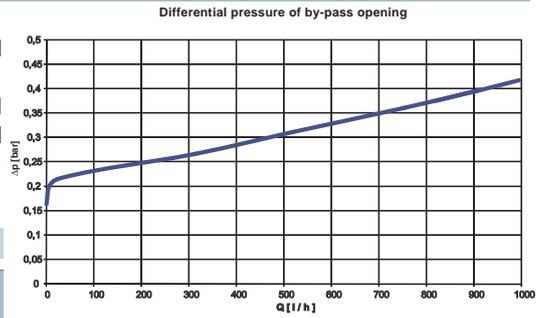


**4.4 BY-PASS KIT**

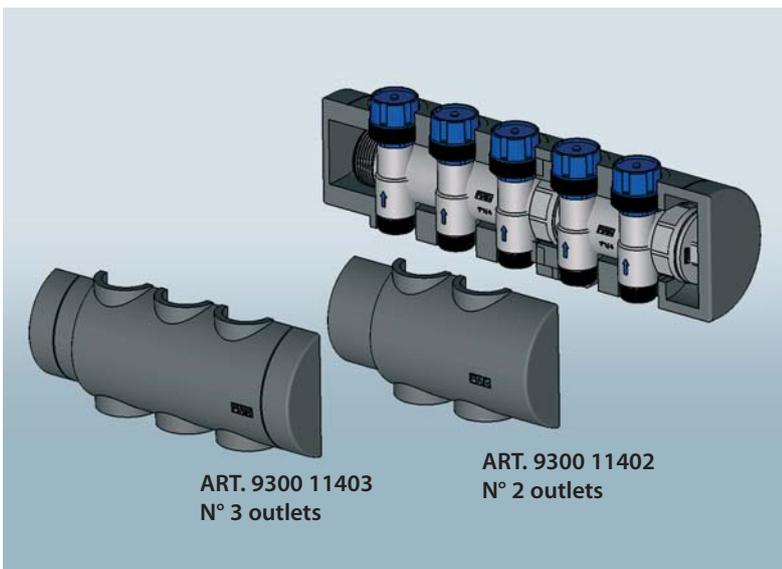
During operation one or more lines may be closed, i.e. in those areas in which there is no demand for heat transfer fluid. In this case there will be an increase in the resistance from these circuits and, therefore, the pump will work harder. In order to avoid this, a by-pass kit with built-in differential pressure valve is available for connection to the manifolds. Once a pre-set pressure level is reached this valve ensures discharge of excess flow on the return manifold allowing the pump to maintain a virtually constant speed.



**Typical differential pressure of by-pass kit**

The above diagram shows pattern of flow passing from a differential by-pass valve, depending on upstream pressure. Opening is set at about 0,2 bar and, at this point, excess flow is sent back to the boiler.

**4.5 INSULATION**



PPE pre-formed anti-condensation insulation can be used to thermally isolate manifolds. Insulation is available for modular 2, 3 and 4 port manifolds and must be assembled in the box after manifold installation.

Special insulation (Art.9301) has been designed for manifolds complete with air vent valves, drain cock and temperature gauge.

Closing plugs Art. 9302 suitable for use with this insulation are offered for supply manifolds, so that they will be fully isolated, once the lockshield valves have been regulated.