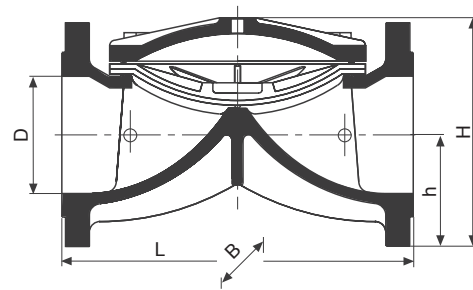


FLOW RATE CONTROL VALVE

RAF 70



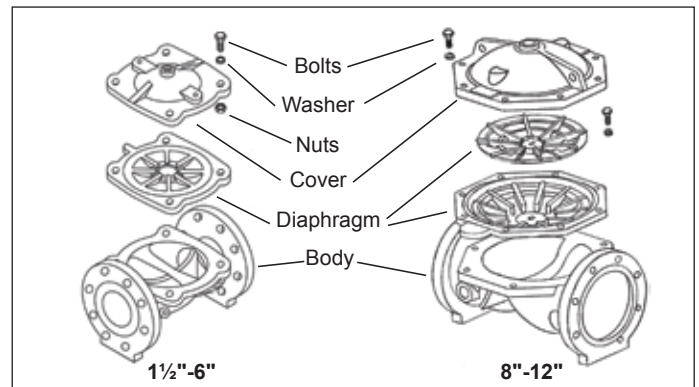
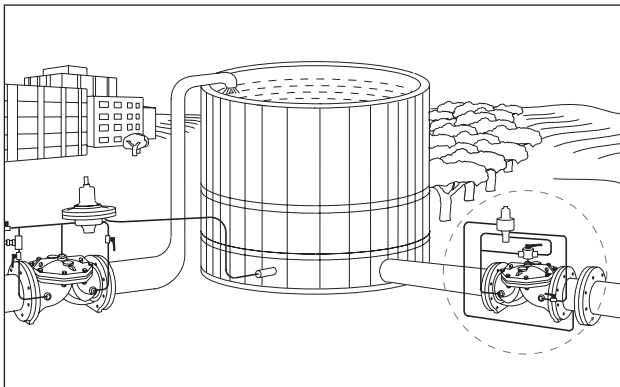
Description

RAF 70 are piloted hydraulic valves activated by line pressure. Normally the RAF 70 is partly open to allow a preset constant flow rate. The flow rate through the RAF 70 is determined indirectly using an orifice plate. The head loss across the orifice is proportional to the actual flow rate. On rising head loss, the RAF 70 is automatically piloted to close. On the other case, the valve opens. Thus the flow rate is maintained constant, regardless of line pressure fluctuations or the downstream demand.

Nom. Dia.		L	H	B	h	Weight	Connections
mm	inch	mm				kg	
* 40	1 1/2	159	80	96	29	1.8	Thread/Grooved
* 50	2	190	100	125	38	3.9	Thread/Grooved
* 50	2	190	159	165	76	7.9	Flange
65	2 1/2	216	110	125	46	5.0	Thread/Grooved
65	2 1/2	216	173	185	80	10.1	Flange
80-50-80	3-2-3	230	125	125	50	5.0	Thread/Grooved
80-50-80	3-2-3	230	175	200	100	11.0	Flange
80-65-80	3-2 1/2-3	244	127	138	50	5.4	Thread/Grooved
80-65-80	3-2 1/2-3	216	192	200	92	11.4	Flange
80	3	290	138	200	50	10.4	Thread/Grooved
* 80	3	283	200	200	100	17.5	Flange
100-80-100	4-3-4	283	222	222	111	20.1	Flange
100	4	346	220	230	60	16.5	Thread/Grooved
* 100	4	305	220	230	99	25.5	Flange
125-100-125	5-4-5	305	243	250	120	29.5	Flange
150-100-150	6-4-6	325	285	285	143	35.8	Flange
* 150	6	406	295	300	142	49.5	Flange
* 200	8	470	383	354	160	71.0	Flange
250	10	635	430	464	197	109.0	Flange
300	12	749	474	480	234	140.0	Flange

