

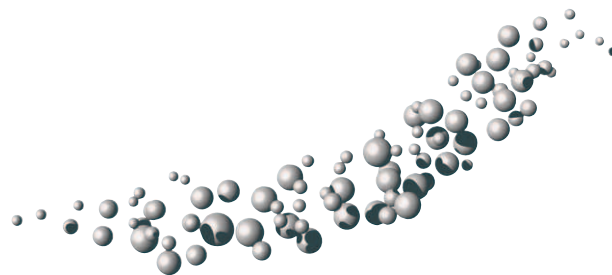
Dekati[®] DI-1000 Diluter

Combustion aerosol dilution
Controlled sample conditioning
High temperature operation



Excellence in Particle Measurements

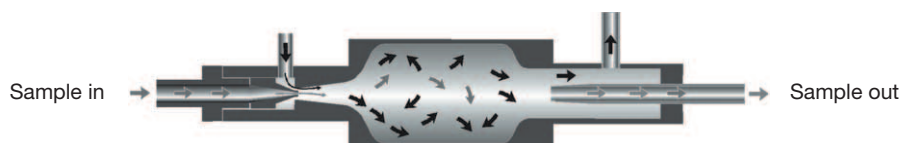
Dekati® DI-1000 Diluter



Dekati® Diluter DI-1000 is a low-cost, simple and easy-to-operate device for diluting aerosol and gaseous samples from any source. The simplicity and robustness of the all stainless-steel design have made it a widely renowned choice for the dilution of combustion aerosols.

The operation principle of the DI-1000 is based on ejection dilution. Purified pressurised dilution air flows at high speed around an ejector nozzle and causes a pressure drop which draws a sample through the nozzle. The raw sample is instantaneously diluted as it mixes with the dilution airflow, thus always providing a homogeneous and stable sample. The use of ejector dilution eliminates the need for any complex flow control devices or pumps. Only purified pressurised air is needed to operate the diluter.

Dekati® Diluter is typically applied for combustion dilution in a two-stage 'double diluter' setup, where the first Dekati® Diluter is heated and the second operates at ambient temperature. This way unwanted condensation and nucleation can be eliminated and the measured results are more stable.



In addition, with this setup a sample can be taken directly from the tailpipe thus eliminating the need for large full-flow sampling systems to carry out particle or gas measurements.

The nominal dilution ratio for a single Dekati® Diluter is 1:8. Every Dekati® Diluter is individually calibrated with traceably calibrated flow and pressure sensors and provided with an individual calibration certificate and data sheet. Dekati® Diluters are also available in custom dilution ratios. Please contact Dekati Ltd. for more information.



Dekati double diluter setup for combustion measurements

Specifications

Sample air flow (inlet)	~7 lpm
Diluted sample flow (outlet)	60 lpm
Dilution ratio	1:8
Dilution air pressure	2 bar gauge
Operating conditions:	
Temperature	0–450 °C
Weight	2.8 kg
Total length	360 mm
Maximum diameter	120 mm
Inlet	12 mm pipe
Outlet	12 mm pipe
Exhaust	12 mm pipe
Dilution air	8 mm female pipe connector
Material	AISI 316 (Stainless steel)
Gaskets	Copper

Accessories

DI-2000 Two diluter package

- two diluters for a double diluter-setup

DI-2003 Accessories for a full double diluter-setup

- Includes all necessary accessories for a complete heated dilution system for combustion measurements:
 - DH-1523 Insulated diluter heater
 - DR-1623 Heater temperature controller
 - DH-1723 Pressurised air heater
 - DR-1823 Temperature controller for press. air heater
 - DI-1010b Pressurised air regulator and dust filter
 - DI-1011 Exhaust valve for reversed flow
 - DI-1019 90 angle joint for exhaust valve set
 - DI-1030 Exhaust connection hose

For more information, please contact: sales@dekati.fi



Dekati Ltd.
Osuusmyllynkatu 13
FIN-33700 Tampere
Finland
Tel. int. +358 3 3578 100
Fax int. +358 3 3578 140
E-mail sales@dekati.fi
www.dekati.fi

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 hundreds of customers. ●