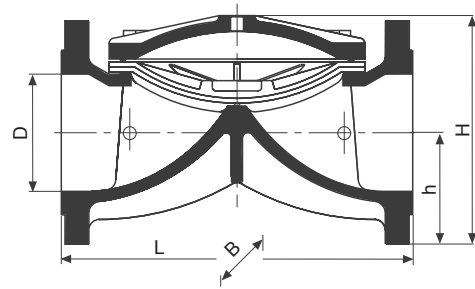


ELECTRIC CONTROL VALVE

RAF 30-33



Description

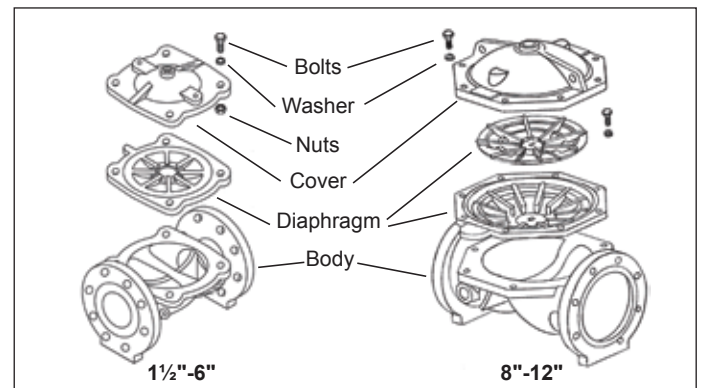
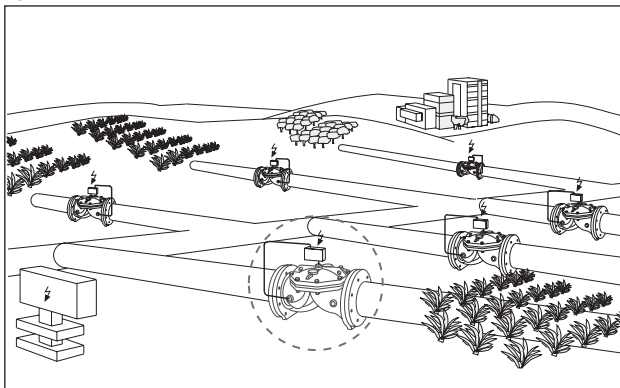
RAF 30-33 valves are activated by line pressure. The valves open or close by electric command through a selection of solenoid valves. The solenoid opens or closes the RAF as it is energized by an electric pulse. The electric pulse that commands the valves is generated by a controller, timer, sensor or an electric control device.

Dimensions

Nom. Dia.		L	H	B	h	Weight	Connections
mm	inch						
* 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

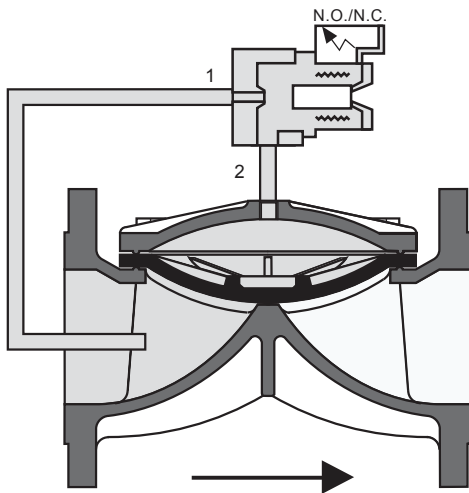


A programmed irrigation controller commands several NC valves to water various crops. Each plot has a different interval and cycle duration.

On-Off electric valves are used for remote operation of hydraulic valves by an electric command. The valves can be configured either as Normally Open (N.O.-With no energy the valve is opened by line pressure) or Normally Closed (N.C.-With no energy the valve is closed by line pressure).

ELECTRIC CONTROL VALVE

RAF 30-33



RAF 30-33 Electric Control Valve

RAF 10-31 Control mode Normally Closed Mode

By default of the normally closed RAF valve, the line pressure is connected to the RAF valve's control chamber above its diaphragm. Thus, the diaphragm is pressed downwards against the valve seat and the valve is closed. When the solenoid is energized by an electric pulse the line control chamber is disconnected from line pressure and drained through the solenoid's vent. The RAF's diaphragm is then forced upward by line pressure and fully opens.

Normally Open Mode

By default of the normally open RAF valve, the RAF valve's control chamber is connected to the drain of the solenoid, the diaphragm is pressed upward by line pressure and the valve fully opens. When the solenoid is energized by an electric pulse the pressure source connects to the control chamber of the valve. The line pressure pushes the diaphragm all the way downwards and the RAF closes. The standard RAF30/33 Electric control valve is a Three 3 way configured. When the water from the control chamber cannot be drained to the atmosphere, from any reason, two way configurations are also available. The valve can be then configured as a 2 way Normally Close (RAF32-2W N.C.), Electric Control valve, or a 2 way Normally Open RAF 30-33 Electric Control Valve (RAF30-2W N.O.), Electric Control valve.

Specification Form

Electric Control Valve	Configuration	Model
	NC-2 Way	RAF 30
	NO-3 Way	RAF 32
	NC-3 Way	RAF 31
	NO-3 Way	RAF 33

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	70
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 31 (Normally Close):

- Basic RAF valve Rilsan Coated
- Self-cleaning screen filter
- 3 Way N.O. Solenoid valve
- 24V AC 50/60 Hz power source
- Reinforced plastic tubing

Special Features:

- Enamel coating
- Large capacity external filter
- 2 Way N.O. Solenoid valve
- 110V, 220V AC and 9V, 12V, 24V DC
- Copper or stainless steel tubing

Standard RAF 33 (Normally Open):

- Basic RAF valve Rilsan Coated
- Self-cleaning screen filter
- 3 Way N.C. Solenoid valve
- 24V AC 50/60 Hz power source
- Reinforced plastic tubing

