

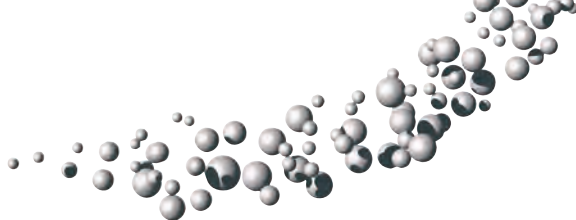
Dekati® Diluter

- Combustion aerosol dilution
- Controlled sample conditioning
- High temperature operation



Excellence in Particle Measurements

Dekati® Diluter



The Dekati® Diluter DI-1000 is a low-cost and easy-to-operate device for diluting aerosol and gaseous samples from any source. The simplicity, ability to withstand high temperatures and the robust, all stainless-steel design have made it a popular choice for dilution of combustion aerosols. In high temperature applications, the Dekati® Diluter is commonly used in a two-stage Dekati® Double Diluter setup, where the first Dekati® Diluter is heated and the second one operates at ambient temperature. This way unwanted condensation and nucleation effects are eliminated and the measured particle concentration and size distribution results are stable and repeatable. The sample can be taken directly from the tailpipe or power plant stack into the Dekati® Double Diluter setup eliminating the need for large full-flow sampling systems to carry out particle or gas measurements.

The operating principle of the Dekati® Diluter is based on ejection dilution. Purified pressurised dilution air flows at high speed around an ejector nozzle and causes a pressure drop which draws the sample through the nozzle. The raw sample is instantaneously diluted as it mixes with the dilution airflow always providing a homogeneous and stable sample. Only purified pressurized air is needed to operate the Dekati® Diluter thus no flow control devices nor pumps are needed.



Specifications

Sample air flow (inlet)	~7 lpm
Diluted sample flow (outlet)	45 lpm
Dilution factor	1:8, Available up to 1:50 Each unit individually calibrated
Dilution air pressure	2 bar gauge
Sample temperature range	0–450 °C
Weight	2.8 kg
Total length	360 mm
Maximum diameter	120 mm
Inlet	12 mm male pipe
Outlet	12 mm male pipe
Exhaust	12 mm male pipe
Dilution air	8 mm female
Material	AISI 316
Gaskets	Copper

Features

- Robust and easy to use – no moving parts and all stainless steel construction
- Each unit individually calibrated and provided with a calibration certificate
- Nominal dilution factor 1:8, can be modified to higher dilution factors up to 1:50
- Dilution factors up to 10 000 possible by connecting diluters in series
- Dilution factor always nominal when diluter exhaust is led back to the sampling point
- Suitable for sampling high temperature aerosols up to 450 °C
- Dekati® Double Diluter setup available for controlled dilution of any combustion aerosol
- High output sample flow – up to 45 lpm.
Can be used with several instruments at the same time
- Can be combined with any aerosol measurement instrument from any manufacturer
- The most common non-standard dilution system used globally for combustion gas dilution

Accessories

DI-2003/2001 Accessories for a full Dekati® Double Diluter setup

Includes all necessary accessories for a complete heated dilution system for combustion measurements:

- Insulated diluter heater
- Heater temperature controller
- Pressurised air heater for dilution air
- Temperature controller for pressurised air heater
- Pressurised air regulator and filter unit
- Connectors



Dekati® Double Diluter setup for combustion measurements



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Dekati Ltd. is specialized in the design and manufacture of innovative fine particle measuring and sampling devices. Since its founding in 1994, Dekati has become the technological market leader in producing fine particle measurement instrumentation for various applications and thousands of customers. ●