

Mercury Stack Gas Monitor SM-4 mobile

EMISSIONS MONITORING SYSTEMS

The Mercury Stack Gas Monitor SM-4 mobile is meant for automatic monitoring of total mercury emissions (CEM) at different sites.

The SM-4 mobile was developed on the basis of the well proven Mercury Stack Gas Monitor SM-4. Its measurement principle and technique, its thermocatalytic reactor, the detector and the sample probe are identical with those of the stationary SM-4.

SPECIFIC FEATURES

- Modular construction: easy to transport
- Quickly dismantled and reassembled
- Sample dilution directly at the probe: eliminates interference with virtually any sample matrix
- Maintenance free low temperature converter directly at stack: no transport of ionic mercury thus minimizing mercury adsorption
- Detects total mercury (elemental, ionic and bound mercury)
- Extremely wide range of measurement: 0,05 bis 1000 $\mu\text{g}/\text{m}^3$
- Heated particle filter with automatic cleansing
- Length of sample line up to 100 meters
- Automatic calibration for elementary and ionic Hg
- Automatic quality control (QAL3) during operation
- Maintenance free



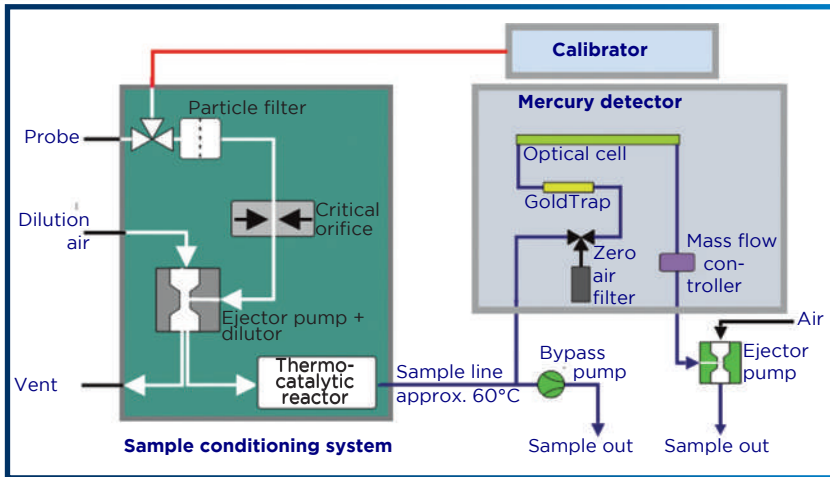
SM-4 Mobile:

Designed for accurate and reliable measurement of very low mercury concentrations in flue gases within complex matrices (SO_2 , NO_x , HCl , etc.)

APPLICATIONS

- Coal fired power plants
- Waste incineration plants
- Sewage sludge incineration plants
- Cement kilns
- Method 30A applications
- Testing of stationary CEMs
- Optimizing of mercury control technologies
- Recording of Hg-emission situations as well as determination of the efficiency of Hg-reduction techniques





Mercury Stack Gas Monitor SM-4 mobile: Schematic flow diagram

TECHNICAL SPECIFICATIONS

Measuring principle:	Dilution probe with thermocatalytic converter at stack, Amalgamation (MI GoldTrap), Cold Vapor Atom Absorption Spectrometry (CVAAS), Wavelength = 253,7 nm
Measuring range:	0,05 µg/m ³ to 500 µg/m ³ Hg
Detection limit:	0,0001 µg/m ³ (Detector); < 0,01 µg/m ³ (System) µg/m ³
Response time:	Typically 180 sec.
Max. sample temperature:	200°C
Operating temperature:	-5 °C to 40 °C
Sample line length:	up to 100 m
Air consumption:	peak 35 l/min, 6 bar
Signal outputs:	<ul style="list-style-type: none"> • analogue: 4-20 mA (500 Ω max.) • serial: RS 232 • Modbus RTU/RS485 (option) • Ethernet (option)
Status outputs:	3 x pairs of relay contacts (dry contacts)
Remote access:	Modem and SM-4 software (option)
Power supply:	230 V / 50 Hz; (110 V / 60 Hz option)
Power consumption:	<ul style="list-style-type: none"> • Analyzer cabinet: 450 VA; • Air conditioning cabinet: 1000 VA; • Heated sample line: 30 VA per meter
Calibration:	<ul style="list-style-type: none"> • automatic, with built in calibration gas generator for elementary Hg (option) • automatic, with built in calibration gas generator for ionic Hg (option) • manual, with built in heated fitting for feed of externally provided calibration gas (e.g. HOVACAL®)
Dimensions (WxDxH cm):	<ul style="list-style-type: none"> • Analyzer cabinet: 60 x 60 x 60 • Air conditioning cabinet: 60x60x73 • Probe: 38 x 34 x 75 • Probe controller: 44 x 27 x 48
Weight:	<ul style="list-style-type: none"> • Analyzer cabinet: 50 kg • Air conditioning cabinet: 50kg • Probe converter unit: 28kg; • Probe controller: 14 kg



Due to its modular design, the Mercury Stack Gas Monitor SM-4 mobile can easily be transported, assembled and disassembled. It is the ideal solution for the determination of total vapor phase mercury emissions at varying sites.



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