210 SERIES
Balanced Valve Design

The 210 series is a lock-up type regulator. The balanced valve design makes it possible to maintain steady outlet pressure control with widely varying inlet pressures. The regulator has an integrated dampening mechanism in the breather outlet and the sensing tube to improve regulating stability and reduce hunting tendencies. The 210 series provides precise regulation over a wide range of pressures and flow rates. Applications include gas-fired boilers, steam generators, industrial furnaces, and ovens.

210E

Specifications

Pipe Sizes.....1" to 3" threaded connections with NPT or ISO7-1 threads. 4" 125 lb. flange (210J only).

Housing Material ..... 210D, 210E, 210G, 210J: aluminum.

Mounting..... Mount in an upright position only.
NOTE: All Maxitrol gas pressure regulators should be installed and operated in accordance with Maxitrol Safety Warning Instructions (see GPR_MI_EN.ES or GPR_CSA_MI_EN.FR).

Certifications..... 210D, 210E, 210G: ANSI Z21.18/CSA 6.3 Gas Appliance Pressure Regulators.

Gas Types..... Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures.

Maximum Inlet Pressure..... CSA Certified: 210D, 210E, 210G: 10 psi (69 kPa)
Maxitrol Tested: 210J: 10 psi (69 kPa)

Emergency Exposure Limits ..... 210D, 210E, 210G, 210J: 25 psi (172 kPa)

Ambient Temperature Ranges.... -40° to 200°F (-40° to 93°C)

Sensing Taps ..... Convenient tap locations are available for downstream sensing, cross connections, and differential control. Four locations can be tapped and plugged for measuring pressure.

Remote Sensing..... 210D, 210E, 210G models may be ordered with remote sensing. The internal sensing tube is omitted and external sensing taps are provided. Add suffix letter "R" to model number when ordering.

Zero Governor Models..... Please refer to pages 32-37 for 210Z model information.

Minimum Regulation..... 210D: 25 CFH; 210G, 201E: 50 CFH; 210J: 100 CFH.

210 SERIES
Balanced Valve Design

Capacities

Capacities expressed in CFH (m^3/h) @ 0.64 sp gr gas

Model	Pipe Size	Inlet Pressure	Outlet Pressure - inches w.c. (kPa)								
			2.0 (0.5)	4.0 (1.0)	6.0 (1.5)	9.0 (2.25)	12 (3.0)	16 (4.0)	20 (5.0)	24 (6.0)	28 (7.0)
210D	1 1/4″ x 1 1/4″	**8.0″ w.c.**	3000 (84.9)	2400 (68.0)	1700 (48.1)	---	---	---	---	---	---
		0.5 psi	4000 (113)	3905 (111)	3400 (96.3)	2700 (76.5)	---	---	---	---	---
		0.75 psi	4000 (113)	5000 (142)	4700 (133)	4200 (119)	3700 (105)	2700 (76.5)	---	---	---
		1 psi	4000 (113)	5000 (142)	5000 (142)	5300 (150)	4900 (139)	4200 (119)	3400 (96.3)	2400 (68.0)	---
		1.5 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6000 (170)	5700 (161)	5200 (147)	4600 (130)
		2 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)
		3 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)
		5 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)
		7.5 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)
		10 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)

Capacities expressed in CFH (m^3/h) @ 0.64 sp gr gas

Model	Pipe Size	Inlet Pressure	Outlet Pressure - inches w.c. (kPa)								
			2.0 (0.5)	4.0 (1.0)	6.0 (1.5)	9.0 (2.25)	12 (3.0)	16 (4.0)	20 (5.0)	24 (6.0)	28 (7.0)
210D	1 1/2″ x 1 1/2″	**8.0″ w.c.**	3100 (87.8)	2500 (70.8)	1800 (51.0)	---	---	---	---	---	---
		0.5 psi	4000 (113)	4000 (113)	3600 (102)	2800 (79.3)	---	---	---	---	---
		0.75 psi	4000 (113)	5000 (142)	5000 (142)	4400 (125)	3800 (108)	2800 (79.3)	---	---	---
		1 psi	4000 (113)	5000 (142)	5000 (142)	5600 (159)	5100 (144)	4400 (125)	3600 (102)	2500 (70.8)	---
		1.5 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6500 (184)	6000 (170)	5400 (153)	4800 (136)
		2 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)	6500 (184)
		3 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)	6500 (184)
		5 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)	6500 (184)
		7.5 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)	6500 (184)
		10 psi	4000 (113)	5000 (142)	5000 (142)	6000 (170)	6000 (170)	6500 (184)	6500 (184)	6500 (184)	6500 (184)

NOTE: CSA maximum capacities vary with spring range and pipe size. Please contact Maxitrol directly for CSA maximums.
See pages 58-59 for Regulator Sizing Requirements and Examples.

