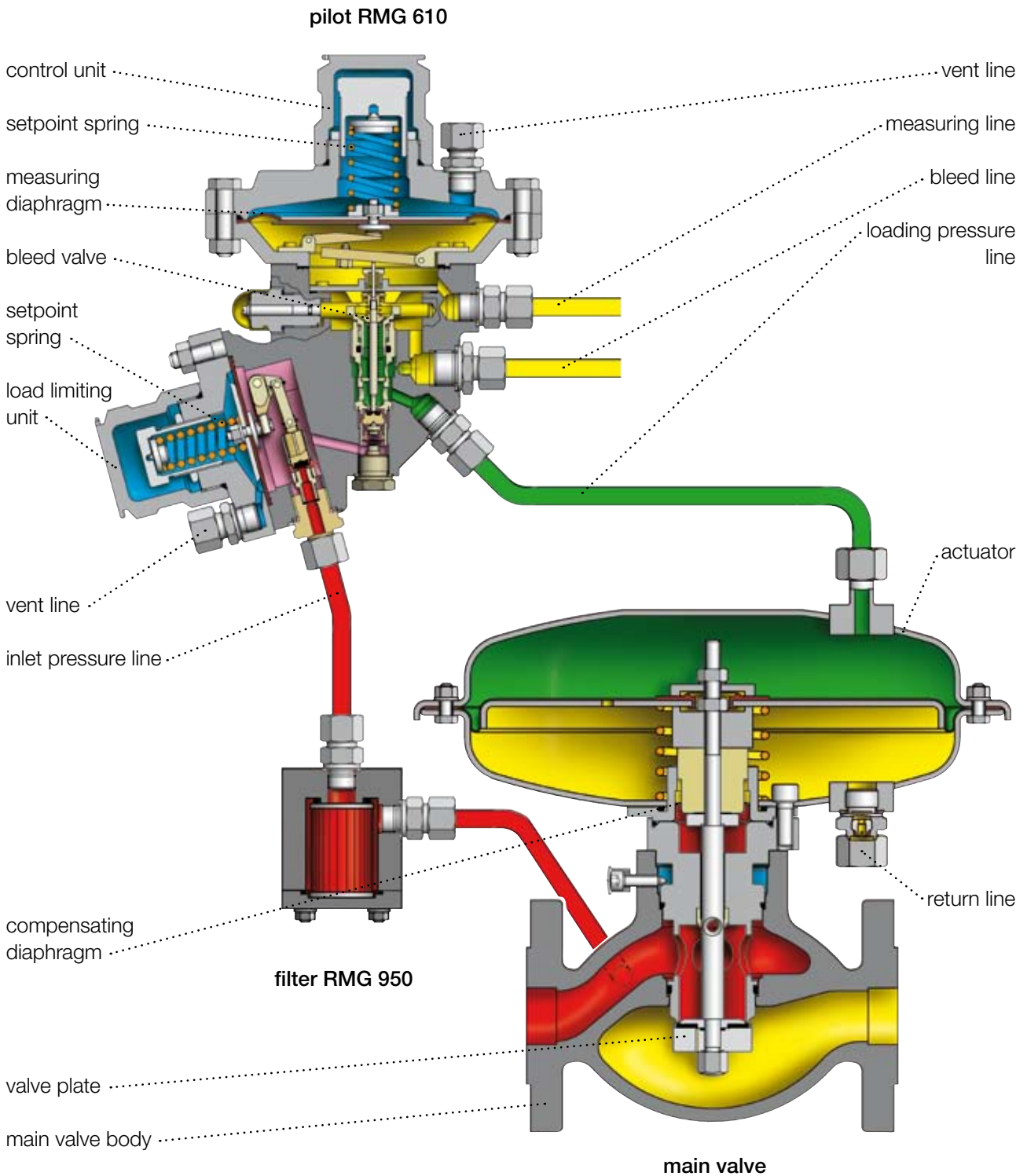
The outlet pressure to be controlled is fed to the pilot through the measuring line. The measuring diaphragm takes up the actually prevailing outlet pressure and compares it to the pre-adjusted setpoint value given by the setpoint spring. Any deviation of the outlet pressure from the setpoint will cause a corresponding change of the loading pressure fed to the actuator, which controls the position of the valve plate. The resulting change in flow-rate will re-adjust the outlet pressure to the setpoint.

