

# 210 SERIES

## BALANCED VALVE DESIGN

The 210 Series is a lockup characteristic regulator. Its 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.

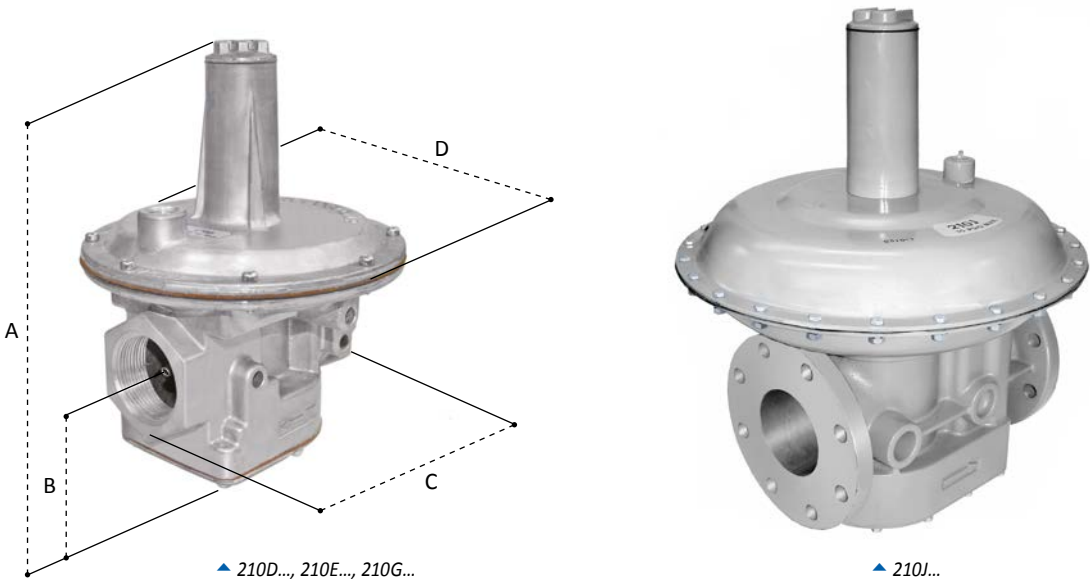
### Specifications

- **Pipe Sizes:**
  - 210D, 210E, 210G: Rp 1 to Rp 3 threaded connections according to ISO 7-1/EN10226-1
  - 210J: DN100 flanged connections according to ISO 7005-2, PN 16
- **Housing Material:**
  - 210D, 210E, 210G: Aluminum
  - 210J: Cast iron
- **Internal Components Material:** Steel, aluminum, brass, elastomer
- **Mounting:** Suitable for multi-positional mounting. Other than upright position will result in a slight difference in outlet pressure. If ball check vent limiting device is installed, mount in an upright position only. Install with gas flowing as indicated by the arrow on bottom casting.
- **Construction and Design/Certifications:** According to the Gas Appliances Regulation 2016/426/EU and EN 88-1
- **Gas Types:** Suitable for gases of EN 437 gas family 1, 2, and 3
- **Maximum Inlet Pressure:** 85 kPa
- **Ambient Temperature Range:** -15 °C to 80 °C
- **Capacities:** See flow chart, page 22

