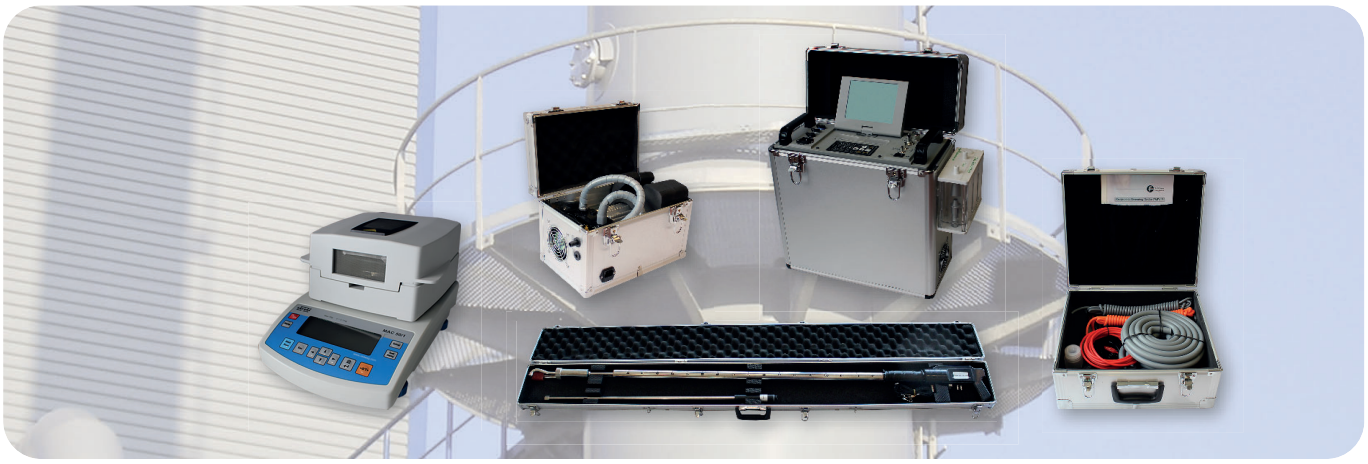
Gravimetric measuring system

Dr. Födisch
Umweltmesstechnik AG



Compact and high-grade automated system for isokinetic gravimetric dust measurement – sampling and weighing in one system on site

APPLICATION

As the world-wide first measuring system the GMD 13 features an integrated hot weighing system with the possibility of evaluation on site without additional laboratory equipment. The weighing is completely controlled and evaluated by the measuring unit. Easy and safe design of the system as well as project-based software provide precise measuring results.

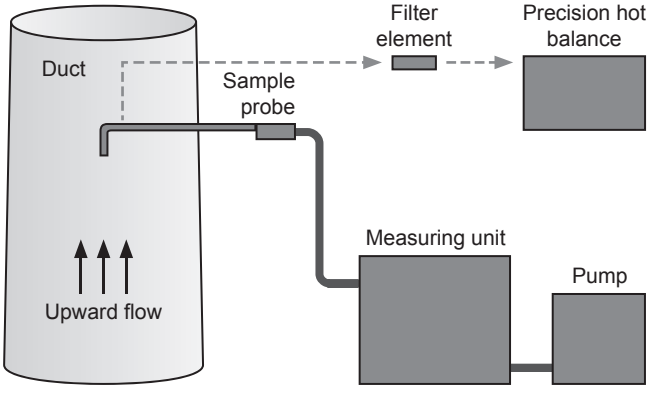
The GMD 13 consists of:

- measuring unit
- pump
- sample probes (dust probe, humidity probe)
- precision hot balance
- special accessories (e.g. filters)

YOUR BENEFITS AT A GLANCE

- weighing and evaluation with precision hot balance on site → economises transportation travelling, exsiccation and laboratory equipment (laboratory analysis additionally possible)
- easy, menu-driven operating with project-based software
- selection of the appropriate sample nozzle is assisted by the measuring unit
- storage of the current measuring values during measurement for future analysis
- data transfer via compact flash memory card
- input and processing of two measuring signals from other measuring devices

INSTALLATION EXAMPLE



PRECONDITIONS ON SITE

- ambient temperature: 0...50 °C
- location free of percussion
- measuring gas temperature max. 280 °C with optimal dust content of 1...100 mg/m³
- dew-point spread: min. +5 K
- installation place with run-in/run-out zone of min. 5-fold/2-fold length of duct diameter
- accessibility to power supply
- socket with 3" welding sleeve at the duct

FILTER ELEMENT

Filter holder | Filter | Filter holder head

HOT WEIGHING

- patented method of hot weighing of the filter
- possibility to determine the measured dust content promptly still on site
- pressed fibre glass filters, protected by a robust filter holder
- weighing of the complete filter element is admissible according to EN 13284-1 in parallel

TECHNICAL DATA

Measuring unit:	case model, 500 mm x 440 mm x 190 mm (w x h x d), approx. 13 kg
Pump:	case model, 350 mm x 240 mm x 220 mm (w x h x d), approx. 12 kg
Sample probes:	case with dust and humidity probe, 1570 mm x 120 mm x 230 mm (w x h x d), approx. 6 kg; max. cable length / max. distance to measuring unit: 5 m • dust probe: length: 1550 mm; immersion depth: max. 1350 mm • humidity probe: length: 950 mm; immersion depth: max. 650 mm
Balance:	case with precision hot balance, 240 mm x 300 mm x 430 mm (w x h x d), approx. 10 kg
Accessories:	all necessary cables, hoses, filter elements as well as thermal printer; case with accessories: 410 mm x 370 mm x 210 mm (w x h x d), approx. 9 kg
Display / Operating:	pivoting graphic display integrated in the measuring unit; complete evaluation of measuring results; Languages: German, English, other optional (Latin characters)
Weighing process:	semi-automated, weighing accuracy < 1.0 mg; expenditure of time per filter: 1st weighing approx. 5-30 min, every further weighing approx. 3-15 min
Ambient temperature:	0...50 °C
Relative humidity:	no special sensitivity
Dew-point spread:	min. +5 K
Measuring gas temperature:	max. 280 °C
Measuring ranges:	• dynamic pressure: 0...10 hPa • static pressure: -300...+300 hPa • barometric pressure: 700...1100 hPa • volume flow rate (sampling): 5...60 l/min • temperature (previous to flowmeter): 0...95 °C • temperature (exhaust): 0...280 °C • humidity: 0...40 vol. % • response time: < 8 s
Data output:	via Compact-Flash memory card (1 GB) or printer
Analogue inputs:	2x analogue input 4...20 mA for registration of the measuring values of present automatic dust measuring systems
Instrumentation opening:	3“
Power supply:	230 V AC / 50 Hz, 200 W
Optional:	• for real-time measurement of dust content: tribo-electric dust sensor PFM 13 • plane filter for measurement according to EN 13284-1

Special models are possible on request.

Dr. Födisch Umweltmesstechnik AG
Zwenkauer Strasse 159 • 04420 Markranstädt • Germany
Phone: +49 34205 755-0 • Fax: +49 34205 755-40
E-mail: sales@foedisch.de