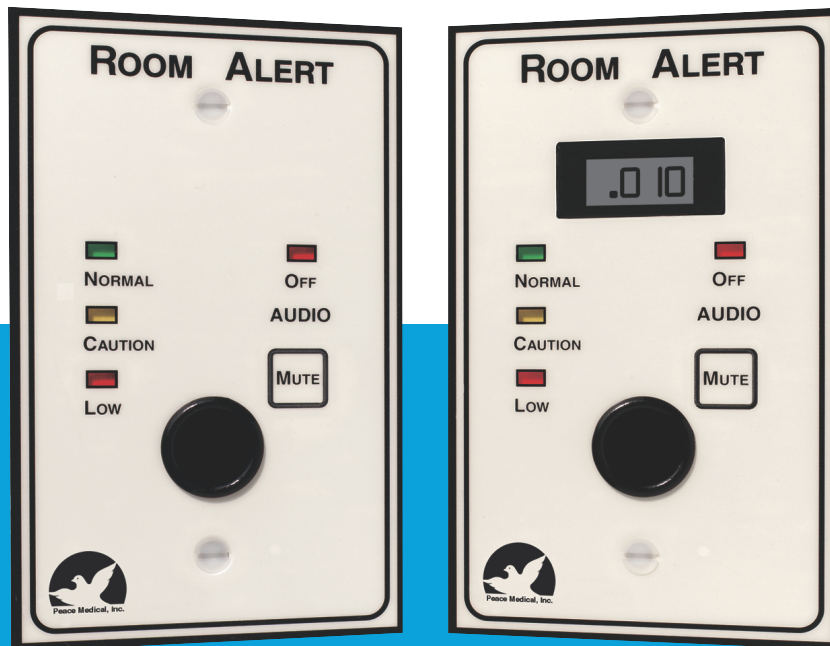


NEW SYSTEM CAPABILITIES INSIDE

Room Pressure Monitor/Alarm System



The cost-effective solution to monitoring negative or positive room air pressure continuously and accurately

SARS and the need for Emergency Preparedness have dramatically increased the number of negative pressure rooms required



Peace Medical, Inc.

Serving the Medical Community for over 40 Years

What is a Room Pressure Monitor/Alarm?

A Room Pressure Monitor/Alarm provides continual, accurate indication of positive or negative pressure in rooms where pressure maintenance is critical. When improper pressure or reversal of flow occurs, an audible and visible alarm is triggered to communicate the hazard. The visual portion of the alarm utilizes universal color coded displays to enable untrained personnel to properly respond to the indicated alarm status.

Why do you need them?

Hospitals and laboratories have long used pressure differentials between rooms (the flow of air from one room to another) as a method of protecting patients and staff from potentially dangerous chemicals and infectious pathogens. While this is an effective technique, it is often difficult to set up and maintain. The every day influences of building draft, temperature and filter loading cause these pressure differentials to fluctuate, and flow reversals to occur. Unintentional hazard conditions are thus created. Therefore, an effective monitoring system must be implemented to alert hospital/laboratory staff.

Are they cost-effective?

The appearance of SARS, tuberculosis and preparing for potential biological attacks have dramatically increased the number of negative pressure infectious isolation rooms hospitals must create and monitor. OSHA regulations dictate that rooms where potentially infectious patients are hospitalized, treated or receive cough-inducing procedures, must be checked for negative pressure on a daily basis. This can be accomplished by means of smoke tubes or air pressure sensing devices.

Experienced test and balance contractors estimate smoke tube testing takes an average of 15 minutes per room, per day. If hospital maintenance staff are used to perform these tests, the costs can exceed \$3000 per room, per year, and much more if an outside contractor is hired. When you factor in the cost of purchasing large quantities of smoke tubes, the cost rises further.

“Real Time” continuous Room Pressure Monitors need only be verified once a month according to CDC guidelines. The Monitors will pay for themselves in a matter of months while greatly reducing testing manhours, supply expenses, and the related OSHA paperwork.

