

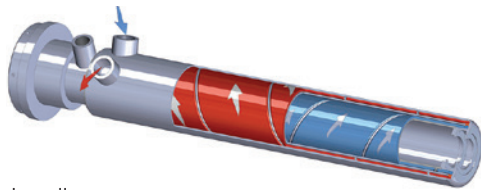
How can an endoscope withstand up to 2000°C?

The high temperature endoscopes CESYCO are equipped with a powerful cooling system that allows them to work in a furnace up to 2 000°C:

- a **water cooling system** (Vortex effect) protects the optical tube. The water goes through a jacket composed of several envelopes.
- an **air cooling system** (Venturi effect) protects the front lens which is directly in contact with the heat of the furnace.
- the **transmission of the images** which is provided with the optical tube or the video set.

WATER COOLING

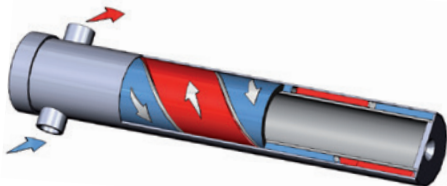
The stainless steel water jacket protects the optical tube from the heat. A helicoid wire brings about the Vortex effect which improves the water cooling. There are two kinds of jackets, the triple envelope one and the double envelope one. The **triple envelope** water jacket is made up of the 3 successive tubes.



This design allows:

- homogeneous distribution of the temperature on the jacket.
- suppression of the hot spots (that bring weld breach)
- the reduction of the water consumption.
- better durability of the water jacket
- the use in high temperature furnaces.

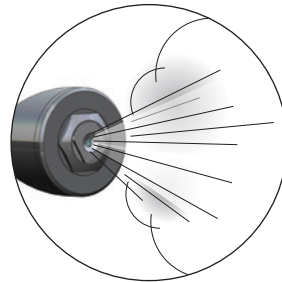
The **double envelope** jacket is made up of 2 tubes. It is rather adapted to the video set.



AIR COOLING

The high temperature endoscope comprises a key component that is directly in contact with the heat of the furnace: the front lens. The protection of the front lens is ensured through an air loop which keeps ventilating the objective lens with the Venturi effect.

An air flow is injected into the jacket. It comes out of it in a circular way around the front lens which has a small diameter.



This system allows:

- the continuous cooling of the objective lens.
- no damage of the lens due to the heat.
- the cleaning of the lens.

TRANSMISSION OF THE IMAGES

The transmission of the images is possible with an optical tube or a video set.

Optical Tube

The endoscope provides a high images quality thanks to the transmission via an alignment of optical lenses perfectly on line in a tube. This technology allows the use of any kinds of video or camera.



Video Set Video Set

A micro HD video is directly integrated in the endoscope and transmits the image via a video wire connected to the monitor. This technology allows to match the length of the endoscope to your need.



INFOS

HOW DOES IT WORK?

High temperature endoscopes | design, production, sales and services on site



CESYCO