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AirGard® Air Flow Monitors



ALNOR®
TSI Incorporated

AirGard® Lab Hood Monitors

Models 200/405

The AirGard Models 200 & 405 are simple, go/no-go lab hood monitors designed to warn users of unsafe conditions. The flush-mount Model 200 has a sleek appearance often preferred on new hoods while the surface-mount Model 405 is easy to install on existing hoods.



AirGard 200

Model 335

The AirGard Model 335 lab hood monitor surpasses the protection offered by go/no-go monitors like the Models 200 & 405. It features prominent LEDs to indicate hood status, a digital display of the actual measured face velocity and the ability to warn of unsafe high face velocities, increasing user confidence in lab hoods.



AirGard 405

AirGard 335

specifications

	AirGard 200/405	AirGard 335
display range	n/a	50–250 fpm (0.25–1.27 m/s)
alarm range	70–250 fpm (0.35–1.25 m/s)	50–250 fpm (0.25–1.27 m/s)
field set-up	single low velocity alarm set point	2 point velocity set-up
alarm set points	low	low and high
repeatability of alarm set point	±10% of reading or 10 fpm (0.05 m/s), whichever is greater	±10% of reading or 10 fpm (0.05 m/s), whichever is greater
alarm delays	10 seconds	user configurable through menu
relay output	1	2
remote alarm acknowledge	yes	yes
units	n/a	selectable (English & Metric)
display–visual	jumbo green LED: normal jumbo red LED: alarm	analog bar graph, jumbo LEDs red zone: alarm yellow zone: marginal green zone: normal (digital LCD can be enabled)
alarm indications	jumbo red LED and audible alarm (85 dB @ 4" [10 cm])	jumbo red LED and audible alarm (85 dB @ 4" [10 cm])
high flow alarm disable	n/a	yes
emergency purge	no	yes
horn silence	temporary and permanent	temporary and permanent
mounting	flush (200) or surface (405)	flush
operating temperature	55–86°F (13–30°C)	55–86°F (13–30°C)
storage temperature	-40–150°F (-40–65°C)	-40–150°F (-40–65°C)
power requirement	9V AC	9–30V AC/DC
instrument dimensions		
FRONT FACE PLATE	200: 4.75 x 3.25 x 0.5 in. (12.07 x 8.25 x 1.27 cm) 405: 6.0 x 3.13 x 1.75 in. (15.24 x 7.95 x 4.45 cm)	5.25 x 3.0 x 0.625 in. (13.3 x 7.62 x 1.59 cm)
REAR ENCLOSURE	200: 4.5 x 2.5 x 1.38 in. (11.43 x 6.35 x 3.5 cm)	3.0 x 2.0 x 0.5 in. (7.62 x 5.08 x 1.27 cm)
agency listings	CE	CE, UL

Specifications are subject to change without notice.

Laboratory chemical hoods are designed to limit exposure to hazardous chemicals during experiments and production by containing and exhausting generated vapors and gases. To do this, hoods exhaust large quantities of laboratory air. Yet, the velocity of air entering the lab hood is only on the order of 1 mph. Industry organizations agree-some method of verifying operation is needed to ensure user safety.

Similarly, biological safety cabinets direct air flows to protect the users from whatever agents are held and to protect these agents from contamination. Insufficient airflow can put the safety of workers at risk while tainting experiments. Again, performance must be monitored to maintain protection and to comply with industry standards.

But how can you reliably measure these low air velocities?

Enter Alnor. The line of AirGard® air flow monitors measures parameters of importance, face velocity in fume hoods or downflow/exhaust flow velocity in biological safety cabinets. Should airflows drop to potentially unsafe levels, the AirGard monitors will alert laboratory users so corrective actions can be taken.



AirGard 350-CEM



AirGard 315-BSC

Designed to meet intent of:	AirGard Lab Hood Monitors	AirGard Air Flow Monitors
ANSI Z9.5-2003 **3.3.3 Flow-Measuring Device for Laboratory Chemical Hoods** All hoods shall be equipped with a flow indicator, flow alarm, or face velocity alarm indicator to alert users to improper exhaust flow.	●	
NFPA 45-2000 **6.8.7 Measuring Device for Hood Airflow** **6.8.7.1** A measuring device for hood airflow shall be provided on each laboratory hood. **6.8.7.2** The measuring device for hood airflow shall be a permanently installed device and shall provide constant indication to the hood user of adequate or inadequate hood airflow.	●	
SEFA 1.2-2002 **4.1.10** All hoods shall have some type of monitor for indicating face velocity or exhaust flow verification... A ribbon taped to the bottom of the sash is not acceptable.	●	
29 CFR 1910.1450 **Appendix A-National Research Council Recommendations Concerning Chemical Hygiene in Laboratories** **C. The Laboratory Facility** **4. Ventilaton** **(b) Hoods** …each hood should have a continuous monitoring device to allow convenient confirmation of adequate hood performance before use.	●	
NSF49-2002 **5.23 Alarms** **5.23.3 Type B exhaust alarm** …Audible and visual alarms shall be required to indicate a 20% loss of exhaust volume within 30 seconds…		●

