

Pressure Regulating Valve (PRV)

Model PRV536SV – Industrial – Datasheet – Page 1 of 5

Description

The 536 PRV from Arrow Valves is designed to provide a constant outlet pressure despite varying inlet pressures. The outlet pressure is adjustable between 0.5 – 6 bar. The inlet pressure must be higher than the desired outlet pressure.

The outlet pressure is factory set at 3 bar and adjustments can be made at any time by removing the tamperproof disc on top and inserting the hexagon key (supplied). Turn clockwise to increase the pressure.

A pressure gauge is supplied with each PRV (DN50 and 65 has two gauges), which indicates the outlet pressure. This may be removed and a plug fitted (supplied) or a self-seal probe test point can be supplied. Two gauge ports are provided to allow right and left configurations.

This direct acting PRV may be installed in horizontal or vertical pipes. Flat-faced unions (excluding DN65, which is flanged) enable the valve to be quickly installed and orientated and a range of connections is available to suit various pipes. Upstream and downstream Servicing Valves (SV) are **strongly recommended** to avoid draining for maintenance – e.g. cleaning internal strainer – refer to BVFM data sheet. The connections are normally solder union but compression is also available. Solder unions eliminate the blow-out risk of inadequately tightened compression ends.

Connection Pipes

Copper – Solder Unions or Compression

Steel – Male Union BSP taper tails

Plastic – Fittings available for most plastic systems

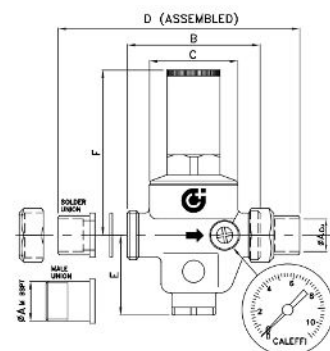
Specification		
Pressure Inlet	bar	25 max.
Pressure Outlet	bar	0.5 - 6
Pressure Factory set	bar	3
Max. Temperature	°C	80
Strainer	µm	500 (0.5 mm)
Water Regs Approval (WRAS)		241204705
Materials		
Body		DZR Copper Alloy (DN15 to 40) Bronze (DN50 & 65)
Cover		DZR Copper Alloy
Seat		Stainless Steel
Strainer		Stainless Steel
Diaphragm, Seal		Elastomer (DN15 to DN40) Nitrile Rubber (DN50 & 65)

Applications

- Reducing excessive mains pressure
- Controlling pump outlet pressure
- Pressure regulation per floor
- Water conservation

Options

- A "Filterball" can be fitted in place of the upstream Servicing Valve. This has a serviceable 300 µm strainer to protect the PRV from creep-inducing debris.
- A self-seal and capped Test Point can be fitted in place of the gauge
- Double check valve – refer to ED132 datasheet



DN	A _M	A _{Cu}	B	C	D _{SU}	D _{MU}	D _{SVComp}	D _{SVSU}	E	F	Kg _{MU}
15	1½"	15	76	51	118	140	220	320	54	90	1.3
20	¾"	22	90	60	144	160	258	374	54	112	1.7
25	1"	28	95	60	159	180	303	436	54	112	1.9
32	1¼"	35	110	72	184	200	346	494	63	126	3.1
40	1½"	42	120	72	194	220	386	530	63	126	3.6
50	2"	54	160	110	---	280	---	---	94	204	10.4
65	PN16	---	225	110	---	225	---	---	94	204	19.4

Codes and Descriptions

Size	Code	Description
15 mm	PRV15C536FBSV	536 PRV Gauge 0.5-6 bar FB SV Comp
15 mm	PRV15C536SV	15mm 536 PRV Gauge 0.5-6 bar Serv Valves Comp
15 mm	PRV15SU536SV	15mm 536 PRV Gauge 0.5-6 bar Serv Valves SU
22 mm	PRV22C536SV	22mm 536 PRV Gauge 0.5-6 bar Serv Valves Comp
22 mm	PRV22SU536SV	22mm 536 PRV Gauge 0.5-6 bar Serv Valves SU
28 mm	PRV28C536SV	28mm 536 PRV Gauge 0.5-6 bar Serv Valves Comp
28 mm	PRV28SU536SV	28mm 536 PRV Gauge 0.5-6 bar Serv Valves SU
35 mm	PRV35C536SV	35mm 536 PRV Gauge 0.5-6 bar Serv Valves Comp
35 mm	PRV35SU536SV	35mm 536 PRV Gauge 0.5-6 bar Serv Valves SU
42 mm	PRV42C536SV	42mm 536 PRV Gauge 0.5-6 bar Serv Valves Comp
42 mm	PRV42SU536SV	42mm 536 PRV Gauge 0.5-6 bar Serv Valves SU
54 mm	PRV54C536SV	54mm 536 PRV Gauge 0.5-6 bar Serv Valves Comp
54 mm	PRV54SU536SV	54mm 536 PRV Gauge 0.5-6 bar Serv Valves SU
65 mm	PRV65PN536SV	536 PRV, Gauge 0.5-6 bar Servicing Valve