210 SERIES
Balanced Valve Design

Pressure Drop: inches w.c. (kPa)

Flow Rate CFH (m^3/h)	210D			210E		210G		210J
	1″	1 1/4″	1 1/2″	1 1/2″	2″	2 1/2″	3″	4″
500 (14.2)	0.23 (0.06)	0.15 (0.04)	0.14 (0.03)	---	---	---	---	---
1000 (28.3)	0.92 (0.23)	0.59 (0.15)	0.54 (0.13)	0.27 (0.07)	0.20 (0.05)	0.05 (0.01)	0.04 (0.009)	0.01 (0.002)
1500 (42.5)	2.08 (0.52)	1.33 (0.33)	1.22 (0.30)	---	---	---	---	---
2000 (56.6)	3.07 (0.76)	2.37 (0.59)	2.16 (0.54)	1.09 (0.27)	0.82 (0.20)	0.20 (0.05)	0.17 (0.04)	0.05 (0.01)
2500 (70.8)	5.78 (1.44)	3.70 (0.92)	3.38 (0.84)	---	---	---	---	---
3000 (85.0)	8.32 (2.07)	5.33 (1.33)	4.87 (1.21)	2.46 (0.61)	1.84 (0.46)	0.45 (0.11)	0.37 (0.09)	0.12 (0.03)
3500 (99.1)	11.33 (2.82)	7.25 (1.81)	6.62 (1.65)	---	---	---	---	---
4000 (113)	14.79 (3.68)	9.47 (2.36)	8.65 (2.15)	4.37 (1.09)	3.28 (0.82)	0.80 (0.20)	0.66 (0.16)	0.21 (0.05)
4500 (127)	18.72 (4.66)	11.98 (2.98)	10.95 (2.73)	---	---	---	---	---
5000 (142)	23.11 (5.76)	14.79 (3.68)	13.52 (3.37)	6.82 (1.70)	5.12 (1.28)	1.25 (0.31)	1.03 (0.26)	0.34 (0.08)
5500 (156)	27.97 (6.97)	17.90 (4.46)	16.35 (4.07)	---	---	---	---	---
6000 (170)	33.28 (8.29)	21.30 (5.30)	19.46 (4.85)	9.82 (2.45)	7.37 (1.84)	1.80 (0.45)	1.48 (0.37)	0.49 (0.12)
6500 (184)	---	25.00 (6.23)	22.84 (5.69)	---	---	---	---	---
7000 (198)	---	28.99 (7.22)	26.49 (6.60)	13.36 (3.33)	10.05 (2.50)	2.45 (0.61)	2.02 (0.50)	0.66 (0.16)
7500 (212)	---	---	30.41 (7.57)	---	---	---	---	---
8000 (226)	---	---	---	17.45 (4.35)	13.10 (3.26)	3.20 (0.80)	2.64 (0.66)	0.87 (0.22)
8500 (241)	---	---	---	---	---	---	---	---
9000 (255)	---	---	---	22.10 (5.50)	16.60 (4.13)	4.05 (1.01)	3.35 (0.83)	1.10 (0.27)
9500 (269)	---	---	---	---	---	---	---	---
10000 (283)	---	---	---	27.30 (6.80)	20.50 (5.11)	5.00 (1.24)	4.15 (1.03)	1.35 (0.34)
11000 (311)	---	---	---	33.00 (8.22)	24.80 (6.18)	6.05 (1.51)	5.00 (1.24)	---
12000 (340)	---	---	---	39.30 (9.79)	29.50 (7.35)	7.20 (1.79)	5.95 (1.48)	1.95 (0.48)
13000 (368)	---	---	---	---	34.60 (8.62)	8.50 (2.12)	7.00 (1.74)	---
14000 (369)	---	---	---	---	40.15 (10.00)	9.85 (2.45)	8.10 (2.01)	2.68 (0.67)
15000 (425)	---	---	---	---	---	11.30 (2.81)	9.30 (2.32)	---
16000 (453)	---	---	---	---	---	12.85 (3.20)	10.60 (2.64)	3.47 (0.86)
17000 (481)	---	---	---	---	---	14.50 (3.61)	11.95 (2.98)	---
18000 (510)	---	---	---	---	---	16.25 (4.05)	13.40 (3.34)	4.40 (1.09)
19000 (538)	---	---	---	---	---	18.10 (4.51)	14.90 (3.71)	---
20000 (566)	---	---	---	---	---	20.05 (4.99)	16.50 (4.11)	5.42 (1.35)
22000 (623)	---	---	---	---	---	24.25 (6.40)	20.00 (4.98)	6.56 (1.63)
24000 (680)	---	---	---	---	---	28.85 (7.19)	23.80 (5.93)	7.81 (1.94)
26000 (736)	---	---	---	---	---	33.85 (8.43)	27.90 (6.95)	9.06 (2.26)
28000 (793)	---	---	---	---	---	39.25 (9.78)	32.40 (8.07)	10.62 (2.64)
30000 (849)	---	---	---	---	---	---	37.20 (9.27)	12.41 (3.09)
32000 (906)	---	---	---	---	---	---	---	13.90 (3.46)
34000 (963)	---	---	---	---	---	---	---	15.69 (3.91)
36000 (1019)	---	---	---	---	---	---	---	17.60 (4.38)
38000 (1076)	---	---	---	---	---	---	---	19.60 (4.88)
40000 (1133)	---	---	---	---	---	---	---	21.70 (5.40)
45000 (1274)	---	---	---	---	---	---	---	27.40 (6.82)
50000 (1416)	---	---	---	---	---	---	---	33.80 (8.42)
55000 (1557)	---	---	---	---	---	---	---	41.00 (10.21)

