

# Mark 608BP Series

## Balanced Plug Gas Pressure Regulators

The Mark 608BP Balanced Plug Gas Pressure Regulator is the ideal valve for low pressure gas regulation with higher inlet pressures. The self-contained low pressure gas regulator is for use on tank blanketing, gas meter inlet pressure regulating, gas burners and other low pressure air and gas applications.

The Mark 608BP is normally open. Changes in the outlet pressure are registered through the sensing line, causing the large elastomer diaphragm to rise, which moves the plug toward the seat. As outlet pressure decreases, the diaphragm moves down and moves the plug away from the seat to increase flow. The lever, which connects the stem to the diaphragm, amplifies diaphragm forces for tighter shutoff.

### FEATURES

- Inlet pressures up to 150 psi (10 bar)
- Rugged, heavy-duty design – emergency outlet pressure may reach 100% on inlet pressure without damaging valve
- 360° body orientation – valve can be installed in any position, and can be easily repositioned while in-line
- Easy maintenance – seat and plug can be inspected without removing body from the line
- Completely self-operated – no external power source required
- Tight shutoff – soft elastomer plug provides ANSI Class VI shutoff



## SPECIFICATIONS

**Sizes:** 3/4" (DN20), 1" (DN25)

### End Connections

- Threaded – NPT, SWE, BSPT, BSPP
- Flanged – 150#, 300#, PN16, PN40

### Materials

- Body: Carbon Steel (A216, WCB), Stainless Steel (A351/CF8M)
- Seat: Stainless Steel (CS/SS)
- Plug: Stainless Steel and Buna-N; Stainless Steel and Viton (CS & SS body)
- Diaphragm: Buna-N/Nylon; Viton (CS & SS body)
- Guide: Delrin; optional PTFE
- Actuator Cases: CS for CS; SST for SST
- Others upon request