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Arrow Valves

Pressure Regulating Valve (PRV)

Model PRVMU536 – Industrial – Datasheet – Page 2 of 5

Description

The 536 PRV from Arrow Valves is designed to provide a constant outlet pressure despite varying inlet pressures. The outlet pressure is adjustable between 0.5 – 6 bar. The inlet pressure must be higher than the desired outlet pressure.

The outlet pressure is factory set at 3 bar and adjustments can be made at any time by removing the tamperproof disc on top and inserting the hexagon key (supplied). Turn clockwise to increase the pressure.

A pressure gauge is supplied with each PRV (DN50 and 65 has two gauges), which indicates the outlet pressure. This may be removed and a plug fitted (supplied) or a self-seal probe test point can be supplied. Two gauge ports are provided to allow right and left configurations.

This direct acting PRV may be installed in horizontal or vertical pipes. Flat-faced unions (excluding DN65, which is flanged) enable the valve to be quickly installed and orientated and a range of connections is available to suit various pipes. Upstream and downstream Servicing Valves (SV) are **strongly recommended** to avoid draining for maintenance – e.g. cleaning internal strainer – refer to BVFM data sheet. The connections are normally solder union but compression is also available. Solder unions eliminate the blow-out risk of inadequately tightened compression ends.

Connection Pipes

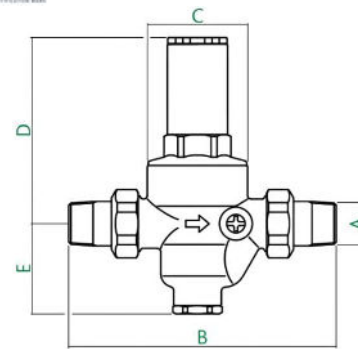
Copper – Solder Unions or Compression

Steel – Male Union BSP taper tails

Plastic – Fittings available for most plastic systems



PRVMU536 (LEFT) AND PRV65PN536 (RIGHT)



Specification		
Pressure Inlet	bar	25 max.
Pressure Outlet	bar	0.5 - 6
Pressure Factory set	bar	3
Max. Temperature	°C	80
Strainer	µm	500 (0.5 mm)
Water Regs Approval (WRAS)		241204705
Materials		
Body		DZR Copper Alloy (DN15 to 40) Bronze (DN50 & 65)
Cover		DZR Copper Alloy
Seat		Stainless Steel
Strainer		Stainless Steel
Diaphragm, Seal		Elastomer (DN15 to DN40) Nitrile Rubber (DN50 & 65)

DN	A	B	C	D	E	Kg
15 (F x F)	G1/2"	81	51	90	54	1.1
15	1/2"	140	51	90	54	1.25
20	3/4"	160	60	112	54	1.95
25	1"	180	60	112	54	1.9
32	1 1/4"	200	72	126	63	3.14
40	1 1/2"	220	72	126	63	3.64
50	2"	81	51	90	54	10.3
65 (Flanged)	PN16	225	110	204	94	19.4

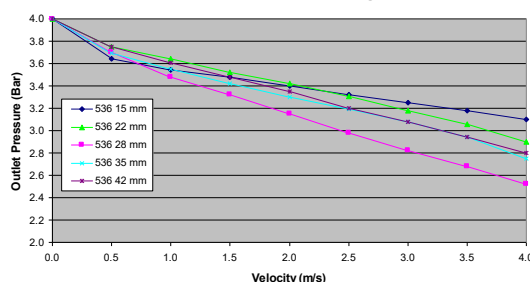
Codes and Descriptions

Size	Code	Description
DN15	PRV15FF536	DN15 536 PRV Gauge 0.5-6 bar F x F
DN15	PRV15MU536	DN15 536 PRV Gauge 0.5-6 bar Male Union
DN20	PRV20MU536	DN20 536 PRV Gauge 0.5-6 bar Male Union
DN25	PRV25MU536	DN25 536 PRV Gauge 0.5-6 bar Male Union
DN32	PRV32MU536	DN32 536 PRV Gauge 0.5-6 bar Male Union
DN40	PRV40MU536	DN40 536 PRV Gauge 0.5-6 bar Male Union
DN50	PRV50MU536	DN50 536 PRV Gauge 0.5-6 bar Male Union
DN65	PRV65PN536	DN65 536 PRV Gauges 0.5-6 bar PN16

