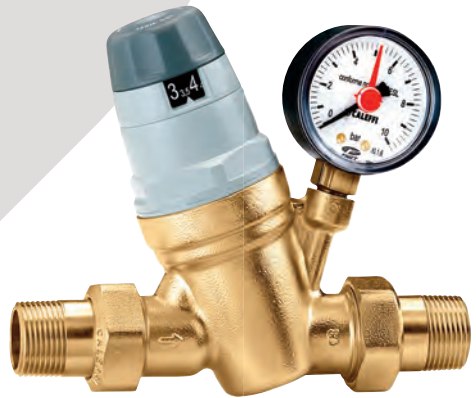


# 535 Prescal

dial up  
pressure reducing valve



installation guide

altecnic

## 535 dial up pressure reducing valve

These installation instructions are for the Altecnic 535 dial up pressure reducing valves with compression or male union threaded ends.

### Introduction

535 pressure reducing valves are pre-adjustable enabling them to set at the required discharge pressure prior to installation, by means of the adjustment knob with pressure setting indicator.

The internal cartridge and control knob mechanism are assembled as one unit making removal for inspection, cleaning and maintenance easier.

The compensated seat design means the set downstream pressure remains independent of upstream pressure variations.

The 535 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
535022	22mm	compression	Cu x Cu - with gauge port
535040	½"	screwed iron	M x M - with gauge port
535050	¾"	screwed iron	M x M - with gauge port
535060	1"	screwed iron	M x M - with gauge port
535070	1¼"	screwed iron	M x M - with gauge port
535080	1½"	screwed iron	M x M - with gauge port
535090	2"	screwed iron	M x M - with gauge port
535041	½"	screwed iron	M x M - with pressure gauge
535051	¾"	screwed iron	M x M - with pressure gauge
535061	1"	screwed iron	M x M - with pressure gauge
535071	1¼"	screwed iron	M x M - with pressure gauge
535081	1½"	screwed iron	M x M - with pressure gauge
535091	2"	screwed iron	M x M - with pressure gauge

### 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.

# 535 dial up pressure reducing valve

## Construction Details

### Component

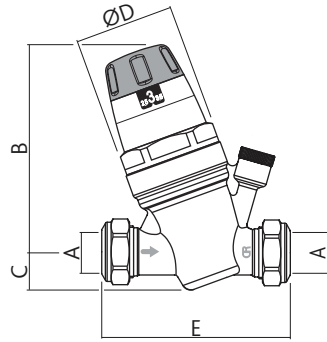
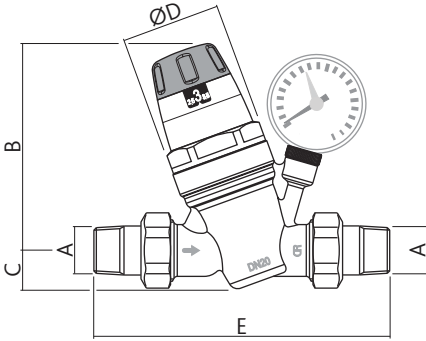
	Material	Grade
Body	DZR chrome plated	BS EN 12165 CW602N
	DZR chrome plated	BS EN 1982 CB752S
Cover	Nylon	PA 66GF30
Control stem	Stainless steel	AISI 303
Cartridge	Polymer	PPSG40
Internal components	Polymer	PSU
Strainer screen	Stainless steel	AISI 304
Diaphragm	NBR	
Seals	NBR	

## Technical Data

Max inlet pressure:	25 bar
Outlet pressure setting range:	1 to 6 bar
Factory setting:	3 bar
Max working temperature:	40°C
Medium:	potable water
Pressure gauge connection:	G1/4
Pressure gauge scale:	0 to 10 bar
Filter mesh:	0.51 mm
Certification:	BS EN 1567
WRAS approved product:	Yes

# 535 dial up pressure reducing valve

## Dimensions



Prod Code	A	B	C	D	E	kg
535040	1/2"	113.5	21	54	140	0.92
535050	3/4"	113.5	21	54	160	1.06
535060	1"	114.5	20	54	180	1.38
535070	1 1/4"	178	40	73	200	2.6
535080	1 1/2"	178	40	73	220	3.4
535090	2"	178	40	73	250	4.3

Prod Code	A	B	C	D	E	kg
535022	Ø22	113.5	21	54	101	0.41

## Recommended Flow Rates

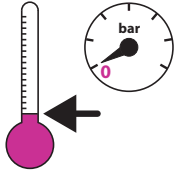
For an average flow velocity of 2 m/s, the maximum flow rates for each valve size, according to BS EN1567 are;

