

spring-loaded gas pressure regulator with single balanced valve



- for industrial and commercial applications
- suitable for use on industrial feeds to burners, heater units, boilers etc.
- for natural gas and all non-corrosive gaseous media
- cartridge-type construction allows easy unit withdrawal without removing body from pipeline
- balanced valve gives excellent control over full inlet pressure and working pressure range
- valve travel indicator
- positive lock-up under no flow conditions

max. inlet pressure:
4.5 bar

outlet pressure range:
0.010 to 0.225 bar (dependant upon model)

sizes:
R 1.1/2", 2", and DN 50, DN 80 & DN 100
(dependant upon model)

temperature range:
-20°C to +60°C

operating pressure range					
size/ connection	max. inlet pressure (bar)	outlet pressure range in bar		spring no.	colour
		280	280H		
1.1/2" & 2" DN 50 and DN 80	4.5	0.010 to 0.020	-	548	metal
		0.018 to 0.035	-	824	light green
		0.025 to 0.050	-	938	light blue
		0.030 to 0.070	-	546	grey
		-	0.066 to 0.104	774	brown
		-	0.096 to 0.138	775	orange
		-	0.112 to 0.225	778	dark blue
DN 100	4.5	0.010 to 0.020	-	378	white/maroon
		0.018 to 0.030	-	402	black/maroon
		0.018 to 0.037	-	1007	blue/maroon
		0.028 to 0.040	-	403	green/maroon
		0.038 to 0.060	-	405	red/maroon
		0.055 to 0.080	-	406	brown/maroon
		0.075 to 0.140	-	407	grey/maroon
		0.112 to 0.200	-	857	stone/maroon

dimensions and weights		
series 280	face-to-face in mm	weight in kg
1.1/2"	254	18.9
2"	254	19.0
DN 50	254	23.0
DN 80	298	32.2
DN 100	352	68.4
series 280H	face-to-face in mm	weight in kg
1.1/2"	254	20.9
2"	254	21.0
DN 50	254	25.0
DN 80	298	35.3

spring-closed gas pressure regulator with single balanced valve



- for industrial and commercial applications
- for natural gas and all non-corrosive gaseous media
- cartridge-type construction allows easy unit withdrawal without removing body from pipeline
- balanced valve gives excellent control over full inlet pressure and working pressure range
- valve travel indicator
- positive lock-up under no flow conditions

max. inlet pressure:
4.5 bar

outlet pressure range:
0.010 to 0.140 bar

sizes:
R 1.1/2", 2" and DN 50

temperature range:
-20°C to +60°C

dimensions and weights		
series 280	face-to-face in mm	weight in kg
1.1/2"	254	20.9
2"	254	21.0
DN 50	254	25.0

spring-loaded gas pressure regulator with single balanced valve



- ❑ for industrial and commercial applications
- ❑ suitable for use on industrial feeds to burners, heater units, boilers etc.
- ❑ for natural gas and all non-corrosive gaseous media
- ❑ cartridge-type construction allows easy unit withdrawal without removing body from pipeline
- ❑ balanced valve gives excellent control over full inlet pressure and working pressure range
- ❑ valve travel indicator
- ❑ positive lock-up under no flow conditions

max. inlet pressure:

8 bar

(10 bar when fitted with auxiliary system)

outlet pressure range:

0.010 to 0.225 bar

(depending upon model)

sizes:

R 1.1/2", 2" and DN 50

temperature range:

-20°C to +60°C

Gas Pressure Regulators**BD-RMG 282/282H**

Products of the Bryan Donkin RMG Gas Controls Ltd.

operating pressure range					
size/ connection	max. inlet pressure (bar)	outlet pressure range in bar		spring no.	colour
		282	282H		
1.1/2" and 2" DN 50	10.0*	0.010 to 0.020	-	548	metal
		0.018 to 0.035	-	824	light green
		0.025 to 0.050	-	938	light blue
		0.030 to 0.070	-	546	grey
		-	0.066 to 0.104	774	brown
		-	0.096 to 0.138	775	orange
		-	0.112 to 0.225	778	dark blue

* 10 bar when fitted with an auxiliary control system.

dimensions and weights		
series 282	face-to-face in mm	weight in kg
1.1/2"	254	18.9
2"	254	19.0
DN 50	254	23.0
series 282H		
1.1/2"	254	20.9
2"	254	21.0
DN 50	254	25.0

spring-loaded gas pressure regulator with single balanced valve



- for industrial and commercial applications
- suitable for use on industrial feeds to burners, heater units, boilers etc.
- for natural gas and all non-corrosive gaseous media
- cartridge-type construction allows easy unit withdrawal without removing body from the pipeline
- balanced valve gives excellent control over full inlet pressure and working pressure range
- valve travel indicator
- positive lock-up under no-flow conditions

max. inlet pressure:

