



Intercomparison of Condensation Particle Counter

Project No.: CPC-2019-3-26

Basic information:

Location of the quality assurance: TROPOS, lab: 130

Delivery date: -

Setup in the laboratory: July 19, 2019

Comparison period: July 19, 2019

Principal Investigator	Home Institution	Participant	Instrument
	TROPOS Permoserstraße 15 D-04318 Leipzig	---	DE-TROPOS Referenz-CPC; TSI CPC Model 3772 # 3772141701

TROPOS Reference Instrument: Electrometer: TSI model 3068B
70838596

Additional Equipment:

- Bubble flow meter 'Gilibrator', Gilian (Sensidyne)

Summary of Intercomparison:

Pre-status:

The TSI CPC Model 3772 was in good condition.

Final status:

The TSI CPC Model 3772 passed the quality standards of ACTRIS and GAW.

On July 19, 2019, the DE-TROPOS Referenz-CPC 3772 #71011008 participated in the TROPOS ACTRIS-2 CPC-Workshop.

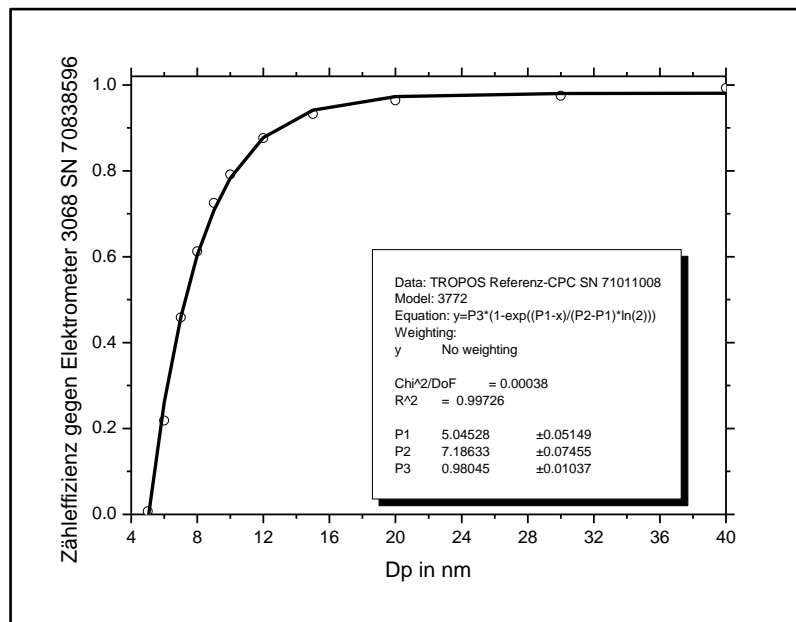
1. Status of the wick: The wick was clean.
2. Status of the CPC: The CPC was working properly.
3. Final CPC-Workshop: The TSI CPC Model 3772 reached 99% efficiency at 40 nm. The Dp50 is at 7.2 nm. The CPC efficiency curve corresponds to the standard.

Status of the candidate:

<i>CPC status</i>	Pre-Status	Final Status
<i>power/status</i>	LED green	LED green
<i>saturator temp</i>	39 °C	39 °C
<i>condenser temp</i>	22 °C	22 °C
<i>optics temp</i>	40 °C	40 °C
<i>cabinet temp</i>	42.5 °C	41.8 °C
<i>ambient pressure</i>	100.2 kPa	100.1 kPa
<i>orifice pressure</i>	83.8 kPa	83.3 kPa
<i>nozzle pressure</i>	2.5 kPa	2.5 kPa
<i>laser current</i>	40 mA	40 mA
<i>liquid level</i>	full	full
<i>Aerosol flow (l/min)</i>	1.003 l/min	1.002 l/min

Final status: 19.07.2019

Dp in nm	counting efficiency
40	0.99
30	0.97
20	0.96
15	0.93
13	0.88
10	0.79
9	0.73
8	0.61
7	0.46
6	0.22
5	0.01

**Figure 01:** CPC efficiency curve based on Electrometer TSI 3068B. Serial number: 70838596



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut



Kalibrierschein

Calibration Certificate

Gegenstand:
Object: Aerosol Elektrometer
ID-Nummer: TSI_3068B_70838596

Hersteller:
Manufacturer: TSI Incorporated

Typ:
Type: 3068B

Kennnummer:
Serial No.: 70838596

Auftraggeber:
Applicant: AG 3.23 - Herr Nowak, Tel.: 3228

Anzahl der Seiten:
Number of pages: 4

Geschäftszeichen:
Reference No.: PTB AG 2.11-1461323527-0327

Kalibrierzeichen:
Calibration mark: 20790 PTB 16

Datum der Kalibrierung:
Date of calibration: 22.04.2016

Im Auftrag:
On behalf of PTB: Braunschweig, 04. Mai. 2016

Im Auftrag:
On behalf of PTB:

Siegel
Seal



391 00B n

Dr. B. Schumacher

C. Rohrig

Kalibrierscheine ohne Unterschrift und Siegel haben keine Gültigkeit. Dieser Kalibrierschein darf nur unverändert weiterverbreitet werden. Auszüge bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.
Calibration certificates without signature and seal are not valid. This calibration certificate may not be reproduced other than in full. Extracts may be taken only with permission of the Physikalisch-Technische Bundesanstalt.