**Service:** air or gas

**Shutoff:** ANSI Class VI

**Temperature Range:** -20°F (-29°C) to 200°F (93°C)

**Maximum Inlet Pressure:** 150 psi (10 bar)

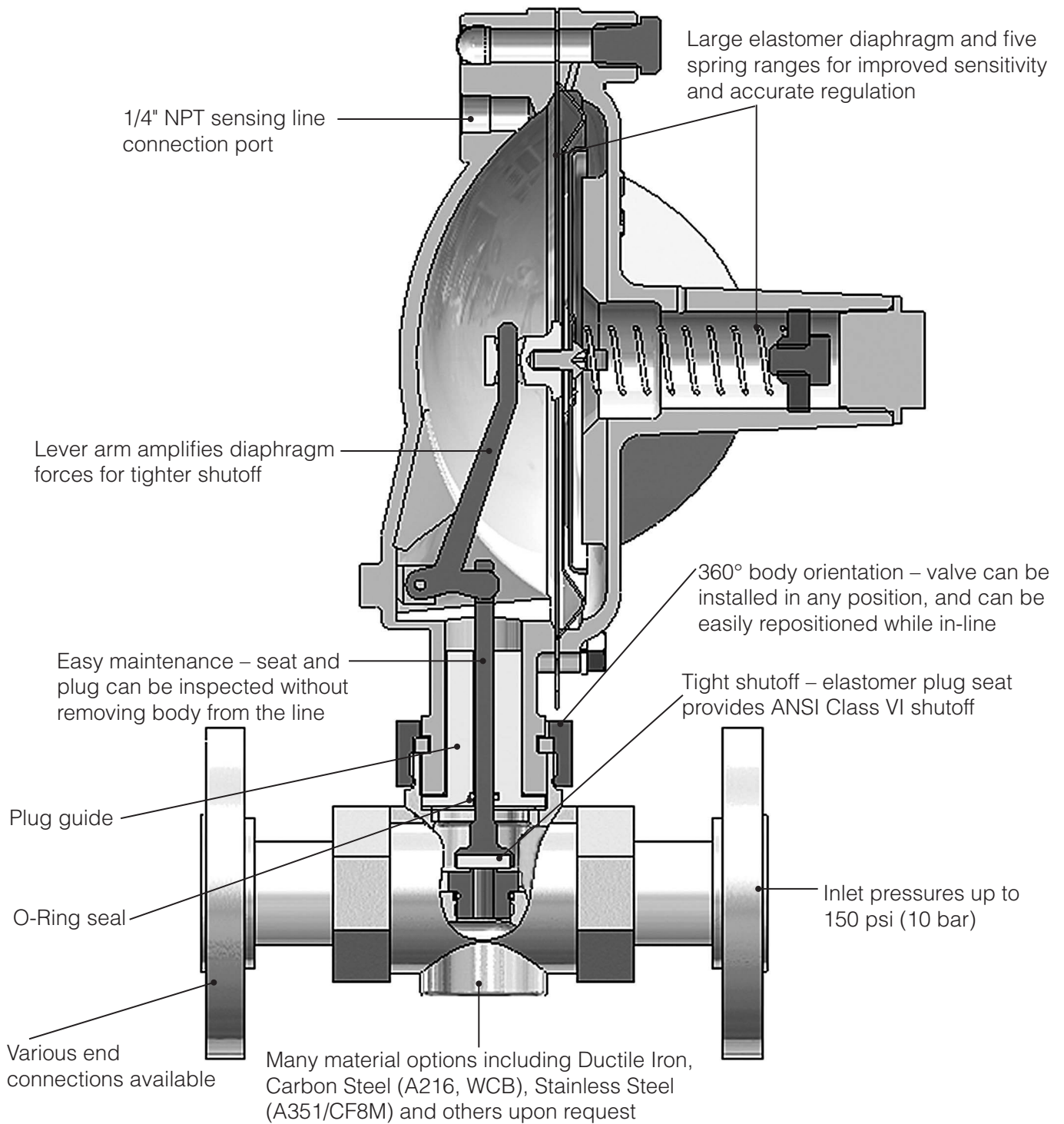
### Reduced Pressure Control Range

- \* 2.0 to 5.5 inches w.c. (5,0 to 13,7 mbar)
- \* 4.0 to 10.0 inches w.c. (10,0 to 24,9 mbar)
- 5.0 to 30.0 inches w.c. (12,4 to 74,7 mbar)
- 0.5 to 1.75 psig (0,03 to 0,12 bar)
- 1.0 to 3.5 psig (0,07 to 0,24 bar)

\* 1/4" orifice only

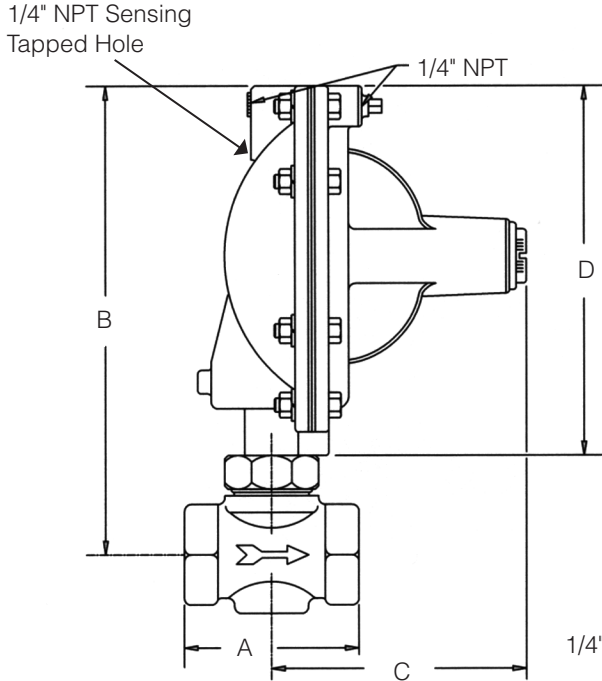
**Orifice Sizes (interchangeable):** 1/4" (6mm), 5/16" (8mm), 3/8" (10mm)

