



Condensation device

X-TRAP

An accessory as simple as fundamental, it is used in all contexts where there is a need to prevent condensing gasses suctioned by the process and to avoid them to enter the sampler and create damage that can sometimes be very costly for the sampler itself and affect the activities being performed.

It is installed in series with the suction pipe just before the inlet of the gas to the sampling pump.

It is usually filled with material that can retain water vapor through an adsorption process.

Commonly called silica gel ($n\text{SiO}_2 \cdot m\text{H}_2\text{O}$), this material retains H_2O both on its surface and in its micropores as it is extremely porous.

This results in a greater total available area and thus a very high speed of the dehumidification process.



X-TRAP is also used in the sampling of moisture in gasses emitted by industrial processes as prescribed by EN 14790. The silica gel is introduced in the container, and this is first weighted. After sampling, the container is weighted again and by difference the accumulated moisture content is obtained.



Gas outlet/inlet
with condensate
collection hole
and drain plug.





X-TRAP

Condensation Device



Hole for loading /
unloading silica gel



X-TRAP was designed to solve certain problems that products available on the market sometimes cause, related to the use over time.

The operations of loading and unloading of the desiccant results in damage to the thread of the container end caps. Particles coming off the silica gel and crystallized deposit of the sampled gas create an abrasive patina that compromises the sealing of the caps themselves.

A new filling and emptying system were creating consisting of by a central cap that is smaller and coaxial to the closing of the container. The threads of the central cap are of such a pitch as to resist any abrasive dust or solids present.

A large gasket allows sealing even in the presence of any solid substances that may deposited on it. In the event of damage, it can still be replaced at an extremely low cost.

In the inlet channel, fixed in the upper outer cap and inside the container, a stainless-steel tube of a length slightly shorter than the total length of the container was applied.

The gas that flows to the bottom and then rises and permeates through the silica gel.

At the lower end of this tube is a stainless-steel mesh filter that prevents foreign bodies from clogging it.

On the lower external bottom, in a lateral position, there is a stainless-steel cap which act as a drain in case there is liquid inside.



2

