price | CRITICAL CONTROLS

Healthcare Solutions

Room Pressure Monitors and Controls

TOUCHSCREEN ROOM PRESSURE MONITOR

The Touchscreen Room Pressure Monitor (PMT) provides precise room pressure monitoring for critical spaces such as isolation rooms, operating rooms, and compounding pharmacies.

The PMT meets both the ASHRAE 170 Healthcare Ventilation Standard and the USP 800 and USP 797 Hazardous Drugs - Handling in Healthcare Settings requirements. Using an innovative contamination resistant pressure sensor, the PMT can accurately measure room pressure without risk of degradation over time. The PMT utilizes native BACnet MS/TP communication to seamlessly connect into your building management system. The PMT is BTL certified, providing simple yet dependable network integration. The PMT measures the differential room pressure through the low-profile room pressure sensor (RPS) assembly. The PMT's sleek, modern design and intuitive menu system ensures ease of set-up and use.

APPLICATIONS

Airborne Infectious Isolation (AII) and Protective Environment (PE) rooms

- Meets ASHRAE 170 Healthcare Ventilation Standard monitoring requirements

Operating rooms

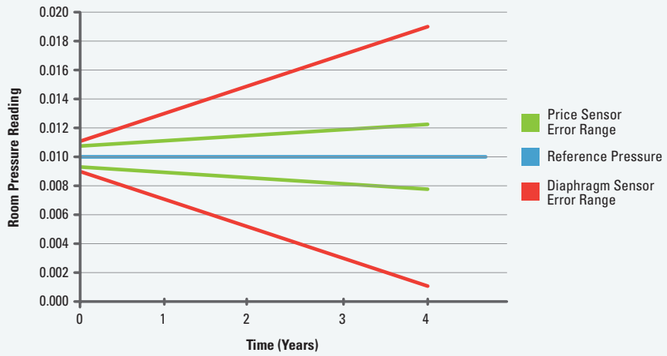
- Meets ASHRAE 170 Healthcare Ventilation Standard monitoring requirements

Pharmacy: Harmful drug and compounding buffer rooms

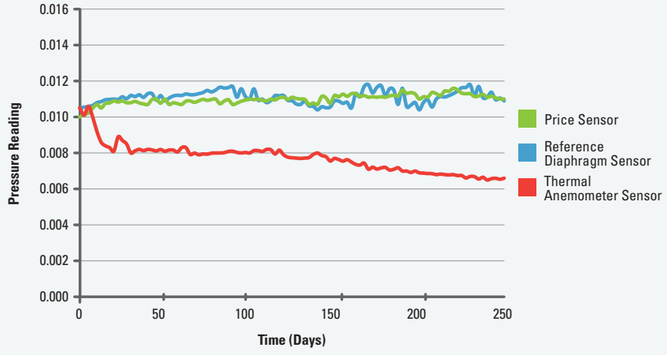
- Meets USP 800 and USP 797 Hazardous Drugs - Handling in Healthcare Settings requirements

SENSOR TECHNOLOGY

Comparison of Price sensor to diaphragm sensor technology.
Comparison of published accuracies.



Comparison of Price sensor to thermal anemometer sensor technology.
Effects of a lint and dust saturated environment.



PRODUCT FEATURES

PMT Features

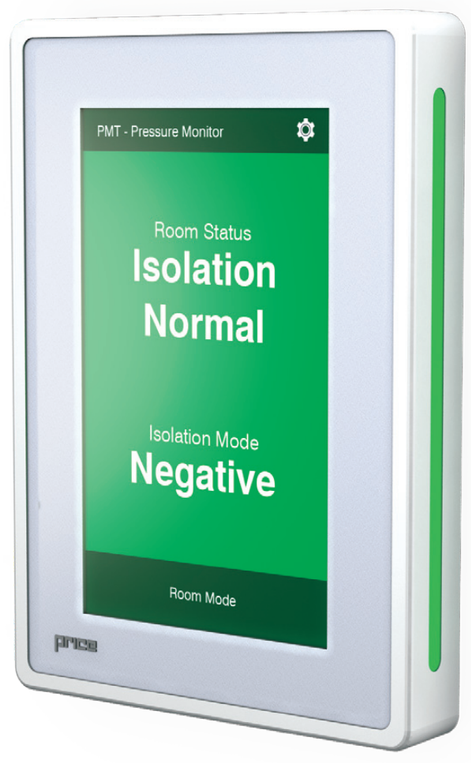
- Maintenance free pressure sensor
- Native BACnet MS/TP
- High resolution 480x800 touchscreen display
- Multi-stage surge protection against voltage spikes on 24 VAC input
- Audible and visual alarms
- LED side bars that offer 180 degree viewing of current room status
- Multi-level password protected menus
- Setup Wizard – walk through setup of PMT when first powered up
- Fire retardant, antimicrobial ABS case

