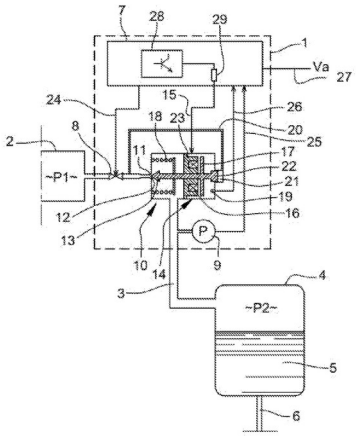
METHOD FOR CONTROLLING AN ELECTROMAGNETIC ACTUATOR OF AN EXPANSION VALVE, AND ACTUATOR AND EXPANSION VALVE CONFIGURED TO IMPLEMENT SAID METHOD

Technological advantages

- Known accurate mass flow rate derived from the shutter device positioning.
- Outlet fluid pressure well controlled.



1) pressure regulator
2) fluid source
3) fluid outlet
7) control computer
9) pressure sensor
10) valve
11) fluid flow area
12) fluid aperture
13) shutter device
14) actuator
19) position sensor

Invention synthesis

The invention relates to an electronically controlled expansion valve between a fluid source and an outlet. A pressure sensor measures the outlet pressure. A control computer regulates a valve between the inlet and the outlet to feedback the outlet pressure to a target pressure. The valve possesses an actuator to restrict the opening area using an aperture and a shutter device located in the aperture axis. The pressure regulator possesses a position sensor for the shutter device. A control computer allows setting the shutter device positioning according to feedback control loops based on a reference pressure.

Commercial benefits

- Allows for a fine control on the mass flow rate required to achieve a target outlet pressure.

Potential applications

- All systems requiring a pressure loss between a source and an outlet at different pressures.

Patented invention - under license.

For more information :

Valo-TT@cnes.fr