MARK 608BP BALANCED PLUG GAS PRESSURE REGULATOR



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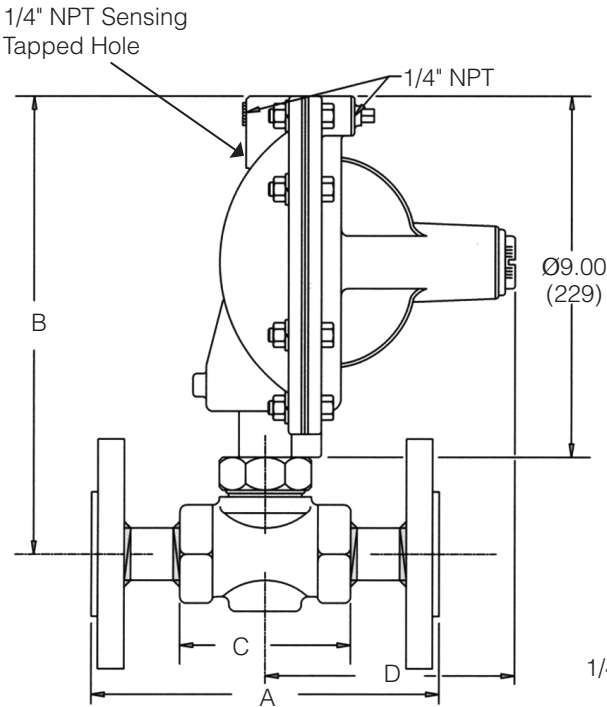
**DIMENSIONS NPT, SWE, BSPT, BSPP ENDS**



Valve Size	Dimensions (inches)				Weight lbs
	A	B	C	D	
3/4"	3.88	11.31	5.75	9.00	15
1"	3.88	11.31	5.75	9.00	15

Valve Size	Dimensions (metric)				Weight kgs
	A	B	C	D	
DN20	99	287	146	229	6,8
DN25	99	287	146	229	6,8

**DIMENSIONS FLANGED ENDS**



Valve Size	Ends	Dimensions (inches)				Weight lbs
		A	B	C	D	
3/4"	150FE	7.25	11.31	3.88	5.75	24
	300FE	7.50	11.31	3.88	5.75	27
1"	150FE	7.25	11.31	3.88	5.75	24
	300FE	7.75	11.31	3.88	5.75	27

Valve Size	Ends	Dimensions (mm)				Weight kgs
		A	B	C	D	
DN20	150FE	184	287	99	146	10,8
	300FE	191	287	99	146	12,2
DN25	150FE	184	287	99	146	10,8
	300FE	197	287	99	146	12,2

**3/4" MK608BP FLOW CAPACITIES WITH 1/4" ORIFICE (scfh)**

Range	Setpoint	Inlet Pressure	330Nitrogen @ 0.97sg		
			Deviation from Setpoint (in/water)		
			+/- 0.5	+/- 1.0	+/- 2.0
2 - 5.5" w.c.	2" w.c.	5	212	424	460
		20	516	1408	1595
		40	2003	2121	2239
		60	2891	3029	3167
		80	3876	4031	4031
		100	4948	5119	5119
		125	6402	6590	6590
		150	7539	7759	7759
2 - 5.5" w.c.	4" w.c.	5	247	354	566
		20	1126	1408	1408
		40	2121	2356	2356
		60	3029	3167	3167
		80	3876	4031	4031
		100	4948	5119	5119
		125	6025	6402	6402
		150	7099	7539	7539
4 - 10" w.c.	7" w.c.	5	141	283	354
		20	188	798	1126
		40	589	2121	2239
		60	1102	2891	3029
		80	1395	3876	3876
		100	4607	4948	5119
		125	5837	6214	6590
		150	6879	7319	7759
5 - 30" w.c.	20" w.c.	5	71	141	247
		20	141	235	422
		40	236	412	707
		60	138	413	964
		80	233	465	1240
		100	341	682	4265
		125	282	659	5272
		150	330	771	6219
0.5 - 1.75 psi	1 psi	5	71	141	354
		20	235	469	1126
		40	412	825	2121
		60	620	1239	3029
		80	775	3411	3876
		100	938	1791	4777
		125	1036	5084	5837
		150	1210	5998	6879
1 - 3.5 psi	3 psi	5	247	389	495
		20	704	1126	1408
		40	1119	2239	2356
		60	2754	2891	3029
		80	3566	3721	3876
		100	4436	4948	4948
		125	5461	5649	6025
		150	6439	6659	7099

