

Product Overview | Ratio Regulator

7216 Variable Ratio Regulators are used with nozzle-mix burners to achieve temperature uniformity while using minimum excess air. Molded diaphragms ensure excellent tracking and repeatability, maximum flows, and superior turndown. A high quality stainless steel spring is used to bias 7216 Regulator air/gas ratio. As air rate is turned down towards low fire, gas rate drops faster, giving increasing percentages of excess air (see Figure 2). Reduced total air means greater fuel economy.

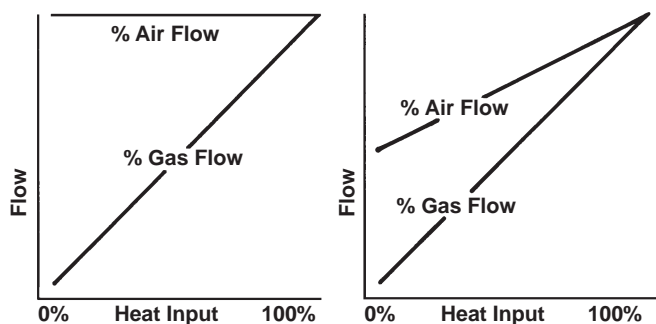


Figure 1. Constant air throttled fuel control.

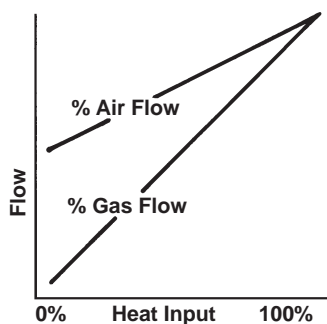


Figure 2. 7216 Regulator control.

Adjustment. Regulators are set at zero bias as shipped. To set regulator bias, loosen locknut at base of spring cartridge, turn spring cartridge counterclockwise (do not remove cap), and retighten locknut. Set as negative as necessary to get temperature uniformity at low fire.

Where available gas pressure at the 7216 inlet is less than 2 psi above maximum combustion air pressure, use a bleeder in the air impulse line. See Bulletin 8654 or Instructions 7218-2.

If 1:1 ratio control is required at all firing rates, a 7218 Ratio Regulator is recommended, rather than a 7216. In some multi-purpose furnaces, 7216 and 7218 Regulators are piped in parallel with an isolation shutoff valve ahead of each. This permits holding constant ratio from high fire to low using the 7218, or variable ratio operation with the 7216.

7216-BP BY-PASS OPTION

The 7216 spring gives the regulator the ability to lock-up for use with a By-Pass Kit. The By-Pass Kit is used to maintain low fire with low or no impulse pressure to the regulator. Make sure to set the by-pass flow rate before adjusting the regulator spring to its desired operating point.

A By-Pass Kit is also offered for adding this option to a regulator already in the field. Order the appropriate kit by the following part number:

2-7168-1 By-Pass Kit for	7216-01, -0, -1
2-7168-3	7216-2
2-7168-4	7216-3
2-7168-5	7216-4
2-7168-6	7216-5
2-7168-7	7216-6
2-7168-8	7216-7

SPECIFICATIONS

Diaphragm Cover and Case: Unpainted Aluminum

Body: Cast Iron

Seat: SST

Shaft: SST

Balancing Diaphragm: BUNA/Nylon (Standard)
FKM/Polyester (7216-V)

Gas Diaphragm: BUNA/Nylon (Standard)
FKM/Nomex (7216-V)

Maximum Inlet/Outlet Pressure: 2 psi

Emergency Pressure: 5 psi
(resulting in internal parts damage)

Maximum Ambient Temperature: 180°F (Standard)
350°F (7216-V)

Minimum Ambient Temperature: -20°F (Standard and -V)

Low Fire Accuracy at <3"wc impulse:

Spring bias setting capabilities: +0.2"w.c. to -7"w.c.
Repeatability: ± 0.05 "w.c.

High Fire Accuracy at 3" to 41.5"wc impulse:

Impulse/outlet pressure offset: 0.5 to 5% plus bias on regulator
Repeatability: ± 0.3 "w.c.

Low Fire By-Pass:

1/8" NPT Brass needle valve (CV .4)
Steel tubing, and brass fittings