4.5 bar

outlet pressure range:

0.140 to 1 bar (dependant on size of unit)

sizes:

R 1.1/2", 2" and DN 50, DN 80

temperature range:

-20°C to +60°C

Gas Pressure Regulators**BD-RMG 284/285**

Products of the Bryan Donkin RMG Gas Controls Ltd.

operating pressure range					
size/ connection	max. inlet pressure (bar)	outlet pressure range in bar		spring no.	colour
		284	285		
1.1/2" DN 50	4.5	0.140 to 0.260	-	849/848	red & black
		0.230 to 0.500	-	851/850	green & white
		0.460 to 1.000	-	853/852	yellow & blue
	10	-	0.140 to 0.260	849/848	red & black
		-	0.230 to 0.500	851/850	green & white
		-	0.460 to 1.000	853/852	yellow & blue
DN 80	4.5	0.200 to 0.400	-	1167	grey
		0.400 to 0.725	-	1168	brown
		0.675 to 1.000	-	1169 & 1168	orange & brown

dimensions and weights		
series 284	face-to-face in mm	weight in kg
1.1/2"	254	19.6
2"	254	19.7
DN 50	254	23.7
DN 80	298	44.0
series 285		
1.1/2"	254	19.6
2"	254	19.7
DN 50	254	23.7

spring-loaded gas pressure regulator with balanced double beat valve



- ❑ for industrial and commercial applications
- ❑ suitable for use on industrial feeds to burners, heater units, boilers etc.
- ❑ for natural gas and all non-corrosive gaseous media
- ❑ fully balanced internal double valves assembly
- ❑ extremely high flow capacities
- ❑ positive, accurate and sensitive control
- ❑ external valve adjustment - (MK2-EVA model only)
- ❑ can be fitted with full or reduced sized valves

max. inlet pressure:
2 bar (direct acting)

with an auxiliary control system applied,
inlet pressure can be increased as follows:

- series 680 MK1:

all sizes (full or reduced bore valves)
up to 7 bar

- series 680 MK2 - EVA:

DN 50, DN 80 full bore, DN 80 reduced bore
up to 4.5 bar

outlet pressure range:
0.015 to 0.210 bar

sizes:

DN 50, DN 80, DN 100, DN 150 & DN 200

temperature range:
-20°C to +60°C

Gas Pressure Regulators**BD-RMG 680 MK1 & 680 MK2-EVA**

Products of the Bryan Donkin RMG Gas Controls Ltd.

operating pressure range				
outlet pressure range in bar	regulator size			
	DN 50	DN 80	DN 100	DN 150 & DN 200
	spring no. & colour	spring no. & colour	spring no. & colour	spring no. & colour
0.015 to 0.020	368 white/orange	378 white/maroon	409 white/gold	417 white/light.blue
0.020 to 0.030	369 black/orange	402 black/maroon	410 black/gold	418 black/light blue
0.030 to 0.040	370 dark green/orange	403 dark green/maroon	411 dark green/gold	419 dark green/lt. blue
0.040 to 0.050	371 yellow/orange	404 yellow/maroon	412 yellow/gold	420 yellow/light blue
0.050 to 0.060	374 red/orange	405 red/maroon	413 red/gold	421 red/light blue
0.060 to 0.900	375 brown/orange	406 brown/maroon	414 brown/gold	422 brown/light blue
0.900 to 1.400	376 grey/orange	407 grey/maroon	415 grey/gold	423 grey/light blue
1.000 to 2.100	857 stone/maroon	857 stone/maroon	857 stone/maroon	856 purple/light blue

dimensions and weights		
series 680 MK1 & 680 MK2 - EV A	face-to-face in mm	weight in kg
DN 50	267	80
DN 80	318	98
DN 100	369	133
DN 150	473	268
DN 200	569	350

spring-loaded gas pressure regulator with balanced double beat valve



- for industrial and commercial applications
- suitable for use on industrial feeds to burners, heater units, boilers etc.
- for natural gas and all non-corrosive gaseous media
- fully balanced internal double valves assembly
- extremely high flow capacities
- positive, accurate and sensitive control
- external valve adjustment - (MK2 EVA model only)
- can be fitted with full or reduced sized valves

max. inlet pressure:
2 bar (direct acting)

with an auxiliary control system applied, the inlet pressure can be increased as follows:

