Pressure Reducing Valve
Series 60

RK CONTROL INSTRUMENTS

Mastering Flow Since 1969

An ISO 9001 Certified Company

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RK SERIES 60 SELF ACTUATED PRESSURE REDUCING VALVE

Pressure Reducing Valve is ideal for applications where downstream pressure requirement is constant. They are used in various process lines, equipments and systems including Water lines, Nitrogen Blanketing systems, Fuel control systems and LPG distribution system. PRV provides a reliable and economic solution for Pressure Regulation.

DESIGN FEATURES

- Range of body sizes: ½" - 8" (12 - 200mm)
- ANSI ratings 150 and 300
- End connections to suit any pipework configuration as per standard
- Range of body & diaphragm material combinations to meet majority of requirements
- Simple and economic design
- Minimum moving parts

PERFORMANCE FEATURES

- Wide reduced pressure range
- Pressure balanced valve design ensures that inlet pressure variations do not reflect on outlet pressure
- Rugged Design to withstand shocks
- Top & Bottom guiding ensures proper seating
- Smooth throttling action and stable control over full range
- Pressure adjustment by single adjusting screw
- Ideal for maintaining constant downstream pressure at steady load

ASSOCIATED BENEFITS

- Designed to minimise maintenance cost
- Long and trouble free service
- Assured product quality
- Utilises over 5 decades of engineering, design & application expertise

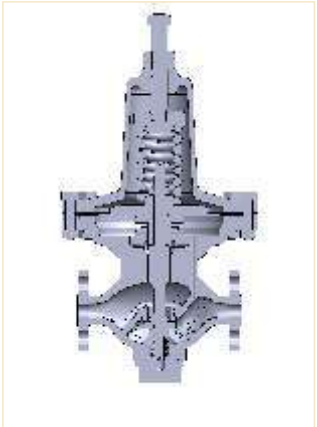
PRINCIPLE OF OPERATION

Inlet pressure acts upward on small balancing diaphragm (or piston) to equalise downward pressure on valve disc, providing fully balanced action. While setting, when the adjusting spring is compressed, it opens the main valve to admit fluid to downstream side.

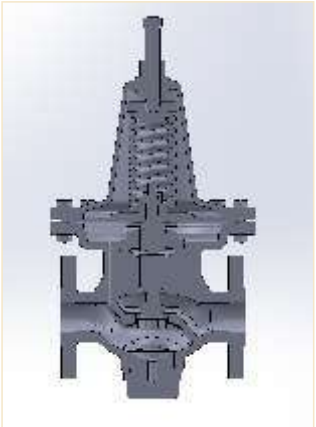
When the downstream pressure under the large diaphragm equals the force exerted by the adjusting spring, equilibrium is restored and the main valve maintains flow of the set downstream pressure.

Important Note:

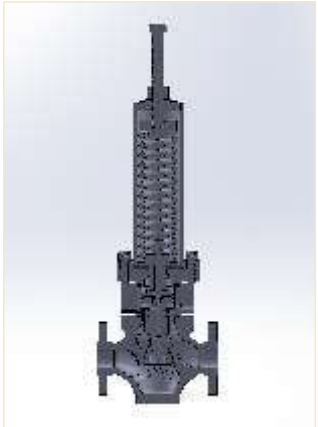
PRV is ideal for applications where downstream pressure required is constant. However, offset (pressure deviation) due to load change is inherent and acceptable within permissible limits. Permissible pressure deviation, in fact, determines the size and turndown ratio of the PRV.



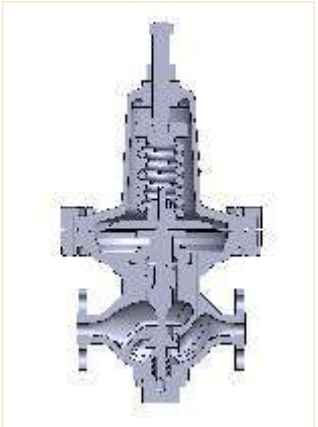
PRV 61 Downstream



PRV 61 Upstream



PRV 67 Upstream



PRV 62 Downstream

Size Range *Inches*	* Max. Inlet Pressure *kg/cm²g (psig)*	Reduced Pressure Range *kg/cm2g (psig)*
½ - 2	15 (225)	0.35 - 8 (5 - 120)
2½ - 3	10(150)	0.35 - 6 (5 - 90)

Model	Size Range *Inches*	Inlet Pressure *kg/cm²g (psig)*
Series 61U	½ - 1	1 - 6 (15 - 90)
	1½ - 2	1 - 5 (15 - 75)
	2½ - 3	1 - 4 (15 - 60)
Series 67U	½ - 6	2 - 15 (30 - 225)

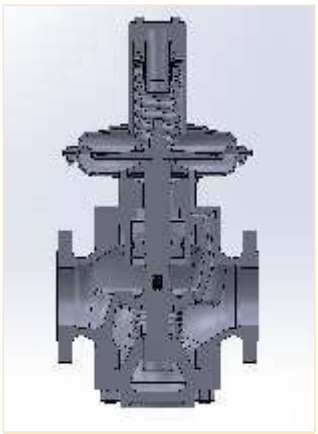
Size Range *Inches*	* Max. Inlet Pressure *kg/cm²g (psig)*	Reduced Pressure Range *kg/cm2g (psig)*
½ - 2	20 (300)	0.35 - 8 (5 - 120)
2½ - 3	20 (300)	0.35 - 6 (5 - 90)

