Raphael

TALIS

YOUR CHOICE IN WATERFLOW CONTROL

RAF-P

RAF-P Irrigation Catalog

Vision Statement

Raphael Valves Industries a Raphael Valves Industries a TALIS Group, will become the Number 1 Global supplier of delivery valves for irrigation, supplying superior products and customer service, in a market driven by growth in irrigation worldwide.

We will provide value to our customers through superior Quality Valves, Customer Service, including Application Support, Responsiveness Delivery, Time and Reliability.

The key to our future success will be our commitment to Tyco's vital values of:

Integrity, Excellence, Teamwork and Accountability

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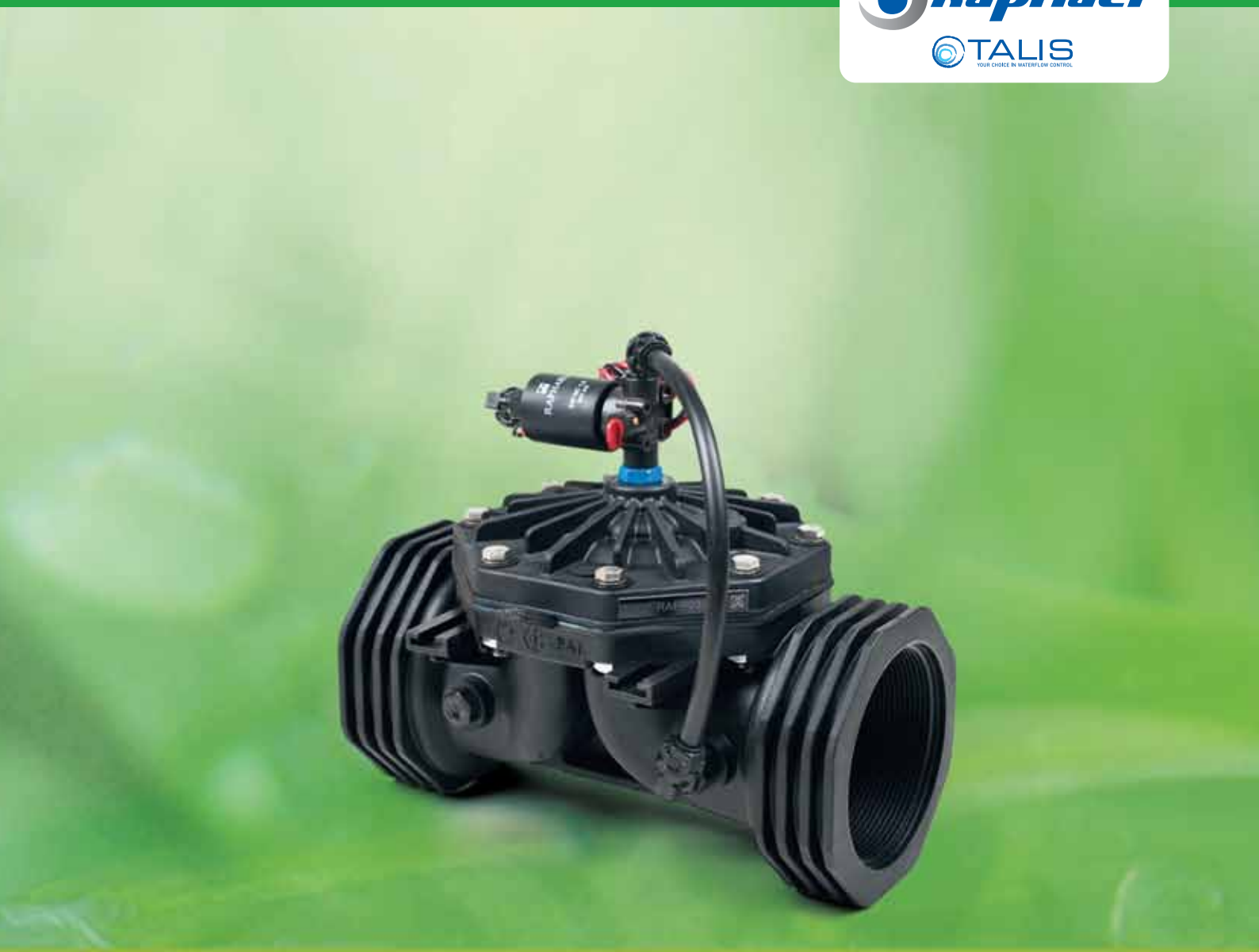

RAF-P

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Basic RAF-P Valve

General Information

RAF-P valves are recommended for use in irrigation and turf applications. Entirely manufactured from durable plastic materials, with state of the art patented diaphragm, the RAF-P valve offers the best corrosion resistance available in plastic technology with the stream lined, low friction hydraulic performance of the RAF metal valves.

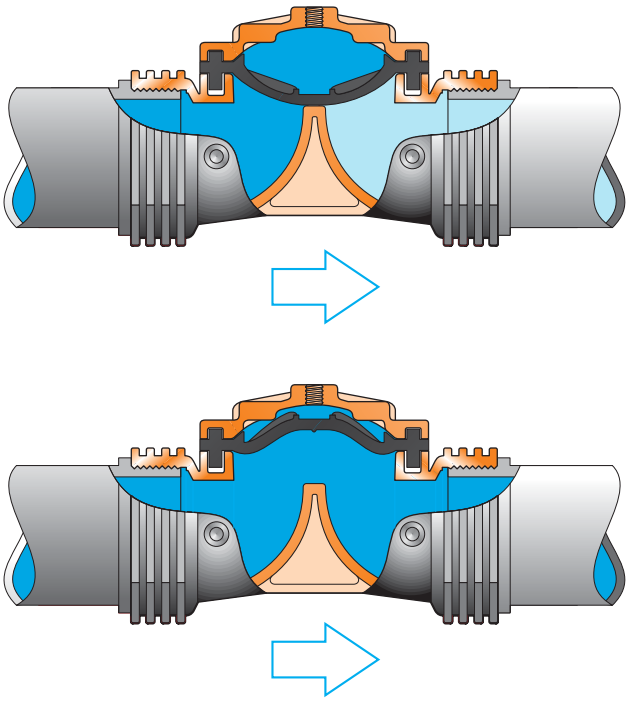
RAF-P valves operate with a patented reinforced diaphragm, which eliminated the need for a metal spring.

The special elastic design enables gradual and precise opening and closing of the valve, ideal for regulation purposes.

By eliminating the metal spring, the RAF-P is virtually maintenance free.

RAF-P Main Features and Benefits

- .Unique NON METAL WETTED PARTS valve
- .Glass reinforced Nylon valve body and cover
- .Stream lined flow with minimum head loss
- Simple and reliable 3 parts valve, featuring body, .cover and unique patented diaphragm
- Uniform pressure distribution on sealing area, prevents diaphragm deformation and ensures .maintenance free performance
- Smoothly operats in wide range of pressure and .flow, prevents noise and vibrations
- Very low opening and drip tight closing line .pressure



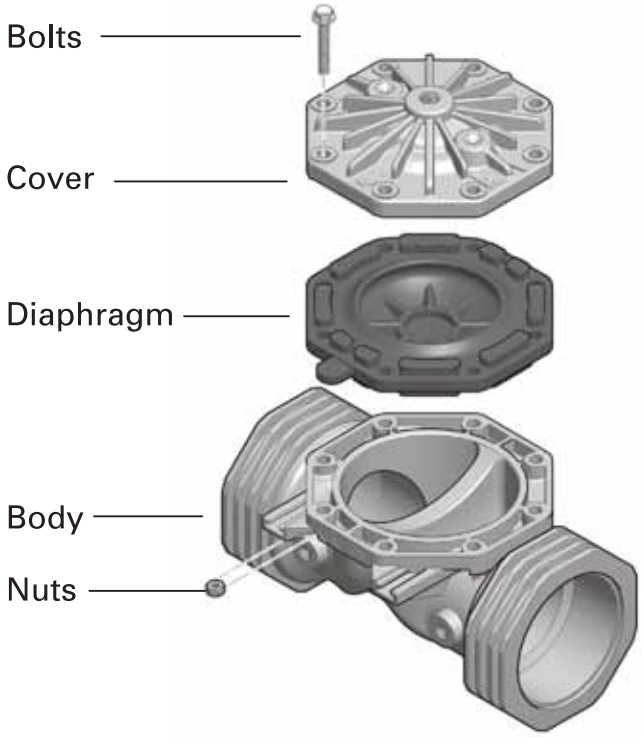
Exploaded View

Cover - The cover unique, rib solid construction is made of glass reinforced Nylon.