Size	1/2"	3/4" & Ø22	1"	1 1/4"	1 1/2"	2"
l/m	21.16	37.83	60	96.6	151.6	233.3

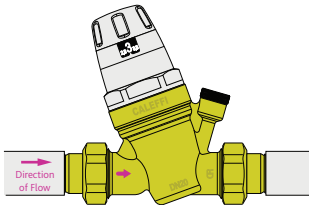
# 535 dial up pressure reducing valve

## 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.

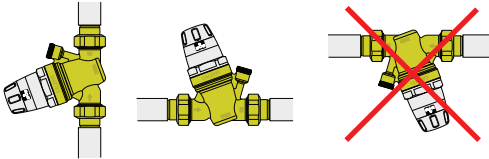


Before installing the pressure reducer, open all the outlets to flush the system and expel any air left in the pipework. Assembly and disassembly should always be carried out while the system is cold and not under pressure.



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 nylon cover should be upper most as illustrated.

## 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.

## Installation

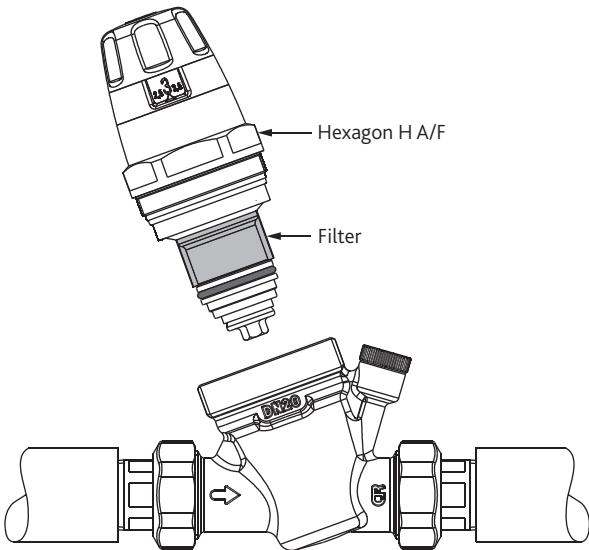
- Isolate the water supply to where the pressure reducing valve is to be fitted.
- The mechanical pre-setting device, with adjustment knob has pressure indicator windows on both sides of the head, enables the pressure reducing valve to be set to the required value before or after installation.
- The pressure indicator has an incremental movement, so that the pressure can be adjusted and displayed in 0.5 bar increments.
- Calibration is carried out by means of the adjusting knob on the upper part of the head. The valves are factory pre-set to a pressure of 3 bar.
- In view of the pre-setting function, the installation of a pressure gauge downstream of the valve is not essential, although the valve can be supplied with a pressure gauge to continuously indicate the downstream pressure.
- After installation, turn on the water supply and close the downstream service valve or water outlet.
- If a pressure gauge is fitted check the downstream pressure which should correspond to the set value.
- Open the downstream service valve, the valve is now ready for use.
- 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 removable 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.
- The special construction of the regulating unit does not require any adjustment of the calibrated pressure, which can be left at the set value.



Valve Size	H A/F
22mm	52
1/2"	52
3/4"	52
1"	52
1 1/4"	
1 1/2"	
2"	

### Maintenance

- Remove the upper cover, using a box or ring spanner, do not use an open ended spanner on plastic cover.
- The upper cover is integral with the internal regulating cartridge.
- Remove the filter by sliding away from the cartridge, check for signs of damage and clean by holding under clean running water.
- The whole self-contained cartridge can be refitted or replaced with a spare if any signs of damage are visible.
- When the cartridge is screwed back into the body, the pressure setting indicated in windows should be at the original setting or if a new cartridge to the required value.
- Slowly reopen the upstream service valve, the pressure will return to the set value.

### Fault Detection

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

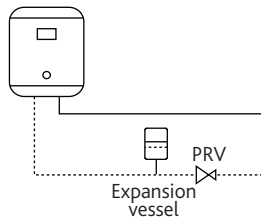
The most frequent cases are:

#### 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 advised to carry-out maintenance and cleaning of the cartridge assembly - see Maintenance

## Notes

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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The logo for Altecnic, featuring the word "altecnic" in a lowercase, sans-serif font. The letter 'a' is stylized with a circular graphic element inside it.