PMT Options

- Door Switches can be combined with the PMT, creating allowances for the alarms to be disabled when doors are opened meeting the ASHRAE 170 requirement for preventing nuisance alarms
- Room Mode Key Switch enables rooms to be easily changed from isolation to setback mode in VAV systems
- Analog pressure output
- Alarm relay contact

RPS Features

- Maintenance free
- Simple connections using plug and play RJ-12 jack
- Stainless steel louvered wall plate
- Indicator LED shows proper connection



TOUCHSCREEN ROOM PRESSURE MONITOR (PMT)

ROOM MODE KEY SWITCH

ROOM PRESSURE SENSOR (RPS)

ISOLATION ROOM SOLUTIONS

A dynamic offset room pressure control strategy is created by utilizing volumetric tracking control, with the added feature of adjusting the airflow offset based on actual room pressure as measured with the through-wall sensor. This ensures the desired pressure differential is maintained throughout the life of the room.

GENERAL REQUIREMENTS

ASHRAE 170 Section 7.1-7.2

- Minimum differential pressure of 0.01 in.w.c. (2.5 Pa).
- Permanently installed device(s) to continuously monitor the differential pressure.
- Visual indication when differential pressure is not maintained.
- Switch of pressure relationships between spaces from positive to negative, and vice versa, shall not be permitted.
- Minimum of 12 air changes per hour.
- Air changes can be reduced when the space is unoccupied, provided that the required pressure relationship is maintained.

ROOM TYPES

Airborne Infectious Isolation (AII) rooms shall be at a negative pressure with respect to the corridor or common space.

Protective Environment (PE) rooms shall be at a positive pressure with respect to the corridor or common space.

Combination Airborne Infectious Isolation/Protective Environment (AII/PE) rooms shall maintain one of the following pressure relationships:

1. The anteroom shall be at a positive pressure with respect to both the AII/PE room and the corridor or common space.
2. The anteroom shall be at a negative pressure with respect to both the AII/PE room and the corridor or common space.

Room Pressure Controller

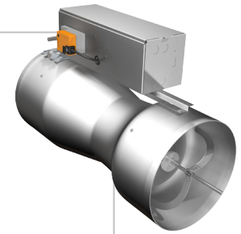
- Native BACnet MS/TP (BTL Listed)
- Controls differential pressure between spaces (up to 2)
- Control of up to 4 valves or terminals
- Temperature and humidity control

Thermostat

- LCD or blank face options
- Full setup and balancing functions
- Humidity sensing option

Exhaust Venturi Valves

- Electronic airflow feedback prevents dust/lint contamination from degrading airflow reading
- Medium (0.6 to 3.0 in.w.c.) or low (0.3 to 3.0 in.w.c.) pressure operation
- Characterized and calibrated using NIST traceable equipment
- Analog operating pressure feedback



Supply Terminal Unit

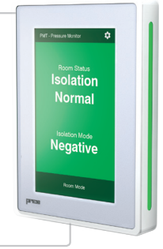
- Capacities ranging from 50 – 8,000 cfm in 11 sizes
- Performance certified in accordance with the AHRI 880 certification program
- SP300 multipoint flow sensor designed to maintain control accuracy independent of field installation conditions

Room Pressure Sensor

- Maintenance and calibration-free sensor technology
- Accurate to 3% of reading + 0.0008 in.w.c. (0.02 Pa)
- Designed to prevent buildup of airborne particulates

Touchscreen Room Pressure Monitor

- Elegantly designed with the industry's highest resolution
- Innovative side-bar room status indicator
- BTL certified for reliable BACnet integration
- Available pressure alarm delays to help prevent nuisance alarms



