

536 Prescal

pressure reducing valve



installation guide

altecnic

These installation instructions are for the Altecnic 536 pressure reducing valves with male union threaded ends or flanged PN16

Introduction

536 pressure reducing valves when installed in systems supplied from the main water supply or from a higher pressure reduce the pressure to the water outlets and the users.

The internal cartridge is assembled as one unit making removal for inspection, cleaning and maintenance easier.

They can be supplied with a downstream pressure gauge or in the case of the DN65 are supplied fitted with two gauges.

The 536 series of pressure reducing valve is certified according to BS EN 1567 for operating with inlet water temperatures up to 40°C.

Product Code	Size	Connections	Type
536040	½"	screwed iron	M x M - with gauge ports
536050	¾"	screwed iron	M x M - with gauge ports
536060	1"	screwed iron	M x M - with gauge ports
536070	1¼"	screwed iron	M x M - with gauge ports
536080	1½"	screwed iron	M x M - with gauge ports
536041	½"	screwed iron	M x M - with pressure gauge
536051	¾"	screwed iron	M x M - with pressure gauge
536061	1"	screwed iron	M x M - with pressure gauge
536071	1¼"	screwed iron	M x M - with pressure gauge
536081	1½"	screwed iron	M x M - with pressure gauge
536240	½"	screwed iron	F x F - with gauge ports
536250	¾"	screwed iron	F x F - with gauge ports
536260	1"	screwed iron	F x F - with gauge ports
536241	½"	screwed iron	F x F - with pressure gauge
CA-536251	¾"	screwed iron	F x F - with pressure gauge
536261	1"	screwed iron	F x F - with pressure gauge
536660	DN65	Flanged PN16	With 2 pressure gauges

Warning



The following instructions must be read and understood before installing and maintaining the product.

CAUTION! Failure to follow these instructions could result in a safety hazard!

- The installation of pressure reducing valves should only be carried out by qualified personnel in accordance with current legislation.
- If the pressure reducer is not installed, commissioned and maintained properly in accordance with these instructions it may not operate correctly, and may cause damage to objects and/or people.
- Make sure that all the connections are water-tight, do not overtighten.
- In the case of highly aggressive water, arrangements must be made to treat the water before it enters the reducer, in accordance with current legislation.

Construction Details

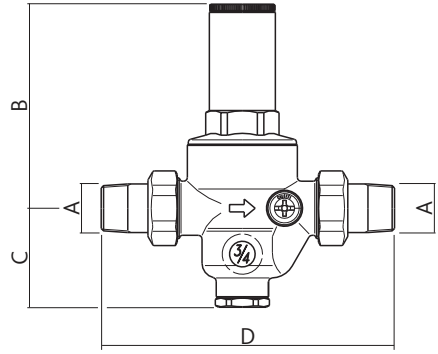
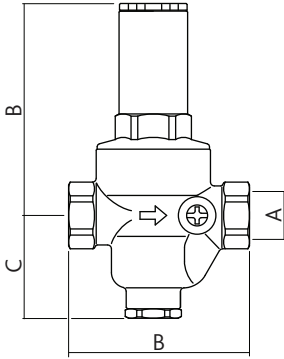
Component

Component		Material	Grade
Body	5360 to 5362	DZR	BS EN 1982 CB752S
	5365 and 5366	Bronze	BS EN 1982 CC491K
Cover	5360 to 5362	DZR	BS EN12164 CW602N
	5365 and 5366	DZR	BS EN 1982 CB752S
Control stem	5360 to 5362	DZR	BS EN12164 CW602N
	5365 and 5366	Brass	BS EN12164 CW614N
Internal components	5360 to 5362	Stainless steel	
	5365 and 5366	Brass	BS EN12164 CW614N
Strainer screen		Stainless steel	AISI 304
Diaphragm		NBR	
Seals		NBR	