Diaphragm - "Spring less" patented diaphragm guarantees uniform pressure distribution on sealing area, prevents diaphragm deformation and ensures longer maintenance free operation.

Body - "Bridge" type, straight flow, glass reinforced Nylon valve body.

Fasteners - Self retaining chrome plated steel nuts and hex stainless steel bolts enable easy access and corrosion free.



Technical specification

		11/2″	2″	2″S	21/2″	3″	3″S	4″	5″
Available connections	Threaded	✓	✓	✓	✓	✓	✓	✓	
	Flanged					✓	✓	✓	
	PVC weld					✓	✓	✓	
	Grooved					✓			✓
Minimum operating Pressure (Bar / PSI)		0.5 / 7					0.3 / 5		
Maximum operating Pressure (Bar / PSI)		10 / 145							
Maximum water temperature (ºC / F)		70 / 160							

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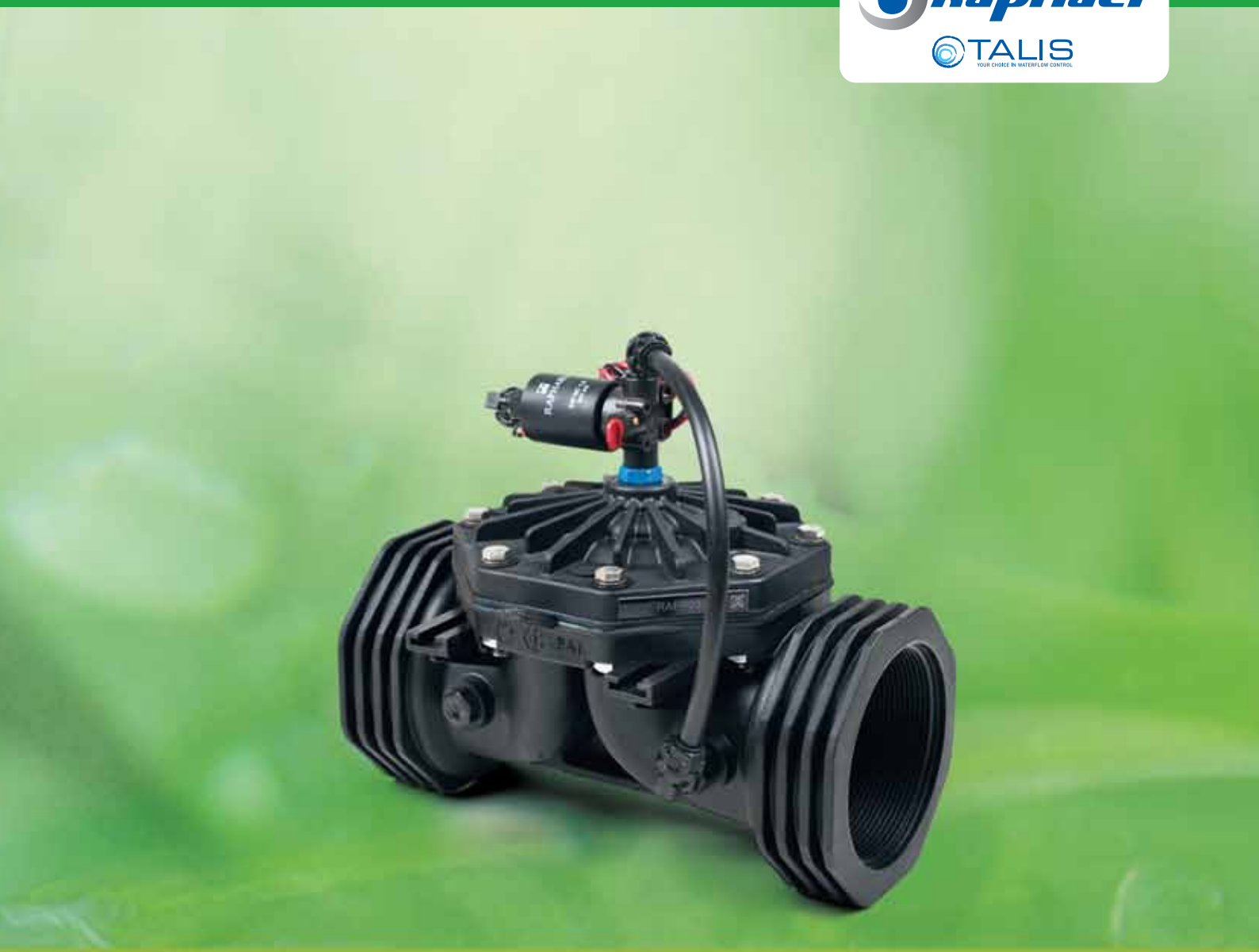


RAF-P Series

RAF-P 01

Manual Control Valve
3-W Cock valve

Pressure rating PN-10

Nominal Diameter 11/2"- 5"

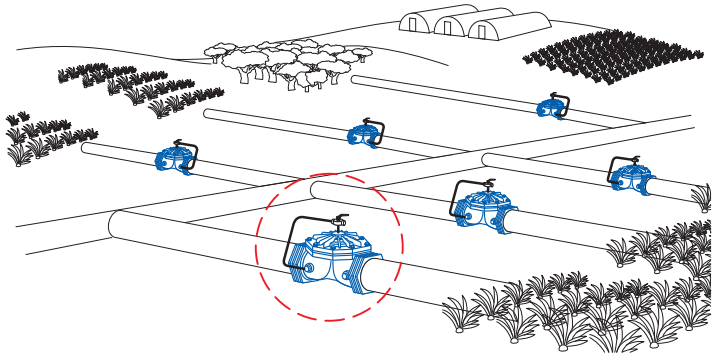
The **RAF-P 01** manual valve is a Normally Closed (N.C) line pressure hydraulically actuated.
The 3-W selecting cock valve changes positions:
The **RAF-P 01** valve opens when 3-W selecting cock valve is turned to position "O".
The **RAF-P 01** shuts off when 3-W selecting cock valve is turned to position "C". The 3-W ball valve configuration together with Raphael's patented diaphragm enables smooth opening and surge free shut off.

Typical Applications

Use **RAF-P 01** for local operation of hydraulic valve by a manual command.
Use **RAF-P 01** for water distribution and field control.

Standard Controls

RAF-P 01 manual control valve with Raphael's 3-W selecting cock valve, polyethylene plastic tubing and nylon fittings.

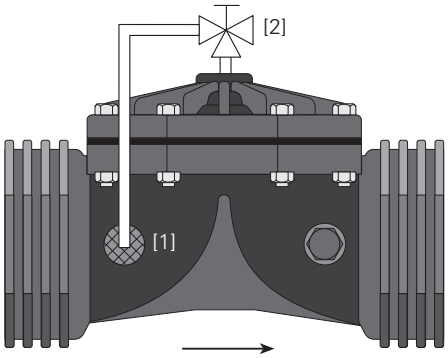


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W selecting cock valve
- Polyethylene plastic tubing

Optional Features

- Pressure check point
- Glycerin filled pressure gauge



RAF-P 01 Manual Control Valve

Part list

[1] Self-cleaning screen filter

[2] 3-W cock valve

Recommended Flow

Nominal Diameter		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]
1.5″	40	25	110
2″	50	25	110
2″S	50S	45	198
2.5″	65	45	198
3″	80	45	198
3″S	80S	120	528
4″	100	120	528
5″	125	120	528

For full dimensions please refer to engineering bulletin.

RAF-P 0G

Hydraulic Remote Control Valve
3-W hydraulic relay

Pressure rating PN-10
Nominal Diameter 11/2”- 5”

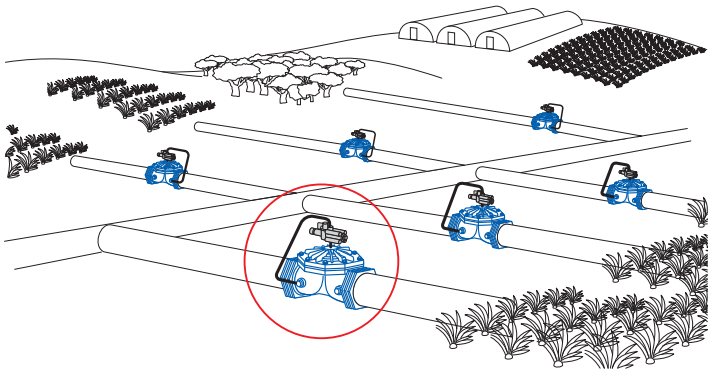
The **RAF-P 0G** is a hydraulic valve operated by line pressure. The valve is a 3-W On/Off control valve that can be commanded from a remote location, by a hydraulic relay - (Hydraulic relay).
The **RAF-P 0G** can be configured to perform as a Normally Open (N.O) or as a Normally Close (N.C) valve. The valve is fully open when the control chamber is disconnected from line pressure and vented into the atmosphere.
The 3-W hydraulic relay configuration with Raphael’s patented diaphragm enables smooth, opening and surge free shutoff.

