




# CESYCO



## HTN40F

### DIGITAL FIXED ENDOSCOPE

 40 mm

 1 600 °C



**1080p**  
**FULL HD**



## ESYCO Highlights

- 24/7 Continuous Monitoring: ideal for critical industrial processes requiring permanent control.
- For high-temperature environments: integrated thermal protection system for reliable high-temperature operation.
- Custom configuration to order: Fields of view and axes tailored to the specific needs of each installation.



## ADVANCED COOLING SYSTEM

- Water cooling (Vortex effect): Protects the video module and dissipates heat evenly.
- Air cooling (Venturi effect): Continuously protects and cleans the front lens, even at high temperatures.



## MANUFACTURING CONNECTIONS

Welded pipe: connection of air and water systems directly to the factory network.

- Custom-made to suit your installation (connector types, water and air inlet, oven layout, etc.).



### OPTION

- Air and water housing (specific sheath design): allows rotation of the field of view for complete and precise observation of the environment, while guaranteeing sheath cooling.



## ADAPTABLE FIELDS OF VIEW AND AXES

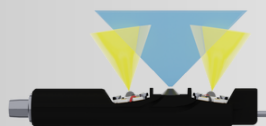
- Fields of view and axes adapted to your specific needs, defined at the time of ordering for optimal, long-lasting use.

### CONFIGURATION OF THE HEAD WHEN ORDERING



#### MULTIVISION

Simultaneous axial and lateral perception of the environment.



#### LED LIGHTING

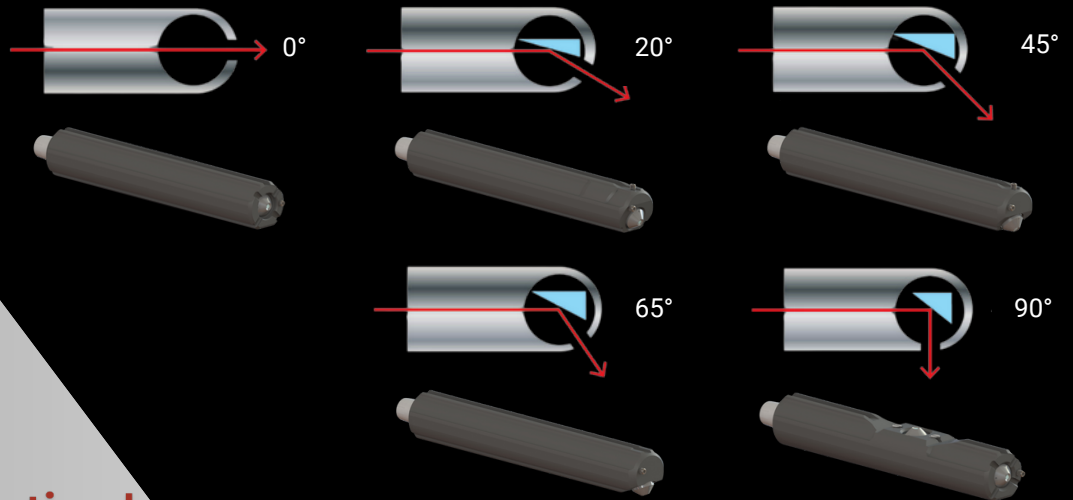
Two LEDs to assist the camera in low-light conditions.



#### ADAPTABLE ANGLE

Multiple angles are available: camera heads positioned from 0° to 90° (refer to the following page).

