

# PFS PULVERIZED FUEL SAMPLER

HANDY PORTABLE MEASURING UNIT



### **Pulverized Fuel Sampler PFS**

The Pulverized Fuel Sampler PFS is a portable unit designed for sampling of pulverized fuel in the transport pipes between mills and burners. The PFS complies with the ISO standard 9931 for sampling of coal conveyed by gases.

The equipment consists of a sampling part, a control unit and a filter package.

The sampling part is introduced into the coal pipe through a fixed mounted airlock, and the sample is collected in a container attached to the sampling part via a cyclone.

#### **Application Areas for the PFS Unit:**

- **Routine measurement at power plants**
- **Commissioning of new mills**
- **Adjustment of fuel distribution**
- **Determination of comminution properties**
- **Monitoring of pulverizing and distribution settings in connection with low-NO<sub>x</sub> burners**
- **Test burning of new coal types**

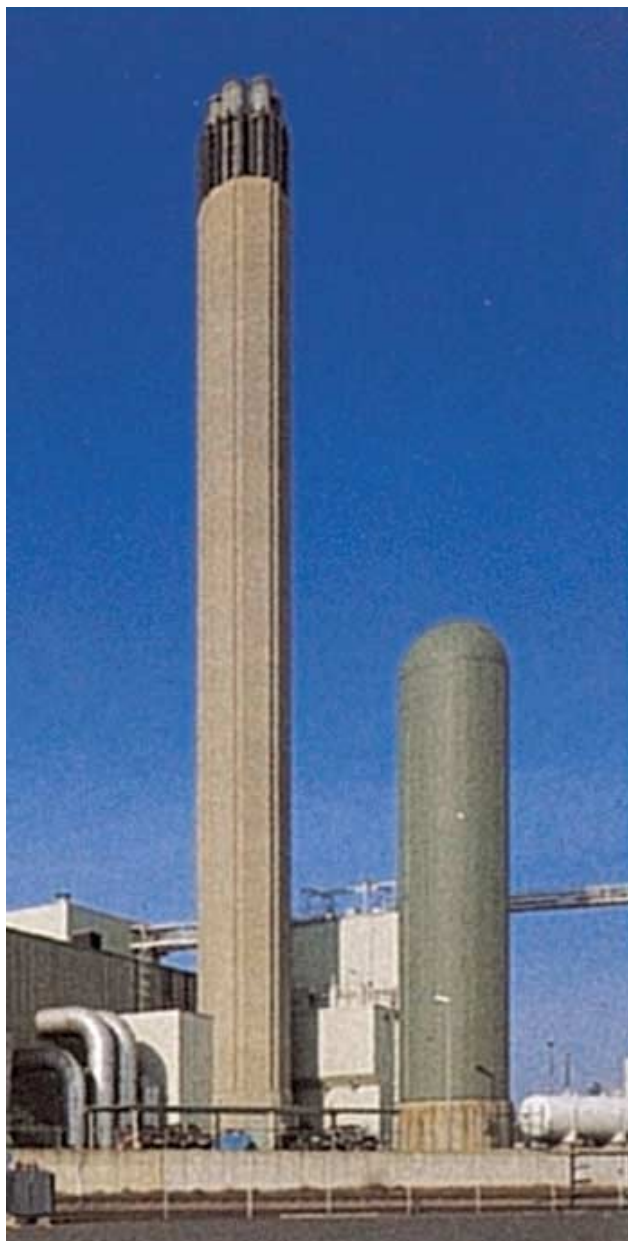
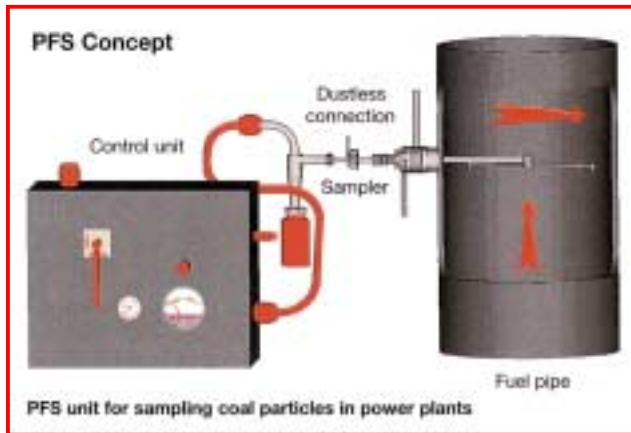
*See detailed description on next page*

Lightweight PFS sampling part with rotating head



The PFS unit is ideal for adjustment of fuel distribution from coal mills.





