

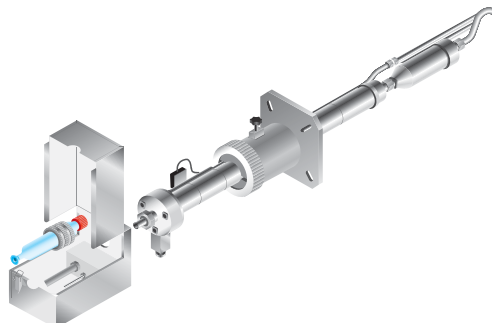


## Isokinetic Heated Probe

### Heated Probe

#### Main Characteristics:

- Probe body in AISI 316
- Internal suction tube easy to change and available in inox, glass, titan, and quartz.
- Total isolation of heating element and thermocouple from stack gases.
- Special property to connect isokinetic kit, filterholder and nozzles, in or out of the stack.
- Possibility of mounting orifice meter for wet gas flow rate sampling.
- Clamps for Pitot tube with thermocouple.
- Auxiliary outputs for extended measurements.



The moisture content of the sampled gases obliges to heat not only the probe but often also the collection devices.  
The material of the internal body of probe ensures not only the necessary rigidity but also a certain resistance to temperature and corrosion caused by aggressive gases.

The materials used for sample collection must be compatible with gas composition to ensure the integrity of compounds that should be determined.  
To meet these requests, TCR TECORA studied and developed a standard isokinetic probe to be assembled in accordance with applications.

#### Heated probe body

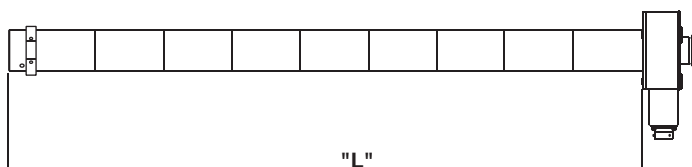
Length (useful "L" mm)	P/N *
1000	AC99-090-0001SP
1500	AC99-090-0002SP
2000	AC99-090-0003SP
2500	AC99-090-0004SP
3000	AC99-090-0005SP

*Other lengths on request*

The main body of the probe has a circular section with a diameter of 42 mm, available in some standard lengths.  
Inside of it a tube slides which is electrically heated by a wire that is not in contact with stack gases.

An expansion cylinder absorbs dilation differences allowing to realise probes up to 5 m length with no deformation.

- Max. operation temperature: 400°C
- Max. heating temperature = 200°C + ambient temperature



\* The suction tube and the final connector are not included in probe code

#### Heated Box for filterholder

Wishing to use the technique of out stack filterholder it is necessary to heat also the filterholder to prevent water vapour and some volatile organic compounds condensation.

For this purpose it is available an inox heated box already prepared for a quick connection to the heated probe.

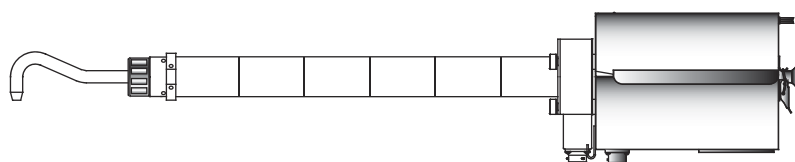
In heated box can be placed several filterholders for doing measure in a wide range of particulate concentration.

The maximum temperature of heating can be 160°C higher than the ambient temperature.

The sufficient isolation allows to maintain the outside temperature at not dangerous values for the user.

A Tecora unified connector is used for temperature control.

The heated box is supplied with fixing device of glass curve-nozzle.



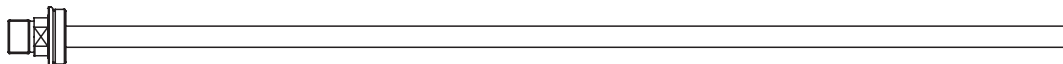
P/N Heated box AC99-092-0000SP



## Isokinetic Heated Probe

### Suction Tubes and Pitot Tubes

#### Metal suction tube

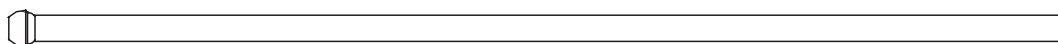


Available in AISI 316 and Titanium, ends with a cone shaped metal to metal connection that can accommodate the isokinetic kit, either in AISI 316 or Titan, as well as directly the curve-nozzles.

