



RAF-PM – Composite High Performance Diaphragm Hydraulic Control Valve for Mining.

- Only three main valve parts: body, cover and elastomeric diaphragm.
- Body and cover made of engineered composite plastic material- complete non-metal construction of the main valve.
- Self-contained patented reinforced “springless” diaphragm design, eliminates the need for a retaining spring inside the valve and guarantees uniform pressure distribution on sealing area preventing diaphragm deformation and ensuring long time maintenance free service.
- No moving parts on the main valve- virtually maintenance free valve. Lowest cost of ownership.
- Smooth valve operation and unique diaphragm shape allow stable control at a wide flow rates, low noise operation and reduced water hammer.
- Driptight shut-off.
- Extremely high cycling capability.
- Can be actuated without additional power source by the line pressure or alternatively by separated hydraulic water pressure or compressed air.
- High flow capacity and non clogging design.
- Wide range of applications
 - Pressure Reducing
 - Pressure Sustaining
 - Surge Anticipating
 - Remote Electric shutoff
 - Combined functions



Patented Hydraulic Control Valve designed for mining applications. Can be actuated without additional power source by the line pressure or alternatively by separated hydraulic water pressure or compressed air.

General Applications in mining:

- Dust Suppression
- Heap Leaching fluid flow control
- Leaching Sequence and Lateral Flushing

Technical Data:

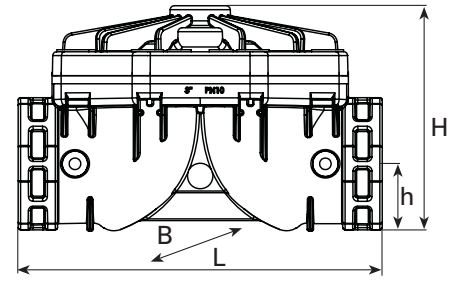
Size Range: 1.5”-4”/ DN40 - DN 100
MAWP: 150 psig / 10 Barg
Max temperature: -29° - 212°F / -29° -100°C
Process Connections: NPT / BSP / SW / Flanged



RAF-P Hydraulic Control Valve

Threaded

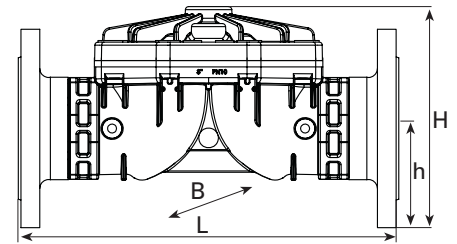
Nominal Diameter		L		H		B		h		Weight	
[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Lbs]	[Kg]
1.5	40	7.28	185	4.13	105	4.92	125	1.26	32	1.54	0.7
2	50	7.64	194	4.33	110	4.92	125	1.50	38	1.76	0.8
2S	50S	8.66	220	5.9	150	6.30	160	1.97	50	3.08	1.4
2.5	65	8.66	220	5.9	150	6.30	160	1.97	50	3.08	1.4
3	80	9.45	240	5.98	152	6.30	160	2.28	58	3.08	1.4
3S	80S	12.36	314	7.48	190	9.92	252	2.4	61	9.9	4.5
4	100	12.58	320	7.48	190	9.92	252	2.64	67	10.12	4.6



Flanged

Nominal Diameter		L		H		B		h		Weight	
[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Lbs]	[Kg]
3	80	34.64	400	16.80	194	17.32	200	8.66	100	4.84	2.2
3S	80S	41	474	19.83	229	21.83	252	8.66	100	11.66	5.3
4	100	43.65	504	20.18	233	21.83	252	8.66	110	16.94	7.7

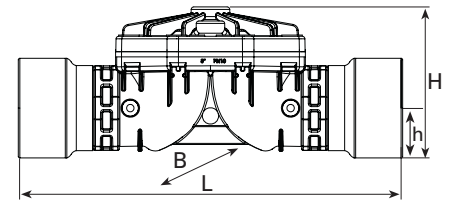
Universal metal/plastic flange



PVC weld

Nominal Diameter		L		H		B		h		Weight	
[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Inch]	[mm]	[Lbs]	[Kg]
3"	90	14.7	374	6.0	152	6.3	160	2.3	58	4.2	1.9
3"S	90S	17.3	440	7.5	190	9.9	252	2.4	61	11.0	5.0
4"	110	17.6	446	7.5	190	9.9	252	2.6	67	14.5	6.6

