

Trusted solutions for cloud and aerosol measurements

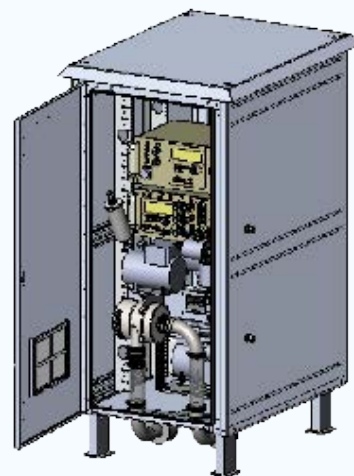
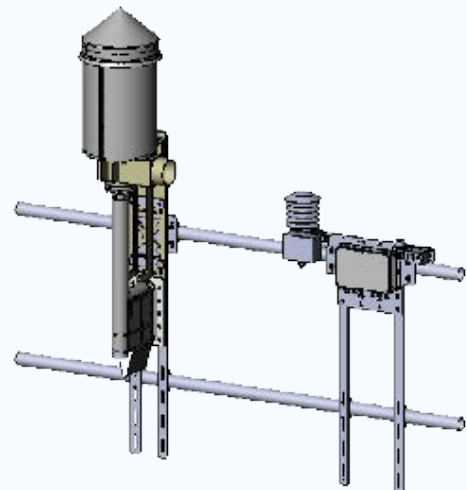
GCVI Ground-based Counterflow Virtual Impactor Inlet

Model 1205 & 1205-TII

Explore aerosol-cloud interactions with the ease of ground operation. The GCVI is the ideal tool for probing the detailed properties of actual CCN within real clouds.

Features:

- Peer-reviewed & characterized CVI Inlet
- Droplet cut size diameters between 7 and 15 μm
- 15 lpm total instrument sample flow
- Fully automated for long-term operation
- Weatherproof, rugged design
- Automatic power on/off with cloud arrival/departure
- Wind tunnel lid opens & closes automatically
- Integrated rain/snow sensor
- Optional Total and Interstitial Inlets with automatic switching
- Integrated anti-icing systems
- Removable and easily cleaned CVI tip assembly

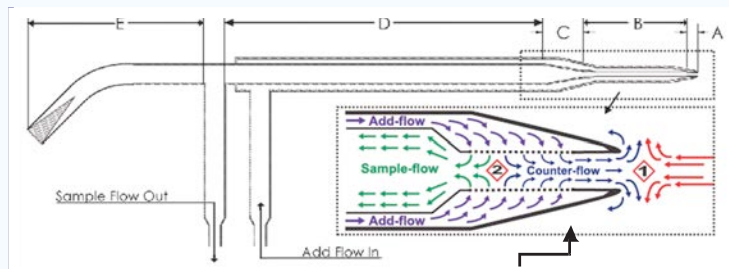


BRECHTEL

Brechtel Manufacturing, Inc.
1789 Addison Way
Hayward, CA 94544
510-732-9723
sales@brechtel.com

Dedicated to furthering scientific discovery

Schematic of CVI inlet used in the GCVI



Inset detail shows tip assembly air flows.

Specifications

Parameter	Value
Droplet diameter cut size range	7-15 μm
Add flow rate range to tip	16-25 lpm
Add flow temperature range	20-45 °C
Range of counterflow air flow rate	1-10 lpm
Constant air sample flow rate	15 lpm
Total air sample flow available to instruments	15 lpm
Compressor, vacuum pump and blower power (max)	2000 watts @ 230 VAC
Anti-icing power (max, provided by GCVI)	1160 watts @ 28 VDC
Other power (external laptop)	50 watts @ 115 VAC
Weather-proof enclosure size	25"W x 50"H x 34"D
Weather-proof electronics enclosure weight	220 lb/99.8 kg
Total system weight	290 lb/131.5 kg
Wind tunnel inlet height (tower mounted)	2 to 10 meters AGL
Wind tunnel flow rate	750-1,500 lpm
Wind tunnel throat velocity range	50-100 m/sec
System footprint size	2x2 meters
Operating temperature range	-20-35 °C
Operating pressure range	500-1,000 mb (abs)

Publications:

Linn Karlsson, Radovan Krejci, Makoto Koike, Kerstin Ebell, and Paul Zieger. (2021). A long-term study of cloud residuals from low-level Arctic clouds, Atmos. Chem. Physics 21(11): 8933-8959, doi:10.5194/acp-21-8933-2021.

T. Shingler, S. Dey, A. Sorooshian, F. J. Brechtel, Z. Wang, A. Metcalf, M. Coggon, J. Mulmenstadt, L. M. Russell, H. H. Jonsson, and J. H. Seinfeld (2012). Characterisation and airborne deployment of a new counterflow virtual impactor inlet, Atmos. Measurement Techniques, 5, 1259-1269, 2012.



Photo of Total and Interstitial Inlets



Photo of CVI inlet with wind tunnel assembly installed.

Applications

- Mountain station cloud sampling sites
- Aerosol-cloud interactions
- Cloud condensation nucleus studies
- Cloud microphysics & radiation studies
- Pollution impacts on clouds
- Visibility impacts of fogs
- CCN & precipitation feedbacks
- Global climate model CCN datasets
- Weather modification studies

How to Order

Part No.	Description
1205 - 115V or 1205 - 230V	Ground-based CVI Sampling Inlet System with Model 1204 CVI inlet system
1205-TII-115V or 1205-TII-230V	Ground-based CVI with Total and Interstitial Inlets
Options:	
1221	Automated Slider 3-Way valve in compact chassis
GCVI-Kit	Maintenance Kit for 1205 GCVI
1206	Total and Interstitial Aerosol Inlet System for existing GCVI
CVI-Tip	Tip Assembly for 1204 CVI

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Email us at sales@brechtel.com

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*Some products may be shown with optional accessories, which are sold separately. Items shown may not be to scale.