

MODEL KS-407-M

AUTOMATIC ISOKINETIC REAL TIME SAMPLER MEASURING CIRCUIT FOR DETERMINATION OF ALL FRACTIONED SOLID POLLUTANT CONTENTS OF EXHAUST GASES



SPECIAL ADVANTAGES OF THE MEASUREMENT CIRCUIT

- ☞ Measurement of total volume and average velocity of the gas exhausting from the engine, simultaneously with the sampling.
- ☞ Quickly replaceable indoor filter, suitable for serial and continuously intermittent measurement of motor cycles.
- ☞ Automatic isokinetic real time measurement control with Windows-based AR-IZO software.
- ☞ Small size - Ø28*120 [mm]- indoor probe head, replaceable for cascade impactor.
- ☞ Extremely high dust storing capacity.
- ☞ The probe head and the measuring circuit comply with the guiding principles of the ISO 9096 and VDI 2066 standards and, meet numerous international technical specifications.

1. Purpose

THE TYPE **KS-407-M** AUTOMATIC EMISSION DUST SAMPLER MEASURING CIRCUIT AND PROBE HEAD HAVE BEEN DEVELOPED FOR GRAVIMETRIC DETERMINATION OF SOLID POLLUTANTS TO BE FOUND IN EXHAUST GASES OF MOTOR VEHICLES AND, TESTING OF MOTOR OILS.

It is well-known that the quality of motor oils used in diesel oil fuelled engines greatly influences – favourably or adversely – the quantity and quality of the solid pollutants that can be found in the exhaust gas. The known measurement methods do not facilitate formal, micro-probe measurement by weight of solid particles existing in the exhaust gas.

With use of the KS-407-M measuring circuit the dust concentration of the solid pollutants existing in the exhaust gases of various motors can be determined to unique accuracy by weight – gravimetrically – and, with an adequate impactor amendment, the fraction of the solid particles as well. Controlling of the isokinetic real time sampling and documenting of the measurement data is performed by a notebook or a personal computer with use of Window-based **AR-IZO** software.

2. Summarizing technical description

The construction of the measuring circuit is shown in **Figure 1.-2**. The **total quantity** of the gas leaving the exhaust port of the motor vehicle is flowing, through a rectifying and low-drag pipe section of adequate length and a Venturi meter, into the measuring cell. The solid material sample taken isokinetically, at velocity practically identical to that of the gas, is depositing in a bag filter, shown in **Figure 3**. The isokinetic sampling is controlled by the differential pressure signal of the Venturi meter.



Figure 1.

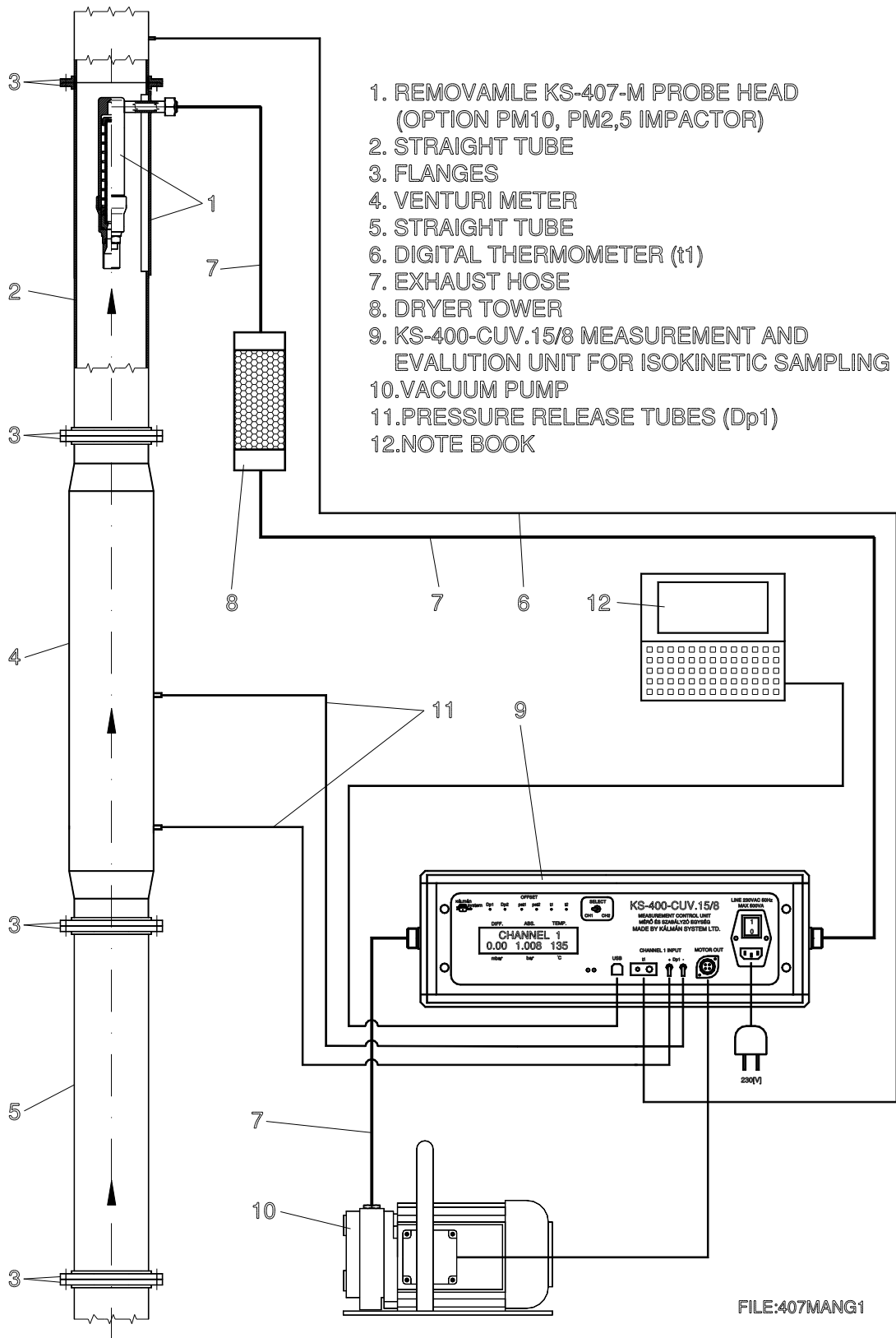


Figure 2.



Figure 3.

3. Technical data

■ Rated volume flow rate dependent on fl:	1,0 [m ³ /h] -3,6 [m ³ /h]
■ Maximum temperature with teflon (PTFE) packing:	220 [°C]
■ Venturi meter range	70-450 [m ³ /h]
■ Intake pipes:	Ø4,5;5,6;7,6;10,7;14;17 [mm]
■ Intake pipes – option:	Ø 5,0; 6,2; 6,9; 8,5; 9,5
■ Thimble filter:	Ø 10*110 [mm]
■ Type of the measuring and control unit:	KS-400-S
■ Power supply:	230 [V], 50 [Hz]
■ Volume flow rate measuring accuracy:	± 2 [%]
■ Mass:	8,2 [kg]