



Dilution system for large droplets up to 10 m

Description

The dilution of large droplets is particularly important when measuring highly concentrated droplet aerosols. Since large droplets are difficult to dilute, standard systems only work up to a size of 1 - 2 m. The newly developed dilution system LDD 10 (dilution factor 10) is the first system to dilute almost loss-free large droplets up to 10 m.

The good dilution factor of large droplets was tested with monodisperse DEHS droplets (oil) of different sizes. The results for the sizes 5 m and 7 m are shown in Table 1.

LDD 10:

Particle size	Number counts without dilution	Number counts with dilution	Dilution factor
5 µm	64475	6505	9.91
7 µm	32443	3063	10.59

Chart 1: Dilution of monodisperse DEHS droplets with LDD 10

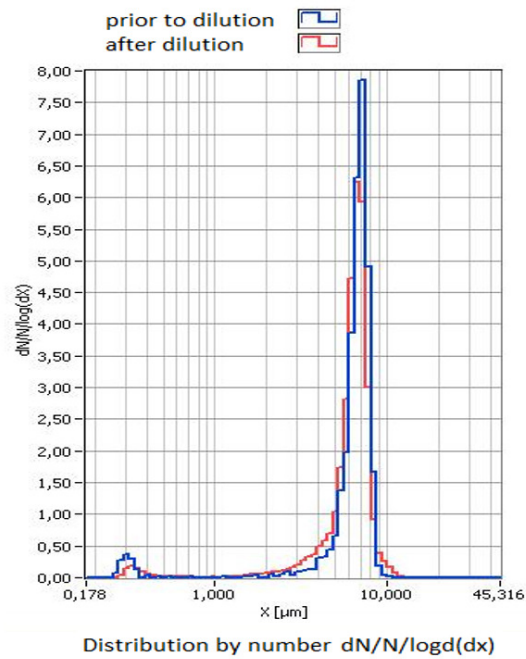


Fig. 1: Distribution of LDD 100 (7 m)

Benefits

- Defined dilution of large droplets of factor 10
- Proven dilution factor 10 and 100 for droplet sizes up to 7 μ m
- Easy connection with Promo® and welas® digital aerosol spectrometers
- Internal pump for on-site operation
- Insensitive to pressure fluctuations of ± 200 mbar
- Simple handling
- Robust, durable, low maintenance
- Cost effective

Applications

- Measurement of blow-by aerosols according to ISO 17536
- Dilution of compressed air
- Measurement of cooling lubricant aerosols

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