# Vision:



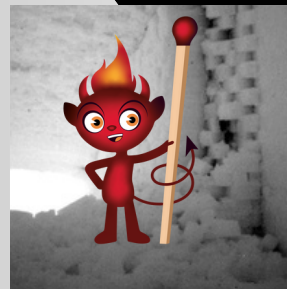
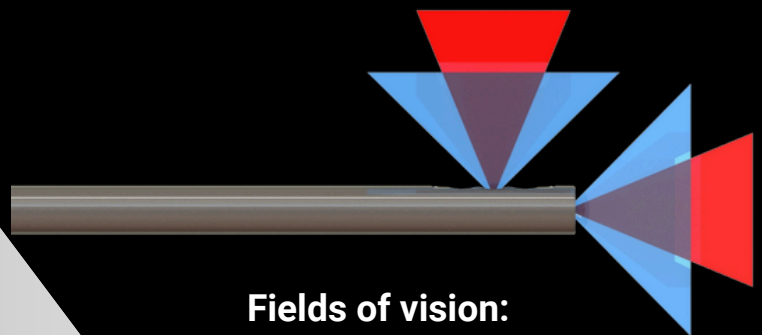
## 3D simulation for optimal integration

In order to guarantee the optimum choice of endoscope head (direction and field of vision), our design office carries out a 3D simulation of the environment you wish to inspect.

This simulation enables us to identify the best possible shots according to specific site constraints and inspection requirements. Analysis of different viewing angles facilitates selection of the most suitable equipment, ensuring optimum visual coverage and efficient integration of the fixed endoscope with the right options.

Our endoscopes offer two fields of vision adapted to inspection needs:

- **60°** for more distant and detailed observation, allowing you to focus on a precise point,
- **90°** for wider coverage of the inspected environment. The choice of field of view depends on the area to be analyzed and the inspection requirement.



Length ranging from 500 mm to 4,000 mm



The length of the sheath will be determined by the wall to which the endoscope will be fixed, particularly considering the environmental opening and the thickness of the refractories. Additionally, the positioning of the endoscope within the environment can be adjusted based on the area to be observed.

# Equipment:

## EXTRACTOR BENCH



Safety device that automatically removes the endoscope in the event of malfunctioning cooling systems.

- Pneumatic cylinder for endoscope insertion and extraction
- Watertight hinged-door opener to isolate from oven heat (air barrier option)
- Emergency air tank in case of pressure drop
- Air and water housing for sheath rotation
- Connection to control panel
- Water and air supply hoses to cool the endoscope.



## ELECTRICAL CABINET

*With bench*



Signal administration

Fluid administration

Air reservoir

Fluid and video signal management. Activates an alarm in the event of a cooling system failure.

## ELECTRICAL BOX

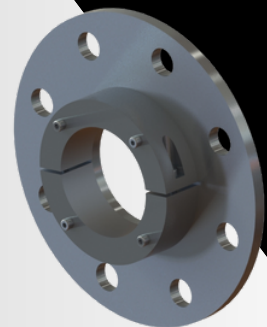
*Indispensable*



Efficient signal transmission through RJ45 (or HDMI) cables facilitates high-quality real-time inspections.

## MOUNTING FLANGE

*Optional*



Clamping flange designed to secure the endoscope. This can be tailored to meet your specific requirements.

Technologies	Image transmission	IP digital video
	Cooling system	Triple-envelope sheath
	Lighting	2 lateral LEDs
Operating temperature	Up to 1,600 degrees Celsius	
Dimensions	Diameter	40 mm
	Length	500mm to 4000mm
	Weight	7 kg to 15 kg
Cooling system	Water	Vortex (closed loop)
	Air	Venturi (lost)
Hydropneumatic distributor	Rotation	Total 360 Degrees
Internal IP camera	Valuable pixels	1920x1080
	Resolution	1080p
Direction of sight*	Axial and lateral	0°, 20°, 45°, 65°, 90°
Fields of vision	Adaptable	D60° = H45 x V26°
		D105° = H91° x V45°
Focus	Adjustment tool	From 100 millimeters
Connections	Inlet/Outlet	Water: BSP 1/2"
		Air: BSP 3/8"
Power supply	Electrical enclosure	100 to 250 VAC 50/60Hz
		RJ45/HDMI video output
Accessories	Control and security	Electrical box or cabinet
		Extractor bench
		Flange and thermal shield

\*Decision to be made during ordering, fixed option