

## V100 / V10 Dilution Systems

The dilution system V100 or V10 are designed to accurately dilute aerosols to produce a defined particle concentration and carry out certain measuring tasks.

By using the dilution system V 100 upstream of a particle counter achieves a dilution factor of up to 100 (by using the dilution system V10 a dilution factor of up to 10) so that the sensor of the particle counter will be protect against dirt due to much concentration on particle.



### APPLICATIONS

- Valuation of clean rooms/environments and laminar air flow boxes/benches according to VDI 2083-3 / DIN 1946-1 / DIN EN ISO 14644-3
- Valuation of workbench of zytostatika according to DIN 12950
- Valuation of workbench of micro biological according to DIN 12469
- Measurements of highly concentrated aerosols
- Evaluation of filtration efficiency
- Basic aerosol research

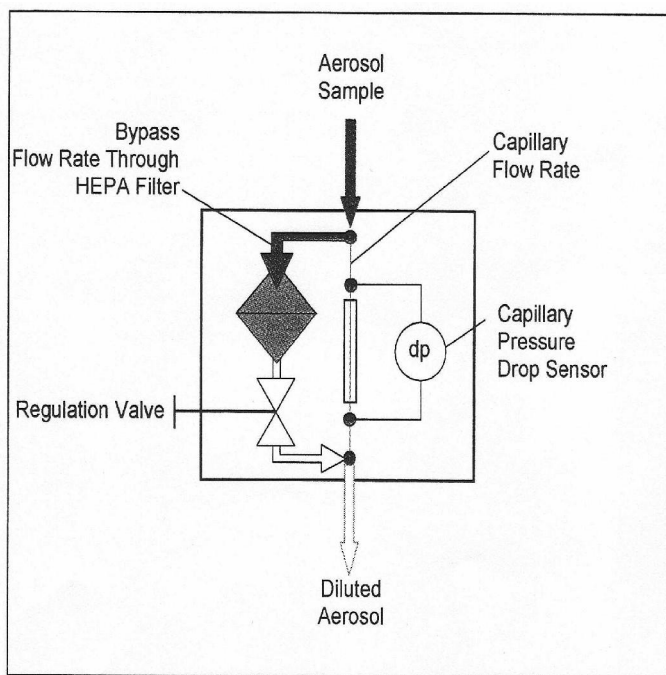
### BENEFITS

- Constant and reproducible aerosol dilution even under changing operation conditions
- Continuous control and display of actual dilution ratio
- Connect all particle monitor
- Long term lifetime and reliability, minimum maintenance required
- Precise operation in both over and under pressure mode
- Stainless steel enclosure
- 2 year warranty

## Basic Principle V100 and V10 Dilution Systems

The dilution systems a) **V100** and b) **V10** have been designed for fixed total flow rates of 28.3 lpm (1 cfm) where defined dilution ratio of a) 1 to 100 and b) 1 to 10 is performed. Other flow rates or dilution ratios can be accomplished by some small modifications on request.

Both the defined total flow rate and the dilution ratio determine the flow rates and their ratio between bypass and capillary path. By measuring the pressure drop over the capillary the capillary flow rate can continuously be monitored. If the deviation of this flow rate from the set value is larger than a small error (up to 3 %) at the instruments front panel a LED arrow lights up in order to indicate in which direction the bypass valve should be turned for readjustment the flow rate balance and thus the dilution ratio. By the way defined and precise dilution ratio



is always ensured.

The HEPA filter used features high filtration efficiency and long term lifetime even if exposed to high number concentrations. Replacing the filter capsule can easily be performed.

## Applications

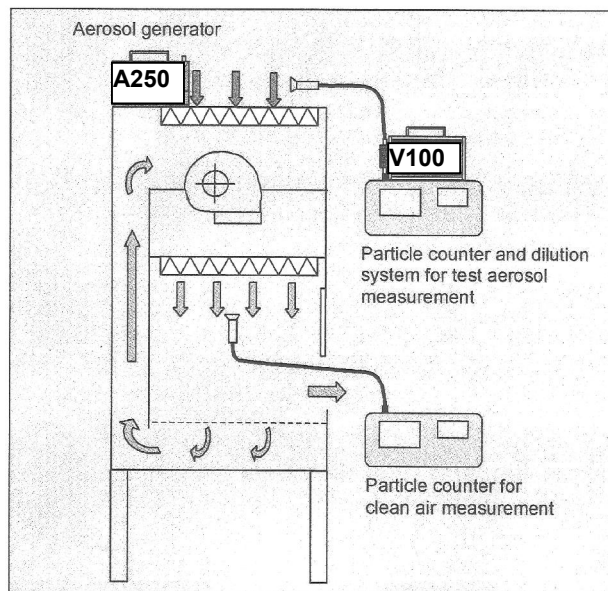
The dilution systems V100 and V10 are widely used for measuring tasks where by means of single particle counting techniques highly concentrated aerosols are investigated with regard to particle size distributions or limits of particle size specific concentrations.

They are highly suitable for clean room and environment validation tests, valuation measurements of filter and filter media efficiency and separator efficiency tests as well, because they make it possible to measure upstream and downstream particle size concentration and distribution with only one particle counter.

Key applications are:

- Test aerosol investigation with high resolution particle counter
- Reproducible characterization of air filter/separator efficiencies
- Validation of challenge aerosols for validation tests of clean rooms/Environments and laminar air flow boxes/benches

Arrangement of Aerosol Generator, Particle Counter and Dilution System for a Laminar Flow Box Validation Test:



## TECHNICAL SPECIFICATION

<b>Power Supply:</b>	9 V battery operation
<b>Counter Pressure:</b>	5 – 6 mbar
<b>HEPA-Filter:</b>	Filter efficiency 99,97 % @ 0.3 µm DOP Particle (ASTM D2986-71)
<b>Enclosure:</b>	Stainless Steel Enclosure
<b>Dimensions</b>	16 cm x 30 cm x 11 cm
<b>Weight:</b>	1,5 kg

## ACCESSORIES

**Included:** antistatistical tube to connect the particle counter, operation manual, calibration certificate

**Optional:** Aluminium device-suitcase