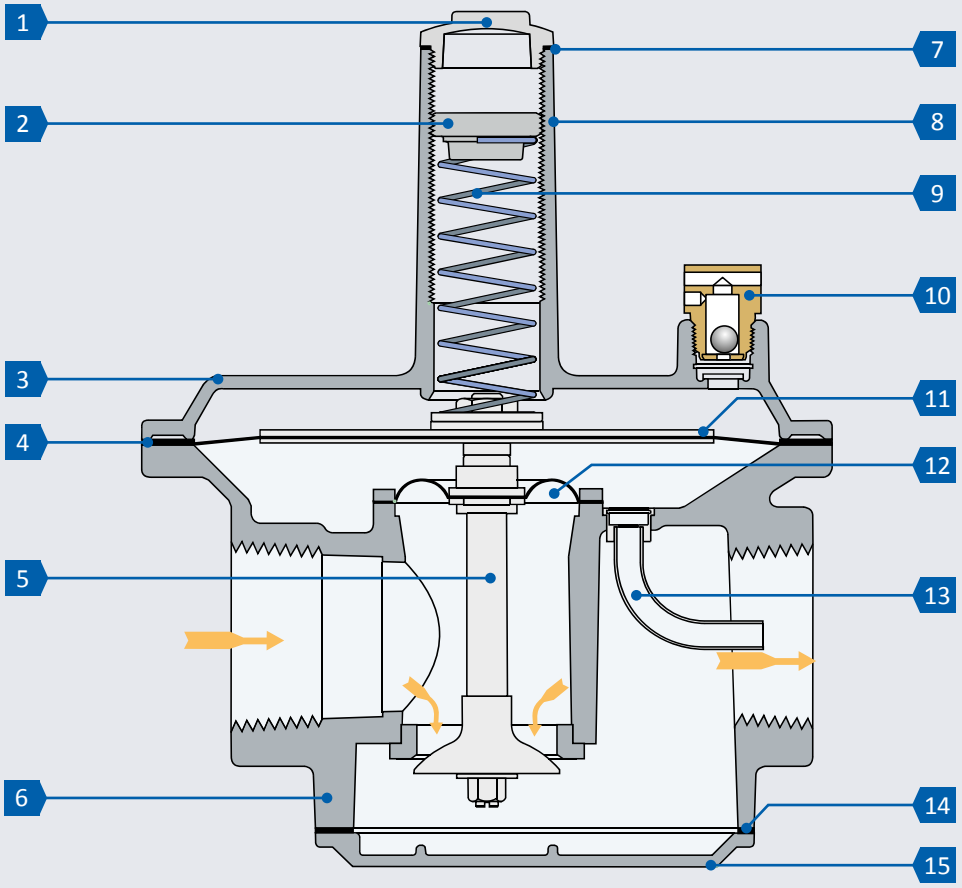
### Dimensions

Model	Pipe Size	Swing Radius	Dimensions			
			A	B	C	D
210D...	Rp 1, Rp 1 ¼, Rp 1 ½	138 mm	228 mm	60 mm	152 mm	178 mm
210E...	Rp 1 ½, Rp 2	211 mm	286 mm	75 mm	203 mm	232 mm
210G...	Rp 2 ½, Rp 3	302 mm	419 mm	116 mm	300 mm	343 mm
210J...	DN100	467 mm	616 mm	138 mm	349 mm	457 mm

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



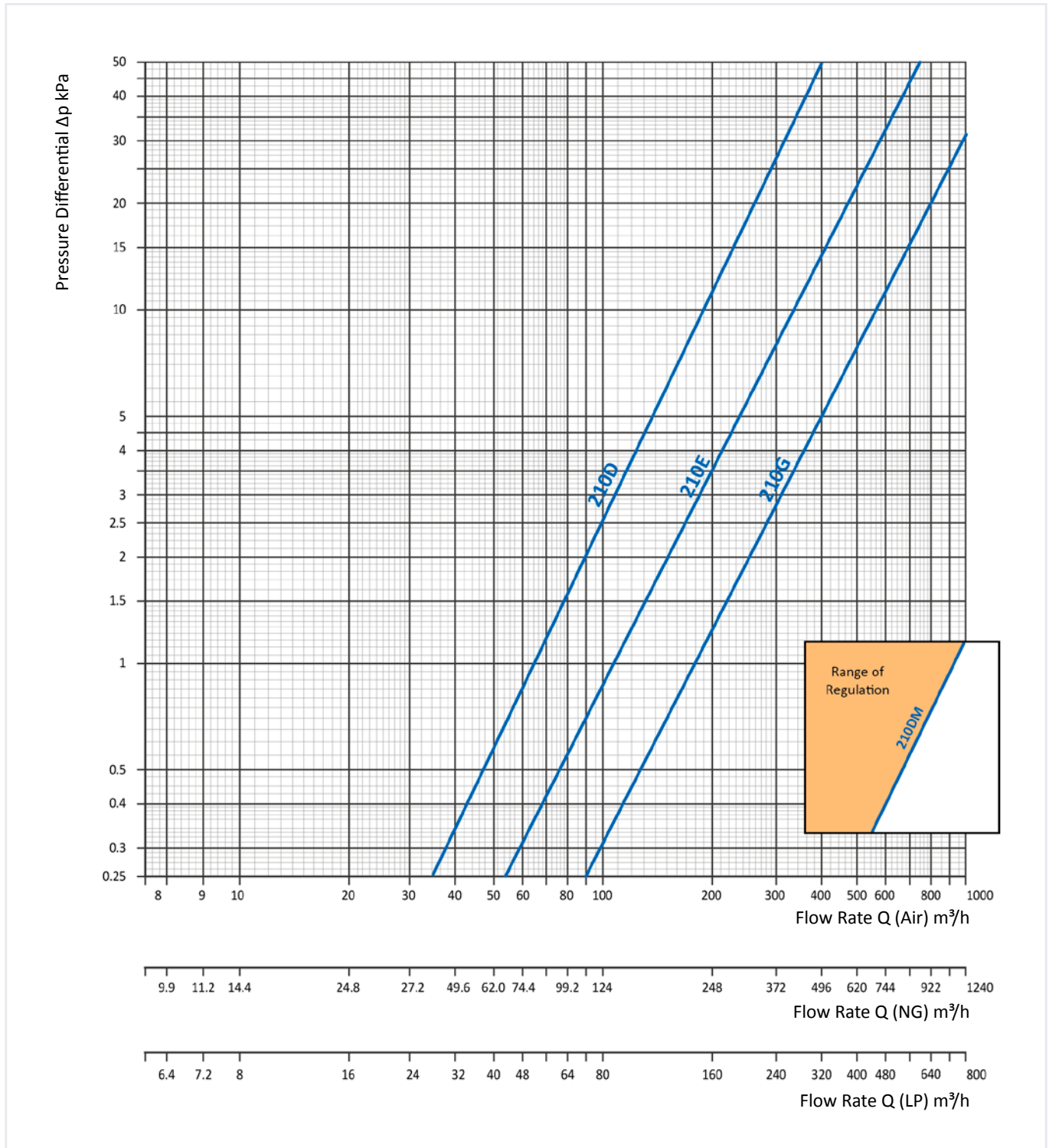
Components



**NOTE:** Diagrams are graphical representations only and may differ from actual product.

- 1 Welch Plug/Seal Cap
- 2 Vibration Resistant Adjusting Screw
- 3 Top Housing
- 4 Regulating Diaphragm
- 5 Stem & Valve
- 6 Bottom Housing
- 7 Seal Cap Gasket
- 8 Stack
- 9 Spring
- 10 Vent Limiting Device
- 11 Diaphragm Plates
- 12 Balancing Diaphragm
- 13 Sensing Tube
- 14 Bottom Plate Gasket
- 15 Bottom Plate

## 210/210Z Series Appliance Regulators – Balanced Valve and Zero Pressure Regulator Design



**NOTE:** The given flow rates are approximate values. Actual flow rates may vary somewhat from those shown.