Applications

- Reducing excessive mains pressure
- Controlling pump outlet pressure
- Pressure regulation per floor
- Water conservation

Pressure Deviation from set pressure / Flow Chart
PRV Valves (6 bar supply, 4 bar outlet @ no flow)



Notes

Velocity based on flow of water through the bore of copper tube table X. See Flow Table to find the actual flow rate. Valves tested with 6 bar inlet pressure. Outlet set to 4 bar with no flow. Outlet pressure reduces due to frictional resistance and valve characteristics.

Options

- A "Filterball" can be fitted in place of the upstream Servicing Valve. This has a serviceable 300 µm strainer to protect the PRV from creep-inducing debris.
- A self-seal and capped Test Point can be fitted in place of the gauge
- Double check valve – refer to ED132 datasheet

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Pressure Regulating Valve (PRV)

Model PRVC536 – Industrial – Datasheet – Page 3 of 5

Description

The 536 PRV from Arrow Valves is designed to provide a constant outlet pressure despite varying inlet pressures. The outlet pressure is adjustable between 0.5 – 6 bar. The inlet pressure must be higher than the desired outlet pressure.

The outlet pressure is factory set at 3 bar and adjustments can be made at any time by removing the tamperproof disc on top and inserting the hexagon key (supplied). Turn clockwise to increase the pressure.

A pressure gauge is supplied with each PRV (DN50 and 65 has two gauges), which indicates the outlet pressure. This may be removed and a plug fitted (supplied) or a self-seal probe test point can be supplied. Two gauge ports are provided to allow right and left configurations.

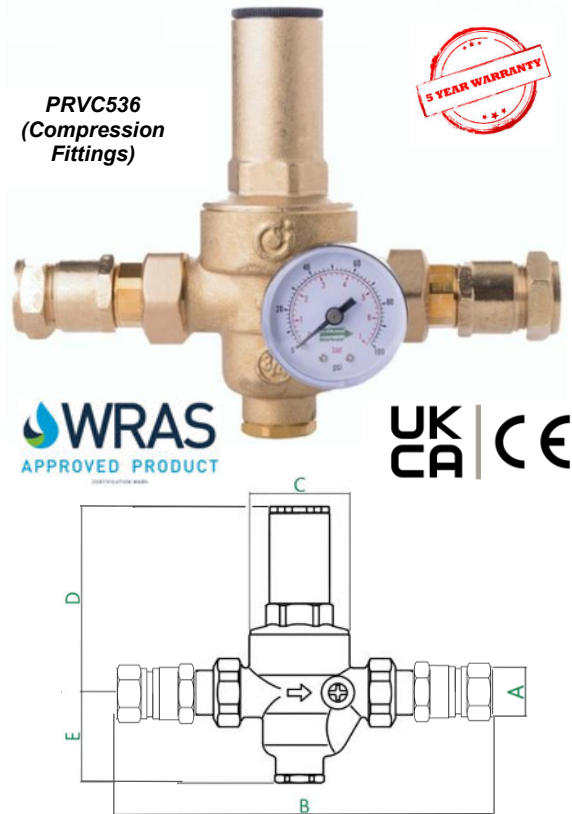
This direct acting PRV may be installed in horizontal or vertical pipes. Flat-faced unions (excluding DN65, which is flanged) enable the valve to be quickly installed and orientated and a range of connections is available to suit various pipes. Upstream and downstream Servicing Valves (SV) are **strongly recommended** to avoid draining for maintenance – e.g. cleaning internal strainer – refer to BVFM data sheet. The connections are normally solder union but compression is also available. Solder unions eliminate the blow-out risk of inadequately tightened compression ends.

