

Safety Relief Valve RMG 850



PRODUCT INFORMATION

**Serving the Gas Industry
Worldwide**

Safety Relief Valve RMG 850

Application, characteristics, technical data

Application

- for offtake stations in gas transmission systems, for gas supply to industrial and power plants
- suitable for full capacity relief
- for natural gas and all non-corrosive gaseous media

Characteristics

- in-line flow
- can be installed in any position
- safe operation
- high response accuracy
- quick reaction
- can be provided with a noise reducing outlet duct module RMG 512 as an optional feature

TECHNICAL DATA			
max. service pressure p_{max}	100 bar		
adjusting ranges with measuring unit RMG 670	adjusting range W_{ds} (bar)	max. permissible service pressure (bar)	closing pressure (bar)
	2,00 ... 5,00	40	0,5
	2,00 ... 10,0	40	0,6
	5,00 ... 20,0	40	1,0
	10,0 ... 40,0	50	1,5
	20,0 ... 90,0*	100	2,0
sizes/flow rate coefficients (K_G -value for natural gases, $\rho_n = 0,83 \text{ kg/m}^3$)	DN 25 DN 50 DN 80 DN 100	K_G -value 500 m ³ /h K_G -value 2000 m ³ /h K_G -value 5100 m ³ /h K_G -value 8000 m ³ /h	
valve seat diameter	equals nominal width of inlet connection		
connections	flanged to DIN PN 25, PN 40 and to ANSI 300, ANSI 600		
materials	main valve body internal parts measuring unit diaphragm sealings	cast steel, steel steel, aluminium, brass aluminium alloy, steel rubber-like plastic material (NBR, FPM) rubber-like plastic material	
Temperature range	-15° C to +60° C		
function and strength	acc. to DIN 3381		
DIN-DVGW-registration No.	DN 25 DN 50 DN 80 DN 100	89.01e042 89.02e042 89.03e042 89.04e042	

*) with metal harmonica type measuring unit

The safety relief valve RMG 850 was designed to open automatically, as soon as the pressure of the system to be protected and monitored comes up to the pre-adjusted setpoint.

The safety relief valve consists of a main valve and a measuring unit. The main valve consists of the control element and the piston assembly as a complete modular unit. A filter is provided upstream to protect the measuring unit and the bleed bore from contamination.

The control element consists of a movable sleeve and a valve cone fixed into the body. The advantage of this design is that the gas passes straight through without any diversion, thus exerting forces in axial direction only. The movable sleeve is - to a large extent - pressure compensated, so that changes of service pressure does not tell upon the response precision of the valve.

The piston assembly has a fixed connection to the valve sleeve of the control element. The chambers above and below the piston are interconnected through a bleed bore so that in the basic position both chambers are exposed to the same pressure and the valve is kept closed by the force of the closing spring.

The high response accuracy of the safety relief valve is due to the fact that the measuring unit is equipped with a sensitive double diaphragm system with the amplifying valve placed between the diaphragms.

The pressure to be monitored is fed to the lower side of the double diaphragm system through the measuring impulse line, and compared to the pressure given by the force of the pre-adjusted setpoint spring. Under normal service conditions the amplifying valve is closed; the pressure prevailing in the upper and lower diaphragm chambers are equal.

