



## Intercomparison of Condensation Particle Counter

Project No.: CPC-2017-4-5

### Basic information:

**Location of the quality assurance:** TROPOS, lab: 130

**Delivery date:** -

**Setup in the laboratory:** October 9, 2017

**Comparison period:** October 9, 2017

Principal Investigator	Home Institution	Participant	Instrument
G. Löschau	Staatliche Betriebsgesellschaft für Umwelt und Landwirtschaft (BfUL) Altwahnsdorf 12, 01445 Radebeul Telefon: +49 351 8312-501 www.smul.sachsen.de/bful	---	DE-BFUL MPSS Annaberg; TSI CPC Model 3772 # 3772112102; Prüf-CPC

**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 October 9, 2017, the DE-BFUL MPSS Annaberg 3772 #3772112102; Prüf-CPC 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 8.6 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>	33.2 °C	33.7 °C
<i>ambient pressure</i>	101.0 kPa	100.5 kPa
<i>orifice pressure</i>	73.5 kPa	76.2 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>	0.978 l/min	0.985 l/min

Final status: 09.10.2017

Dp in nm	counting efficiency
40	0.99
30	1.01
20	0.91
15	0.85
13	0.82
11	0.74
9	0.57
7	0.20
5	0.00

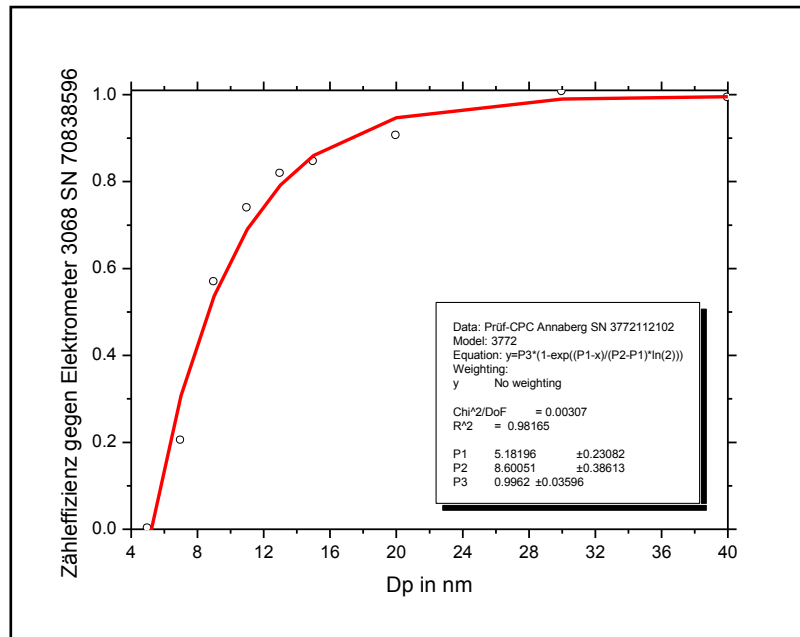


Figure 01: CPC efficiency curve based on Electrometer TSI 3068B. Serial number: 70838596



## 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:

391 008 n



Dr. B. Schumacher

Siegel  
Seal




C. Rohrig

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