DC 10000





The DC 10000 consists of four cascaded special dilution systems with a dilution factor of 1:10. The DC 10000 dilution cascade has one aerosol inlet and four aerosol outlets. Depending on which aerosol outlet is connected to the measuring device, the aerosol with the dilution factors 1:10, 1:100, 1:1000, or 1:10000 are diluted.

The DC 10000 can be operated with all standard optical particle counters (OPC) according to ISO 12501-4 or optical aerosol spectrometers (OAS) according to ISO 12501-1. The DC 10000 can be used up to a particle size of approx. $5 \mu m$.

OPERATION PRINCIPLE

DILUTION CASCADE WITH ELECTRICAL OPERATING PUMP

Fig. 1: Functional principle

Particle-free air with the volume flow V_R circulates through an annular passage around the suction nozzle. Thus, according to Bernoulli, a volume flow V_{An} is generated in the suction nozzle.

The dilution factor V_F is calculated according to the formula:



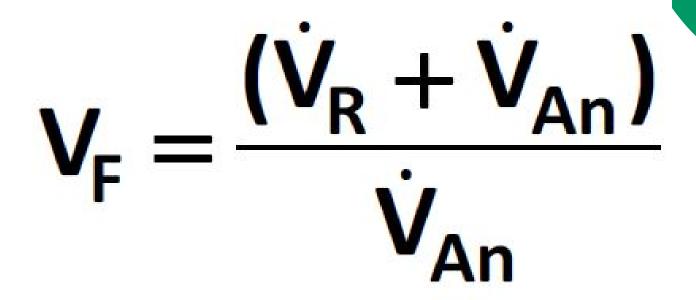


Fig. 3: Formula for the dilution factor V_{F} .

The DC 10000 needs no compressed air connection. So only an electrical power supply is necessary for operation.

Туре	Dilution factor* V _F	Pressure - resistant up to 10 bar	Chemically resistant	Heatable up to °C	dp_{max} in μ m	Compressed air 4 - 8 bar	Cascadable	Voltage
DC 100	10, 100				< 5			115 V / 230
DC 1000	10, 100, 1000				< 5			V 115 V / 230 V
DC 10000	10, 100, 1000, 10000				< 5			115 V / 230 V
KHG 10	10		x	150	< 20	x	х	115 V / 230
KHG 10 D	10	x	×	150	< 20	×	x	V 115 V / 230 V
PMPD 100	100		×	200	< 5	x		115 V / 230 V
PMPD 1000	1000		×	200	< 5	x		115 V / 230
VDD 10	1 - 10				< 10	×		V 115 V / 230 V
VKL 10	10				< 20	×	x	
VKL 10 E	10		×		< 20	×	x	
VKL 10 ED	10	×	×		< 20	×	x	
VKL 10 V	10				< 20	x	x	
VKL 27	27				< 10	x	x	
VKL 100	100				< 2	×	x	

Table 2: Characteristics dilution systems



Table 1: Technical characteristics of Palas® dilution systems



BENEFITS

- No compressed air connection; only electrical power supply 115 230 V, 50 60 Hz
- Dilution factors 1:10, 1:100, 1:1,000, 1:10,000
- The user can perform a simple functional test on-site
- The dilution systems can be combined with all common particle counters
- The dilution systems from Palas are characterized unambiguously. This is documented with a calibration certificate for each individual device.

NORMS AND CERTIFICATES

DIN 1946-4, EN 1822, ISO 12501-1, ISO 14644-3, ISO 29463, SWKI VA 105-1



DATASHEET

Volume flow (clean air)	72 – 180 l/min			
Volume flow (suction flow)	2 – 5 l/min			
Power supply	115 – 230 V, 50/60 Hz			
Isokinetic suction nozzles	2 – 5 l/min, 15 – 37 l/min			
Maximum particle size	< 5 μm			
Dilution factor	1:10,1:100,1:1,000,1:10,000			
Dimensions	Approx. 500 • 230 • 150 mm (H • W • D)			
Weight	Approx. 10 kg			



APPLICATIONS

- Aerosol dilutions in filter media test systems, e.g. MFP 1000 HEPA and MFP Nano plus according to EN 1822 and ISO 29463
- Aerosol dilution in clean rooms
- Aerosol dilution in the operating room to determine the level of protection according to SWKI VA 105-1 and DIN 1946-4
- Recovery tests according to ISO 14644-3



Mehr Informationen: https://www.palas.de/en/product/dc10000