- series 680H MK1
all sizes full or reduced bore valves
7 bar
- series 680H MK2 – EVA
DN 50 and DN 80 full bore, DN 80 reduced bore 4.5 bar

outlet pressure range:
0.125 to 0.350 bar

sizes:
DN 50, DN 80, DN 100, DN 150 & DN 200

temperature range:
-20°C to +60°C

Gas Pressure Regulators**BD-RMG 680H MK1 & 680H MK2-EVA**

Products of the Bryan Donkin RMG Gas Controls Ltd.

operating pressure range				
outlet pressure range in bar	regulator size			
	DN 50	DN 80	DN 100	DN 150, DN 200
	spring no. & colour	spring no. & colour	spring no. & colour	spring no. & colour
0.125 to 0.205	523 mauve/orange	523 mauve/orange	523 mauve/orange	2 x 520 mauve/light blue
0.185 to 0.275	525 pink/orange	525 pink/orange	525 pink/orange	2 x 521 pink/light blue
0.255 to 0.350	522 stone/orange	522 stone/orange	522 stone/orange	2 x 544 stone/light blue

* outlet pressure ranges based on regulator in the vertical position

dimensions and weights		
series 680H MK1 & 680H MK2 - EV A	face-to-face in mm	weight in kg
DN 50	267	97
DN 80	318	111
DN 100	369	151
DN 150	473	305
DN 200	569	388

spring-loaded gas pressure regulator with balanced double beat valve



- for industrial and commercial applications
- suitable for use on industrial feeds to burners, heater units, boilers etc.
- for natural gas and all non-corrosive gaseous media
- fully balanced internal double valves assembly
- extremely high flow capacities
- positive, accurate and sensitive control
- external valve adjustment - (MK2 EVA model only)
- can be fitted with full or reduced sized valves

max. inlet pressure:

MK1 - 7 bar

MK2 - 4.5 bar

(an auxiliary control system is required on these regulators)

outlet pressure range:

0.015 to 0.070 bar

sizes:

682 MK1 DN 50 - DN 200

682 MK1 DN 50, DN80, DN 100

temperature range:

-20°C to +60°C

dimensions and weights		
series 682 MK1 & 682 MK2 - EV A	face-to-face in mm	weight in kg
DN 50	267	80
DN 80	318	98
DN 100	369	133
DN 150	473	268
DN 200	569	350

spring-loaded gas pressure regulator with balanced double beat valve

- for industrial and commercial applications
- suitable for use on industrial feeds to burners, heater units, boilers etc.
- for natural gas and all non-corrosive gaseous media
- fully balanced internal double valves assembly
- extremely high flow capacities
- positive, accurate and sensitive control
- can be fitted with full or reduced sized valves

max. inlet pressure:

BD-RMG 684 - 12 bar

BD-RMG 684S - 19 bar

outlet pressure range:

0.207 to 6.896 bar

sizes:

flanged DN 50, DN 80, DN 100, DN 150

temperature range:

-20°C to +60°C

dimensions and weights

series 684 & 684 SB	face-to-face in mm	weight in kg
DN 50	267	49
DN 80	318	68
DN 100	369	102
DN 150	473	193

outlet pressure ranges		
outlet pressure range in bar	regulator size	
	spring number	spring colour
0.207 to 0.414	655	yellow
0.414 to 0.621	656	grey
0.621 to 1.034	657	blue
1.034 to 2.068	658	red
2.068 to 3.793	659	brown
3.793 to 5.172	660	black
4.827 to 6.896	659 & 661	brown/white

pilot-operated gas pressure regulator with balanced double beat valve



- for industrial and commercial applications
- for natural gas and all non-corrosive gaseous media
- fully balanced internal double valves assembly
- extremely high flow capacities
- positive, accurate and sensitive control
- can be fitted with full or reduced sized valves

max. inlet pressure:

BD-RMG 683 - 16 bar

BD-RMG 683S - 19 bar

(a power pilot control system is required on these regulators)

outlet pressure range:

BD-RMG 683 - 0.015 to 15.52 bar

BD-RMG 683S - 0.015 to 18.25 bar

sizes:

flanged DN 150, DN 200

temperature range:

