PMPD 100



The PMPD 100 dilution system is according to the ejector principle specially developed for the PMP application or the PMP measurement chain.

In the PMPD 100, volatile particles are vaporized using a thermodilution up to 200 °C. The dilution factor is 1:100 (see Figure 1). A dilution factor 1:100 (see Figure 1) is achieved by cascading 2 x dilution factor 10.

OPERATION PRINCIPLE

DILUTION SYSTEM EJECTOR WITH DILUTION FACTOR 1:100

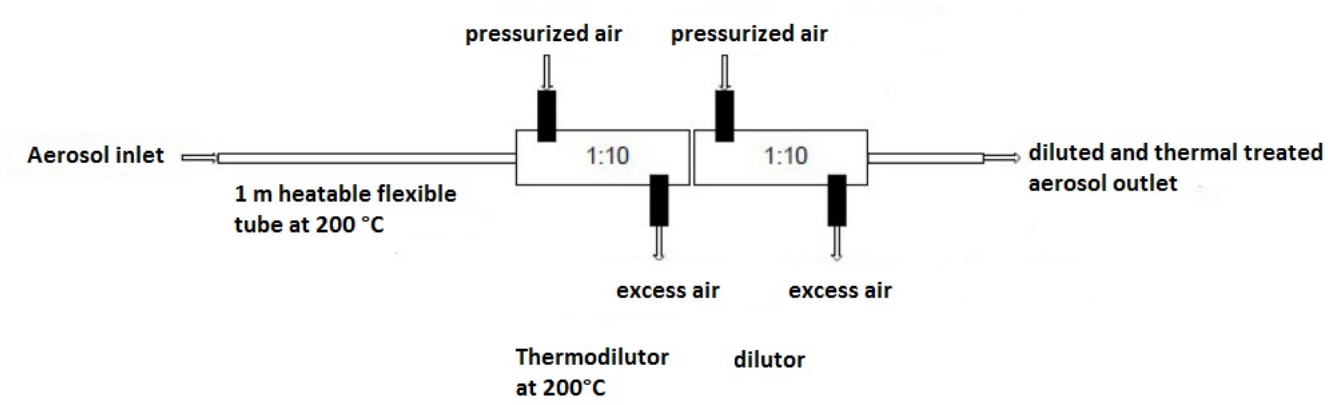


Fig. 1: PMPD 100

The PMPD dilution systems offer all the advantages of the other Palas® product series of ejector diluters, e.g., a temporally constant dilution factor.

The suitability of the PMPD 100 for the PMP measurement chain was confirmed at the METAS Institute in Switzerland (see measurement report no. 235-10383[1]).

Representative dilution of the particle size distribution of the Palas® dilution systems by cascading

VDI report no. 1973 from 2007 proved metrologically that a reproducible aerosol dilution is possible with the Palas® dilution systems down to V_F 100,000.

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

Table 2: Characteristics dilution systems

Table 1: Technical characteristics of Palas® dilution systems

[1] measurement report no. 235-10383: https://www.palas.de/en//file/1j1381/application/pdf/Measurement+Report+No+235-10383+PMPD+100.pdf

Benefits

- The dilution systems from Palas® are characterized unambiguously. This is documented with a calibration certificate for each individual device
- The dilution steps for the PMPD series deliver a temporally constant, representative dilution with the factors 100 and 1000
- Low compressed air consumption (e.g., just 96 l/min. for a dilution factor of 1000 with four VKL 10 systems)
- The dilution steps are combinable with all common particle counters

DATASHEET

Volume flow (clean air)	36 – 90 l/min (heated to 200 °C)
Volume flow (suction flow)	2 – 5 l/min
Power supply	115 – 230 V, 50/60 Hz
Isokinetic suction nozzles	2 – 5 l/min
Maximum particle size	< 10 μm
Thermodynamic conditions for dilution	400°C
Compressed air supply	4 – 8 bar
Dilution factor	1 : 100
Special features	Evaporation of volatile elements for exhaust emission measurements according to VPR Calibration Procedure AEA/ED 47382/Issue 5 (Volatile Particle Removal Efficiency), chemical resistant, heated to 200 °C

Applications

- Dilution system for PMP measurement chain

Mehr Informationen:
https://www.palas.de/en/product/pmpd100