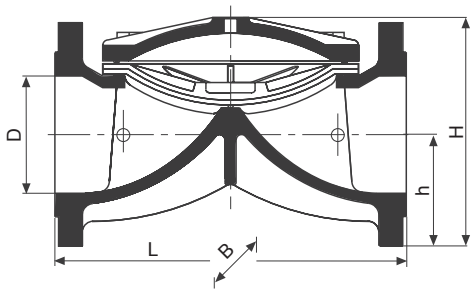
ALPHA GROUP

PRESSURE REDUCING CONTROL VALVE
RAF 60

RAPHAEL



Description

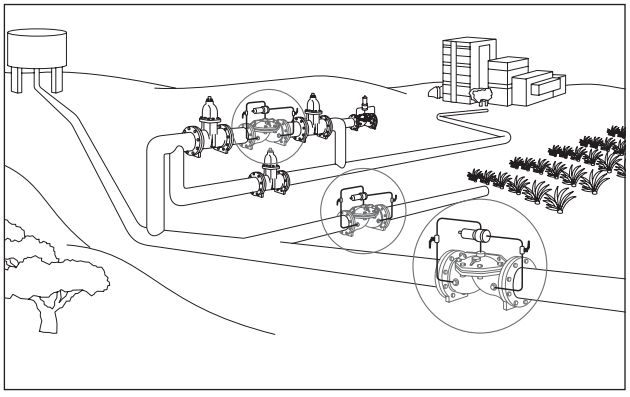
Raf 60 are piloted hydraulic valves activated by line pressure. The pilot valve has a spring-loaded membrane, which is sensitive to downstream pressure. The pilot's spring is preset to a desirable reduced pressure. The pilot valve maintains a constant downstream pressure by gradually opening and closing of the main valve. The pressure is maintained constant regardless of changes in theflow rate

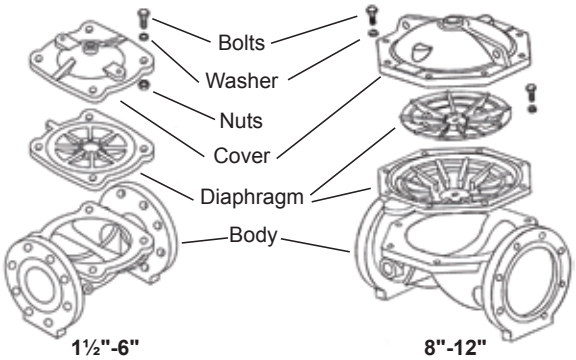
Dimensions

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 60** for general water supply systems with medium pressure rating.

The 2-way pilot configuration together with Raphael's patented diaphragm enables smooth and precise pressure control.

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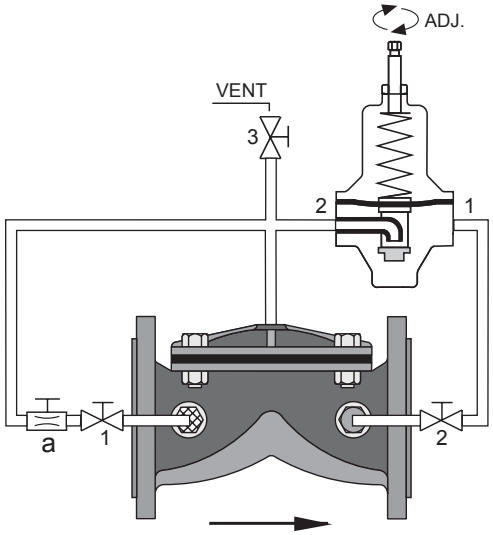

RAF 60 Two Way Metal Pilot

RAF 60 Control mode

RAF Pressure Reducing Valve is activated by line pressure and controlled by a pilot valve. The pilot includes a spring- loaded membrane which is exposed to the downstream (controlled) pressure. The displacement of the membrane due to downstream fluctuations defines the flow inside the pilot. When the downstream pressure is lower than desired, the RAF valve is automatically directed to open. In the opposite case it is automatically directed to close. When line pressure is inserted into the control chamber of the RAF valve (above its diaphragm) the valve closes. When the control chamber drains the RAF valve opens due to the line pressure from below its diaphragm. In two-way configurations, the control chamber drains downstream, enabling faster & gradual opening without water spill.

RAF 60 - General Application 2-way Pressure reducing valve with a high precision, quick response metal pilot . Pressure setup up to 16 bars.

Automatic: When downstream pressure is lower than that of the pilot spring (pre-adjusted set point) the RAF's control chamber drains downstream and the RAF valve is opened. When the downstream pressure rises above the preset spring load, the pilot's membrane is forced upwards closing the pilot's water passage. The RAF 60 then closes reducing Downstream pressure.

Manual: To open the RAF 60, close cocks 1 and 2 and open the Vent. To close the valves, open cock 1 & close cock 2 & Vent (3).

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 m³/h	
mm	inch	Min.	Max.
40	1.5	1	25
50	2	1	45
65	2.5	3	60
80-50-80	3-2-3	1	50
80-65-80	3-2, 5-3	3	70
80	3	5	90
100-80-100	4-3-4	5	90
100	4	15	150
125-100-125	5-4-5	15	150
150-100-150	6-4-6	15	150
150	6	15	320
200	8	40	550
250	10	80	950
300	12	100	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 60:

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

Spring Selection (bar) RAF 60

Green Standard	Blue	*Red	Yellow
2-10	0.5-4	0.5-6	2-16

*Note: Standard Stock.

Adjustment

Use needle valve a to control the RAF 60 operational speed. Adjust the sustained pressure by the adjusting screw. See table of available springs below.

Special Features:

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

Please Specify:

- Minimum & Maximum flow rates.
- Normal line pressure