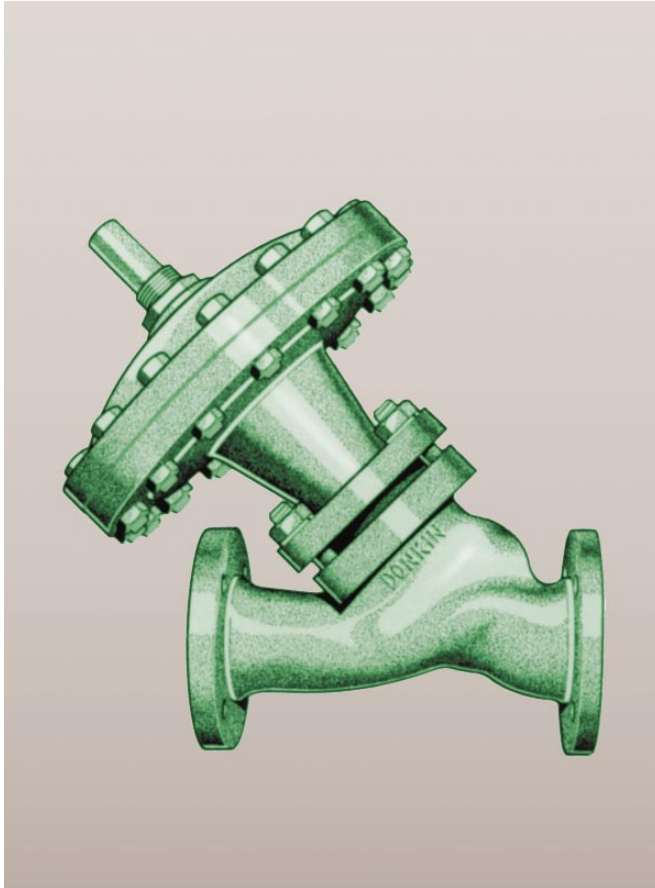
-20°C to +60°C

outlet pressure ranges with pilot RMG RS 10d						
load limiting unit			final control unit			
	outlet pressure range W_h in bar	wire dia. in mm	unit type	outlet pressure range W_h in bar	wire dia. in mm	P_{emax} in bar
M	0.1 to 1.5	3.3	N	0.006 to 0.060	3.0	100
				0.022 to 0.120	3.5	
				0.080 to 0.200	4.0	
				0.100 to 0.500	5.0	
	0.5 to 5	4.7	M	0.1 to 1.5	3.3	100
				0.2 to 2.5	4.0	
				0.3 to 3.5	4.5	

outlet pressure ranges with pilot RMG 650				
setpoint spring		colour	outlet pressure range W_h in bar	wire dia. in mm
control stage with diaphragm type measuring unit	1	grey	0.5 to 2	5.0
	2	yellow	1 to 5	5.6
	3	brown	2 to 10	6.3
	4	red	5 to 20	7.0

dimensions and weights		
series 683 & 683S	face-to-face in mm	weight in kg
DN 150	473	336
DN 200	569	431

pilot-operated, spring-loaded closed gas pressure regulator



- for industrial and commercial applications
- for natural gas and all non corrosive gaseous media
- cartridge-type construction allows easy unit withdrawal without removing body from the pipeline
- extremely high flow capacities
- positive, accurate and sensitive control
- easily replaceable seats

max. inlet pressure:

BD-RMG 700 - 16 bar

BD-RMG 701 - 19 bar

BD-RMG 702 - 50 bar

outlet pressure range:

BD-RMG 700/701 - 0.015 to 15 bar

BD-RMG 702 - 0.015 to 40 bar

sizes:

flanged to DN 50, DN 80, DN 100

temperature range:

-20°C to +60°C

outlet pressure ranges with pilot RMG RS 10d						
load limiting unit			final control unit			
	outlet pressure range W_h in bar	wire dia. in mm	unit type	outlet pressure range W_h in bar	wire dia. in mm	p_{max} in bar
M	0.1 to 1.5	3.3	N	0.006 to 0.060	3.0	100
				0.022 to 0.120	3.5	
				0.080 to 0.200	4.0	
				0.100 to 0.500	5.0	
	0.5 to 5	4.7	M	0.1 to 1.5	3.3	100
				0.2 to 2.5	4.0	
0.3 to 3.5				4.5		

outlet pressure ranges with pilot RMG 650				
setpoint spring		colour	outlet pressure range W_h in bar	wire dia. in mm
control stage with diaphragm type measuring unit	1	grey	0.5 to 2	5.0
	2	yellow	1 to 5	5.6
	3	brown	2 to 10	6.3
	4	red	5 to 20	7.0
	5	green	10 to 40	8.0

dimensions and weights		
series 700 & 701	face-to-face in mm	weight in kg
DN 50	267	36
DN 80	318	48
DN 100	368	74
series 702		
DN 50	267	55
DN 80	318	70
DN 100	368	112

pilot-operated gas pressure regulator



- ❑ for gas supply to municipal distribution systems, industrial and power stations
- ❑ for natural gas and all non-corrosive gaseous media
- ❑ large inlet pressure range
- ❑ diaphragm valve as control element