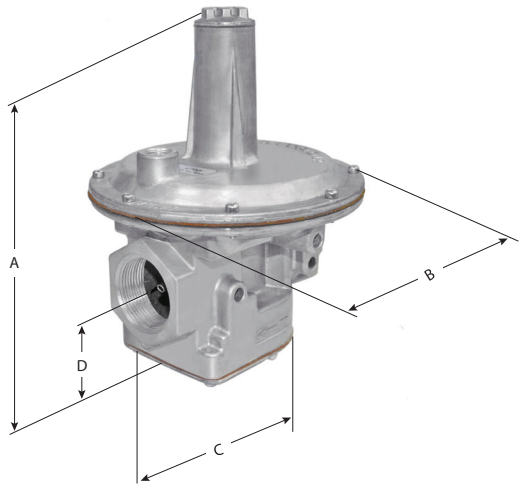
NOTE: The minimum capacities for the different models listed on the capacity charts and represented by the heavy line on the pressure drop are values at which these controls have been certified by CSA (except for the 210J). See pages 58-59 for Regulator Sizing Requirements and Examples.

210 SERIES
Balanced Valve Design

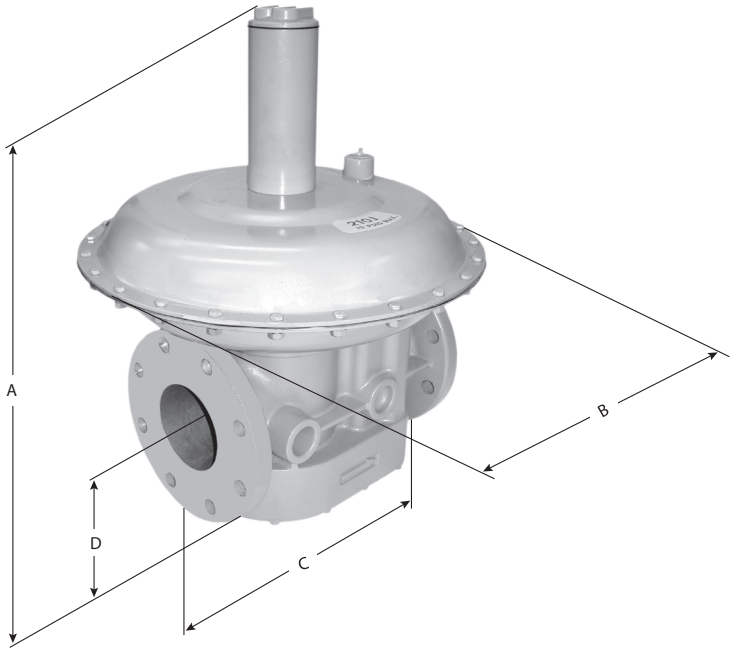
Dimensions

Model	Pipe Size	Vent Connection	Swing Radius	Dimensions			
				A	B	C	D
210D	1″, 1 1/4″, 1 1/2″	1/2″ NPT	5.4″ (138 mm)	9″ (228 mm)	7″ (178 mm)	5.5″ (140 mm)	2.4″ (62 mm)
210E	1 1/2″, 2″	3/4″ NPT	8.3″ (211 mm)	11.3″ (286)	9.1″ (232 mm)	7.6″ (194 mm)	2.3″ (59 mm)
210G	2 1/2″, 3″	3/4″ NPT	11.9″ (302 mm)	16.1″ (408 mm)	13.4″ (341 mm)	10.4″ (264 mm)	4.3″ (107 mm)
210J	4″	3/4″ NPT	18″ (457 mm)	24.3″ (616 mm)	18″ (457 mm)	13.3″ (349 mm)	5.4″ (138 mm)

NOTE: Dimensions are maximums and to be used only as an aid in designing clearance for the valve. Actual production dimensions may vary somewhat from those shown.



210D, 210E, 210G



210J