

# MICRO PSS

## Portable On-Board Particulate Sampling System



### MICRO SYSTEM FOR ON BOARD PARTICULATE ANALYSIS

### TRANSIENT COMPLIANT ISO16183

### COMPACT... COST EFFECTIVE

### *Dynamic Diesel Emission Technology*

Higher demands for cost reduction, enhanced process and engine control efficiency, coupled with increased environmental awareness is pushing the development of faster, more cost effective, and more sensitive next generation particulate analyzers. With years of advanced technical development and particle monitoring experience these demands have been met with the MICRO PSS On-Board Particulate Sampling System.

The MICRO PSS system is a partial flow dilution microtunnel designed for sampling diesel exhaust gas, diluted or not, transient or stationary, to determine particulate emission levels. The principle of partial sampling of gases makes it possible to utilize the system on any size diesel engine from a few KW to large naval engines in any test cell or location.

The MICRO PSS is designed for today's new engine concepts and with today's diesel engines lower than ever particulate output can provide precise gravimetric particle measurements. Cost effectiveness exists as the MICRO PSS can replace the costly and complex CVS method of PM measurements in the laboratory or use in-situ in the field.

National and International PM sampling regulation requirements such as EEC, ISO -8178, and ISO 16183 are met or exceeded.

The application flexible system consists of two main areas. The Dilution air system and Diluted Gas System. Both consisting of ultra-high efficient variable speed volumetric pumps coupled with high speed encoders for immediate response.

#### Technical Data

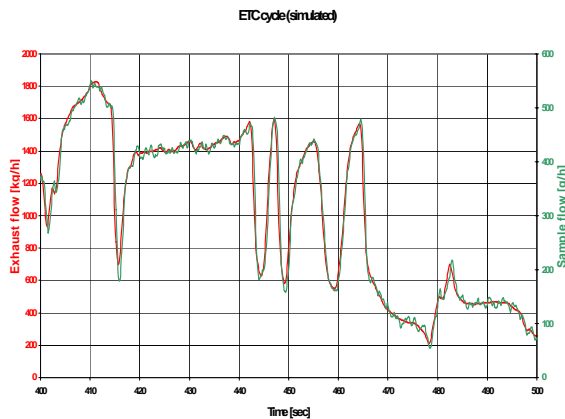
Dilution Air Flow	0.5 – 2 m3/h	Accuracy	+/- 0.1 %
Diluted Gas Flow	0.5 – 2 m3/h	Response Time(T50)	< 0.3 sec
Gas Volume Measure	Mechanical Flowmeters Digital Encoders	Filter Holder	70mm, 47mm
Resolution	14,000 pulse/L	Voltage Supply	24 V DC +/- 10% 0.4 kW
Dimensions	650 X 500 X 350 mm	Weight	35 Kg
Signal Processing And Interface	RS232 or Ethernet TCP/IP	Control Unit	Laptop PC/ Window XP



## *Function and Technology*

The heart of the MICRO PSS are the low inertia mechanical type flowmeters connected to variable speed volumetric pumps. This unique and highly proven configuration makes it possible to obtain a system response time, in transient test cycles, of less than 0.20 sec. (In accordance with ISO 16183). The mechanical type flow measurement system offers ultra high instrument stability and measurement repeatability that dramatically reduces the need for costly and intensive systems calibration.

- The MICRO PSS is easy to operate
- Easy to Transport
- Response Time < 0.20 sec
- Independent of Engine Dimensions
- On-Board Transient or In Lab Stationary
- No Ancilliary Fluids or Gases Required



## *Benefits:*

- Ultra fast response to gas characteristics means highest total particulate measurement accuracy
  - Unique flow measuring technology means long term stability and minimal drift
  - Extreme ease of installation, start-up, and operation. Low maintenance costs
  - USA and EU regulatory compliant

**V&F has been providing quality high-speed analytical equipment and accessories to industry and research for over 15 years.**

**Our innovative real time gas and particulate analyzers are configured to client specifications to provide optimal and timely emission or process information for most any industrial or research application.**

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