



Sample cooler for thermal oil, hot water and steam boiler water

Samples must be cooled to maintain the original compositions.

Hot fluids such as thermal oil, hot water, boiler water or feed water must be sampled and analyzed regularly.

It is most important to get a representative and accurate sample for the analysis.

That means that the sample must be taken from the hot flow.

An open hot sample, however, changes its composition when cooling down because the components of the sample that boil below the sampling temperature evaporate.

Taking open hot thermal oil samples gives false good results.

The most important value is the flash point. It is low when the concentration of light-ends is high. The light-ends boil at low temperatures and evaporate when an open sample is taken at a temperature above this boiling point.

When taking open hot water samples above 100 °C the water will evaporate. This can result in wrong and too high salt concentration readings.

The Ness sample cooler helps taking accurate samples.

The sample cooler is a heat exchanger in which the sample fluid is cooled with cooling water. The sampling fluid flows through a stainless steel helical pipe in a cooling water jacket.

Installation and operation of the sample cooler are very easy.

A representative sampling point in the system must be found. Ness provides T-connectors to retrofit a sampling point to a regular pressure gauge valve. Simply close the pressure gauge valve, install the T-connector between pressure gauge and valve, then connect the sample cooler. This can be done before start-up or while the system is running.

The sample cooler comes with a fluid valve, which is normally closed. The outlet for the sample is normally open without any valve.

Cooling water with a temperature of 5 to 30 °C is connected to the cooling water inlet valve. This valve is included.

The cooling water outlet must be piped openly to a drain. It is not allowed to put a valve in this pipe in order to avoid overpressure.



Picture 1: An installed Ness sample cooler

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For sampling the cooling water valve is opened (check the water flow at the outlet). Then the sample valve is opened slowly. Discard the first flow of the sample into a separate vessel. Then take the sample. Close the sample valve, then close the cooling water valve.

Caution: The cooling water outlet can be warm or hot, the sample fluid can be hot. Do not touch, avoid burns.

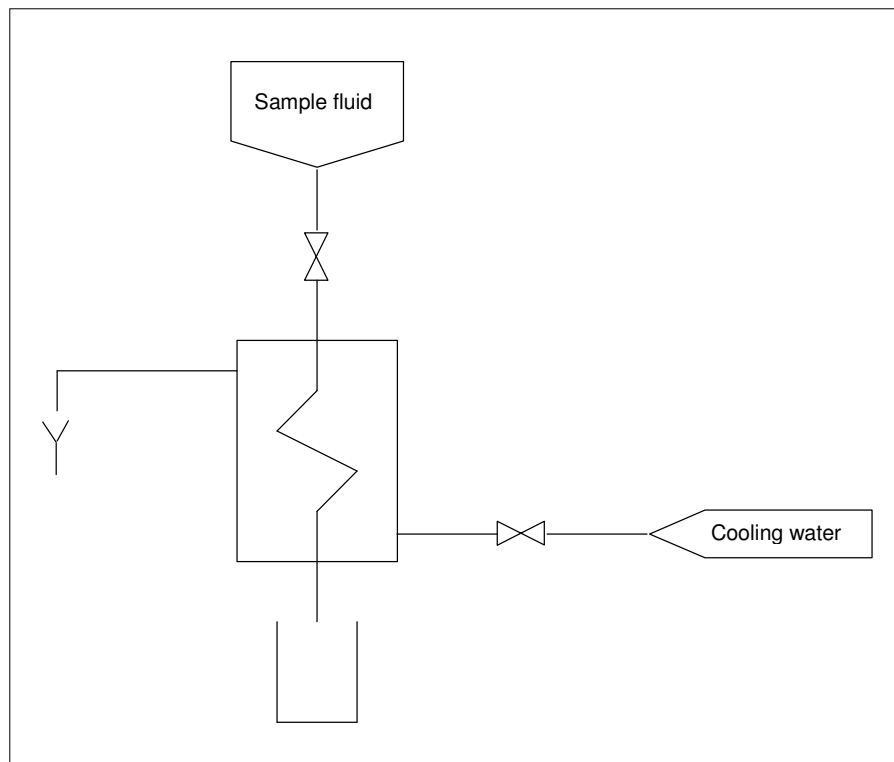
The sample cooler requires little maintenance.

Check the sample outlet temperature, the sample flow, the cooling water temperature and flow from time to time. If the cooler is clogged use a cleaning agent to flush the cooler.

Please contact us.

Technical specification:

Max. sample temperature	400 °C
Max. sample pressure before cooler valve	40 bar gauge
Max. sample cooling water inlet temperature	30 °C
Max. sample cooling water outlet temperature	55 °C
Max. cooling water flow	1 m ³ /h



Picture 2: Functional principle of the Ness sample cooler

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