

FRS Series Furnace Probes

FUNCTIONALITY

CCTV cameras used in high-temperature environments must be installed in water/air-cooled furnace probes to protect against high ambient temperatures. Different furnace types and wall thicknesses, different viewing angles and the type of image capture require a number of special designs.

In addition to different lengths and diameter, PIEPER furnace probes are optionally available in various designs:

- Integrated illumination for problematic lighting conditions
- Rotatable probes
- Axial or radial view openings
- Probes with double view openings

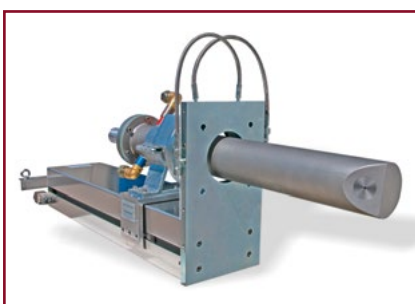
- Lengths up to 10 meters
- Probe jackets made of stainless steel, titanium, special alloys or coatings
- Ex-proof probes according to ATEX standards

Cooling water

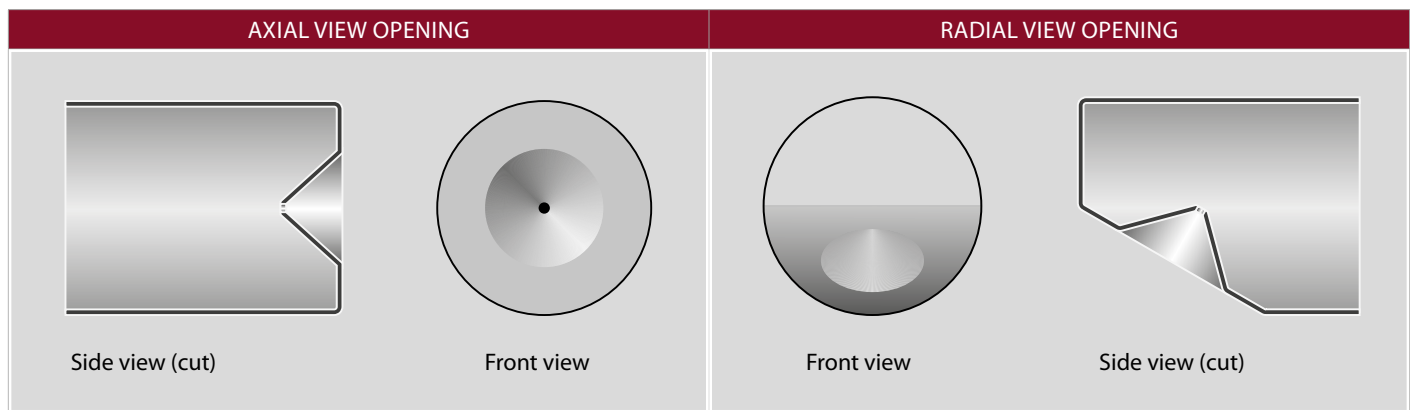
Cooling water is fed between the outer and inner wall of the probe jacket (forced circulation principle) which dissipates the ambient temperature.

Compressed air / inert gas

Compressed air is blown into the probes in order to cool the view opening and keep it clear of debris.



FRS SERIES - STANDARD TYPES (SPECIAL LENGTHS AND DIAMETERS ON REQUEST)



AXIAL	RADIAL	DIAMETER	STANDARD LENGTH	LENGTHS ON REQUEST
FRS-076	FRS-R-076	76 mm	720/1142 mm	400 - 6000 mm
FRS-208	FRS-R-208	104 mm	720/1142 mm	400 - 6000 mm
FRS-064	FRS-R-064	64 mm	720/1142 mm	400 - 6000 mm

FRS-SERIES - MEDIA SPECIFICATIONS

COOLING WATER	
Water connection	Min. 1/2"
Inlet temperature probe	15 °C to 30 °C
Outlet temperature probe	Max. 40 °C
Flow rates	5 l/min. (<800 °C) to 40 l/min. (>2,000 °C)
Inlet overpressure pN (at the control cabinet)	2.5 - 6.0 bar
Inlet overpressure pN (at the probe)	2.0 bar
Outlet overpressure pN	0.0 bar (open outlet)
Water quality	„Drinking water quality“
ph value	6.0 - 8.0
Suspended solids	Max. 10 mg/l
Chlorine ions	Max. 40 mg/l
PURGE AIR FOR LENS VIEW OPENING	
Inlet pressure (before pressure filter)	Max. 10.0 bar
Operating pressure	Max. 1.0 bar
Air consumption	Ca. 2.5 Nm ³ /h
Temperature	20 °C to 40 °C
Air purity	99.9%
SEALING AIR FOR OUTER CASING AND MOUNTING SOCKET	
Inlet pressure	Max. 10 bar
Air consumption	Max. 15 Nm ³ /h
Temperature	20 °C to 40 °C
Air purity	80.0%
WORKING TEMPERATURE FOR RETRACTING DEVICE	
Inlet pressure (before maintenance unit)	Max. 10.0 bar
Operating pressure	3.0 - 6.0 bar
Temperature	20 °C to 40 °C
Air purity	99.9%

PIEPER

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