Typical Applications

Use **RAF-P 0G** in situations where the opening and closing control unit is installed in a central location and connected with the field valves by control tubing. This remote operation control is required for most irrigation devices and irrigation water distribution for field control, Hydraulic remote control valves are used in locations with lightening hazard that damages electric control valves with unprotected solenoid installations.

Standard Controls

RAF-P 0G controls with Raphael’s 3-W hydraulic relay, polyethylene plastic tubing and nylon fittings.

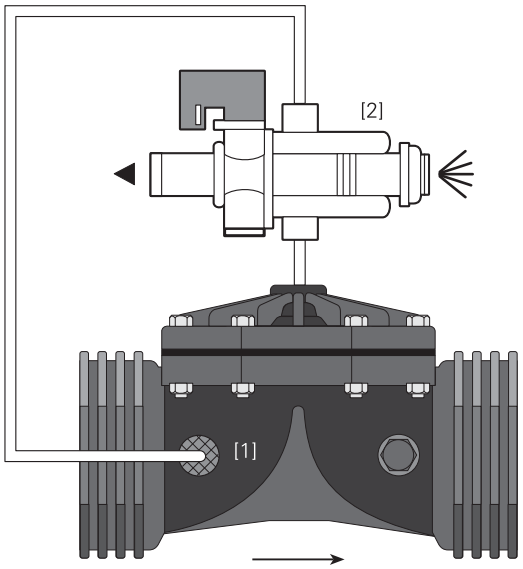


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W Hydraulic relay
- Polyethylene plastic tubing

Optional Features

- Pressure check point
- Glycerin filled pressure gauge



RAF-P 0G Hydraulic Remote Control Valve (N.C)

Part list

[1] Self-cleaning screen filter

[2] 3-W Hydraulic relay

Recommended Flow

Nominal Diameter		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]
1.5″	40	25	110
2″	50	25	110
2″S	50S	45	198
2.5″	65	45	198
3″	80	45	198
3″S	80S	120	528
4″	100	120	528
5″	125	120	528

For full dimensions please refer to engineering bulletin.

RAF-P 31

Electric Control Valve (N.C)
3-W Plastic Solenoid

Pressure rating PN-10

Nominal Diameter 11/2”- 5”

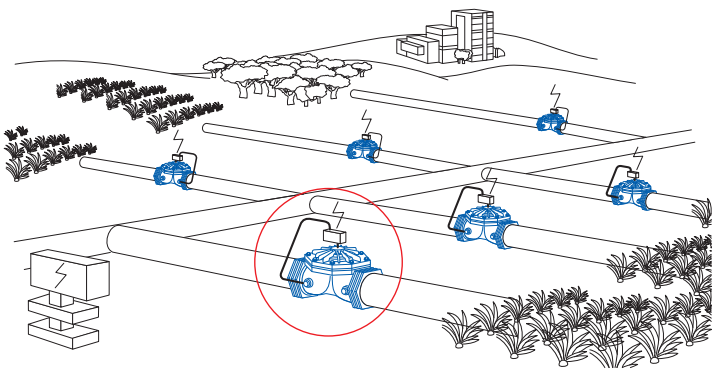
The **RAF-P 31** electric valve is a Normally Closed (N.C) line pressure hydraulically actuated.
The 3-W solenoid valve changes positions:
The **RAF-P 31** valve opens when 3-W plastic solenoid valve is energized.
The **RAF-P 31** shuts off when 3-W plastic solenoid valve is de-energized.
The 3-W electric solenoid valve configuration together with Raphael’s patented diaphragm enables smooth opening and surge free shutoff.

Typical Applications

Use **RAF-P 31** for remote operation of hydraulic
valve by an electric command.
Use **RAF-P 31** for water distribution and field control.

Standard Controls

RAF-P 31 electric valve controls with Raphael's 3-W solenoid, activated by selected voltage, polyethylene plastic tubing and nylon fittings.

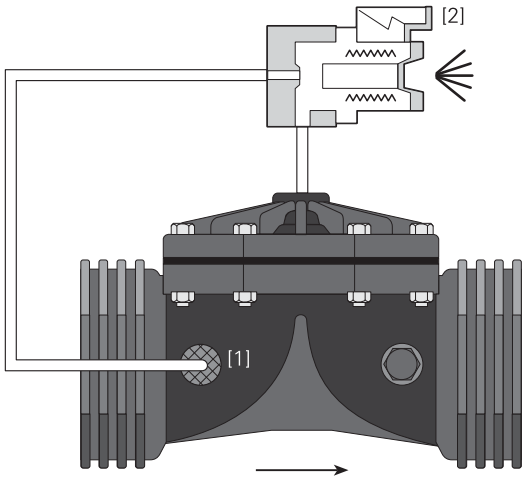


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W (N.O) plastic solenoid
- Polyethylene plastic tubing
- Voltage - 24V (AC) 50/60 Hz

Optional Features

- 2-W (N.O) plastic solenoid
- Voltage - 110V, 220V (AC) & 9V, 12V, 24V (DC)



RAF-P 31 3-W Electric Plastic Control Valve (N.C)

Part list

[1] Self-cleaning screen filter

[2] 3-W (N.O) plastic solenoid

Recommended Flow

Nominal Diameter		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]
1.5″	40	25	110
2″	50	25	110
2″S	50S	45	198
2.5″	65	45	198
3″	80	45	198
3″S	80S	120	528
4″	100	120	528
5″	125	120	528

For full dimensions please refer to engineering bulletin.

RAF-P 33

Electric Control Valve (N.O)
3-W Plastic Solenoid

Pressure rating PN-10
Nominal Diameter 11/2”- 5”

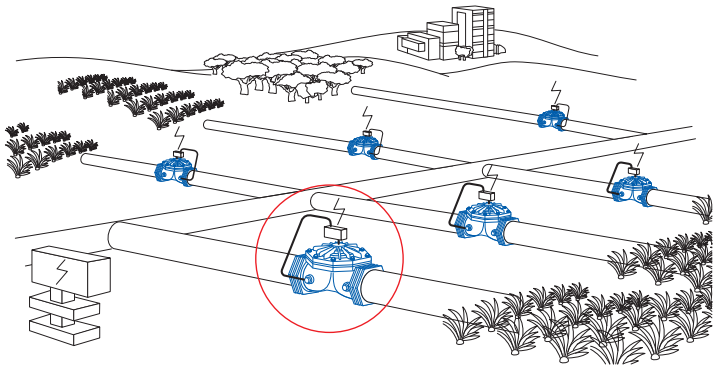
The **RAF-P 33** electric valve is a Normally Open (N.O) line pressure hydraulically actuated.
The 3-W solenoid valve changes positions:
The **RAF-P 33** valve opens when 3-W electric solenoid valve is de-energized.
The **RAF-P 33** valve shuts off when 3-W electric plastic solenoid valve is energized.
The 3-W electric solenoid valve configuration together with Raphael’s patented diaphragm enables smooth opening and surge free shut off

Typical Applications

Use **RAF-P 33** for remote operation of hydraulic valve by an electric command.
Use **RAF-P 33** for water distribution and field control.

Standard Controls

RAF-P 33 electric valve controls with Raphael's 3-W solenoid activated by selected voltage, polyethylene plastic tubing and nylon fittings.

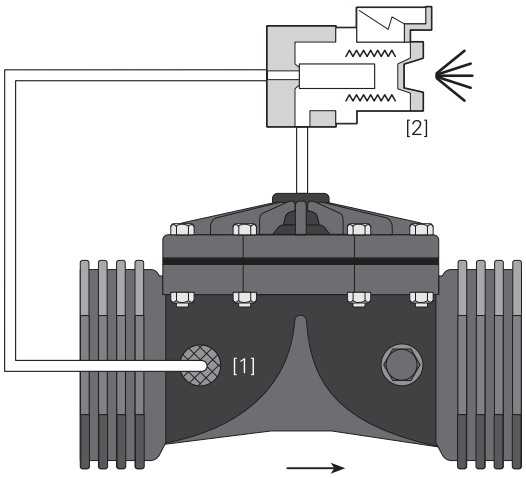


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W (N.C) plastic solenoid
- Polyethylene plastic tubing
- Voltage - 24V (AC) 50/60Hz

Optional Features

- 2-W (N.C) plastic solenoid
- Voltage - 110V, 220V (AC) & 9V, 12V, 24V (DC)



RAF-P 33 3-W Electric Plastic Control Valve (N.C)

Part list

[1] Self-cleaning screen filter

[2] 3-W (N.C) plastic solenoid

Recommended Flow

Nominal Diameter		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]
1.5″	40	25	110
2″	50	25	110
2″S	50S	45	198
2.5″	65	45	198
3″	80	45	198
3″S	80S	120	528
4″	100	120	528
5″	125	120	528

For full dimensions please refer to engineering bulletin.

