

FL300

pressure reducing valve



commissioning guide

**altecnic**

# FL300 pressure reducing valve



## Introduction

These installation and commissioning instructions are intended for the Altecnic FL300 pressure reducing valve (PRV) and must be read and understood prior to proceeding with installation and commissioning.

The valves are pilot operated and must be configured for pressure reduction.

Ref No:	S-300 PR (68)
Size range:	DN50 to DN150
Valve function:	Pressure reducing
Control pilot valve:	68-410

## Control Function

The valve is a hydraulically activated pressure reducing valve and requires line pressure and flow to activate.

The valve is designed to regulate and maintain a set downstream pressure.

- Should the downstream pressure exceed the valve's set point the control pilot will regulate by closing the valve until the set point is achieved.
- Should the downstream pressure reduce, the control pilot will then regulate by opening the valve until the set point is achieved.

## Technical Data

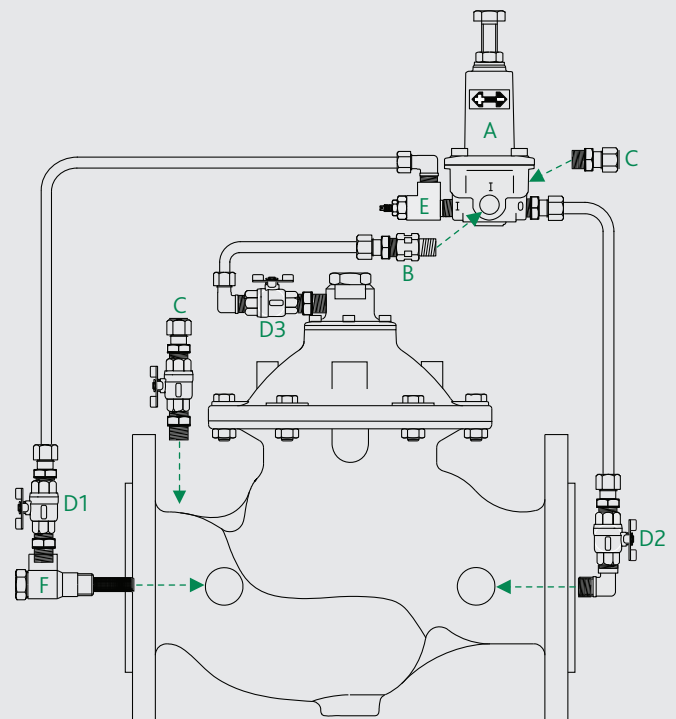
Max inlet pressure:	16 bar
Max working temperature:	85°C
Medium:	potable water
Flanged PN16:	BS EN 1092-2
Face to Face:	BS EN 558 series 1

## Pack Contents

Please check, prior to installation, that all of the FL300 PRV components are present.

The valve is supplied as individual components which require assembly, all joints must be tightened to give a water tight seal. The valve includes the following component as shown opposite.

## Components



## Main components

- A 68410 control pilot
- B Fixed orifice
- C Tapping point for pressure logging
- D Control loop isolation valve
- E Speed control needle valve
- F Self flushing filter

## Installation

- Flush the pipeline before installing the valve to remove any debris.
- Isolating valves should be installed both upstream and downstream of the valve.
- The valve can be installed in any position.
- The flow direction should match the engraved arrow on the body of the valve.

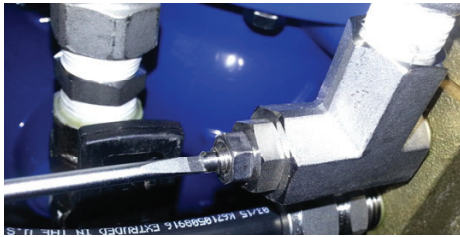
## Manual Activation

- The valve can be closed manually by closing ball valve **D2**.

# FL300 pressure reducing valve

## Speed of Control

If the response pace of the valve is too fast or too slow this can be adjusted by adjusting the setting of needle valve **E**.



- Needle valve **E** controls the closing speed. The normal factory setting for needle valve **E** is 2 turns open.
- The Fixed Orifice **B** controls the opening speed.
- To slow the response pace, turn the needle valve **E** clockwise.
- To speed up the response pace turn the needle valve anti-clockwise.
- **Do not open or close the needle valve fully as the main valve will not function.**
- **When making any adjustments, adjust quarter to half a turn then leave the valve to settle.**

## Pressure Tapping Points

There are as standard 2 pressure tapping points **C** on the valve.

The tapping points can be used for pressure gauges or logging devices to measure the upstream and downstream pressures.

## 68-410 Pilot Valve Spring Selection

Spring No	Spring Colour	Regulation Range	
		bar	psi
66 - Standard	Green	1 to 11	16 to 160
78 - Low Pressure	Yellow	0.5 to 3	8 to 45
67 - High Pressure	Red	2 to 20	30 to 290

## Adjusting the Pilot Valve



### Bleed Top

The main line isolating valves and the control loop isolating ball valves **D1**, **D2** & **D3** should be closed.

- 1 Turn the adjustment bolt of the 68-410 pilot **A** in a counterclockwise direction all the way.
- 2 Open control loop isolating ball valves **D1** and **D3**.
- 3 Start the pump or open the main inlet isolating valve.
- 4 Release trapped air from the control chamber by slightly opening the grub screw - see photograph.
- 5 Once only water is passing from the bleed top, tighten the grub screw.
- 6 Slowly open the main outlet isolating valve.
- 7 Open control loop isolating ball valve **D2**.
- 8 Turn the adjustment bolt of the 68-410 pilot **A** in a clockwise direction until the downstream pressure reaches the required value. **(1 turn = approximately 20m adjustment)**.

## Maintenance

- Inspect and clean the inline filter **F** as water quality dictates, the main valve must be isolated from the pipeline pressure to carry out the inspection
- The filter should initially be checked a few months after the installation, depending on the condition a maintenance schedule should then be created.
- If the filters become blocked or have a build-up of debris, it will affect the function of the valve
- The pilot control loop can be serviced without stopping the flow through the valve, by closing isolating ball valves in this order **first D3, then D2 & D1**.



### Pressure Adjustment

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## Problem Solving

The following details are supplied for on site queries, should you require any further assistance please contact our Technical Department.

Symptom	Cause	Solution
Valve fails to open	Closed main line isolating valve	Open valve
	Ball valves <b>D2</b> & or <b>D3</b> are closed	Open the ball valve
	No downstream demand	Create a demand
	Pilot spring is decompressed - pilot <b>A</b> set point is too low	Adjust according to instructions in 'Adjusting the Pilot Valve'
	Needle valve <b>E</b> is closed or blocked. Fixed orifice <b>B</b> is blocked	Open the needle valve ¼ of a turn at a time and/or remove fittings to check for a blockage
Valve fails to close	Ball valves <b>D1</b> or <b>D3</b> are closed	Open ball valves
	Excessive pilot spring compression - pilot <b>A</b> set point is too high	Adjust according to instructions in 'Adjusting the Pilot Valve'
	An object is trapped in the main valve sealing disc	Dis-assemble the main valve and remove the object
	Ruptured main valve diaphragm	Dis-assemble the main valve and replace the diaphragm
Unstable regulation	Needle valve <b>E</b> is not adjusted correctly	Adjust the needle valve ¼ of a turn at a time
	Trapped air in the main valve control chamber	Release air as instructed in 'Adjusting the Pilot Valve'

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