**3/4" MK608BP FLOW CAPACITIES WITH 5/16" ORIFICE (scfh)**

Range	Setpoint	Inlet Pressure	330Nitrogen @ 0.97sg		
			Deviation from Setpoint (in/water)		
			+/- 0.5	+/- 1.0	+/- 2.0
5 - 30" w.c.	20" w.c.	5	71	283	212
		20	188	563	469
		40	118	943	825
		60	344	1377	1102
		80	310	1860	1473
		100	299	2218	1706
		125	188	2824	1789
		150	220	3301	2091
0.5 - 1.75 psi	1 psi	5	159	283	636
		20	282	563	1783
		40	471	943	2592
		60	551	1377	3442
		80	775	1860	6201
		100	1365	2218	7166
		125	1318	2824	8850
		150	1541	3301	10456
1 - 3.5 psi	3 psi	5	354	707	919
		20	845	1877	2158
		40	1296	2946	3535
		60	2065	4819	5095
		80	2636	6046	6511
		100	3242	7166	8019
		125	3766	8850	9415
		150	4458	10456	11117

**3/4" MK608BP FLOW CAPACITIES WITH 3/8" ORIFICE (scfh)**

Range	Setpoint	Inlet Pressure	330Nitrogen @ 0.97sg		
			Deviation from Setpoint (in/water)		
			+/- 0.5	+/- 1.0	+/- 2.0
5 - 30" w.c.	20" w.c.	5	106	177	354
		20	188	282	610
		40	236	471	1296
		60	138	344	1239
		80	310	775	1783
		100	682	1365	3242
		125	565	1224	1695
		150	661	1431	1981
0.5 - 1.75 psi	1 psi	5	141	283	813
		20	375	704	2065
		40	530	1178	3181
		60	620	1515	4544
		80	698	1783	5891
		100	768	2218	7337
		125	1036	2448	8285
		150	1210	2862	9740
1 - 3.5 psi	3 psi	5	495	849	1131
		20	892	1971	3003
		40	1767	3417	4595
		60	2203	4681	6747
		80	2248	5581	7907
		100	2986	4948	10578
		125	3766	8097	11863
		150	4458	9520	13978

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**1" MK608BP FLOW CAPACITIES WITH 1/4" ORIFICE (scfh)**

Range	Setpoint	Inlet Pressure	Nitrogen @ 0.97sg		
			Deviation from Setpoint (in/water)		
			+/- 0.5	+/- 1.0	+/- 2.0
2 - 5.5" w.c.	2" w.c.	5	71	389	495
		20	751	1220	1220
		40	2356	2356	2356
		60	3029	3167	3167
		80	4186	4186	4341
		100	5460	5460	5460
		125	6590	6779	6779
2 - 5.5" w.c.	4" w.c.	5	212	441	530
		20	516	1126	1501
		40	1296	2298	2356
		60	3167	3029	3098
		80	4108	4186	4186
		100	3412	5119	5119
		125	6025	6025	6025
4 - 10" w.c.	7" w.c.	5	247	354	495
		20	352	845	1408
		40	471	1650	2415
		60	757	3167	3167
		80	1240	4031	4263
		100	5119	5119	5289
		125	6214	6214	6214
5 - 30" w.c.	20" w.c.	5	53	141	247
		20	164	258	422
		40	236	530	943
		60	275	551	1239
		80	388	620	1860
		100	512	1024	2047
		125	753	1506	2260
0.5 - 1.75 psi	1 psi	5	141	212	530
		20	282	1314	1408
		40	471	1060	2239
		60	551	1239	3167
		80	775	1550	2636
		100	1194	2218	4777
		125	1318	2260	6025
1 - 3.5 psi	3 psi	5	318	707	707
		20	657	1501	1501
		40	1296	2239	2356
		60	2891	3029	3167
		80	3876	4186	4341
		100	4777	5119	5289
		125	5649	5837	6026
		150	6659	6879	7099