Via the return line the outlet pressure is also supplied to the underside of the actuator diaphragm, giving a direct influence upon the position of the valve plate and enabling fast regulation by the main valve.

The regulator gives tight shut-off on zero flow.

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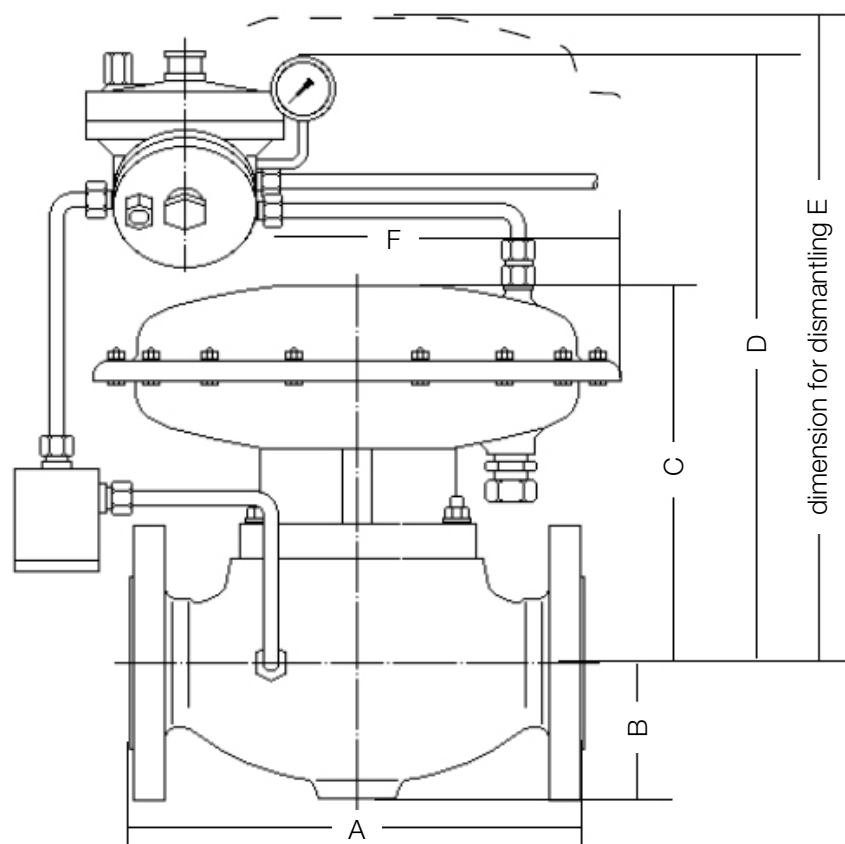
Design and function



- inlet pressure
- outlet pressure
- load limiting pressure
- loading pressure
- atmosphere

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Dimensions and connections



DIMENSIONS

size DN	main valve body		actuator							
			size 1				size 1			
	A	B	C	D	E	F	C	D	E	F
25	184	60	265	460	460	300	-	-	-	-
50	254	90	-	-	-	-	275	525	550	400
80	298	130	-	-	-	-	340	610	635	400
100	352	130	-	-	-	-	360	610	635	400

CONNECTIONS

size DN	dimensions of connection lines				
	pilot			actuator	
	measuring line	bleed line	vent line	return line	
				size 1	size 2
25				pipe 12 x 1,5	
50	pipe 12 x 1,5	pipe 12 x 1,5	pipe 16 x 1,5		pipe 16 x 2,0
80					
100					

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Type description

example:

RMG 322 - 25 - 20 / 1 / MN - So

SIZE		
size		
DN 25		25
DN 50		50
DN 80		80
DN 100		100
VALVE SEAT DIAMETER AND ACTUATOR SIZE		
size	valve seat diameter in mm	actuator size
DN 25	20	1
	33	1
	25	2
	31	2
DN 50	41	2
	50	2
	25	2
	31	2
DN 80	41	2
	50	2
	60	2
	80	2
DN 100	25	2
	31	2
	41	2
	50	2
	60	2
	80	2
	100	2
PILOT TYPE / OUTLET PRESSURE RANGE		
pilot type	version	outlet pressure range W_a in bar
RMG 610	MN	0,01 ... 0,50
RMG 610	MM	0,10 ... 3,50
RMG 650	-	1,00 ... 15,0
SPECIAL VERSION		
special version (to be specified in detail)		So

type

size DN

valve seat diameter

actuator size

pilot type and -version

special version