Technical Data

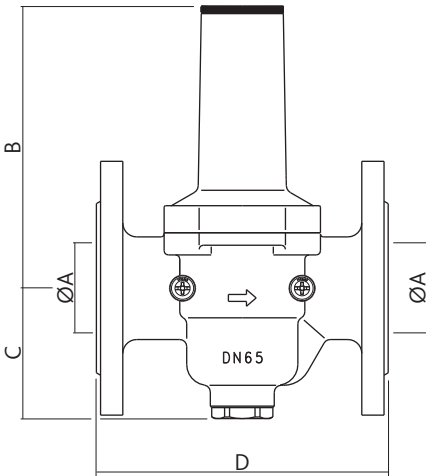
Max inlet pressure:	5360 to 5365	25 bar
	5366	16 bar
Outlet pressure setting range:		0.5 to 6 bar
Factory setting:		3 bar
Max working temperature:		80°C
Medium:		potable water
Pressure gauge connection:		G1/4
Pressure gauge scale:	5360 to 5362	0 to 10 bar
	5365 and 5366	0 to 25 bar - upstream
	5365 and 5366	0 to 10 bar - downstream
Filter mesh:	5360 to 5362 - ½" to 1"	0.51 mm
	5360 to 5362 - 1¼" & 1½"	0.4 mm
	5365 and 5366	0.8 mm
Certification:	5360 to 5365	BS EN 1567
Acoustic group:	5360 to 5362	I
WRAS approved product:		Yes

Dimensions



Prod Code	A	B	C	D	kg
536240	G½				1.1
536241	G½	90	54	81	1.15
536250	G¾				1.52
CA-536251	G¾	112	54	112	1.57
536260	G1				1.53
536261	G1	112	54	100	1.58

Prod Code	A	B	C	D	kg
536040					1.2
536041	R½	90	54	140	1.25
536050					1.6
536051	R¾	112	54	160	1.82
536060					1.9
536061	R1	112	54	180	1.95
536070					3.04
535071	R1¼	130	63	204	3.14
538080					3.54
535081	R1½	130	63	220	3.64



Prod Code	A	B	C	D	kg
536660	65	298	94	210	

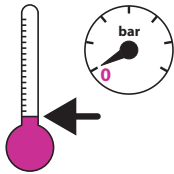
Recommended Flow Rates

For an average flow velocity of 2 m/s, the maximum flow rates for each valve size, according to BS EN1567 are;

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
l/m	21.16	37.83	60	96.6	151.6	233.3

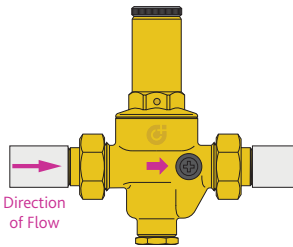
Installation

Please read these instruction before commencing installation to ensure the correct fitting position is selected and sufficient space and access is available for adjustment and any future maintenance.



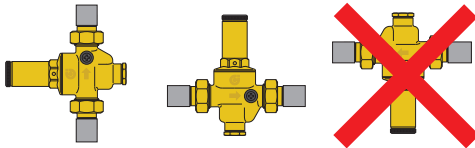
Before installing the pressure reducer, open all the outlets to flush the system and expel any air left in the pipework.

Assembly and disassembly should always be carried out while the system is cold and not under pressure.



The valve must be installed with the flow direction arrow on the body pointing in the same direction as the flow.

Service valves should be installed upstream and downstream of the pressure reducing valve should maintenance be required in the future.



The valve can be installed in both horizontal and vertical pipes.

If installed in a horizontal pipe the cover should be upper most as illustrated.

Isolate the water supply to where the pressure reducing valve is to be fitted before installation.

Below ground installation

The pressure reducing valves should not be installed below ground, for the following reasons:

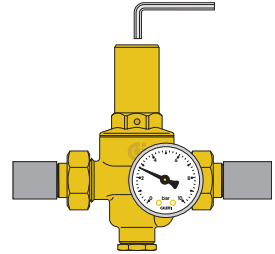
- The reducing valve may be damaged by frost.
- Inspection and maintenance operations may be difficult.
- The pressure gauge will be difficult to read

Water hammer

- This is one of the main reasons for the failure of pressure reducing valves.
- During the installation of "at risk" systems, specific appropriate devices should be installed to absorb water hammer.

Calibration

- The valves are factory pre-set to a pressure of 3 bar.
- Remove the cap to reveal the adjusting screw.
- If the pressure reducing valve is not fitted with a downstream pressure gauge, a pressure gauge must be fitted downstream of the valve. After calibration this gauge can be removed, blanked off and used again elsewhere.
- Close the downstream isolating valve or water outlet.
- Calibration is carried out by means of a 10mm Allen key or flat faced screw driver in the adjusting screw to adjust the spring force.
- Turn the Allen key clockwise to increase the downstream pressure or anti-clockwise to reduce it, measuring the pressure on the pressure gauge until the required value is achieved.
- After installation, the valve will automatically adjust the pressure until it reaches the required value.