- ❑ pilot RMG 620 integrated in actuator head
- ❑ with or without incorporated safety cut-off valve for overpressure cut-off (OPCO) or under- and overpressure cut-off (UPCO/OPCO)
- ❑ few integral parts, easy maintenance, low noise

approved by DIN-DVGW

max. inlet pressure $p_{e \max}$ 50 bar
outlet pressure range W_h 0.02 bar to 40 bar
minimum pressure differential Δp 0.5 bar

safety shut-off valve response ranges
OPCO W_{ho} 0.030 bar to 14 bar
UPCO W_{hu} 0.005 bar to 40 bar

connections:

- ❑ DN outlet = DN inlet
DN 25 to DN 100
flanged to DINPN 25 and ANSI 150 RF
- ❑ DN outlet = 2 x DN inlet
DN 50/100, DN 80/150 and DN 100/200
flanged to DIN PN 16, PN 25 and PN 40,
flanged to ANSI 150 and ANSI 300 RF

valve data							
pipe size	DN 25	DN 50	DN 50/ DN 100	DN 80	DN 80/ DN 150	DN 100	DN 100/ DN 200
K_G -value in m ³ /h *)	350	1300	1500	3500	3800	5200	5500
face-to-face in mm	184	254	310	298	400	352	430

*) valve flowrate coefficient for natural gas ($\rho_n = 0.83 \text{ kg/m}^3$)

outlet pressure range				
pilot	setpoint spring			outlet pressure range W_h in bar
	no.	colour	dia. in mm	
RMG 620 ($p_{e \text{ max}}$ 25 bar)	2	blue	3.6	0.020 to 0.200
	3	yellow	5.6	0.100 to 0.500
	4	brown	6.3	0.200 to 1.000
	5	red	7.0	0.500 to 2.000
	6	green	8.0	1 to 4
RMG 630 ($p_{e \text{ max}}$ 50 bar)	1	yellow	5.6	1 to 5
	2	brown	6.3	2 to 10
	3	red	7.0	5 to 18
	4	green	8.0	10 to 40
load limiting stage		green	5.0	3 to 10 automatic above p_a
RMG 640 ($p_{e \text{ max}}$ 50 bar)	one-stage type for inlet pressure changes < 15 bar data as for RMG 630, but without load limiting stage			

precision categories RG and SG with pilot RMG 620		
p_a -range in bar	regulating precision RG	closing precision SG
$p_a \leq 0.030$	20	50
>0.030 to 0.100	10	30
>0.100 to 0.500	10	20
$p_a > 0.500$	5	10

precision categories RG and SG with pilot RMG 620

p_a -range in bar	regulating precision RG	closing precision SG
$p_a \leq 0.030$	20	50
>0.030 to 0.100	10	30
>0.100 to 0.500	10	20
$p_a > 0.500$	5	10

precision categories RG and SG with pilot RMG 630

p_a -range in bar	regulating precision RG	closing precision SG
1 to 3	5	10
>3 to 5	5	10
>5 to 40	2.5	10

precision categories RG and SG with pilot RMG 640

p_a -range in bar	regulating precision RG	closing precision SG
1 to 3	20	30
>3 to 5	10	20
>5 to 40	5	10

safety cut-off pressure ranges				
model / type		response pressure in bar	setpoint spring no.	setpoint spring colour
LP	OPCO	0.030 to 0.050	1068	green
		0.050 to 0.140	1041	metal
		0.130 to 0.250	1042	metal
MP1	OPCO	0.055 to 0.130	1158	white
		0.120 to 0.180	1159	gold
		0.170 to 0.300	1160	purple
		0.280 to 0.450	1130	white/yellow
	0.400 to 0.600	1131	white/green	
	UPCO	0.050 to 0.150	1104	purple
MP2	OPCO	0.500 to 0.880	1132	white/blue
		0.700 to 1.200	1133	white/red
		1.000 to 1.800	1134	white/grey
		1.500 to 2.900	1135	white/brown
	UPCO	0.050 to 0.150	1104	purple
MP4	OPCO	2.000 to 4.000	1192	white/purple
	UPCO	0.050 to 0.150	1104	purple
HP	OPCO	3.0 to 14.0	1197	blue