Portable Sampling System

Gasmet Portable Sampling System

The Gasmet portable sampling system has been designed for portable emission monitoring measurements.

The Gasmet portable sampling system is used for on-site measurements. It can be used for measuring trace concentrations of pollutants in wet, corrosive gas streams. The sample gas can be measured undiluted and without drying since the sample pump, heated filter and valve are located in a module that is heated to 180 °C. From the sampling system the gases can be directed into Gasmet FTIR gas analyzer.

The Gasmet portable sampling system includes power connections and temperature controllers for heated lines and heated module. The Gasmet portable sampling system is connected to an external PC through Gasmet FTIR gas analyzer and can be controlled by Calcmet software.

The function of the portable sampling system is automatic, but sample pump and valve can be controlled also manually.

In the case of a power failure or if the temperature (pump, lines, sample cell) is below setting, the automatic 3-way valve switches sample gas to zero gas to prevent condensation. Sample pump cannot be switched on before all temperatures have reached the setting. In addition, the zero calibration of the Gasmet FTIR gas analyser can be done automatically with the portable sampling system.

As an option, the sampling system can be equipped with a sample probe and/or heated lines. The maximum length for the heated line is 19 m + 1 m with 230 VAC and 9 m + 1 m with 115 VAC power supply. There is also an optional integrated O_2 sensor that supplements the capabilities of the Gasmet FTIR gas analyzers.

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General parameters

Operating temperature:	20 ± 20 °C, non-condensing
Storage temperature:	-20 – 60 °C, non-condensing
Power supply:	Separate models for 100-115 and 230 V / 50 -60 Hz
Power consumption:	400 - 3600 W, depending of the sample lines (without sample probe)

Heated sample pump

Material:	316 SS
Diaphragms:	Teflon
Maximum flow:	~4 l/min, constant
Temperature:	180 °C, maximum

Heated filter

Material:	Bonded microfiber (sintered steel 0.1µ as an option)
Gas filtration:	Filtration of particulates (2 µm)
Temperature:	180 °C

Temperature controllers

Material temperature range:	0 – 180 °C
Display:	Digital, 3 digits

Valves

Pressure:	0 - 2 bars
Temperature:	60 °C maximum
Valves:	Sample gas/zero gas

Gas connectors

Sample gas inlet:	One piece, 6 mm Swagelok
Sample gas outlet:	One piece, 6 mm Swagelok
Zero gas inlet:	One piece, 6 mm Swagelok

Electrical connectors

Power connection:	CEE7 standard European Schuko plug or fixed cable

Enclosure

Material:	SS 316
Dimensions (mm):	400 × 300 × 210 mm
Weight:	12.3 kg
CE label:	EMI guideline 89/336/EC

Optional oxygen sensor

The O_2 concentration reading can be displayed on the Calcmet software

Principle:	ZrO_2 cell
Measuring range:	0.1 – 25 %
Accuracy:	< 2% from FS
Calibration:	Single point calibration with air

Optional heated line

Tube size:	4 mm, inner diameter
Core material:	Teflon core
Operating pressure:	Maximum 400 kPa
Temperature:	Maximum 200 °C
Fittings:	6 mm Swagelok
Power supply:	230 VAC or 115 VAC
Power density:	120 watts/meter

The maximum length of the heated line is 19 m + 1 m (230 VAC) and 9 m + 1 m (115 VAC).

Optional sample probe

Sample probe: PSP4000H

- **Power density:** 320 watts
- **Operating temperature:** 0 – 180 °C
- **Filter element:** Ceramic (2 µm)
- **Dust loadings:** < 2 g/m^3

Probe tube material: SS 316 Viton

- **Probe length:** One (1) meter
- **Sample temperature:** 600 °C maximum
- **Sample pressure:** 1 bar maximum

Other probes for high temperatures and for high dust loadings.

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