* Note : Standard Stock

Typical Application

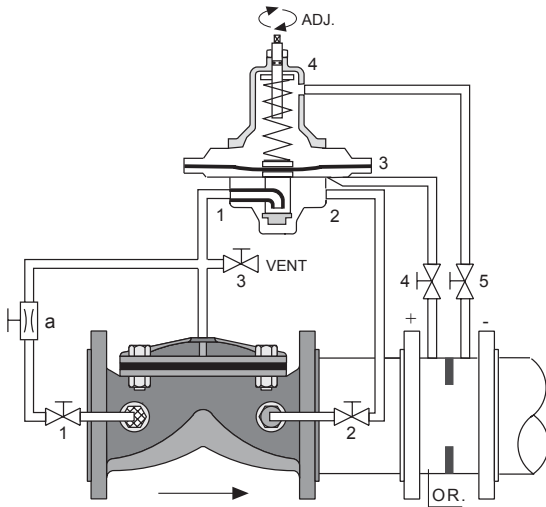


Use RAF 70 Flow Rate Control valve to maintain a compensated constant flow rate to limit the flow downstream. RAF 70 has two-way metal pilot valve for general use in water supply systems of medium pressure rating. Apply RAF 70 to eliminate excessive pumping or to limit the water demand.

RAF 70 - General Application two-way Flow Rate Control Hydraulic Valve. Pressure rating up to 16 bars.

FLOW RATE CONTROL VALVE

RAF 70



RAF 70 Two Way Pilot

RAF 70 Control modes

RAF Flow Rate Control Valve is activated by line pressure and controlled by a pilot valve. The pilot includes a spring-loaded membrane. An orifice plate is installed either downstream or upstream of the RAF. The orifice size is prepared in advance to suit the specified required flow rate. The head loss across the orifice is proportional to flow rate through the RAF valve. This head loss is transferred to the opposite sides of the pilot's membrane, which moves upward or downward accordingly. These movements open or close the inner ports of the pilot valve, directing the line pressure to control the RAF 70. In two-way configurations, the control chamber drains downstream, enabling faster and gradual opening without water spill.

Automatic: In normal flow rate the RAF 70 is open. The head loss across the orifice is low, and the pilot membrane is maintained in its lower position, as shown. The line pressure flows through the open pilot, ports 1-2, & drains downstream. When the flow rate through the valve increases, so does the head loss across the orifice. When the head loss is higher than preset, the pilot membrane is pushed upward closing port 2. The RAF is forced to close by line pressure. The flow rate decreases as does the head loss across the orifice. The pilot's membrane moves back and the RAF gradually reopens.

Manual: To open the RAF 70, close cocks 1 and 2 and open the Vent. To close the RAF open cock 1 and close cock 2 and Vent.

Recommended Working Conditions Range

Nom. Dia.		Inlet Pressure, Bar		*Kv factor Fully opened Valve	Control Chamber Volume	
mm	inch	Min.	Max.	RAF	Liter	Gallon
* 40	1.5	0.8	16	40	0.06	0.016
* 50	2	0.7	16	70	0.08	0.021
65	2.5	0.7	16	100	0.16	0.042
80-50-80	3-2-3	0.7	16	72	0.08	0.021
80-65-80	3-2.5-3	0.7	16	130	0.16	0.042
* 80	3	0.6	16	170	0.3	0.079
100-80-100	4-3-4	0.6	16	170	0.3	0.079
* 100	4	0.4	16	290	0.7	0.185
125-100-125	5-4-5	0.4	16	290	0.7	0.185
150-100-150	6-4-6	0.4	16	300	0.7	0.185
* 150	6	0.4	16	490	1.5	0.396
* 200	8	0.4	16	790	3.5	0.924
250	10	0.3	16	1400	7.6	2.006
300	12	0.3	16	1800	7.6	2.006

$Q = Kv\sqrt{\Delta P}$

Q = Flow rate, m³/h

ΔP = Head loss across the valve, bars

$Cv = 1.16Kv$

* Note : Standard Stock

Recommended Flow

Nom. Dia.		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

Technical Specifications

- Body and Cover: Cast iron with Rilsan (Nylon 11) coating. Epoxy or enamel coating are available by request.
 - Bolts, Nuts and Washers: Zinc plated Steel.
 - Diaphragm: Natural Rubber reinforced with Nylon Fabric.
- Working Pressure: Up to 16 bars.
Temperature Rating: -10°C to 80°C

Standard RAF 70:

- Basic RAF valve Rilsan Coated
- Self-cleaning screen filter
- 2 way metal pilot P-100
- Brass Needle valve
- Orifice plate
- Reinforced plastic tubing

Please Specify:

- Minimum permissible pressure drop.
- Flow rate (set point)

Adjustment

Use the needle valve a to control the RAF 70 operational speed. Adjust the operational set point by the adjusting screw. See the list of available springs below.

Special Features:

- Enamel coating
- Large capacity external filter
- 3 way metal pilot P-103
- Copper or stainless tubing



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