Connection Pipes

Copper – Solder Unions or Compression

Steel – Male Union BSP taper tails

Plastic – Fittings available for most plastic systems



Specification		
Pressure Inlet	bar	25 max.
Pressure Outlet	bar	0.5 - 6
Pressure Factory set	bar	3
Max. Temperature	°C	80
Strainer	µm	500 (0.5 mm)
Water Regs Approval (WRAS)		241204705
Materials		
Body		DZR Copper Alloy (DN15 to 40) Bronze (DN50)
Cover		DZR Copper Alloy
Seat		Stainless Steel
Strainer		Stainless Steel
Diaphragm, Seal		Elastomer (DN15 to DN40) Nitrile Rubber (DN50)

DN	A	B	C	D	E	Kg
15	1/2"	202	51	90	54	1.20
22	3/4"	227	60	112	54	1.83
28	1"	252	60	112	54	2.16
35	1 1/4"	263	72	126	63	3.08
42	1 1/2"	288	72	126	63	3.94
54	2"	356	51	90	54	10.56

Codes and Descriptions

Size	Code	Description
15 mm	PRV15C536	15mm 536 PRV Gauge 0.5-6 bar Compression
22 mm	PRV22C536	22mm 536 PRV Gauge 0.5-6 bar Compression
28 mm	PRV28C536	28mm 536 PRV Gauge 0.5-6 bar Compression
35 mm	PRV35C536	35mm 536 PRV Gauge 0.5-6 bar Compression
42 mm	PRV42C536	42mm 536 PRV Gauge 0.5-6 bar Compression
54 mm	PRV54C536	54mm 536 PRV Gauge 0.5-6 bar Compression

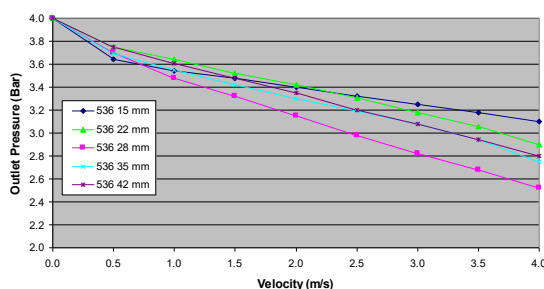
Options

- A "Filterball" can be fitted in place of the upstream Servicing Valve. This has a serviceable 300 µm strainer to protect the PRV from creep-inducing debris.
- A self-seal and capped Test Point can be fitted in place of the gauge
- Double check valve – refer to ED132 datasheet

Applications

- Reducing excessive mains pressure
- Controlling pump outlet pressure
- Pressure regulation per floor
- Water conservation

Pressure Deviation from set pressure / Flow Chart
PRV Valves (6 bar supply, 4 bar outlet @ no flow)



Notes

Velocity based on flow of water through the bore of copper tube table X.
See Flow Table to find the actual flow rate.
Valves tested with 6 bar inlet pressure. Outlet set to 4 bar with no flow.
Outlet pressure reduces due to frictional resistance and valve characteristics.

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Pressure Regulating Valve (PRV)

Model PRVSU536 – Industrial – Datasheet – Page 4 of 5

Description

The 536 PRV from Arrow Valves is designed to provide a constant outlet pressure despite varying inlet pressures. The outlet pressure is adjustable between 0.5 – 6 bar. The inlet pressure must be higher than the desired outlet pressure.

The outlet pressure is factory set at 3 bar and adjustments can be made at any time by removing the tamperproof disc on top and inserting the hexagon key (supplied). Turn clockwise to increase the pressure.

A pressure gauge is supplied with each PRV (DN50 and 65 has two gauges), which indicates the outlet pressure. This may be removed and a plug fitted (supplied) or a self-seal probe test point can be supplied. Two gauge ports are provided to allow right and left configurations.

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Connection Pipes

Copper – Solder Unions or Compression

Steel – Male Union BSP taper tails

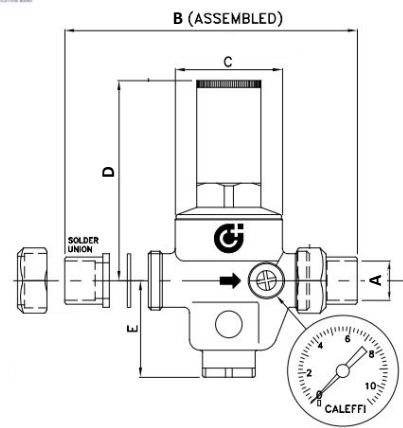
Plastic – Fittings available for most plastic systems

PRVSU536 (Soldier Union Fittings)



WRAS
APPROVED PRODUCT

UK
CA | CE



DN	A	B	C	D	E	Kg
15	1/2"	118	51	90	54	1.03
22	3/4"	144	60	112	54	1.46
28	1"	159	60	112	54	1.66
35	1 1/4"	186	72	126	63	2.59
42	1 1/2"	197	72	126	63	2.94
54	2"	234	51	90	54	8.67