Length (useful "L" mm)	P/N	
	material <b>INOX AISI 316</b>	material <b>TITANIUM</b>
1000	AC99-090-9901SP	AC99-090-9911SP
1500	AC99-090-9902SP	AC99-090-9912SP
2000	AC99-090-9903SP	AC99-090-9913SP
2500	AC99-090-9904SP	AC99-090-9914SP
3000	AC99-090-9905SP	AC99-090-9915SP

*Other lengths on request*

#### Glass and quartz suction tubes

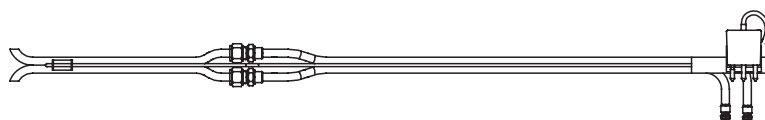


Available in glass and quartz, the suction tubes ends with a leak proof ball joint of 19 mm that can accommodate either the isokinetic kit or the glass curve-nozzles.

Length (useful "L" mm)	P/N	
	material <b>GLASS</b>	material <b>QUARTZ</b>
1000	AC99-090-9941SN	AC99-090-9951SN
1500	AC99-090-9942SN	AC99-090-9952SN
2000	AC99-090-9943SN	AC99-090-9953SN
2500	AC99-090-9944SN	AC99-090-9954SN
3000	AC99-090-9945SN	AC99-090-9955SN

*Other lengths on request*

#### Pitot tubes and thermocouple



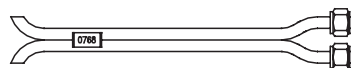
The "S" Pitot tube with thermocouple for measuring the gas temperature can be easily clamped to the heated probe.

The final part of "S" Pitot tube is detachable to allow a replacement in case of damage or for determination of the calibration factor.

The final part of "S" Pitot tube is realised in two lengths:

- Long one - **L** - for sampling with in-stack filter assembly
- Short one - **S** - for sampling with out-stack filter assembly

Probe length ("L" mm)	P/N	
1000	w/ Pitot "S" L	AC99-090-0041SP
	w/ Pitot "S" S	AC99-090-0051SP
1500	w/ Pitot "S" L	AC99-090-0042SP
	w/ Pitot "S" S	AC99-090-0052SP
2000	w/ Pitot "S" L	AC99-090-0043SP
	w/ Pitot "S" S	AC99-090-0053SP
2500	w/ Pitot "S" L	AC99-090-0044SP
	w/ Pitot "S" S	AC99-090-0054SP
3000	w/ Pitot "S" L	AC99-090-0045SP
	w/ Pitot "S" S	AC99-090-0055SP



"S" Type Pitot Tube - **L** -  
P/N AC99-098-9900SP



"S" Type Pitot Tube - **S** -  
P/N AC99-098-9901SP

# Emission Line 1.110.03



## Isokinetic Heated Probe

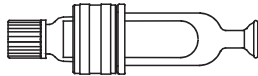
### "Out Stack" Filter Assembly

#### Filterholder for thimble

**Diam. 25 mm**

This filterholder can accept thimble diam. 25 mm, length 100 mm, available on the market in glass fibre as well as in high purity quartz fibre.

Supplied complete with INOX 316 inox fastening ring.



**P/N Glass** AC99-092-0011SP  
**P/N Quartz** AC99-092-0021SP

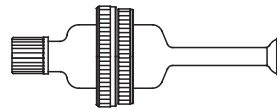
#### Filterholder for membrane

**Diam. 47 mm**

Available in glass or quartz, supplied with membrane support in PTFE.

**On request the membrane support is available in Titan.**

It is supplied complete with light alloy fastening ring.

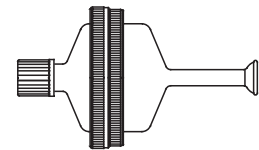


**P/N Glass** AC99-092-0030SP  
**P/N Quartz** AC99-092-0040SP  
**Support in Titanium**  
**P/N** AC99-092-0039SP

**Diam. 90 mm**

Available in glass or quartz, supplied with membrane support in Titan.

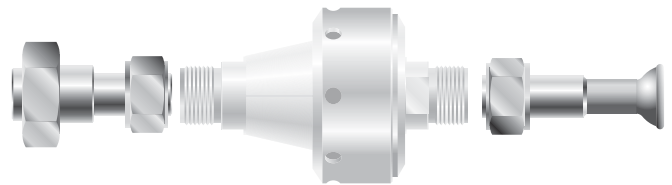
It is supplied complete with light alloy fastening ring.