Universal metal/plastic flange



Kv - Coefficient

Nominal Diameter	Kv
[mm]	
40	55
50	55
50S	90
65	90
80	90
80S	200
100	200

Control Chamber

Displacement Volume	Liter
[mm]	
40	0.1
50	0.1
50S	0.2
65	0.2
80	0.2
80S	0.7
100	0.7

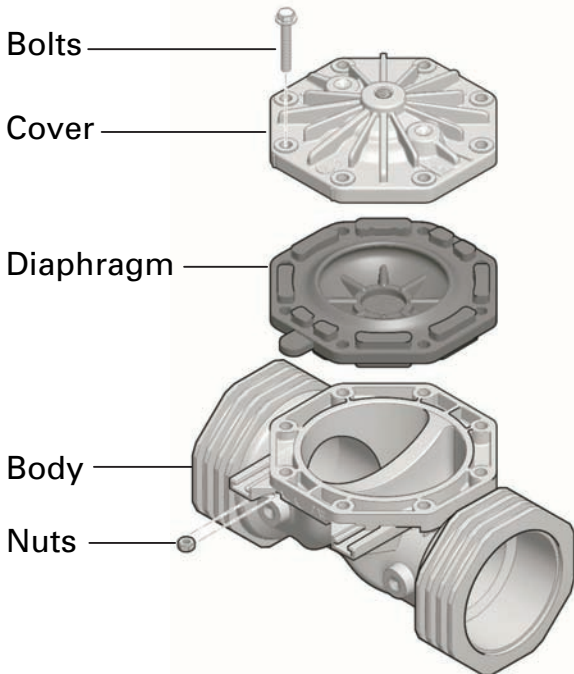
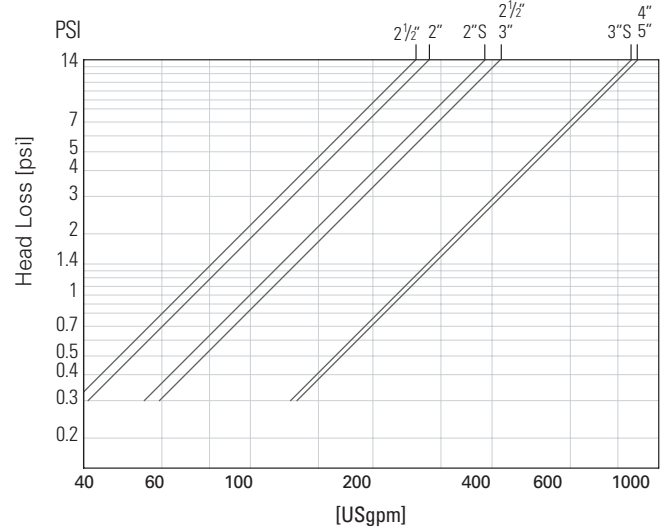
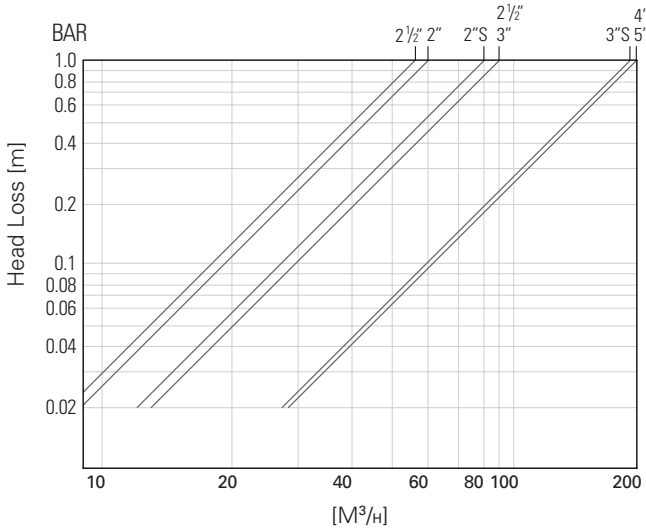
Cv - Coefficient