Specification		
Pressure Inlet	bar	25 max.
Pressure Outlet	bar	0.5 - 6
Pressure Factory set	bar	3
Max. Temperature	°C	80
Strainer	µm	500 (0.5 mm)
Water Regs Approval (WRAS)		241204705
Materials		
Body		DZR Copper Alloy (DN15 to 40) Bronze (DN50 & 65)
Cover		DZR Copper Alloy
Seat		Stainless Steel
Strainer		Stainless Steel
Diaphragm, Seal		Elastomer (DN15 to DN40) Nitrile Rubber (DN50 & 65)

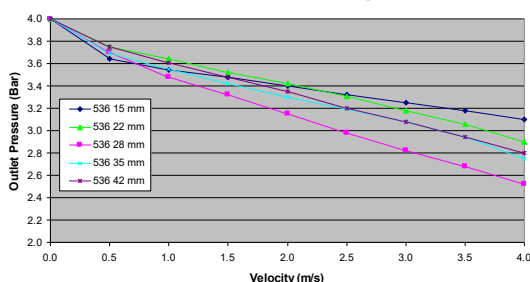
Codes and Descriptions

Size	Code	Description
15 mm	PRV15SU536	15mm 536 PRV, Gauge 0.5-6 bar Solder Union
22 mm	PRV22SU536	22mm 536 PRV, Gauge 0.5-6 bar Solder Union
28 mm	PRV28SU536	28mm 536 PRV, Gauge 0.5-6 bar Solder Union
35 mm	PRV35SU536	35mm 536 PRV, Gauge 0.5-6 bar Solder Union
42 mm	PRV42SU536	42mm 536 PRV, Gauge 0.5-6 bar Solder Union
54 mm	PRV54SU536	54mm 536 PRV, Gauge 0.5-6 bar Solder Union

Applications

- Reducing excessive mains pressure
- Controlling pump outlet pressure
- Pressure regulation per floor
- Water conservation

Pressure Deviation from set pressure / Flow Chart
PRV Valves (6 bar supply, 4 bar outlet @ no flow)



Notes

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- Double check valve – refer to ED132 datasheet

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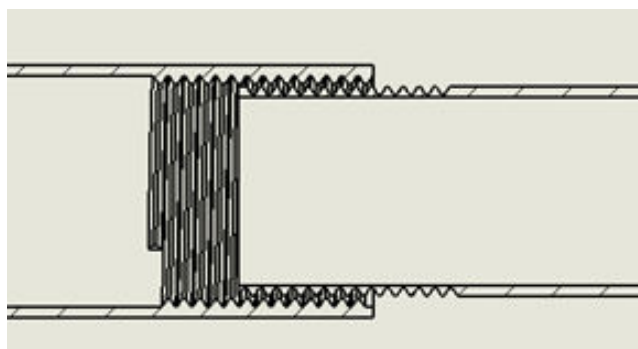
Pressure Regulating Valve (PRV)

Connections and Fittings Guidance - Industrial – Datasheet – Page 5 of 5

BSP Parallel Connection Guidance

Apply a suitable sealant to the male threaded part, this can be PTFE tape or liquid sealants. Arrow Valves recommend Permabond MH052. Do not use hemp. Check the internal thread length and make sure that the male thread does not exceed this length when fitted together as shown in the figure below .

Thread Size (DN)	Number of turns after hand tightening
15	$\frac{3}{4}$ to 1
20	$\frac{3}{4}$ to 1
25	$\frac{3}{4}$ to 1
32	$\frac{3}{4}$ to 1
40	1 to 1 $\frac{1}{4}$
50	1 to 1 $\frac{1}{4}$



NOTE: Hoop stress is a radial stress applied to cylindrical objects such as pipework and can occur when too much sealant or tape is placed on the male thread causing an outward force on the female fitting when connected and over tightened. Tapered fittings are more prone to hoop stress and great care should be taken when making a tapered joint.

Compression Fittings Guidance

There are two acceptable methods. Hand tighten the nut until the pipe stops turning (Machine oil on the thread can help). Or follow the “number of turns rule” using a suitable spanner or wrench. Tighten to the recommended torque setting as outlined in the table below :

Fitting size (mm)	Number of Turns	Recommended Torque (Nm)
15	$\frac{3}{4}$ to 1	40
22	$\frac{3}{4}$ to 1	45
28	$\frac{3}{4}$ to 1	80
35	$\frac{3}{4}$ to 1	110
42	1 to 1 $\frac{1}{4}$	150
54	1 to 1 $\frac{1}{4}$	190

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