RAF-P 63

Pressure Reducing Control Valve 3-W Plastic Pilot

Pressure rating PN-10

Nominal Diameter 11/2"- 5"

The **RAF-P 63** pressure reducing valve is line pressure hydraulically actuated, 3-W plastic valve. The **RAF-P 63** maintains a constant downstream set pressure, regardless of flow changes or upstream pressure fluctuations.
The 3-W plastic pilot configuration together with Raphael's patented diaphragm enables smooth and precise downstream pressure control.

Typical Applications

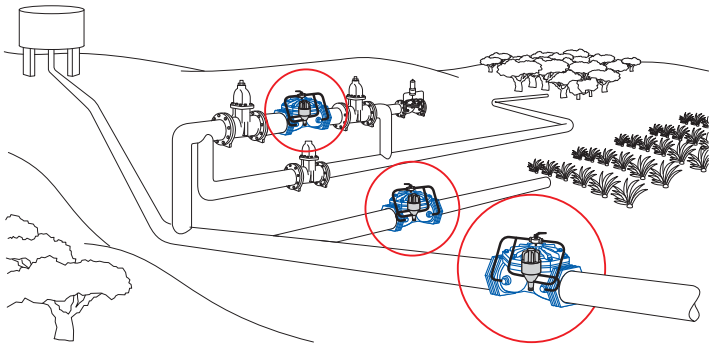
RAF-P 63 is best for irrigation, water treatment circulation and filtration network.
The 3-W plastic pilot has a simple design that provides high corrosion resistance and cost effective price.

Standard Controls

RAF-P 63 pressure reducing valve controls with Raphael's 3-W plastic pilot, polyethylene plastic tubing and nylon fittings.

Adjustments

Downstream pressure adjustment up to 7 bars. For pressure setting by pilot screw adjustment, please refer to available springs list.

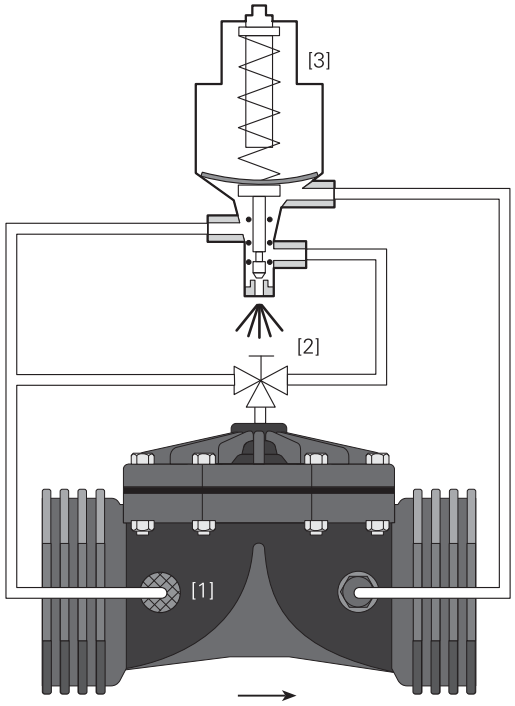


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W plastic pilot PC
- 3-W cock valve
- Polyethylene plastic tubing
- Pressure check point

Optional Features

- Large capacity external filter
- Glycerin filled pressure gauge



RAF-P 63 Pressure Reducing Control Valve

Part list

[1] Self-cleaning screen filter
[2] 3-W cock valve
[3] 3-W plastic pilot PC

Recommended Flow

Nominal Diameter		Min flow Rate		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]	[m³/h]	[gpm]
1.5"	40	3	13	25	110
2"	50	3	13	25	110
2"S	50S	8	35	45	198
2.5"	65	8	35	45	198
3"	80	8	35	45	198
3"S	80S	10	44	120	528
4"	100	10	44	120	528
5"	125	10	44	120	528

For full dimensions please refer to engineering bulletin.

Spring Selection

Plastic pilot PC

	Grey Default	Green	Blue
[bar]	2.5-7	1-2.5	0.5-1.5
[psi]	35-100	14-35	7-22

RAF-P 63-31

Electric pressure Reducing Valve
3-W Plastic Electric solenoid & Pilot

Pressure rating PN-10
Nominal Diameter 11/2"- 5"

The **RAF-P 63-31** is a Normally Closed (N.C) pressure reducing valve.
The **RAF-P 63-31** is an electric On/Off valve, controlled by a 3-W plastic solenoid valve.
When the solenoid is energized the valve opens and performs as a pressure reducing valve, maintaining the set pressure constant regardless of flow-rate or upstream pressure fluctuations.
The 3-W plastic pilot can be preset to a desirable downstream pressure.
The 3-W plastic pilot and plastic solenoid together with Raphael's patented diaphragm enables smooth and precise control.

Standard Controls

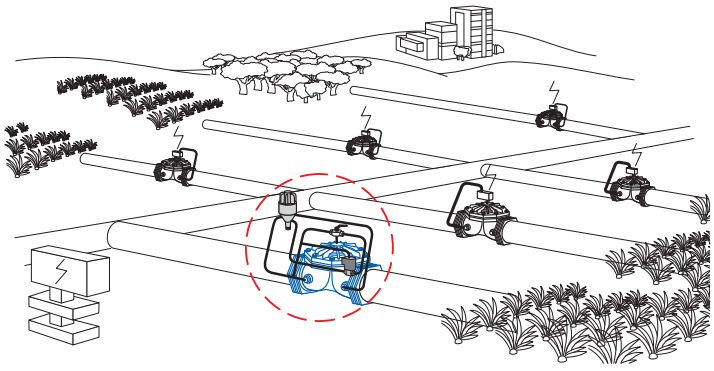
RAF-P 63-31 electric pressure reducing valve controls with Raphael's 3-W plastic pilot, 3-W Solenoid, PE plastic tubing and nylon fittings.

Typical Applications

Use **RAF-P 63-31** for water distribution and field control, where downstream pressure should be reduced the valve is commanded to open.

Adjustments

Downstream pressure adjustment up to 7 bars. For pressure setting by pilot adjustment screw, please refer to available spring list.

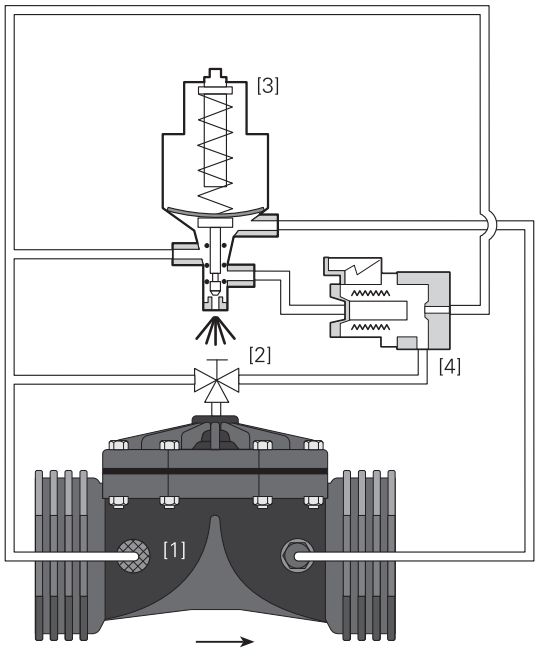


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W plastic pilot PC
- 3-W (N.O) plastic solenoid
- 3-W cock valve
- Polyethylene plastic tubing
- Pressure check point
- Voltage - 24V (AC) 50/60Hz

Optional Features

- Glycerin filled pressure gauge
- Voltage - 110V, 220V (AC) & 9V, 12V, 24V (DC)



RAF-P 63-31 Electric pressure Reducing Valve

Part list

[1] Self-cleaning screen filter
[2] 3-W cock valve
[3] 3-W plastic pilot PC
[4] 3-W (N.O) plastic solenoid

Recommended Flow

Nominal Diameter		Min flow Rate		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]	[m³/h]	[gpm]
1.5"	40	3	13	25	110
2"	50	▮	13	25	110
2"S	50S	▮	35	45	198
2.5"	65	8	35	45	198
3"	80	8	35	45	198
3"S	80S	10	44	120	528
4"	100	10	44	120	528
5"	125	10	44	120	528

For full dimensions please refer to engineering bulletin.