* Higher pressure on request Minimum △P shall be 1 kg/cm²g (15 psig)

UPSTREAM PRESSURE CONTROL (PRV 61 U & 67 U)

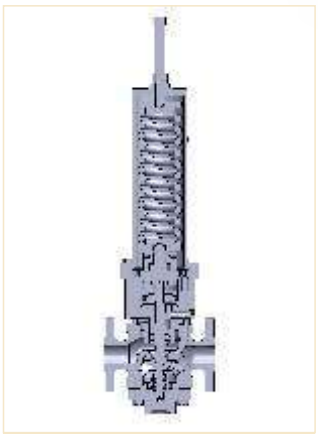
PRV with some modifications can be used for limiting the upstream pressure.
However, the downstream pressure is usually atmospheric in such cases.

NOTES : *THE UPSTREAM PRESSURE CONTROL SPAN SHOULD BE PREFERABLY LIMITED TO 2 kg/cm². Eg.1-3 kg/cm², or 6-8 kg/cm². FOR DOWNSTREAM PRESSURE OTHER THAN ATMOSPHERIC CONSULT FACTORY.*



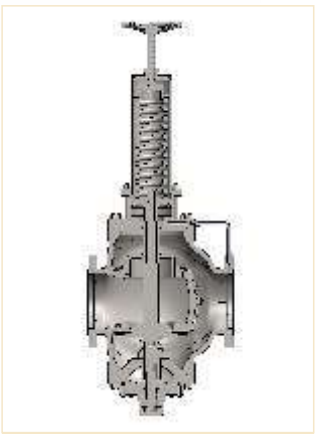
PRV 65 Downstream

Size Range *Inches*	* Max. Inlet Pressure *kg/cm²g (psig)*	Reduced Pressure Range *kg/cm2g (psig)*
4 - 8	20 (300)	0.5 - 4 (7 - 60)



PRV 67 Downstream

Size Range *Inches*	* Max. Inlet Pressure *kg/cm²g (psig)*	Reduced Pressure Range *kg/cm2g (psig)*
3 - 4	20 (300)	4 - 15 (60 - 225)



PRV 68 Downstream

Size Range *Inches*	* Max. Inlet Pressure *kg/cm²g (psig)*	Reduced Pressure Range *kg/cm²g (psig)*
6 - 8	20 (300)	1.5 - 15 (22 - 225)

* Higher pressure on request Minimum △P shall be 1 kg/cm²g (15 psig)

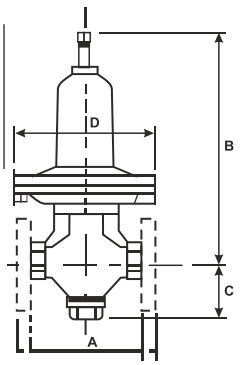
DIAPHRAGMS : High tensile rubber with nylon insert.
Other options - EPDM / Viton
BODY MATERIALS : Carbon Steel and Stainless Steel as standard. Other materials on request.
INTERNAL PARTS : Stainless Steel with reversible valve disc.
BODY RATINGS : ANSI 150 and 300. Higher ratings on request.
MAXIMUM TEMPERATURE : 80°C.

Technical Description:

Valve Size	½"		¾"		1"		1½"		2"		3"		4"		6"		8"	
Approximate Pressure Deviation from No Load to Full Load	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Cv USGPM*	1.7	3	3	5.5	5	9	10	17	14	25	15	30	20	40	30	60	40	80

* Higher Cv can be achieved if permissible deviation is higher than 10%.

Valve Size	Face to Face or End to End (A)		Centre of Pipe to Top of Valve (B)	Centre of Pipe to Bottom of Valve (C)	Diameter Diaphragm Chamber (D)
	Threaded	Flanged 125# / 150#			
½	$6^{1}/_{8}$	$7^{1}/_{8}$	$13^{1}/_{8}$	3¼	$8^{5}/_{8}$
¾	$6^{1}/_{8}$	$7^{1}/_{14}$	$13^{1}/_{8}$	3¼	$8^{5}/_{8}$
1	$6^{1}/_{12}$	$7^{1}/_{14}$	$13^{1}/_{8}$	3¼	$8^{5}/_{8}$
1½	$7^{5}/_{8}$	8¾	14½	5	10¼
2	8½	10	$14^{11}/_{16}$	$4^{3}/_{8}$	10¼
3	-	11¾	26	$5^{1}/_{8}$	12½



NOTES : ALL DIMENSIONS ARE IN INCHES THE COMPANY PRESERVES THE RIGHT TO CONFIRM THESE ON CERTIFIED DRAWINGS.

INSTALLATION

For satisfactory operation of your PRV following care must be taken.

Strainers must be used to remove line debris to protect valve internals. The strainers should have adequate screening area. A safety valve of adequate capacity must be installed on the downstream side of PRV about 18-20 pipe diameters away, free from turbulent conditions otherwise false alarm may pop the valve frequently.

The PRV should be installed as near as possible to the consumption vessel. Individual PRV should serve different loads.

The upstream pipework should ideally be taken-off a running main line and from its top. It should be positioned at a convenient height for easy access and maintenance.

When hydrostatic pressure tests are performed on a complete assembly, the body pressure should be limited to 7 kg/cm²g (100 psig) to prevent diaphragm damage.

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