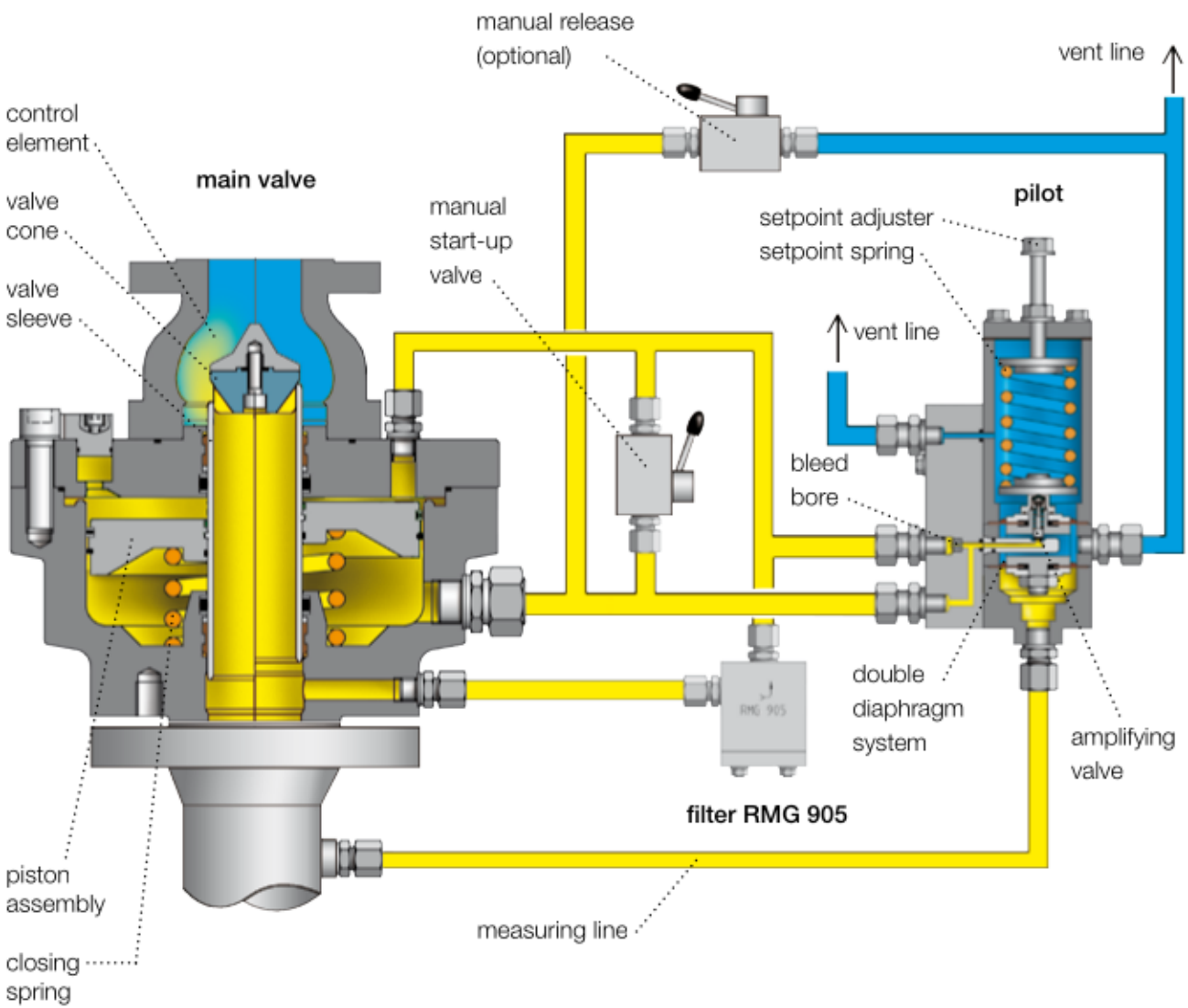
If the pressure to be controlled reaches the setpoint pre-adjusted at the measuring unit, the valve in the double diaphragm system will open and thus reduce the pressure in the piston chamber below the piston. The pressure of the outlet system exerted on the upper side of the piston will move the sleeve against the force of the closing spring in opening direction.

If the pressure to be monitored falls below the pre-adjusted setpoint the amplifying valve will close again to restore the pressure in the chamber below the diaphragm. Upon pressure balance prevailing in the lower and upper piston chambers the safety relief valve will automatically close tight again.

Attention: When pressurizing the system (filling the outlet line with gas) the start-up valve should be held open to avoid uncontrolled blow-off of the main valve. When the outlet pressure has reached a stable level, let go of the contact valve again.