Please refer to the actual standards for detailed information and to make the best interpretation of each standard.

AirGard® Air Flow Monitors

For Bio-Safety Cabinets and other Critical Environments



AirGard 315-BSC

Models 315-BSC

The AirGard Model 315-BSC is a simple, go/no-go monitor for critical airflows including the downflow of a bio-safety cabinet. By warning of poor bio-safety cabinet performance, the 315-BSC can increase staff protection while reducing experiment contamination.

Model 350-CEM

The AirGard Model 350-CEM goes a step beyond the Model 315-BSC. Its large LED and digital display of measured velocity give unrivaled information to users, making this monitor a powerful diagnostic tool.



AirGard 350-CEM

specifications

	AirGard 350-CEM	AirGard 315-BSC
bar graph display range	25–2,000 fpm (0.13–10.2 m/s)	n/a
alarm range	25–2,000 fpm (0.13–10.2 m/s)	25–2,000 fpm (0.13–10.2 m/s)
alarm delays	user configurable through menu	3 seconds
relay output	NC, NO	NC, NO
remote alarm acknowledge	yes	no
units	selectable (English & Metric)	n/a
display–visual	bar graph, red zone–alarm, yellow zone–marginal, green zone–normal, jumbo LEDs (digital LCD can be enabled)	jumbo green LED for normal jumbo yellow LED for warning jumbo red LED for alarm
alarm indications	jumbo red LED and audible alarm (85 dB @ 4” [10 cm])	jumbo red LED and audible alarm (85 dB @ 4” [10 cm])
high flow alarm disable	yes	n/a
horn silence	temporary and permanent	temporary and permanent
mounting	flush or kit	flush or kit
cable length	10 ft (3 m)	10 ft (3 m)
calibration	single point field calibration recommended	low alarm set point
operating temperature	50–95°F (10–35°C)	50–95°F (10–35°C)
storage temperature	-40–150°F (-40–65°C)	-40–150°F (-40–65°C)
power requirement	9–30V AC/DC	9–30V AC/DC
instrument dimensions		
FRONT FACE PLATE	5.25" x 3.0" x 0.625" 13.3 cm x 7.62 cm x 1.59 cm	5.25" x 3.0" x 0.625" 13.3 cm x 7.62 cm x 1.59 cm
REAR ENCLOSURE	3.0" x 2.0" x 0.5" 7.62 cm x 5.08 cm x 1.27 cm	3.0" x 2.0" x 0.5" 7.62 cm x 5.08 cm x 1.27 cm
accuracy	±5% of reading or 5 fpm, whichever is greater	±5% of set point
agency listings	CE	CE

Specifications are subject to change without notice.

AirGard® Air Flow Monitors

For Hazardous Environment Lab Hoods

Model 410-HE

The AirGard Model 410-HE lab hood monitor is designed to alert staff of unsafe conditions. The Model 410-HE is constructed of explosion-proof components, minimizing the odds of an incident.



AirGard 410–HE



specifications

	AirGard 410-HE Monitor
accuracy based on pressure switch specifications: note:	operating range: 0.07 to 0.15 inches water approximate dead band at minimum set point 0.04 in. water approximate dead band at maximum set point 0.06 in. water *higher range pressure switch available if needed*
operating range	0.07 to 0.15 inches water
alarm range	0.07 to 0.15 inches water
alarm relay output	nominal switching capacity 1A at 30 VDC, 0.5A at 125 VAC; form C relay
visual indicators	green LED = airflow OK red LED = low airflow
audible indicator	minimum audible rating 88db at 10 feet (3.05 m)
horn silence	temporary
mounting	kit
cable length	installer buys cables of proper length
calibration	low alarm set point
operating temperature	55° to 86°F (12.8° to 30°C)
power requirement	120 VAC (±10%), 60 Hz., 0.25 amp maximum
agency listings	UL

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