Maintenance

It is recommended to carry out maintenance and cleaning of the cartridge on a regular basis.

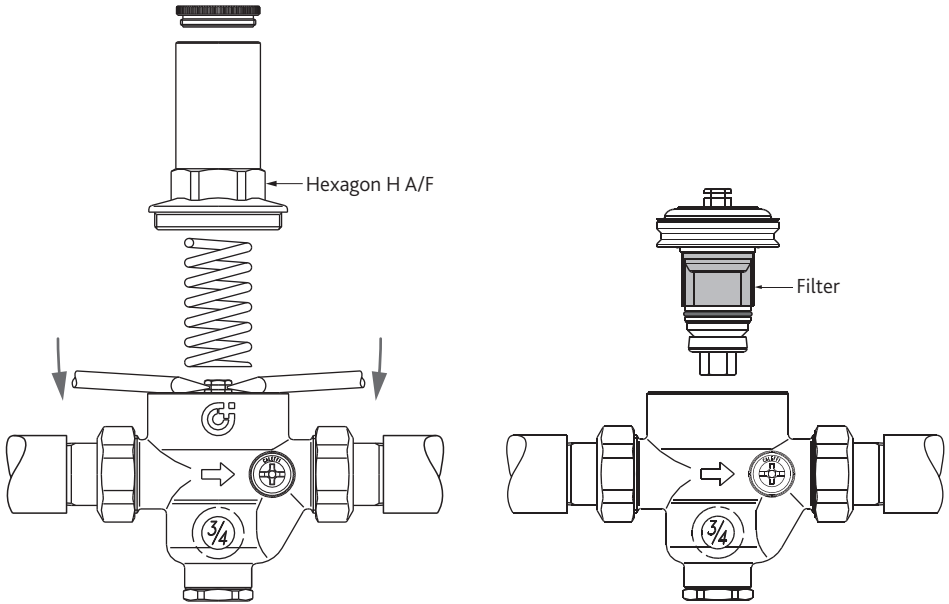
When carry out maintenance, to clean the filter or replace the complete regulating cartridge the following procedure should be followed:

- Close the upstream service valve and open the water outlet.
- Remove the cap to reveal the adjusting screw.
- Using a 10mm Allen key or flat faced screw driver, turn anti-clockwise to release the force on the spring.
- For all sizes except the DN65 flanged valve, remove the cover, using a box or ring spanner, do not use an open ended spanner on the hexagon.
- For the DN65, the cover is held on by 4 socket head cap screws located at each corner. Using a ???mm Allen key release the cover
- Care must be taken when finally removing the cover to ensure the spring does not escape and cause injury.

Valve Size	H A/F
1/2"	
3/4"	
1"	
1 1/4"	
1 1/2"	

Maintenance

- Using two flat blade screw drives carefully prise out the cartridge as shown.
- If the cartridge is difficult to remove, unscrew the cover at the bottom of the body, insert a rod and give a tap with a hammer to help release it.



- Remove the filter by sliding away from the cartridge, check for signs of damage and clean by holding under clean running water.
- The whole cartridge can be refitted or replaced with a spare if any signs of damage are visible.
- Re-assemble in the reverse order.
- Slowly reopen the upstream service valve.
- The valve must be re-calibrated following the Calibration procedure previously described.

Fault Detection

Some faults are often incorrectly attributed to the pressure reducing valve, but are usually due to lack of specific system arrangements.

The most frequent cases are:

Increase in pressure downstream of the reducer with an in-line water heater

This problem is caused by the water heater continuing to heating the water.

The pressure downstream increases, due to water expansion, as the pressure reducing valve is closed.

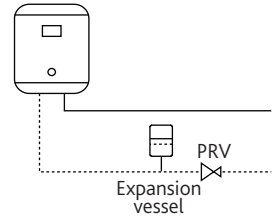
The solution is to install an expansion vessel between the pressure reducing valve and the water heater, to 'absorb' the pressure increase.

The reducer does not maintain the setting value

In most cases, this problem is due to the presence of debris on the valve seat, causing blow-by and consequently an increase in the downstream pressure.

It is recommended to fit an independent filter upstream of the pressure reducing valve.

It is advised to carry-out maintenance and cleaning of the cartridge assembly - see Maintenance.



Please leave this manual with the user

In this procedure document we have endeavoured to make the information as accurate as possible.

We cannot accept any responsibility should it be found that in any respect the information is inaccurate or incomplete or becomes so as a result of further developments or otherwise.

E & O.E

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