**1" MK608BP FLOW CAPACITIES WITH 5/16" ORIFICE (scfh)**

Range	Setpoint	Inlet Pressure	Nitrogen @ 0.97sg		
			Deviation from Setpoint (in/water)		
			+/- 0.5	+/- 1.0	+/- 2.0
5 - 30" w.c.	20" w.c.	5	141	212	424
		20	188	375	563
		40	236	471	825
		60	207	413	964
		80	233	620	1860
		100	341	853	2730
		125	377	753	3013
		150	446	881	3577
0.5 - 1.75 psi	1 psi	5	71	212	530
		20	235	610	1689
		40	412	825	2710
		60	551	1033	4819
		80	620	1705	6046
		100	853	1877	6995
		125	753	2260	8473
		150	881	2642	10016
1 - 3.5 psi	3 psi	5	566	884	1273
		20	657	1689	2065
		40	1296	2592	3535
		60	1928	4819	5095
		80	2480	6201	6511
		100	3242	7166	8019
		125	4142	8662	9791
		150	4898	10236	11556

**1" MK608BP FLOW CAPACITIES WITH 3/8" ORIFICE (scfh)**

Range	Setpoint	Inlet Pressure	Nitrogen @ 0.97sg		
			Deviation from Setpoint (in/water)		
			+/- 0.5	+/- 1.0	+/- 2.0
5 - 30" w.c.	20" w.c.	5	106	177	354
		20	188	282	610
		40	236	471	1296
		60	138	344	1239
		80	310	775	1783
		100	682	1365	3242
		125	565	1224	1695
		150	661	1431	1981
0.5 - 1.75 psi	1 psi	5	141	283	813
		20	375	704	2065
		40	530	1178	3181
		60	620	1515	4544
		80	698	1783	5891
		100	768	2218	7337
		125	1036	2448	8285
		150	1210	2862	9740
1 - 3.5 psi	3 psi	5	495	849	1131
		20	892	1971	3003
		40	1767	3417	4595
		60	2203	4681	6747
		80	2248	5581	7907
		100	2986	4948	10578
		125	3766	8097	11863
		150	4458	9520	13978

**ORDERING SCHEMATIC**

Model No	Size	Body Mat'l	1	2	3	4	5	6	7	8	9	10	11	12

	Model
608BP	Standard

	Size
075	3/4" (DN20)
100	1" (DN25)

	Body Material
CS	Carbon Steel (WCB)
S6	Stainless Steel (CF8M)

1 & 2	End Connections
PT	NPT
BT	BSPT
BP	BSPP
SW	FSW
F1	125#FE
F5	150# FE
F2	250# FE
F3	300# FE
F7	PN10 DIN FE
F6	PN16 DIN FE
F8	PN25 DIN FE
F4	PN40 DIN FE
ZZ	Non-Standard

3 & 4	Orifice	
	inches	mm
03	1/4"	6mm
04	5/16"	8mm
05	3/8"	10mm
ZZ	Non-Standard	

5 & 6	Range	
	W.C.	mbar
02	* 2 - 5.5" W.C.	* 5,0 - 13,7 mbar
03	* 4 - 10" W.C.	* 10,0 - 24,9 mbar
04	5 - 30" W.C.	12,4 - 74,7 mbar
05	0.5 - 1.75 psi	0.03 - 0.12 mbar
06	1 - 3.5 psi	0,07 - 0,24 mbar
ZZ	Non-Standard	

\* 1/4" orifice only

7 & 8	Actuator
SD	Standard
ZZ	Non-Standard

9 & 10	Bushing
00	None

11 & 12	PED Compliance
00	Not Required
0F	CE Category 1
0G	SEP Compliant
ZZ	Non-Standard