**P/N Glass** AC99-092-0018SP  
**P/N Quartz** AC99-092-0060SP

#### Kit to use the 47mm inox steel or titanium filterholder in the heated box

Using this kit, composed by two adapters, it's possible to use the filterholder for 47mm flat membranes (see Emission Line 1.104.01) placing it in the heated box of the probe for micropollutants. The front connector fit to the outlet of the probe while the rear connector is equipped with a spherical joint fully compatible with all our glassware kits. The kit is available in stainless steel (INOX 316) and in Titanium.



**P/N Inox** AC99-099-0013KP  
**P/N Titanium** AC99-099-0011KP

#### Nozzles made of INOX 316, Titanium, Glass and Quartz

##### Curve and nozzle made of INOX 316 and titanium

The new curve for interchangeable nozzles is in accordance with ISO 9096 and EN 13284



**Curve for out stack filterholder**

**INOX 316 P/N** AC99-106-0011SP  
**Titanio P/N** AC99-105-0011SP

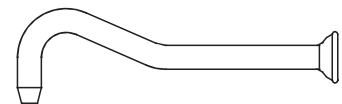
It is available in INOX 316 and Titanium.

It can be used with nozzles that appear in the product data number 1.104.03 which are useful either for out stack or in stack applications.

These nozzles can be bought either as a kit of 8 with different diameters, or separately.

##### Nozzles made of glass and quartz

Gooseneck curve series are available with glass or quartz nozzle equipped with a spherical connection.



##### Nozzle curve made of glass and quartz



**8 interchangeable nozzles kit**  
**INOX 316 P/N** AC99-106-0016KP  
**Titanio P/N** AC99-105-0016KP

Diameter (mm)	Glass	Quartz
12	AC99-090-9966SN	AC99-090-9976SN
10	AC99-090-9965SN	AC99-090-9975SN
08	AC99-090-9964SN	AC99-090-9974SN
07	AC99-090-9963SN	AC99-090-9973SN
06	AC99-090-9962SN	AC99-090-9972SN
05	AC99-090-9961SN	AC99-090-9971SN
04	AC99-090-9960SN	AC99-090-9970SN

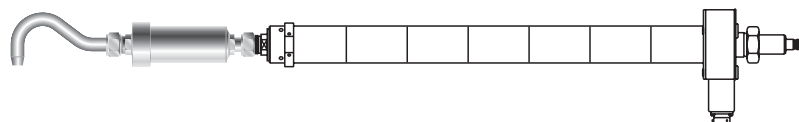


## Isokinetic Heated Probe

### "In Stack" Filter Assembly

#### Inox filterholder

The filterholders described in Product Data 1.104.02 "Isokinetic Filter Assembly" can be used.

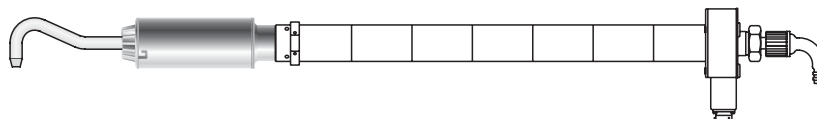


#### Glass and quartz filterholders

In particular application such as heavy metals or micropollutants determination, it is advisable to use a complete sampling line in glass. For constructive reasons the use of isokinetic kit in glass was restricted to the method which previewed the external filterholder.

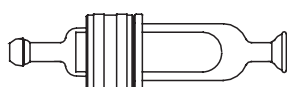
TCR Tecora has realized a practical and secure system which allows the isokinetic kit in glass to be mounted in stack.

The small overall dimensions of the probe along with the filterholder and the Pitot tube allow it to pass through a standard 4" port.



#### Filterholder for thimble Diam. 25 mm

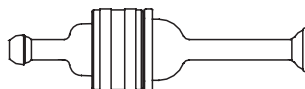
Offered both in **glass** and **quartz**, it can accommodate thimbles diameter 25x100 mm, that are available on the market in glass fiber as well as in ultrapure quartz fiber. The filterholder is assembled by two inox rings. The sealing is ensured by  $\varnothing$  19 mm spherical joints.



P/N Glass AC99-091-0010SP  
P/N Quartz AC99-091-0020SP

#### Filterholder for membrane Diam. 47 mm

Offered both in **glass** and **quartz**, it can receive  $\varnothing$  47 mm flat membranes that are available in glass fiber as well as in ultrapure quartz fiber. The support of the membrane is in sintered glass. The filterholder is assembled using two inox rings.



