

RAF GENERAL PURPOSE HYDRAULIC VALVES

RAF 68/682 Two Way Pressure Reducing/Sustaining Control Valve

Description

RAF 68 and **RAF 682** are piloted hydraulic valves activated by line pressure. Both pilots have spring-loaded membranes. One pilot is sensitive to upstream pressure and the other to downstream pressure. The combined operation of the two pilot valves sustains a constant pressure upstream of the RAF valve, and at the same time, reduces the downstream pressure to a preset pressure. The RAF valve opens or closes gradually to maintain both required pressures simultaneously.

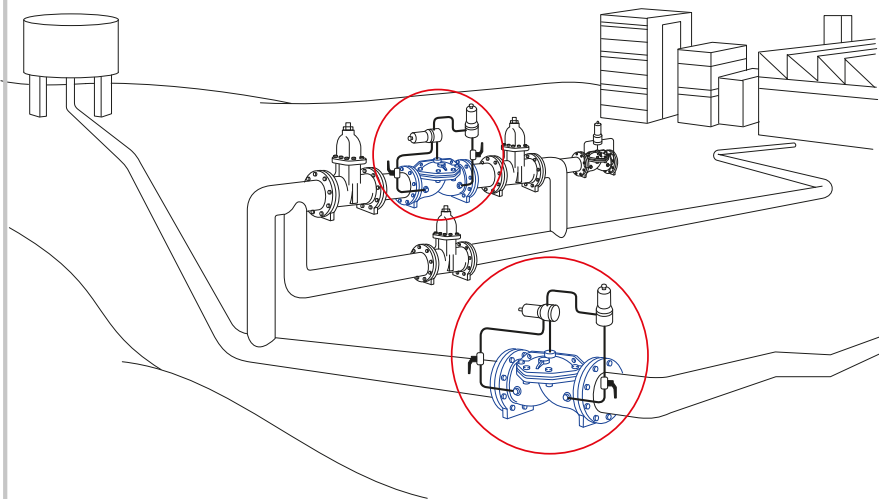


RAF 68



RAF 682

Typical Application



Use the pressure reducing/sustaining valve to define two pressure zones along a supply line, typically, along a downhill flow. Use RAF 68/682 for general water supply systems with medium pressure rating. The elaborated 2-way command with Raphael's patented diaphragm enables smooth and precise pressure control.

Recommended Flow

Nominal Diameter		Flow Rate.m ³ /h
mm	Inch	Max
40	1.5	25
50	2	45
65	2.5	60
80-50-80	3-2-3	50
80-65-80	3-2.5-3	70
80	3	90
100-80-100	4-3-4	90
100	4	150
125-100-125	5-4-5	150
150-100-150	6-4-6	150
150	6	320
200	8	550
250	10	950
300	12	1200

RAF 682- General Application two-way pressure reducing/sustaining control valve.

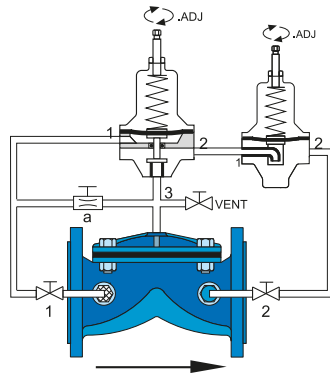
Diameters 1.5" to 4" (DN40 to DN100).

RAF 68- General Application two-way pressure reducing/sustaining control valve. Pressure setup up to 16 bars.

RAF 68/682 control mode

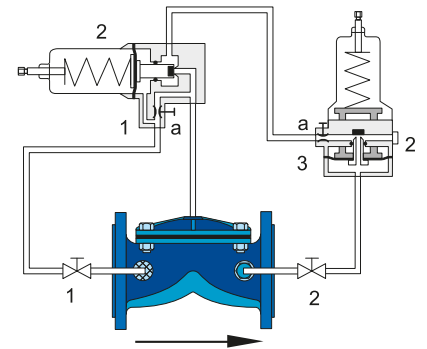
RAF Pressure Reducing/sustaining Valve

is activated by the line pressure and controlled by two pilot valves. Both pilots include spring-loaded membranes. The sustaining pilot (the left one in the drawings) is preset to sustain the upstream pressure at a preset point. The reducing pilot (on the right) reduces the downstream pressure and maintains it at a lower preset level. In normal flow regime, the valve is partly open to sustain the upstream pressure and reduce the downstream pressure. It partly closes when the downstream pressure rises above the lower set point or when the line pressure drops below the upper set point. It opens again when the upstream pressure rises. The control chamber drains downstream, enabling faster and gradual opening without water spill.



RAF 68 - Two Way Pilot

Automatic: When line pressure is low, the pilots are positioned as shown. The RAF control chamber is connected to the line pressure, the RAF closes. When the line pressure rises and overcomes the spring of the sustaining pilot (the left one), the pilot's membrane moves upward to open its port. Then the RAF's control chamber drains downstream through the right pilot. The RAF valve opens and reduces the upstream pressure. When the line pressure reduces, the left pilot closes, as does the RAF. If the downstream pressure is greater than the set point of the reducing pilot (on the right), the reducing pilot's



RAF 682 - Two Way Pilot

membrane moves upward and closes its port. Again the RAF control chamber is connected to the upstream pressure and the RAF closes.

Manual: To open the RAF 68, close cocks 1 and 2 and open the Vent. To close the RAF open cock 1 and close cocks 2 and Vent.

Adjustment

Use needle valve a to control the RAF 68 operational speed. Adjust the sustained pressure by the adjusting screw. See table of available springs below.

Standard RAF 68:

Basic RAF valve Rilsan Coated
Self-cleaning screen filter
2 Way pilot P-181
2 Way pilot P-161
Brass needle valve
Reinforced plastic tubing
Pressure check points

Standard RAF 682:

Basic RAF valve Rilsan Coated
Self-cleaning screen filter
2 way pilot w/built in needle valve P-182
2 way pilot w/built in needle valve P-162
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Reinforced plastic tubing
Pressure check points

Special Features:

Enamel coating
Large capacity external filter
Stainless steel pilot
Stainless steel pilot
Stainless steel needle valve
Copper or stainless steel tubing
Glycerinated 60mm pressure gauge

Spring Selection (bar)

RAF68

Green Standard 2-10	Blue 0.5-4	red 0.5-6	Yellow 2-16
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RAF682

Green Standard 2-12	red 0.5-8	Yellow 3-16
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Please Specify:

- Minimum & maximum flow rates.
- Normal line pressure. Set point (sustain) pressure.