### Application Areas

#### Routine measurements at power plants

Samples are extracted to check the distribution of the fuel quantity to the individual burners. The samples are extracted to check fineness of the fuel. Special samples are extracted when the content of unburnt carbon in the fly-ash is unacceptably high, which probably indicates coal mill failure or change of coal type.

#### Commissioning of new coal mills

When new coal mills are put into service the PFS unit is applied for adjustment of mills. Further, the sampler is applied for demonstration of mill performance.

#### Adjustment of fuel distribution

When putting new fuel pipes into service, the PFS unit is applied as auxiliary equipment for damper settings.

#### Determination of comminution properties

In connection with grinding problems for mills, tests are often carried out at different mill settings by using the PFS unit.

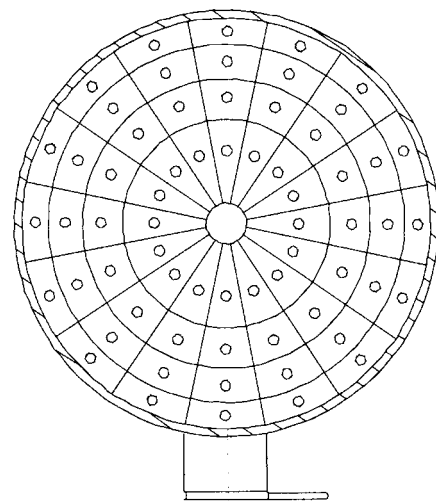
#### Pulverizing and distribution in connection with low- $\text{NO}_x$ burners

Low  $\text{NO}_x$  burners put heavy demands on pulverizing and distribution of fuel.

The PFS unit is very important in connection with commissioning and regular control to optimize combustion and  $\text{NO}_x$  emission.

#### Test burning of new coal types

When test burning new coal types the PFS unit is used for determination of how the pulverizing and distribution systems are influenced by coal types. Further, the PFS unit is applied for demonstration of mill performance on the individual coal types.



Cross section of coal pipe, showing sampling areas for the PFS

### Technical Data for PFS

Sampling according to ISO 9931

Fuel pipe dimensions:  $\varnothing$ 210 mm –  $\varnothing$ 1400 mm

Standard sizes of PFS:

Sampler lance size	Internal fuel pipe diameter in mm
250	210-290
320	290-350
400	340-460
500	410-600
630	510-730
800	650-1000
1000	850-1400

Number of sampling points: 64 points

Media: Pulverized mineral fuel

Power supply: 230V/50Hz, opt. 115V/60Hz

Power consumption: 500 W

Net weight: Sampler unit: 5 kg

Control unit: 10 kg

Compressed air requirements: Clean oil-free compressed air  
6 bar minimum

Consumption: Approx. 1000 N litres/sample

Portable control unit



### The Company and its product line

**M&W Asketeknik** is an internationally working engineering company specialized in the design, manufacturing and supply of analysing and sampling systems for optimizing processes and controlling by-products in coal-fired power plants and other utility boilers. Several hundred units are successfully analysing and monitoring combustion processes in power stations world-wide.

#### M&W Asketeknik's product line

- Pulverized Fuel Sampler (PFS)
- Dustless Connection (DC)
- Dirty Air Pitot (DAP)
- Automatic Coal Flow Monitor (ACFM)
- Automatic Trimming Damper (ATD)
- Automatic Dust Sampler (ADS)
- Residual Carbon Analyser (RCA)
- Fly-Ash Sampler (FAS)
- Raw Coal Sampling Systems (RCS)



### M&W Asketeknik ApS



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