P/N Glass AC99-091-0012SP  
P/N Quartz AC99-091-0022SP

#### Inox device to accommodate glass filterholder

This device in AISI 316, is connected to the heated probe incorporating a glass suction tube. The glass filterholder is located and protected inside this device; a bayonet clamp on three points ensures the easy and secure assembling.



P/N AC99-091-0000SP

#### Nozzles for glass and quartz filterholder "In Stack"

These nozzles are provided with spherical coupling to the filterholder. The character of glass and quartz as materials doesn't allow to realize the nozzles, especially their inlet edge, in accordance with the standard recommendations.



Nozzle diameters (mm)	P/N - Glass	Quartz
12	AC99-091-9916SN	AC99-091-9926SN
10	AC99-091-9915SN	AC99-091-9925SN
08	AC99-091-9914SN	AC99-091-9924SN
07	AC99-091-9913SN	AC99-091-9923SN
06	AC99-091-9912SN	AC99-091-9922SN
05	AC99-091-9911SN	AC99-091-9921SN
04	AC99-091-9910SN	AC99-091-9920SN



## Isokinetic Heated Probe

### Accessories

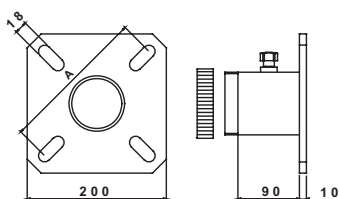
Depending on the probe length, there are two different slide and lock devices that can be used for fixing the heated probe to the stack.

The slide and lock device incorporates a special universal flange plate that allows it to join to any flange with 160-220 mm distance between the holes (dimension "A").

Therefore the stack has to be equipped with a  $\phi 4"$  port fitted with the flange.

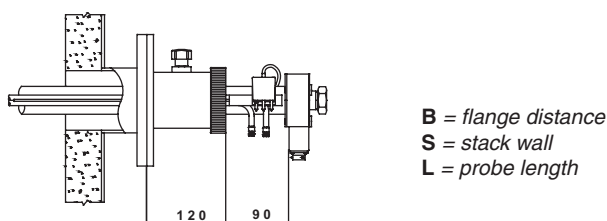
### Slide and lock devices for probes

For **up to 1,5 m long probes**, light alloy device is used.



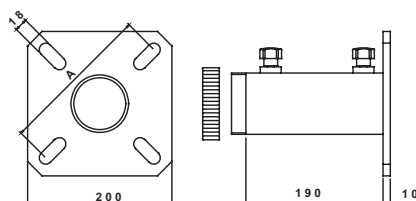
P/N AC99-090-9800SP

Assembling dimensions of up to 1.5 m length probe



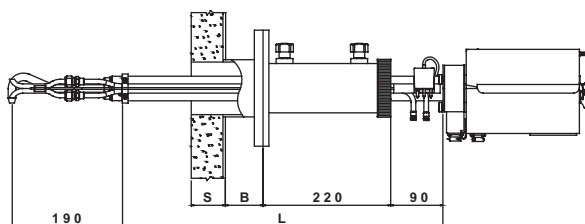
B = flange distance  
S = stack wall  
L = probe length

For **over 1.5 m long probes**, an alternative slide and lock device is available that is also realized in light alloy and already fitted with the universal flange of greater dimensions and consistency so that it provides greater support for the probe to move.

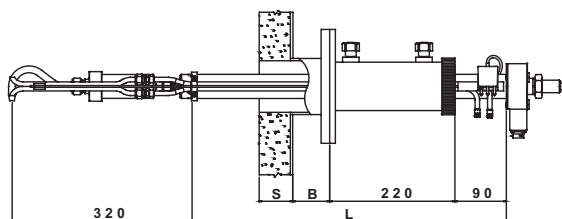


P/N AC99-090-9801SP

Assembling dimensions of over 1.5 m length probe with out stack filter



Assembling dimensions of over 1.5 m length probe with in stack filter

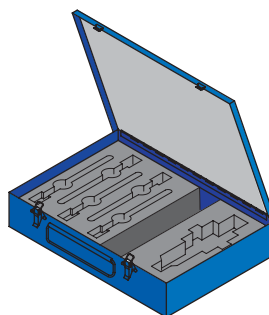


### Carrying Case

#### Carrying case for isokinetic sampling kit in glass

Metal frame case, fire painted with foam cut out to accommodate 1 filterholder diam 47mm, 1 thimble holder, 3 baskets, 5 glass nozzles. It is supplied with spare gaskets for both filterholder

Size: 38 x 23 x 8 cm



Cod. AC99-092-9930SP