

PARTICULATE SAMPLING SYSTEM

"13 Mode" and "Transient" tests

Ease of use

Compact and mobile sampling system

The PSS 20 satisfies all the specifications contained in regulations 91/524/EEC and 1999/96/EC for measurement of particulates in stationary conditions for both truck and off-road engines

- ✓ *Simple to use*
- ✓ *Easy to transport to different test beds*
- ✓ *No service fluids (air, water) required*
- ✓ *Stationary and transient cycles*
- ✓ *Functions independently of engine dimensions*
- ✓ *Low inertia and high stability mechanical flowmeters*
- ✓ *Response time in transient operating < 0.25 s*
- ✓ *Calibration verification before test not necessary*
- ✓ *Complete software management of results and test cycles*
- ✓ *Complete remote management from host using AK protocol on RS232 or TCP/IP*



GENERAL PRESENTATION

The system is designed to measure particulates in stationary and transient conditions (US FTP, ETC and NRTC cycles) as defined by the ISO 16 183 standard. The principle of partial sampling of gases makes it possible to use with any engine size.

The mechanical type flow measurement system offers high stability and measurement repeatability and therefore makes it possible to avoid having to carry out calibration procedures too frequently.

The system is composed of two main parts: the control cabinet and the measurement microtunnel assembly.

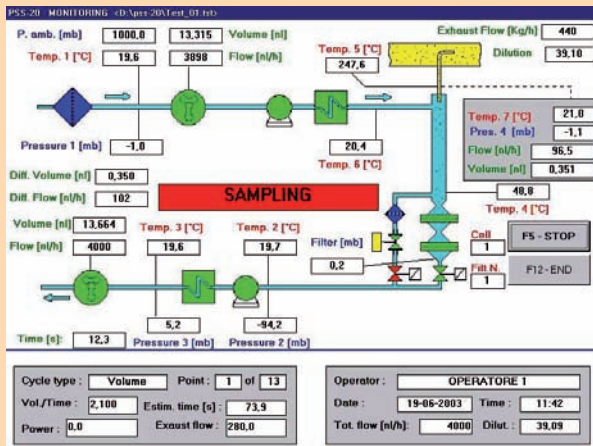
The micro-tunnel system, to be installed near the engine exhaust pipe, includes the sampling probe, the micro dilution tunnel, the filter group and the sampling valves.

Both systems are mounted on wheels and therefore allow for rapid handling and installation on different engine test beds.

The control cabinet, which is usually installed in the operator's room, contains the flow control systems for the dilution air and the diluted gas, together with the computerised management and control unit.

CONTROL UNIT

- Based on Pentium PC, with LCD TFT color display, integrated membrane keyboard and mouse
- Distributed I/O system based on Ethernet TCP/IP
- Analogue inputs for engine exhaust flow acquisition
- Control software for the complete management of steady state and transient tests
- AK communication protocol on serial RS232 or Ethernet TCP/IP

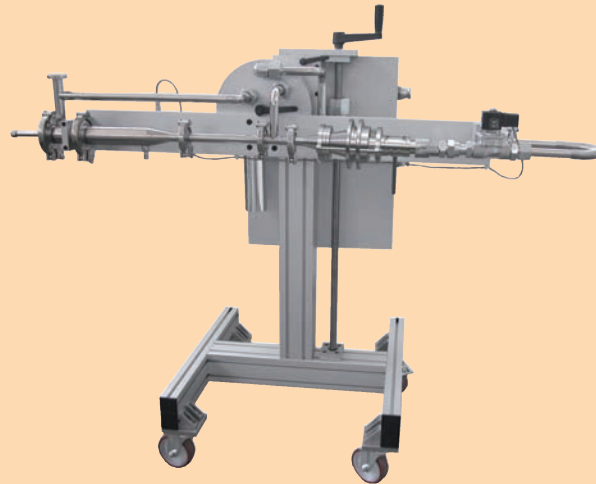


DILUTION AIR SYSTEM

- Positive displacement flowmeter with high frequency encoder
- Variable-speed volumetric pump

MOBILE SAMPLING SYSTEM

- Insulated 38 mm ID stainless steel micro-tunnel
- 47 and 70 mm stainless steel filter holders
- Filter by-pass with regulated valve for maintaining a constant flow between sampling and stand-by phases
- Valve group for filter selection



DILUTED GAS SYSTEM

- Heat exchangers
- Variable speed volumetric pump
- Positive displacement flowmeter with high frequency encoder

TECHNICAL SPECIFICATIONS

Dimensions

Control cabinet	600 × 800 × 1,830 mm
Microtunnel assembly	1,200 × 300 × 800 mm

Weight

Control cabinet	250 kg
Microtunnel assembly	70 kg

Recorder output	0-10 V for all pressure and temperature probes
Dilution air flow	1-10 m ³ /h
Diluted gas flow	1-10 m ³ /h
Volumes reading	0-10,000 l (resolution 0.1 cm ³)
Communication	RS232 or Ethernet with AK standard protocol
Power supply	220 V a.c., 2 kW

All D2T products benefit from a one-year back-to-factory parts and workmanship warranty. Technical specifications may be modified without prior notice.