Room Pressure Monitor/Alarms Feature:

- Measurement of dynamic pressure differential
- Adjustable time delay to allow for opening of doors
- Green, Yellow and Red universal status display
- Audible alarm with mute and automatic reset
- Pressure check valve that assures an alarm will sound if flow reversals occur
- Industrial quality for long term, low maintenance
- Low temperature sensors eliminate possible fire risk
- Remote alarm signal contact
- Analog contact to interface with building automation computers
- Easy installation and calibration with complete engineering support
- Two year warranty

Meets OSHA, ANSI and ASHRAE requirements

Typical Applications

Negative Rooms: Patient Isolation Rooms, Bronchoscopy Suites, Autopsy Rooms, Hospital Laboratories.

Positive Rooms: Operating Suites, Protective Patient Isolation Rooms, Radiology, Catheterization Labs.

Room Pressure Monitor/Alarm System

The RAM-2350 and RAM-2350-DKS Room Pressure Monitor/Alarm Systems provide a continuous, accurate indication of negative or positive airflow in areas where pressure differential is required. Pressure is read through a patented unidirectional check valve containing a mechanical seal that prevents the migration of contaminants into or out of the referenced area. *This design eliminates flow reversal problems common to many other types of room pressure devices.* Flow reversal can occur for a variety of reasons, turning a negative pressure room into a positive pressure room. The RAM unit will alarm when this situation occurs. Most devices on the market simply sense flow, they will not alarm when flow reversal occurs. This creates an extremely hazardous condition that will not be noticed until physical verification is performed.



RAM-2350



RAM-2350-DKS

Room Alert Monitors

The RAM Monitors utilize highly visible lighted displays (green, yellow, red) to indicate room pressure status. During a hazard condition, the red display lights and an audible alarm sounds. While the audible alarm may be manually muted, the red display remains lit until normal pressure has been restored (audible alarm will automatically rearm when normal pressure resumes). The audible alarm has an adjustable time delay (up to 90 seconds) to allow for staff entry and exit.

The Monitor system is installed through the wall between the negative pressure room and an adjacent area (see Diagram 1). The display plate mounts flush with the wall and is about the size of a normal light switch. The units can be installed and operational in less than an hour.

The RAM-2350-DKS includes a digital readout which displays the exact “Real Time” pressure differential in inches of water column.

Optional Remote Sensors

Both systems are available with Remote Sensors which are used when the Monitor/Alarm faceplate is desired at a different location. The Sensor allows pressure differential readings between the negative pressure room and an anteroom while condition status can be viewed at a nursing station, engineering room, hallway, etc.

SYSTEM FEATURES

Digital Display	The RAM-2350-DKS has a digital readout in wc to visually monitor the exact pressure differential and observe changes.
"Nurse Friendly" Design	Key Switch Mute allows monitored room to be used for non-infectious patients (RAM-2350-DKS only).
Tamper Resistant Construction	All adjustment pots are located beneath faceplate, avoiding most tampering.
Room Balance Pressure Maintenance	Available circuitry to automatically adjust supply or return dampers to maintain desired room pressure.
Computer Interface	RAMs interface with building maintenance computer systems.
Custom Applications	Peace Medical's engineers can easily address difficult areas to monitor. Custom nursing station panels are also available.

