

# BRECHTEL

**Solutions for your  
research challenges**

## ISO Isokinetic Inlet System

**Model 1200**



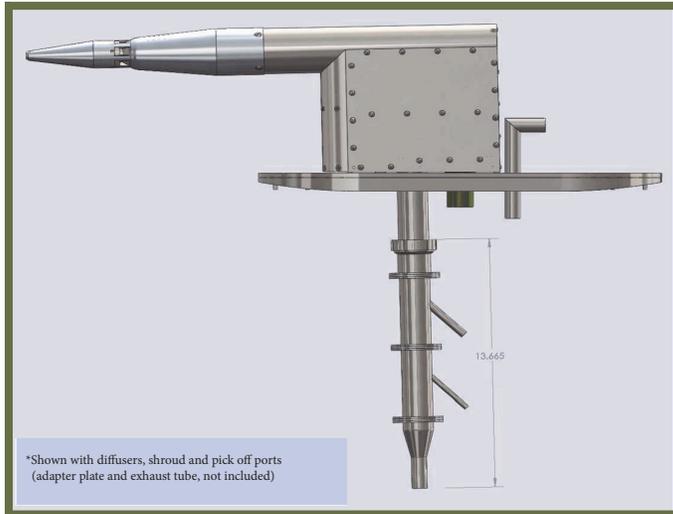
When you need to get a representative aerosol sample to your instruments on an aircraft or mobile platform

### Features:

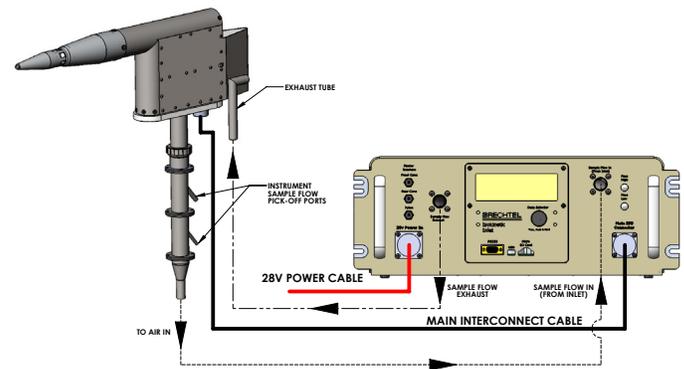
- Fully automated, hands-off operation
- Transmission efficiency >90% for particle aerodynamic diameters <10  $\mu\text{m}$
- Wind tunnel tested and validated
- Inlet sampling manifold includes instrument sample pickoffs
- Custom mounting solutions that account for aircraft angle of attack (optional)
- Aerodynamic, twin-diffuser prevents turbulent boundary layer separation to minimize particle losses
- Low power blower to draw and actively control 150 lpm sample flow (up to 100 lpm of sample air flow for instruments)
- Anti-icing system

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# Providing Aerosol Measurement Solutions



## Schematic of the ISO Inlet



ISOKINETIC INLET ASSEMBLY SCHEMATIC

## Specifications

Parameter	Value
Particle aerodynamic diameter size range	0.005-10 $\mu\text{m}$
Sample flow at diffuser tip (@100 m/s)	300 lpm
Sample flow to cabin	150 lpm
Maximum sample flow to instruments	100 lpm
Control and DAQ frequency	1 Hz
Anti-icing power (supplied by platform)	900 watts @ 28 VDC
Chassis power (supplied by platform)	56 watts @ 28 VDC
Rack-mountable electronics chassis size	19 x 6.5 x 12 in 48.25 x 16.5 x 30.5 cm
Electronics chassis weight	20 lb/9 kg
Total system weight	70 lb/31.75kg
Operating temperature range	-40 to 45 °C
Operating pressure range (absolute)	200-1,000 mb

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

### Publication:

R. Zaveri, C. M. Berkowitz, F. J. Brechtel, M. K. Gilles, J. M. Hubbe, J. T. Jayne, L. I. Kleinman, A. Laskin, S. Madronich, T. B. Onasch, M. S. Pekour, S. R. Springston, J. A. Thornton, A. V. Tivanski, and D. R. Worsnop (2009). [Nighttime chemical evolution of aerosol and trace gases in a power plant plume](https://doi.org/10.1029/2009JD013250), J. Geophys. Res., 115, D12304, doi:10.1029/2009JD013250.

## Applications

- Plume studies of power plants
- Megacity plume studies
- Volcanic ash studies
- Below cloud aerosol studies for cloud condensation nucleus research
- Visibility reduction studies
- Climate change research
- Vertical profiling of aerosols
- Air quality research
- Mobile laboratories

## How to Order

Part No.	Description
1200	Isokinetic Sampling (ISO) Inlet System
ISO-SP025	Sample pick-off port with 1/4" OD tube
ISO-SP0375	Sample pick-off port with 3/8" OD tube
ISO-SP05	Sample pick-off port with 1/2" OD tube
ISO-90	Ninety degree bend for 1.5" OD main sample manifold line at mounting plate
ISO-Kit	Maintenance Kit for 1200 ISO