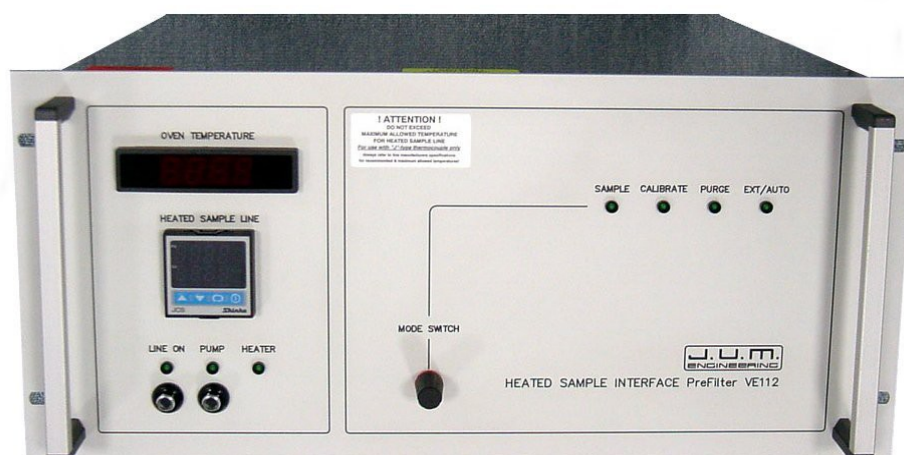


## Heated Sample Filter and Sample Interface

# Heated PreFilter<sup>®</sup> VE 112

THE Mobile Stack Testing Solution; All you need is the VE-112, a stack probe without filter, a heated sample line, a sample cooler and your required selection of self extracting analyzers (CO, CO<sub>2</sub>, NO/NOX, SO<sub>2</sub>, O<sub>2</sub>, or others.

The PreFilter<sup>®</sup> VE-112 is an ideal interface and sample filter to provide sample from one source via heated sample train to up to five (5) self extracting gas analyzers.



The VE-112 is a highly efficient, all heated and low pressure drop filter for removing solids from a gaseous sample. The Model VE 112 utilizes an all stainless steel 2 micron large surface mesh filter to be back-purged with dry compressed air or nitrogen. Heated to 190°C to prevent the loss of high condensing hydrocarbons or water.

When the sample filter is back-purged, at the same time the heated sample line and probe are fully purged too.

**General:**

The Model VE 112 can be installed as a complete sample interface directly in the analyzer rack. With its back-purge system for the permanent installed sample filter, the VE 112 offers extended up times at allows comparatively low maintenance cost.

The costly and high maintenance stack probe filter is no longer required when the back purge time and sequence are controlled automatically with purge times of only a few seconds per sequence. The sample probe and sample line are both automatically cleaned from particulate matter and condensed hydrocarbon hang up which every single sample filter back purge cycle. A calibration gas inlet offers the capability to test and calibrate the complete analyzer circuit. Our proprietary rear panel adapter plate system allows cold-spot free coupling of a heated sample line inside the heated oven without the need of special tools. The Model VE 112 is also available as a wall or panel mount instrument for easier installation in an outdoor cabinet, or in a purged cabinet for zoned areas.



Rear Panel View VE 112



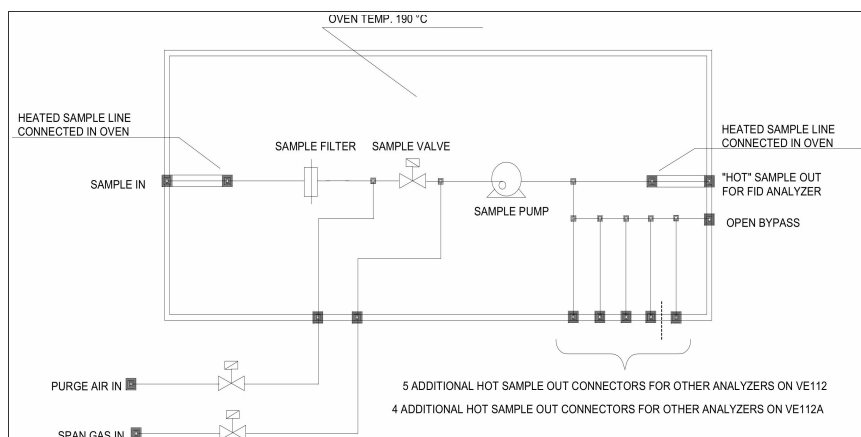
Wall or Panel Mount Version

### Features

- Made in Germany
- The VE 112 is the ideal solution to be used as the main supply module in a multi component Continuous Emissions Monitoring system (CEM).
- Only one heated sample line from the source is needed to provide sample for many other emissions analyzers, all at ambient pressure conditions.
- One sample inlet with the capability to couple the heated sample line inside the heated oven. Absolutely no cold spot.
- One major FID sample outlet with the capability to couple the heated sample line inside the heated oven. Absolutely no cold spot.
- Four additional heated sample outlets for other gas analyzers for example CO, CO<sub>2</sub>, No/No<sub>x</sub>, SO<sub>2</sub>, O<sub>2</sub>, or others.
- All sample wetted components and parts are housed inside the heated oven chamber
- Oven temperature digitally controlled at 90° C (374° F)
- Permanent heated stainless steel sample filter, 2 µm mesh, large surface
- Sample filter back-purge system allows sample filter to be cleaned without dismantling
- At any time when the sample filter is cleaned, the sample line and sample probe are always cleaned too.
- Programmable automatic sample filter back-purge system optional
- Remote control for all valve operations as sample, calibrate and sample filter back-purge is standard
- Integrated heated sample pump
- Microprocessor PID type temperature controller for FID oven

### Applications

- **The VE 112 is a Complete Sample Interface Solution** for continuous stack gas emissions monitoring systems with one THC monitor, one sample conditioner with all NDIR monitors and up to four additional or sensors
- Stationary or transportable CEM's for stack gas analysis
- Diesel or Gasoline raw exhaust analysis and Stationary diesel engines exhaust analysis
- Removing particles from a gaseous sample where condensation of heavy hydrocarbons is not desirable



**Technical Specifications**

Dimensions (W x D x H)	19" (483 mm) x 460 mm x 221 mm
Weight	Approx. 25kg (55 lbs)
Sample filter material	All stainless steel 316SS
Filter pore size	2µm
Sample valves	All stainless steel/Viton®
Purge air valve	All brass, Plunger and plunger housing stainless steel, seals made from Viton®
Calibration gas valve	All brass, or to be specified. Plunger and plunger housing stainless steel, seals made from Viton®
Sample pump	All stainless steel, diaphragm and valves made from Viton®
Sample pump Capacity	12 l/min, unrestricted flow
Oven Temperature	190 °C (374 °F), electronic temperature controller
Oven Temperature Output	0-5 VDC @ 10mV/°C
Power Requirements	230VAC/50Hz, 1250W (115VAC/60Hz, 850W)
Ambient Temperature	5-43 °C (41-110 °F)

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**Available Options**

EPC 11	Remote control for sample pump. Pump can be switched on and off externally if Instrument is in external mode.
APO 11	Built in automatic programmable back-purge timer for the sample filter
COS 11	Overflow calibration system for EPA CFR 40, Method 25A
TPR 11	Built in temperature controller for J.U.M. heated sample lines Model TJ 100 and TJ 100A; EXTERNAL MODULE ONLY ON VE 112A!

**J.U.M.® Engineering GmbH**

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