Nominal Diameter	Cv
[Inch]	
1.5"	64
2"	64
2"S	104
2.5"	104
3"	104
3"S	232
4"	232

Control Chamber

Displacement Volume	Oz
[Inch]	
1.5"	3
2"	3
2"S	7
2.5"	7
3"	7
3"S	24
4"	24

Flow Chart

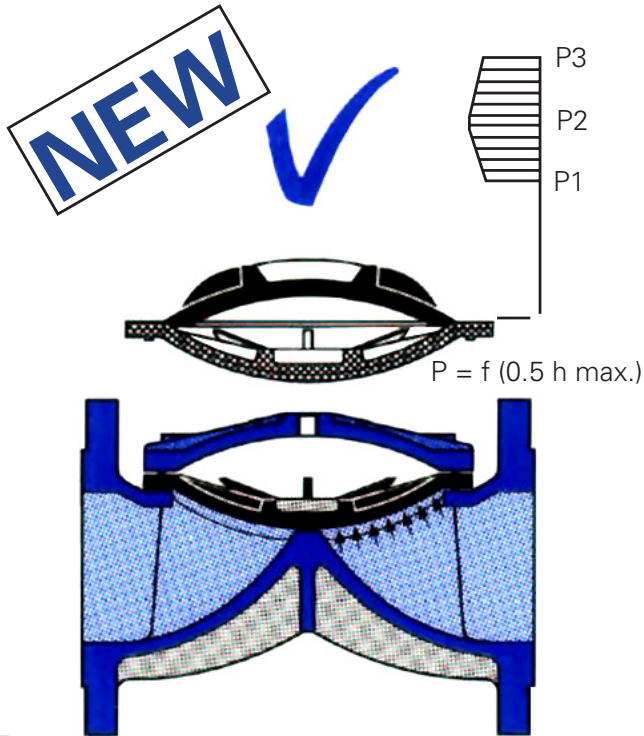


Main Parts

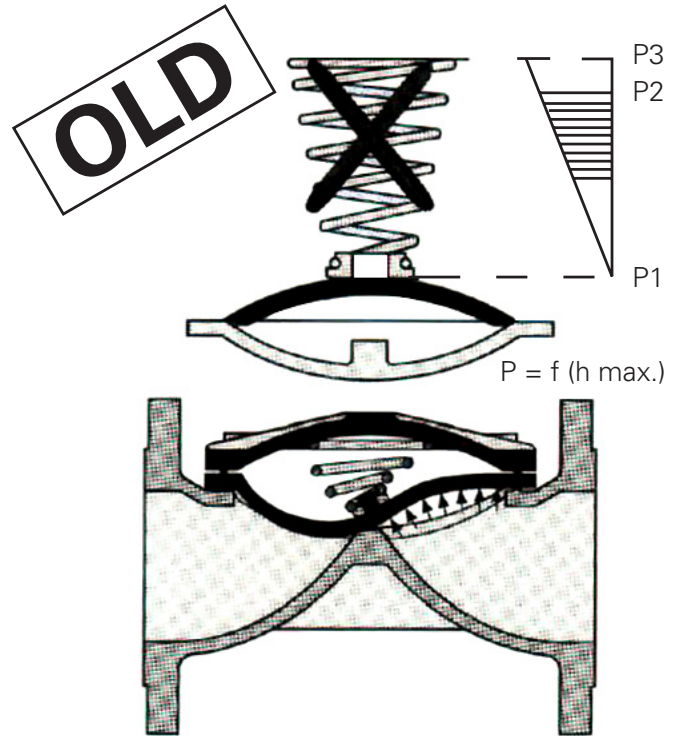
Part	Material
Body	Composite PA Composite PPO
Cover	Composite PA Composite PPO
Diaphragm	Natural Rubber, EPDM, Neoprene, NBR, Fluoroelastomer

Self-contained "springless" patented diaphragm mechanism guarantees uniform pressure distribution on sealing area, prevents diaphragm deformation and ensures long time maintenance free service.

