

High Pressure Automatic Changeover 175 - 2175

English

1.- Application
 Propane or other mixtures best delivered in 2 cylinders (fig. 1) or 2 groups of cylinders (fig. 2). The automatic changeover provides continuous gas delivery.
 Note in the further text, in order to simplify the reading, we refer only to 2 cylinders installations; those of an automatic with 2 groups of cylinders will have the same cylinder and hose arrangement as groups of cylinders.

The automatic change-over allows the off-take of gas freely from the service cylinder ("SERVICE" - fig. 12), the off-take from the reserve cylinder ("RESERVE" - fig. 12), the off-take from the service one or to supply the requested flow rate. An indicator (B) built in the hand-wheel (C), informs on the functioning state. When it shows red, it indicates that gas is supplied totally or partially from the reserve cylinder. The automatic change-over is marked with the First stage element, for more information see the "2175" provides the First stage element.
 The "2175" automatic changeover also provides a "limb" function.

Temperature: -20°C/+50°C

2.- Features
 The automatic changeover must be used only with vapour pressure propane.
 - The number and type of cylinders, the type of gas used, the location of the installation, the pressure and the type of safety devices may be subject to local rules and safety instructions.
 - When no cylinder is connected to one of the inlet connections, the automatic change-over will provide the regulating function. For safety reasons, the non-used inlet staff is sealed with an appropriate cap.

3.- Features
 The following characteristics are displayed on the product (A):

- Inlet pressure range, marked
- Normal outlet pressure, marked
- Note it refers to the "SERVICE" cylinder operation
- Guaranteed flow rate
- European code of inlet (C₁) and inlet (C₂) connection
- The presence (on 2175 models) of a pressure limiter marked "LIM" and its limitation pressure.

Both inlet connections are equipped with:
 - non-return valves which prevent any leakage during cylinder changeover;
 - filters, which prevent the ingress of any debris
 - safety devices and pressure test part.

The dimensions are shown on fig. 3 & 4.
 The connections are approximated as they depend on the type of connection.

3.1.- Automatic change-over functionality

In a cylinder (fig. 5), LPG is liquid at the bottom (T) and vapour under pressure at the top (R).
 When there is an off-rate of gas (fig. 6), the gas volume is reduced and the pressure in the cylinder falls. This causes the liquid to rise and the vapour to expand, creating contact with the atmosphere.
 Note that hydrocarbon components delivering high pressure (propane) evaporate faster than those delivering low pressure (butane).

3.2.- Pressure indicator

The pressure in the cylinder depends only on the composition and the temperature of LPG at any instant.
 The graph (fig. 7) shows the pressure gauge in the cylinder for propane and butane.
 During off-take, the temperature decreases, then the pressure decreases.
 When only a small amount of liquid remains in the cylinder, the pressure is lower than when the cylinder was full. This is due to the evaporated vapour, at hydrocarbon delivering higher pressure.

3.4.- Maximum flow rate capacity of cylinders

- The type of gas
- The flow rate
- The ambient temperature
- The using time
- The dimension and material of the cylinder
- The number of cylinders
- The type of gas
- The load level cylinder, half full, depending on type of gas (butane or propane), temperature at the using time.

3.5.- Automatic change-over function

The arrow (D) in the hand wheel indicates the "SERVICE" or "RESERVE" cylinder. When the pressure in the "SERVICE" cylinder is sufficient, the entire flow rate is delivered by this cylinder. When this pressure becomes not sufficient, the flow rate is delivered: from the "RESERVE" cylinder (at the end of the "SERVICE" cylinder remaining).

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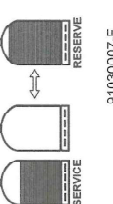
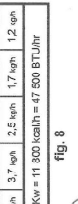
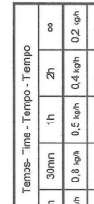
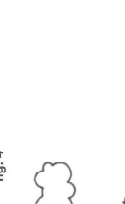
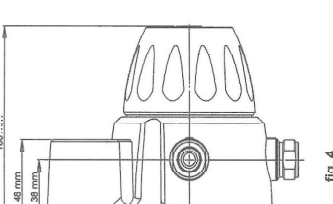
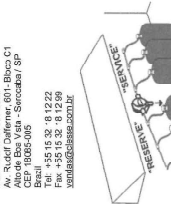
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