Spring Selection

Plastic pilot PC

	Grey Default	Green	Blue
[bar]	2.5-7	1-2.5	0.5-1.5
[psi]	35-100	14-35	7-22

RAF-P 683

Pressure Reducing & Sustaining 3-W Plastic Pilot Control Valve

Pressure rating PN-10

Nominal Diameter 11/2"- 5"

The **RAF-P 683** pressure reducing & sustaining valve is line pressure hydraulically actuated, 3-W plastic pilots operated.
The **RAF-P 683** maintains a minimum upstream pressure, as set on the 3-W pressure sustaining plastic pilot and a maximum downstream as set on the 3-W pressure reducing plastic pilot.
The minimum upstream and the maximum downstream pressure are maintained regardless of flow changes. The 3-W pilot configuration together with Raphael's patented diaphragm enables smooth and precise pressure control.

Typical Applications

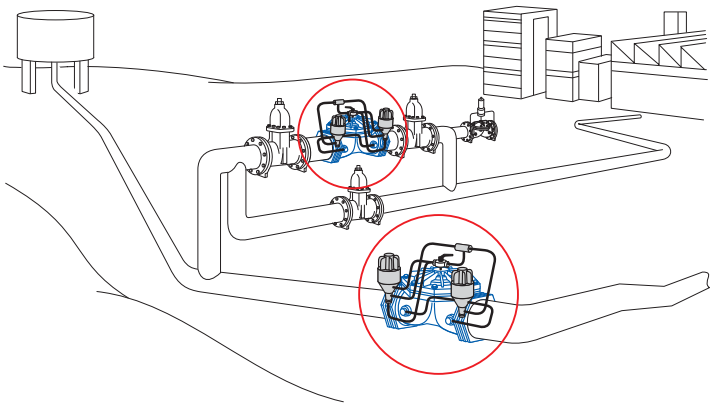
Use **RAF-P 683** to define two pressure zones along a supply line, or to protect a booster pump and maintain set pressure downstream.

Standard Controls

RAF-P 683 pressure reducing & sustaining valve controls with Raphael's plastic 3-W pilots, polyethylene plastic tubing and nylon fittings.

Adjustments

Minimum upstream and maximum downstream pressure adjustment up to 7 bars.
For pressure setting by pilot screw adjustment, please refer to available springs list.

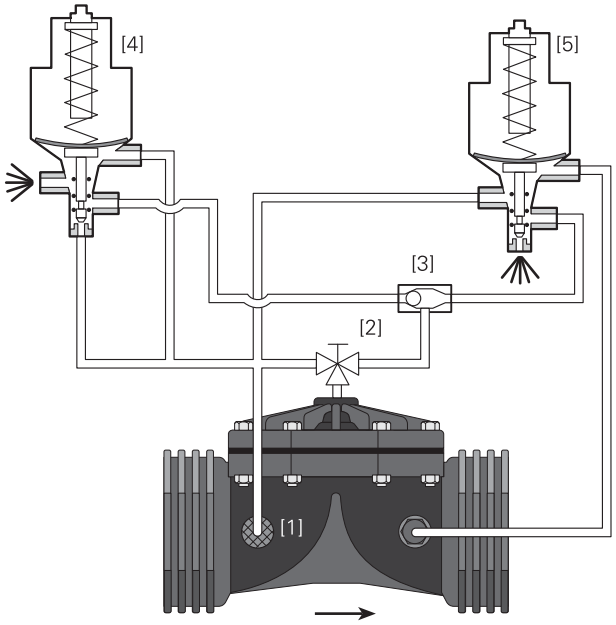


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W plastic pilot PC (configured as sustaining)
- 3-W plastic pilot PC (configured as reducing)
- 3-W cock valve
- Polyethylene plastic tubing
- Pressure check point

Optional Features

- Large capacity external filter
- Glycerin filled pressure gauge



RAF-P 683 Pressure Reducing & Sustaining 3-W Plastic Pilot Control Valve

Part list

[1] Self-cleaning screen filter
[2] 3-W cock valve
[3] Shuttle valve
[4] 3-W plastic pilot PC (sustaining)
[5] 3-W plastic pilot PC (reducing)

Recommended Flow

Nominal Diameter		Min flow Rate		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]	[m³/h]	[gpm]
1.5"	40	3	13	25	110
2"	50	3	13	25	110
2"S	50S	8	35	45	198
2.5"	65	8	35	45	198
3"	80	8	35	45	198
3"S	80S	10	44	120	528
4"	100	10	44	120	528
5"	125	10	44	120	528

For full dimensions please refer to engineering bulletin.

Spring Selection

Plastic pilot PC

	Grey Default	Green	Blue
[bar]	2.5-7	1-2.5	0.5-1.5
[psi]	35-100	14-35	7-22

RAF-P 83

Pressure Sustaining Control Valve 3-W Plastic Pilot

Pressure rating PN-10

Nominal Diameter 11/2"- 5"

The **RAF-P 83** pressure sustaining control valve is line pressure hydraulically actuated, 3-W plastic pilot.
The **RAF-P 83** pressure sustaining control valve maintains a minimum upstream pressure, as set on the 3-W pressure sustaining plastic pilot, regardless of flow changes.
The **RAF-P 83** will gradually open should upstream pressure exceed 3-W pilot set pressure.
The 3-W pilot configuration together with Raphael's patented diaphragm enables smooth and precise upstream pressure control.

Typical Applications

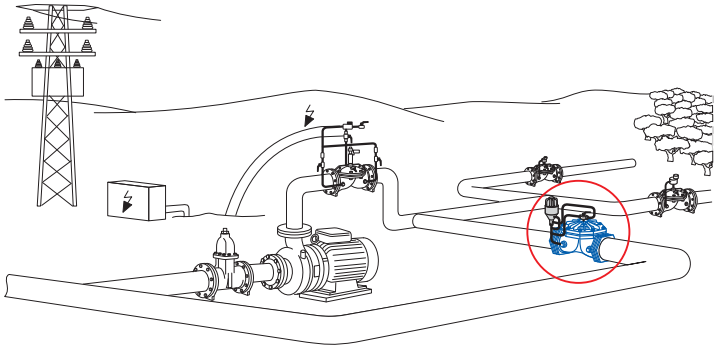
Use the **RAF-P 83** valve to maintain a constant upstream pressure or avoid an undesirable high pressure.

Standard Controls

RAF-P 83 pressure sustaining valve controls with Raphael's 3-W pressure sustaining plastic pilot, polyethylene plastic tubing and nylon fittings.

Adjustments

Minimum upstream pressure adjustment up to 7 bars.
For pressure setting by pilot screw adjustment, please refer to available springs list.

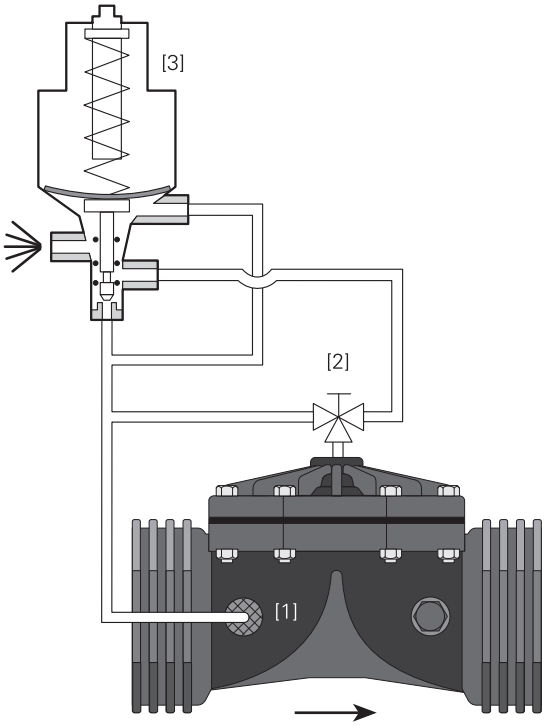


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W plastic pilot PC
- Polyethylene plastic tubing
- 3-W cock valve
- Pressure check point

Optional Features

- Large capacity external filter
- Glycerin filled pressure gauge



RAF-P 83 Pressure Sustaining Control Valve

Part list

[1] Self-cleaning screen filter

[2] 3-W cock valve

[3] 3-W plastic pilot PC

Recommended Flow

Nominal Diameter		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]
1.5″	40	25	110
2″	50	25	110
2″S	50S	45	198
2.5″	65	45	198
3″	80	45	198
3″S	80S	120	528
4″	100	120	528
5″	125	120	528

For full dimensions please refer to engineering bulletin.