RAF-P Hydraulic Control Valve



“RAF” valve with rubber diaphragm and sides which function as a spring.

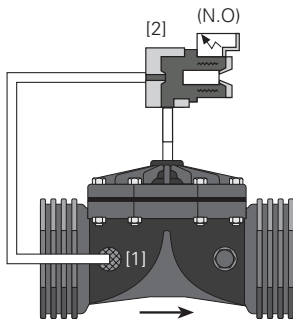


A valve with rubber diaphragm and metal spring.

RAF-P is a state of the art hydraulic valve designed with a patented reinforced diaphragm which eliminates the need for a retaining metal spring, spring guide, support washers etc. Line pressure works equally on the whole diaphragm area, preventing diaphragm deformation and allowing most smooth, gradual operation and precise opening. Robust reinforced diaphragm designed for high cycling and most demanding applications. Due to its construction simplicity RAF valve is almost maintenance free. A diaphragm is easily field replaceable without dismantling the valve body from a pipeline.

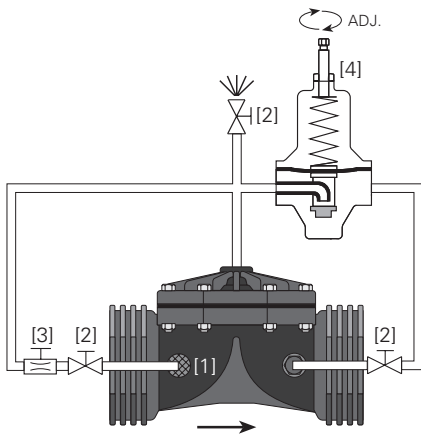


RAF-P Hydraulic Control Valve



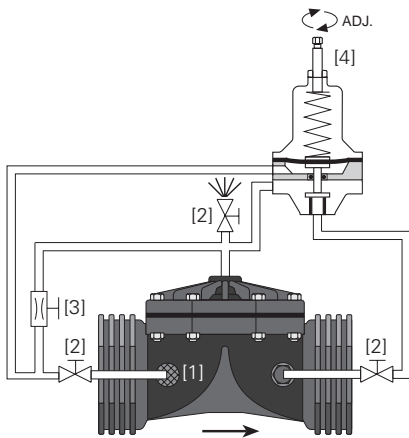
RAF-31 Electric On/Off Valve.

This valve is a hydraulic “on-off” control valve that can be operated manually or by electric remote control. The valve can be “normally closed” (NC) or “normally open” (NO), as required. “Normally” means the state of the valve when the solenoid is de-energized.



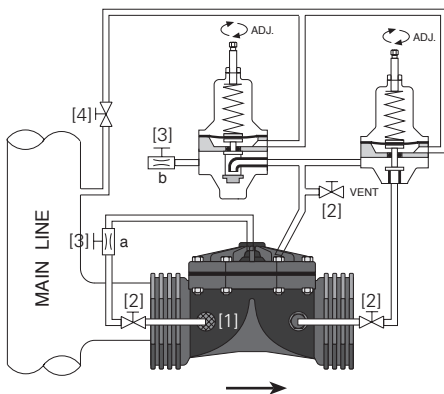
RAF-60 Pressure Reducing Valve.

This pressure-reducing valve is an automatic control valve designed to reduce a higher upstream pressure into a preset lower downstream pressure, and to maintain this pressure constantly regardless of flow-rate or upstream pressure fluctuations.



RAF-80 Pressure Sustaining Valve.

This pressure-sustaining valve is an automatic control valve designed to sustain a minimum upstream pressure as determined by the operator and relieve excess pressure to the downstream system (or to the atmosphere if required).



RAF-88 Surge Anticipating Valve

This surge anticipating valve is an automatic control valve designed to eliminate pressure surges typical for water hammer conditions. The valve opens when the line pressure drops or rises from a set pressure value in anticipation for the following surge, and remains open until the fluctuation subsides.

*Other applications available on request

**Standard trim material SS316, other materials available on request