



Steam traps / Condensate purge

Product Ref. Code: APPLSTEAMTRAPS

General Description:

The purpose of the purge is to separate phases A and B (liquid or gas condensates), to retain A and evacuate B.

Technical Description:

The different types of purges:

Floater or mechanical purge:

- Purge with an open inverted floater
- Floater closed purge with a lever with a thermostatic vent-hole
- With a free-floating closed floater with a thermostatic vent-hole
- With a bucket or an open floater

Thermostatic purge:

- Bimetallic
- With steam pressure
- With dilatation of liquid or solid

Thermodynamic purge:

- Disc
- Impulsion
- Baffle

The Technique:

Fluid in motion, in contact with the wall of a pipe produces ultrasonic emissions, which once detected, informs us:

- Whether a fluid is going through
- If the purge lets condensates through
- If it is closed or whether it lets steam through.

Consequently, we can determine whether the purge is airtight and the frequency of its cycle.

To control the purges, either a contact sensor or a magnetic sensor is used, must be careful about temperature problems. Put the sensor at the purge outlet and put the potentiometer at maximum. If the purge is closed, we will get no visual or sound information if steam is passing or if it is open, there is an increase in the sound level and the dB amplitude which is shown visually on a display and an electroluminescent bar-graph. The SDT 170 gives an instantaneous diagnosis of the operation of the purge and consequently, its cycle

Detection can be perturbed by ambient noises or vibrations near certain machines, which renders control impossible.

Depending on the type of purge, the duration of the observation varies. For purges with an open inverted floater or thermodynamic purges, the control takes only a minute or two. For thermostatic purges, one must wait until the purger cools after closing to get a new opening and to diagnose the status of the purge. The verification of these purges can take from five to ten minutes depending on the cooling regulation. The bodies of these purges are often thicker, in which case a magnetic sensor must be used and detection is still difficult.

Purges with a closed floater modulate rather than going through a cycle. Controlling them requires the presence of a bypass tap upstream which empties the condensates. When the tap is closed, the purger goes through a few cycles, during which we can control the purge before it remodulates.



Revision History:

| DATE | Version | Revision |
|-------------------|---------|----------------------------------|
| September 1998 | 0.0 | Customer's report |
| 02 August 2000 | 1.0 | Draft for internet and PDF file. |
| 19 September 2000 | 1.1 | English draft |
| 26 January 2001 | 1.2 | English version |

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The information herein is believed to be accurate to the best of our knowledge.

Due to continued research and development specifications of this product can change without prior notice.

SDT International n.v. s.a.

Bd de l'Humanité 415
B-1190 Brussels (Belgium)
Tel: ++32-(0)2-332.32.25
Fax: ++32-(0)2-376.27.07
e-mail: info@sdt.be