Spring Selection

Plastic pilot PC

	Grey Default	Green	Blue
[bar]	2.5-7	1-2.5	0.5-1.5
[psi]	35-100	14-35	7-22

RAF-P 83-31

Electric Pressure Sustaining Control Valve 3-W Plastic solenoid & Pilot

Pressure rating PN-10

Nominal Diameter 11/2"- 5"

The **RAF-P 83-31** is a Normally Closed (N.C) pressure sustaining valve.
The **RAF-P 83-31** is an electric On/Off valve, controlled by a 3-W plastic solenoid valve. When the solenoid is energized the valve opens and performs as a pressure sustaining valve, maintaining the set pressure constant regardless of flow-rate or pressure fluctuations.
The 3-W plastic pilot can be preset to a desirable minimum upstream pressure.
The 3-W plastic pilot and plastic solenoid together with Raphael's patented diaphragm enables smooth and precise control.

Standard Controls

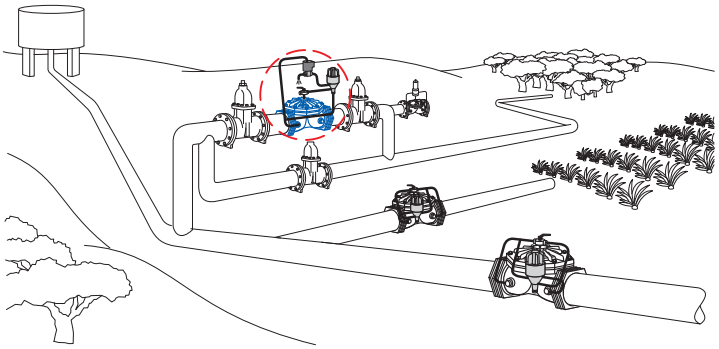
RAF-P 83-31 electric pressure sustaining valve controls with Raphael's 3-W plastic pilot, 3-W solenoid, PE plastic tubing and nylon fittings.

Typical Applications

Use **RAF-P 83-31** for water distribution and field control, where upstream pressure should be maintained.

Adjustments

Upstream pressure adjustment up to 7 bars.
For pressure setting by pilot adjustment screw, please refer to available spring list.

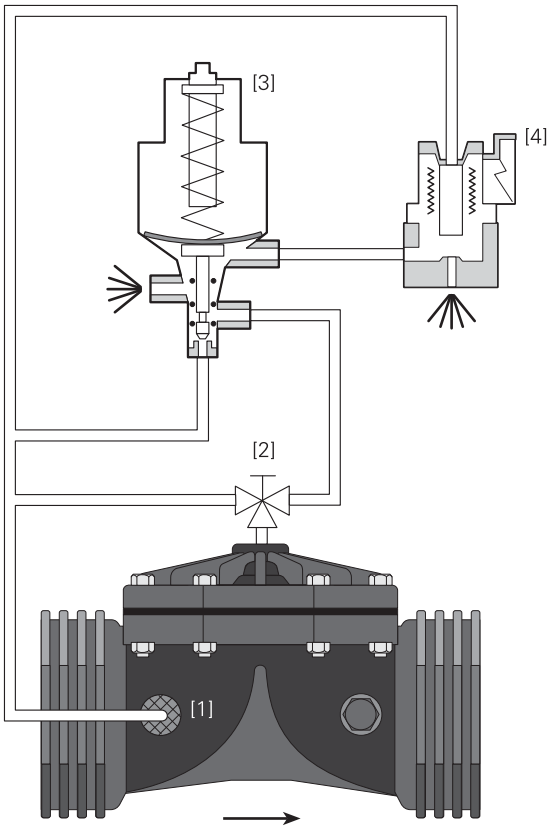


Features

- Basic RAF-P valve
- Self-cleaning screen filter
- 3-W plastic pilot PC
- 3-W (N.O) plastic solenoid
- 3-W cock valve
- Polyethylene plastic tubing
- Pressure check point
- Voltage - 24V (AC) 50/60Hz

Optional Features

- Glycerin filled pressure gauge
- Voltage - 110V, 220V (AC) & 9V, 12V, 24V (DC)



RAF-P 83-31 Electric Pressure Sustaining Control Valve 3-W Plastic solenoid & Pilot

Part list

[1] Self-cleaning screen filter
[2] 3-W cock valve
[3] 3-W plastic pilot PC
[4] 3-W (N.O) plastic solenoid

Recommended Flow

Nominal Diameter		Max flow Rate	
[Inch]	[mm]	[m³/h]	[gpm]
1.5″	40	25	110
2″	50	25	110
2″S	50S	45	198
2.5″	65	45	198
3″	80	45	198
3″S	80S	120	528
4″	100	120	528
5″	125	120	528

For full dimensions please refer to engineering bulletin.

Spring Selection

Plastic pilot PC

	Grey Default	Green	Blue
[bar]	2.5-7	1-2.5	0.5-1.5
[psi]	35-100	14-35	7-22

Irrigation
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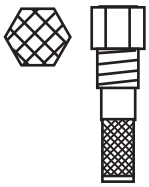
Pilots and Accessories

Accessories

FI –Finger Filter



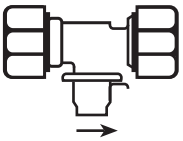
General Description

The **finger filter** is a self flushing screen filter installed in the water inlet of the valve's control system. It is used to prevent impurities from infiltrating into the control system and disturbing its operation by restricting, or even clogging, water passages. Raphael's finger filters are designed to be maintenance free, screwed into the valve's body sampling water from the main pipe. The **finger filter** will provide a safe water source into the control loop.

Applications

The **finger filter** is ideally designed for operation with RAF hydraulic control valve for irrigation applications as a main filter for the control system, for both PN-10 and PN-16 applications. Use the FI **Finger filter** in any control system to prevent eventual malfunction due to impurities, installing it in the water intake to the control loop.

S.V - Shuttle Valve



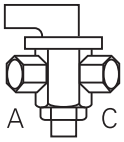
General Description

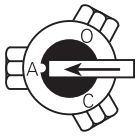
The **shuttle valve** is a 3-W hydraulic device, used to alternatively forward hydraulic command to the valve's control chamber, from two different pressure supply devices. When the higher pressure is conveyed into the central connection from one end, the other end will be shut.

Applications

The **shuttle valves** are specifically designed for operating where 2 different hydraulic commands are present in a 3-W control system. Either remote operating and/or pilots control will alternatively operate by using the **shuttle valves**.

SY – 3 Way Cock Valve





General Description

The **SY 3-W cock valve** is a 3 port spherical valve, mounted on the valve's control chamber and used to change water passage between control chamber and 3 other optional ports. The **SY** valve is equipped with 4 connections:

1. Common port (Unmarked) - always connected to the valve's control chamber.

2. "O"- Connects the valve's control chamber to the open air and used to override the control system, manually opening the valve.

3. "C"- Connects the valve's control chamber to the pressure supply and used to override the control system, manually closing the valve.

4. "A"- Connects the valve's control chamber to the control system and used as the default operating position to be able to use the automatic control function of the application.

Applications

Use the **SY 3-W cock valve** with every RAF valve application where override option is necessary, enabling local opening and closing of the valve, regardless of the automatic control function command.

Important Notes

When the **SY 3W cock valve** is used to manually open and close the main valve, the automatic function is eliminated. When the automatic function of the valve is eliminated, the valve will not function as a modulating valve, but as an On/Off valve.

Hydraulic relay
3-W Plastic N.C / N.O

The **Hydraulic relay** is Equipped with 4 hydraulic connections and a manual operator.
It converts an external hydraulic command that controls the valve. It also enables manual control of the valve.
The **Hydraulic relay** is suitable for remote opening and closing of hydraulic valves and can be configured as (N.O) or (N.C).