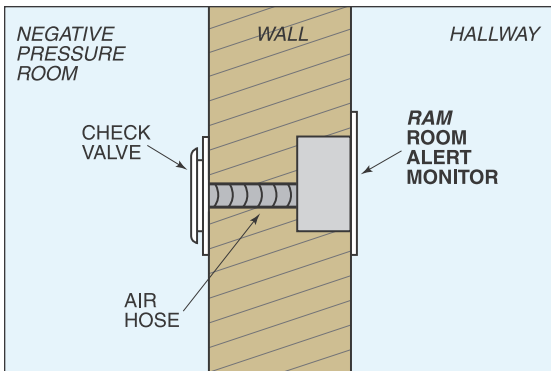


Diagram 1
RAM-2350
Typical Installation

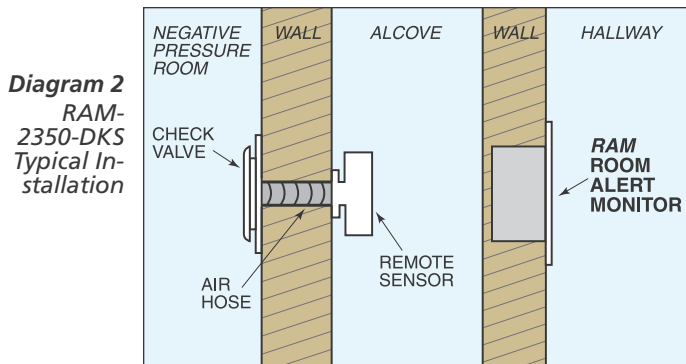


Diagram 2
RAM-2350-DKS
Typical Installation

RAM-2350-DKS "Nurse Friendly" Key Switch Mute

Negative pressure rooms equipped with Monitor/Alarms are occasionally used for non-infectious patients, where nurses generally prefer to keep doors open for better patient care. Pressure changes within the facility will affect the open room causing the alarm to intermittently sound. To prevent unwanted alarming, the RAM-2350-DKS (only) contains a "Nurse Friendly" Key Switch Mute. This switch enables the engineering or nursing staff to mute the system's audible alarm while a noninfectious patient occupies the room.

NEW RAM-2350-RAK Remote Alarm for Nurse's Station

The 2350-RAK Remote Alarm Kit provides a hard-wire connection between an individual room monitor and a remote panel monitor. The panel is typically located at or nearby a nurse's station. A visual and audible alarm will be signalled to the remote station from the corresponding room unit. A key switch is included with the kit to permanently mute the audible alarm.

Monitor/Alarm Specifications

Power:	24VAC, 50/60 Hz
Power Consumption:	6W
Room Pressure Ranges:	Adj. 0-260 FPM (0 to 0.01" wc) Adj. 0-585 FPM (0 to 0.05" wc)
Room Pressure Output:	RAM-2350-DKS: 2-10 VDC, 25mA (floating ground)
Accuracy Transducer:	±2% of Span Combined effects of conformity, hysteresis, dead band, repeatability
Indicators:	LEDs – Red, Yellow, Green; LCD Room Pressure Readout (RAM-2350-DKS only)
Adjustable Setpoints:	Low, Caution and Normal
Remote Alarm Contact:	Low room pressure, fail-safe, 1 AMP, N.O.
Sensor Only:	RAM-2350-DKS: Intrinsically Safe, meets UL 913, Class 1 Div. 1, Group C&D; Option: Corrosion resistant coating
Sensor:	RAM-2350: Built-in
Sensor Cable Length:	5 feet (RAM-2350-DKS only)
Audible Alarm:	Auto reset horn and LED mute indication, with up to 90 seconds adjustable time delay; optional key switch temporary mute available
Instrument Case:	Flush mount aluminum switch box, 3" L x 2" W x 2.5" D
Room Wall Depth:	4" to 6" deep or 6" to 10" deep
Standards:	ANSI and ACGIH recommended "Real Time" room pressure measurement, alarming within the recommended .001" to .002" wc range.



Check Valve

The RAM System utilizes a patented, unidirectional check valve that is designed to eliminate problems associated with hazardous flow reversal common to other systems.

Check Valve Specifications

Body Material:	Carbon steel with epoxy coating
Check Valve Material:	Polyimide disc; temperature range of Material: -269° to 400° C; yield strength of 10,000 psi
Chemical Resistance:	Paraformaldehyde gas and ethylene oxide gas (standard decontamination gas)
Ranges:	0.1" to 0.001" wc normal differential pressure (RPC-1) 2.0" to 0.1" wc high differential pressure (RPC-2)

Room Pressure Monitor/Alarm System Ordering Information

Catalog No.	Description
RAM-2350	Room Alert Monitor – complete with all components required to install and operate system
RAM-2350-DKS	Digital Readout Room Alert Monitor with alarm mute Key Switch – complete with all components required to install and operate system
Room Balance Capability	Automatic Damper Control Systems available to maintain a desired room pressure differential
RAM-2350-RAK	Remote Alarm Kit – allows hard-wiring of RAM-2350-DKS to a remote panel (i.e. nurse's station) generating a visual and audible alarm at that location. Includes key switch to mute audible alarm.

Call for more information and ask about a FREE thirty day Alert Monitor trial evaluation!



Peace Medical, Inc.

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Related Products Available From Peace Medical

- HEPA Filter Negative Pressure Room Conversion Systems, ceiling or floor configurations
- Fume Hood and Biosafety Cabinet Monitor/Alarms
- HEPA Filter Infectious "Source Control" Isolation and Transport Systems



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Many states are mandating continuous monitoring of negative pressure rooms and operating suites

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