

# Sampling / Gas Conditioning System SYCOS P-HOT



## SYCOS P-HOT Hot Gas Conditioning System

SYCOS P-HOT converts Gasmeter FTIR and other Gas Analysers into fully integrated, stand-alone system, designed for the analysis of hot and corrosive gases. SYCOS P-HOT is well suited for both mobile and fully automated, continuous applications.

Maintaining the integrity of the gas matrix is of utmost importance: all wetted parts\* are stainless steel. The temperature is maintained above the sample dew point (H<sub>2</sub>O / acids) – the hot zone, as well as the filter and the pump inside it, have each independent temperature controls, max 180°C.

\*exception: pump membrane is PTFE

The sample gas flow rate can be optimized for each application (adjustable flow 0,5 - 6 l /min). Optional sample gas flow measurement can be used to record the total sample volume or just to monitor the filter and pump status.

Other gas analyzers can be connected to the auxiliary gas outlet and/or after the Gasmeter FTIR.

Automated protection: in case of an alarm, the system closes the sample inlet valve and immediately starts to purge with ambient air.

In addition to zero, purge, safety and calibration gas valves, the control unit has advanced I/O communication capabilities. The system can be integrated with external sensors, PLC's and process control / DCS. The Calcmet™ software can be used to record and store all the data.

Available options expand the usability of the system beyond normal combustion gas or process gas analysis.

In some specific applications, the gas matrix may require gas dilution. For such use, the SYCOS P-797 dilution probe is available as a built-inside option, allowing a selection between diluted sample gas and undiluted (but filtered) raw gas at any time.

The modularly built SYCOS P-HOT is available for 1-, 2-, or 3 point sampling.

### General parameters

<b>Operating temperature:</b>	20 ± 20 °C, non-condensing
<b>Storage temperature:</b>	-20 – 60 °C, non-condensing
<b>Power supply:</b>	Separate models for 100-115 and 230 V / 50 -60 Hz
<b>Power consumption:</b>	max. 2x 2300 W, depending of the sample lines (without sample probe)

### Hot Zone (Sample Conditioning Unit)

<b>Temperature:</b>	180 °C, maximum
<b>Pump:</b>	KNF N 012: SS316, Membrane PTFE
<b>Gas valve:</b>	Heated solenoid valve for sample gas
<b>Flow control:</b>	Manual valve, adjustable (ca 0,5-6 l /min)
<b>Filter:</b>	GASMET CEM IIe filter. Sintered steel, 0.1 µm (optional bonded microfiber or PTFE)
<b>Optional flow monitor:</b>	Stainless steel. Principle is based on thermal dispersion with equal mass sensing. Configuration via RS232.
<b>Optional built-in dilution:</b>	Sycos P-797. Dilution rate calculated by PLC and displayed on screen and Calcmet. Control (diluted vs undiluted sample) with the valve system.  Dilution rate 1:25 – 1:250 depending on orifice

### Gas connectors (Sample Conditioning Unit)

<b>Sample gas inlet:</b>	Quick-Lock OR 6mm Swagelok 8mm Swagelok
<b>Sample gas outlet:</b>	Quick-Lock OR 6mm Swagelok 8mm Swagelok
<b>Auxiliary gas outlet:</b>	6 mm Swagelok

### Enclosure

<b>Material:</b>	Aluminium painted RAL 7035
<b>Dimensions:</b>	449 × 370 × 177 mm (2x)
<b>Weight:</b>	5 kg (Control Unit) 15 kg (Sample Condit. Unit)
<b>Total dimensions:</b>	449 x 370 x 354 mm
<b>Total weight:</b>	20 kg (without options)
<b>CE label:</b>	EMI guideline 89/336/EC

### Control Unit

<b>Control:</b>	Touchscreen
<b>Operation Modes:</b>	Manual and automatic
<b>Gas Connectors:</b>	6mm Swagelok for - Purge, Zero, Safety, Span inlet - Gas outlet to the Hot Zone - Purge gas outlet to the FTIR
<b>Flow meters:</b>	Purge (for FTIR): 0,1 – 1 l/min Zero gas: 0,5 – 5 l/min Safety air: 0,5 – 5 l/min Span gas: 0,5 – 5 l/min
<b>Standard valves:</b>	Zero gas, safety gas
<b>Optional valves:</b>	Span gas
<b>Optional I/O cards:</b>	Up to five (5) cards DO, DI, AO, AI, relays-cards (2,4 or 8 channels per card)
<b>Communication:</b>	3x RJ45, 2x Sub-D 9 Pol, 2x Sub-D 25 Pol
<b>Power connection:</b>	2x CE13/14 with CEE-7

### Heated sample line (external option)

<b>Fittings:</b>	QuickLock OR 6mm OR 8 mm Swagelok
<b>Power supply:</b>	230 VAC or 115 VAC
<b>Power density:</b>	100 Watts /meter
<b>Sensor:</b>	Pt100 (standard) /Type K
<b>The maximum length of the heated line:</b>	18 m + 2 m (230 VAC) 9 m + 1 m (115 VAC).