General Information

- Max Pressure: 10/145 [bar/psi]
- Min Pressure: 5/7 [bar/psi]
- Max Temperature: 90/194 [°C/F]
- Weight: 0.64/1.4 [kg/lbs]

Spring Options for Topographic Compensation
(N.C)

	Yellow	Green	White	Red
[m]	5-10	10-14	14-17	17-22
[psi]	7-14	14-20	20-24	24-31

Spring Options for Topographic Compensation
(N.O)

	Yellow	Green	White	Red
[m]	5-10	10-15	15-20	20-25
[psi]	7-14	14-21	21-28	28-35

Plastic Solenoid

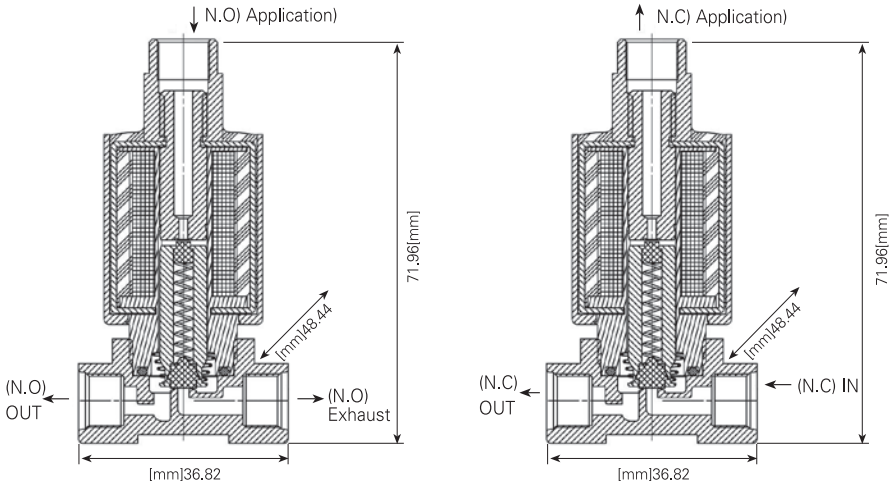
3 Way 1/8" N.C / N.O valve

The Raphael **plastic solenoid** valve has an electric coil responding to different currents and includes manual override.
Plastic solenoid valve bases are available with or without flange conection.

Applications

Raphael **plastic solenoid** is specially designed for irrigation control valves.

Function	Pressure [bar/psi]		
	AC	DC	
3-W - N.C	11/156	9/127	11/156
3-W - N.O	12/170	12/170	12/170



General Information

- Max Pressure: 10/145 [bar/psi]
- Max Temperature: 80/176 [°C/F]
- Weight: 0.1/0.22 [Kg/lbs]
- Power Source: 110V, 220V (AC) & 9V, 12V, 24V (DC)

Plastic Pilot - PC

3 Way Pressure Pilot Control

Applications

The Plastic **PC**, 3-W pressure pilot, is used in pressure reducing and pressure sustaining/relief applications.
Two pilot valves can combined together on single valve to form bi functional valve operation.
Combining pressure reducing and pressure sustaining functions is used to prevent excess water flow during pipeline filling.
The pressure regulating model is available in normal pressure or low pressure configurations.
The pilot valve body is made of high quality reinforced plastic.
Calibration may be performed by means of an adjusting screw located on the top of the valve.

Adjusting

Turn the adjusting screw clockwise or counter clockwise to regulate the set point.
Turning adjusting screw clockwise will decrease upstream set pressure and counter clockwise will incrase it.
Pay attention, the valve takes a while to reach its new set point after changing the set pressure.
Turn adjusting screw 1/2 turn at a time and wait until the valve reaches stability. If necessary, turn again until reaching the desired set point.

General Information

- **Pressure Rating:** 10/145 [bar/psi]
- **Senstivity:** 0.3/4 [bar/psi]
- **Max Temperature:** 061/07 [¡C/F]
- **Weight:** 0.32/0.7 [kg/lbs]

Spring Selection

Plastic pilot PC

	Grey Default	Green	Blue
[bar]	2.5-7	1-2.5	0.5-1.5
[psi]	35-100	14-35	7-22

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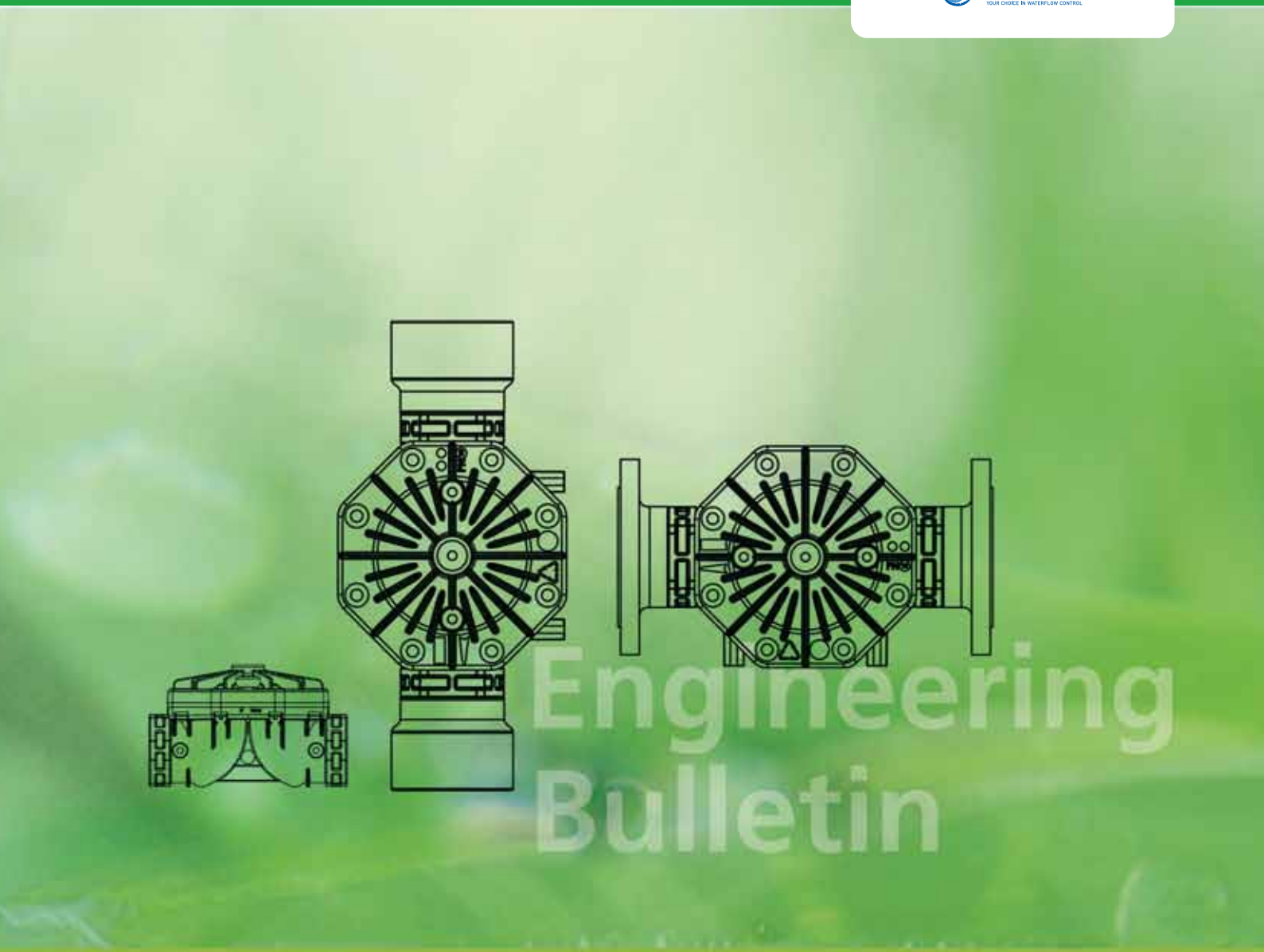
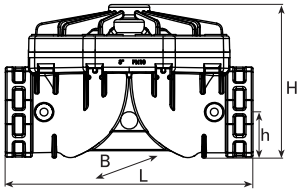


Engineering Bulletin

Dimensions & Weights

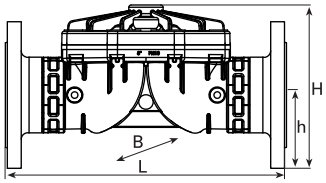
Metric Units

Threaded



Nominal Diameter	L	H	B	h	Weight
[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
40	185	105	125	32	0.7
50	194	110	125	38	0.8
50S	220	150	160	50	1.4
65	220	150	160	50	1.4
80	240	152	160	58	1.4
80S	314	190	252	61	4.5
100	320	190	252	67	4.6

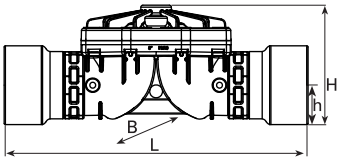
Flanged



Nominal Diameter	L	H	B	h	Weight
[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
80	400	194	200	100	2.2
80S	474	229	252	100	5.3
100	504	233	252	110	7.7