Safety Relief Valve RMG 850

Design and operation



outlet pressure
 atmosphere

Safety Relief Valve RMG 850

Dimensions and connections

Bild 1: Stellgerät RMG 850 ohne Kontrollgerät

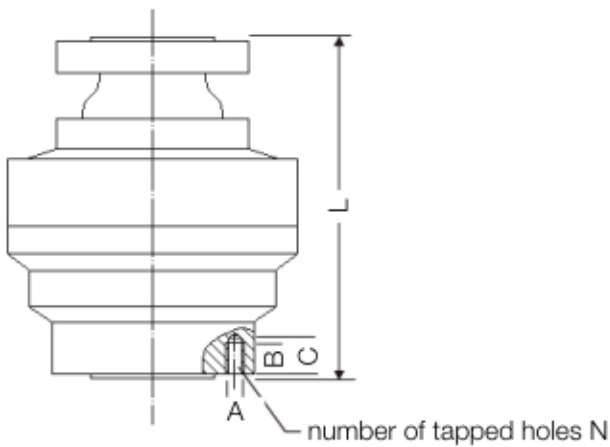
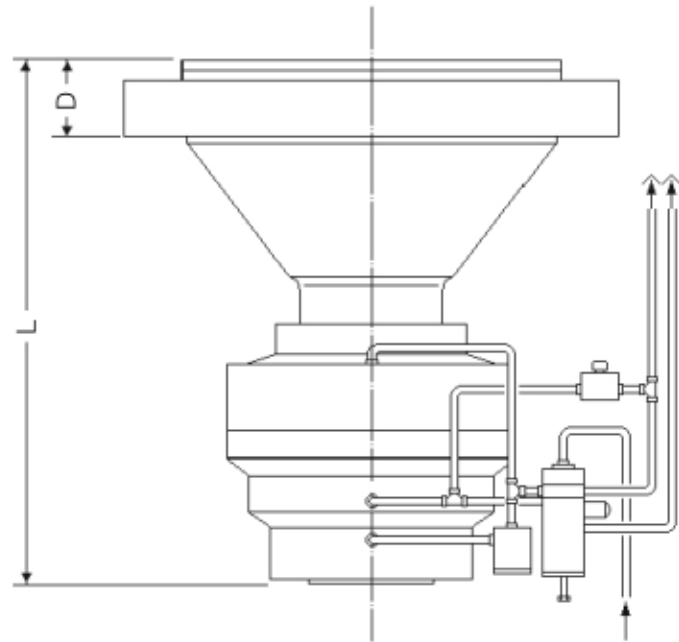


Bild 2: Stellgerät RMG 850 mit Kontrollgerät RMG 670 und schallreduzierendem Ausgangsteil



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DIMENSIONS IN MM																												
DN		PN 25 + PN 40					ANSI 300RF					ANSI 300 RTJ					ANSI 600 RF					ANSI 600 RTJ						
inlet	outlet	L	A	B	C	N	L	A	B	C	N	L	A	B	C	N	L	A	B	C	N	L	A	B	C	N	D	
25	25	200					197					210					210					210						
	100*	360	M12	16	21	4	359	M16	20	25	4	365	M16	20	25	4	365	M16	20	25	4	365	M16	20	25	4	75	
	150*	360					359					365					365					365					84	
50	50	270					267					283					286					286						
	150*	422	M16	20	25	4	421	M16	20	25	8	429	M16	20	25	8	430	M16	20	25	8	430	M16	20	25	8	84	
	200*	422					421					429					430					430					92	
80	80	310	M16	20	25	8	318	M20	26	32	8	333	M20	26	32	8	337	M20	26	32	8	337	M20	26	32	8		
	250*	512					516					523					525					525					100	
100	100	370	M20	26	32	8	368	M20	26	32	8	384	M20	26	32	8	394	M24	31	38	8	394	M24	31	38	8		
	300*	548					548					555					560					560					103	

*) with noise reducing outlet duct (outlet flanged to ANSI 600 RF only)

CONNECTIONS							
inlet size		measuring impulse line		discharge line		vent line	
DN		pipe	thread	pipe	thread	pipe	thread
25							
50						min.	
80		10 x 1,5	M 14 x 1,5	12 x 1,5	M 14 x 1,5	12 x 1,5	M 14 x 1,5
100							

Safety Relief Valve RMG 850

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Safety Relief Valve RMG 850

Type description

example:

RMG 512 - 50 / 200 - 670 - So

type
 DN inlet
 DN outlet
 measuring unit
 special feature

TYPE DESCRIPTION	
size DN (main valve without noise reducing outlet duct)	
inlet	outlet
25	25
50	50
80	80
100	100
size DN (main valve with noise reducing outlet duct)	
inlet	outlet
25	100
25	150
50	150
50	200
80	250
100	300
measuring unit RMG 670	
special feature (to be described in detail)	

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