Model 243 Regulator Illustrations

243-12-2
IRV Regulator (as shown)

243-12-1
Same as IRV Regulator except no internal relief valve and standard cover cap as shown in inset.

PIPE SIZES
2" flanged ANSI 125 lb FF 1½" and 2" screwed

243-8HP
Remainder of regulator same as 243-8-1

PIPE SIZES
2" flanged ANSI 125 lb FF 1¼", 1½" and 2" screwed

243-8-1
Standard Regulator (as shown)

243-8-2
Same as Standard Regulator except Internal Relief Valve as shown in inset.

PIPE SIZES
2" flanged ANSI 125 lb FF 1¼", 1½" and 2" screwed
A travel stop is located in the 243-12-1 and the 243-12-4 to provide overpressurization protection.
Operation of the Internal Relief Valve

The internal relief valve (IRV) is optional (refer to Basic Models Table, page 1).

The IRV is built into the center of the diaphragm assembly as shown in the illustration and works in essentially the same way as standard relief valves.

It opens when outlet pressure exceeds the setpoint by approximately 9" w.c. thereby allowing excess gas to escape through the vent to atmosphere. An optional spring is available on the 243-8-2 for relieving at approximately 20" w.c. above setpoint.

A cross-section of a complete 243 with IRV is shown on page 5.

Performance is given on the curves below. The IRV will prevent the outlet pressure from exceeding the value shown by the curves upon regulator failure at the conditions specified.

The IRV is a proven design of quality construction. Within its capacity limits it adds a measure of safety protection to the outstanding and dependable performance of the 243.

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**CAUTION**

Note that an IRV, like any other relief valve, must be sized carefully. If the curves indicate that outlet pressure can exceed the maximum safe limit it is essential to provide an additional relief valve carefully sized to handle the difference.
243 Variations

Internal Relief Valve

The 243 is available with an internal relief valve (IRV), which is a built-in safety device for providing a limited level of overpressurization protection. Like any relief valve, an IRV must be carefully sized. A more complete description plus performance data is given on page 4. For Basic Models, refer to the table on page 1. Internal relief valves are not available in the high pressure Model 243-8HP.

Monitoring and External Control Line

This 243 is used for the first regulator (upstream regulator) in a monitor set or for other applications requiring an external downstream control line. A throat block with an o-ring stem seal isolates the lower diaphragm chamber which has a ½" FNPT connection for the external control line. Use of this regulator for monitoring is shown on page 23. Capacities with the external control line are provided on pages 13 and 14.

Low Pressure Cut-Off

The low pressure cut-off (LPCO) is used for automatic gas shutoff when inlet pressure is too low for the required gas flow. Once closed, it must be manually reopened and reset. Basic Models are given in the table at the bottom on page 1. Note: There is an LPCO version that also includes the internal relief valve. Outlet pressures range from 4" w.c. to 30" w.c. and available orifices are ¼", ½" and 1".

Pilot Operated Regulator

The 243-RPC is a genuine pilot operated regulator. Like its bigger brothers, it not only provides remarkably precise pressure regulation but it maintains that high level of accuracy even for wide variations in inlet pressure. The 243-RPC can be used for any outlet pressure from 3½" w.c. to 35 psig with capacity ranging as high as 75,000 scfh.