Universal metal/plastic flange adapters

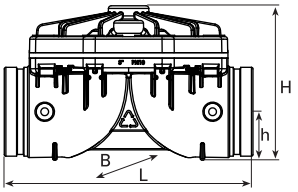
PVC weld



Nominal Diameter	L	H	B	h	Weight
[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
90	374	152	160	58	1.9
90S	440	190	252	61	5.0
110	446	190	252	67	6.6

PVC adapters for solvent weld

Grooved



Nominal Diameter	L	H	B	h	Weight
[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
80	320	150	160	50	1.4
125 (OD 133)	320	190	252	67	4.6

Raphael TALIS

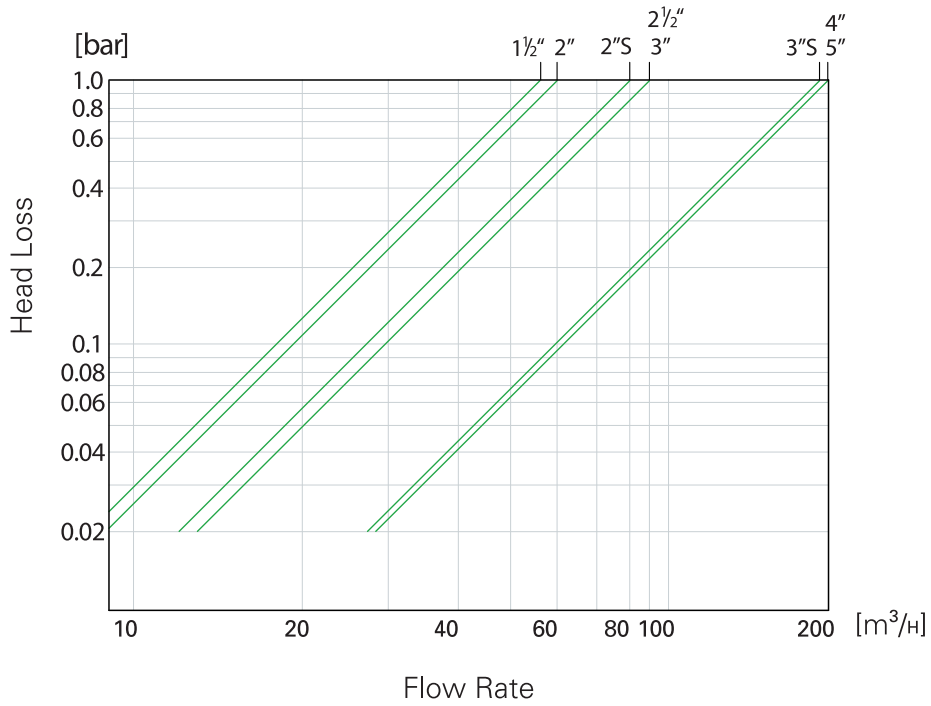
Kv - Coefficient

Nominal Diameter	
[mm]	Kv
40	55
50	60
50S	80
65	90
80	90
80S	180
100	200
125	200

Control Chamber

Displacement Volume	
[mm]	Liter
40	0.1
50	0.1
50S	0.2
65	0.2
80	0.2
80S	0.7
100	0.7
125	0.7

Flow Chart

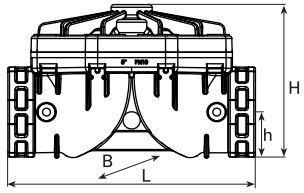


Kv = Valve flow coefficient
Q = Flow rate [m³/h]
Δ P = Head loss across the valve [bar]

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

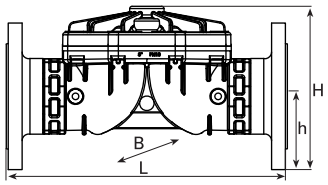
Dimensions & Weights

Imperial Units



Threaded

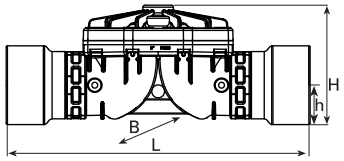
Nominal Diameter	L	H	B	h	Weight
[Inch]	[Inch]	[Inch]	[Inch]	[Inch]	[Lbs.]
1.5"	7.3	4.1	4.9	1.3	1.5
2"	7.6	4.3	4.9	1.5	1.8
2"S	8.7	5.9	6.3	2.0	3.1
2.5"	8.7	5.9	6.3	2.0	3.1
3"	9.4	6.0	6.3	2.3	3.1
3"S	12.4	7.5	9.9	2.4	9.9
4"	12.6	7.5	9.9	2.6	10.1



Flanged

Nominal Diameter	L	H	B	h	Weight
[Inch]	[Inch]	[Inch]	[Inch]	[Inch]	[Lbs.]
3"	15.7	7.6	7.9	3.9	4.8
3"S	18.7	9.0	9.9	3.9	11.6
4"	19.8	9.2	9.9	4.3	16.8

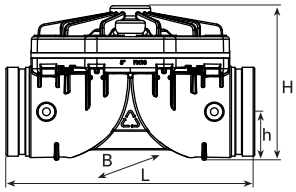
Universal metal/plastic flange adapters



PVC weld

Nominal Diameter	L	H	B	h	Weight
[Inch]	[Inch]	[Inch]	[Inch]	[Inch]	[Lbs.]
3"	14.7	6.0	6.3	2.3	4.2
3"S	17.3	7.5	9.9	2.4	11.0
4"	17.6	7.5	9.9	2.6	14.5

PVC adapters for solvent weld



Grooved

Nominal Diameter	L	H	B	h	Weight
[Inch]	[Inch]	[Inch]	[Inch]	[Inch]	[Lbs.]
3"	12.6	5.9	6.3	2.0	3.1
5" (OD 5.25)	12.6	7.5	9.9	2.6	10.1

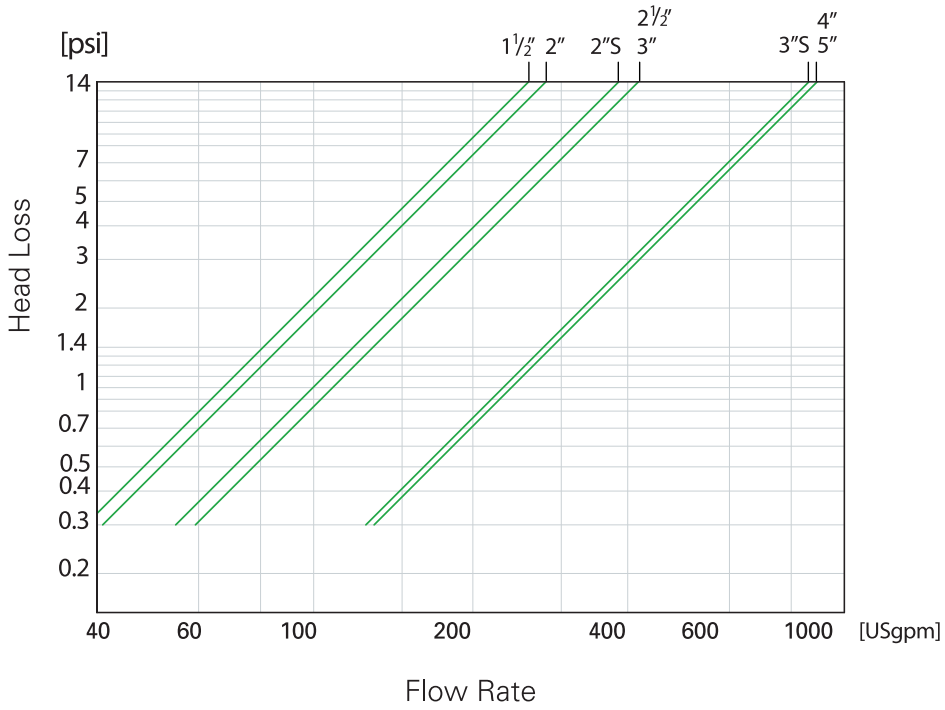
Cv - Coefficient

Nominal Diameter	
[Inch]	Cv
1.5"	64
2"	70
2"S	93
2.5"	104
3"	104
3"S	208
4"	232
5"	232

Control Chamber

Displacement Volume	
[Inch]	Ounces
1.5"	3
2"	3
2"S	7
2.5"	7
3"	7
3"S	24
4"	24
5"	24

Flow Chart



Cv = Valve flow coefficient
Q = Flow rate [gpm]
Δ P = Head loss across the valve [psi]

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

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