



SENTRY™ 1000

MANUAL Exhaust Controller FOR 200mm WAFER TRACKS

Hardware

Innovative Air-Flow Control

The SENTRY 1000 is a point of use exhaust controller for semiconductor process tools. Designed for either mass flow or static pressure (vacuum) process control, the SENTRY 1000 prevents fluctuations in house exhaust from becoming fluctuations in the process environment. The SENTRY 1000 is ideal for coat, develop, APCVD and hot plate applications, providing a stable, consistent exhaust flow resulting in a uniform process. The SENTRY 1000 provides a stable exhaust environment at the process even in the presence of wide fluctuations in house exhaust. The SENTRY 1000 is the worldwide standard for exhaust control on coat and develop tracks.

Breakthrough Technology

The heart of the SENTRY 1000 control system is a “floating” piston. Three forces work on the piston to maintain a constant process pressure/flow: gravity, clean room pressure and the process pressure itself. The “floating” piston reacts within 50 milliseconds to changes in house exhaust, effectively providing a consistent environment for every wafer processed.

Local Exhaust Flow Protection

Any configuration of the SENTRY 1000 is available with a booster fan. The vacuum generated by the booster fan creates a localized pressure zone to power the SENTRY 1000. By providing an independent power source, the booster fan ensures proper functionality of the unit, protecting the process without challenging the facility exhaust system.

SENTRY™ 1000 Manual
Exhaust Controller



Process Benefit

- > Pressure control yields improved coating, CD control and particle performance
- > Fast response time eliminates:
 - > Cross-Talk
 - > Back-streaming
- > Accurate process pressure control, +/- 3% of actual set point
- > Reliable: Simple design powered by airflow. Eliminates reliance on electrical supply

Features

- > Simplicity – single moving part
- > Flexibility to match process
- > Response time measured in milliseconds
- > Stable exhaust environment

Primary Applications

- > Coat
- > Develop
- > Hot Plate
- > APCVD

Materials Compatibility

Process environments often involve high temperatures, abrasives, solvent and corrosive exhaust. Brooks Automation manufactures the SENTRY 1000 only utilizing materials that are both process compatible and economical.

Manual SENTRY 1000 Specifications

- Operating range:** -0.1" to -1.8" of water column (-25 to -448 Pa)
- Accuracy to set point:** The greater of ± 3% or ±0.02" of water column (±5 Pa)
- Response time:** 50 milliseconds to fluctuations of 100%
- Materials (wetted):** Stainless Steel, Teflon, Polyethylene, and Epoxy
- Power requirements:** 115 V, 60 Hz, 1.8 A, single phase, or
Booster fan (option) 235 V, 50 Hz, 1.3 A, single phase
- Set point control:** Manual single set point

Facilities requirements

- Facility exhaust:** Minimum 2.5" of water column (622 Pa) without booster fan
 Maximum 5.0" of water column (1244 Pa)

Minimum requirement may increase based on actual line resistance, flow and process pressure requirements

- Mounting:** Horizontal

Flow Range	Input OD / Output OD	Dimensions (L x W x H)	Weight
6-60 CFM (170-1700 LPM)	3.0" / 4.0" (76 mm / 102 mm)	11" x 8" x 12.5" (279 x 203 x 318 mm)	22 lbs. (10 kg)
6-60 CFM (with booster fan)	3.0" / 3.0" (76 mm / 76 mm)	13.25" x 18.25" x 12.5" (337 x 464 x 318 mm)	36 lbs. (16 kg)
10-100 CFM (280-2800 LPM)	4.0" / 4.0" (102 mm / 102 mm)	10" x 12.3" x 19.75" (254 x 312 x 502 mm)	27 lbs. (13 kg)
10-100 CFM (with booster fan)	4.0" / 4.0" (102 mm / 102 mm)	14.25" x 21.25" x 17.25" (362 x 540 x 438 mm)	45 lbs. (20 kg)

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