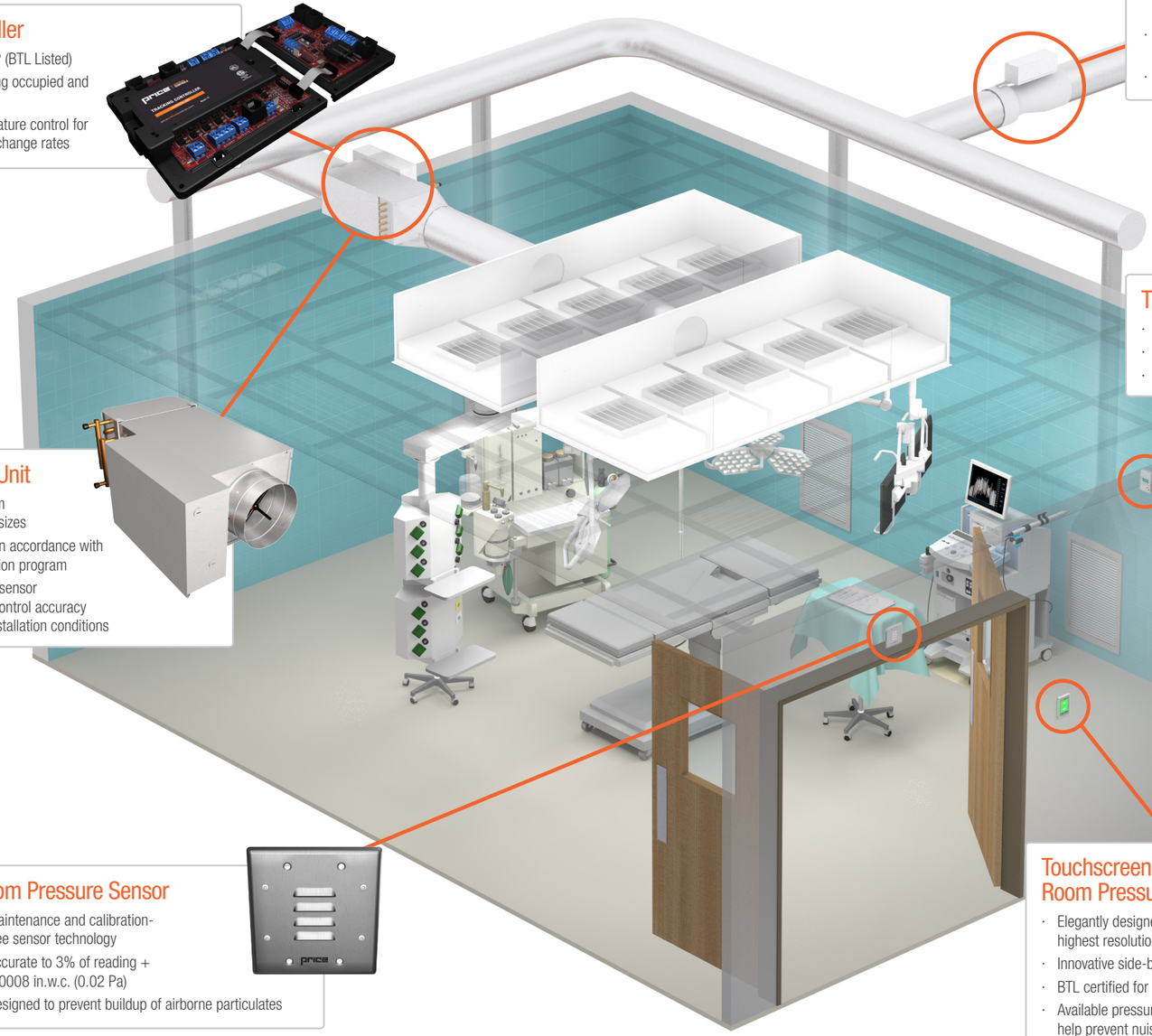
OPERATING ROOM SOLUTIONS

Volumetric offset room pressure control is one of the most common and dependable approaches to controlling room pressure in operating rooms. Tracking pair VAV control is designed to maintain an offset between supply and exhaust valves to facilitate directional airflow control between adjacent spaces.

GENERAL REQUIREMENTS

ASHRAE 170 Section 7.4

- Room to maintain positive pressure with respect to all adjoining spaces at all times.
- Minimum differential pressure of 0.01 in.w.c. (2.5 Pa).
- Minimum of 20 air changes per hour.
- Air changes can be reduced when the space is unoccupied, provided that the required pressure relationship is maintained.
- If pressure-monitoring device alarms are installed, allowances shall be made to prevent nuisance alarms while doors are moving or temporarily open.

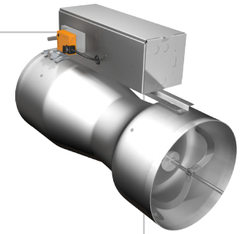


Tracking Controller

- Native BACnet MS/TP (BTL Listed)
- Maintains offset during occupied and unoccupied periods
- Discharge air temperature control for spaces with high air change rates

Exhaust Venturi Valves

- Electronic airflow feedback prevents dust/lint contamination from degrading airflow reading
- Medium (0.6 to 3.0 in.w.c.) or low (0.3 to 3.0 in.w.c.) pressure operation
- Characterized and calibrated using NIST traceable equipment
- Analog operating pressure feedback



Thermostat

- LCD or blank-face options
- Full setup and balancing functions
- Humidity sensing option

Supply Terminal Unit

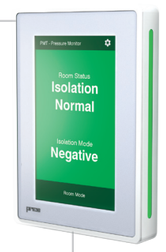
- