

BACK PRESSURE REGULATORS

FUNCTION

The function of a backpressure regulator is to keep an inlet pressure constant and to control this pressure even with variable flow.

This means that the regulator can either **open** in case of excess pressure or **close** when the pressure drops below a certain pressure.

HOW DOES IT WORK?

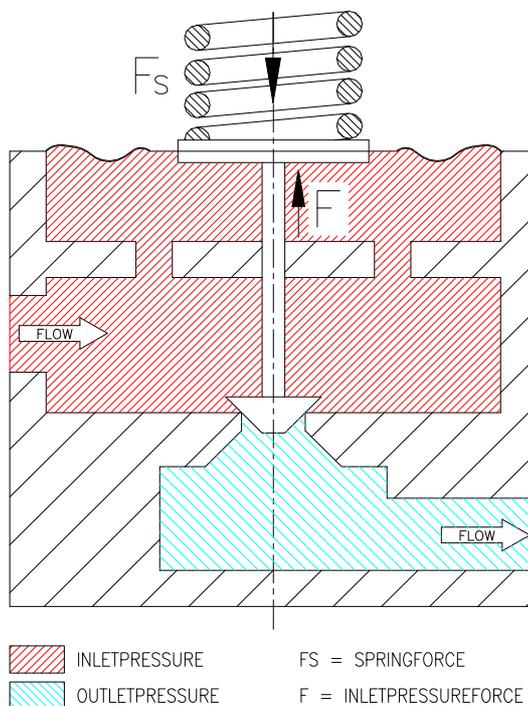
A backpressure regulator has a sensing element (piston, diaphragm or bellows) which is on one side subject to a load force (FS) created by a spring or a gas pressure.

On the other side the sensing element is subject to the force (F) of the controlled fluid. When the load force (FS) is less than force (F) the valve will open until the two forces are again in balance. As soon as fluid force (F) is equal to or slightly less than force (F) the valve will close.

INSTALLING A BACKPRESSURE REGULATOR

It is advisable to use a good filter close to the inlet of the regulator. Swarf, burrs, wire etc. may cause valve leakage. Therefore, before installing the regulator, clean all pipes and connections.

Try to avoid the use of teflon tape on pipe threads and be careful with anaerobic (loctite type) sealing compounds which may get into the regulator and lock moving parts.



TROUBLE SHOOTING

The only parts liable to deterioration are the valve seat, O-rings and diaphragm, if fitted.

| Effect | Causes | Remedy |
|--|---|--|
| <ul style="list-style-type: none">• Constant leak from outlet port before set relief is reached. | <ol style="list-style-type: none">1. Damaged valve seat or valve stem2. Dirty valve seat or valve stem | <ol style="list-style-type: none">1. Replace2. Remove and clean |
| <ul style="list-style-type: none">• Constant leak of pressure into spring housing discharging through vent hole. | <ol style="list-style-type: none">1. Damaged diaphragm2. Damaged piston O-rings | <ol style="list-style-type: none">1. Replace diaphragm2. Replace O-rings |
| <ul style="list-style-type: none">• Regulator will not relieve at the set point. | <ol style="list-style-type: none">1. Valve stem sticks in seat retainer2. Control knob needs readjusting | <ol style="list-style-type: none">1. Remove valve stem from retainer and clean both2. Readjust control knob |

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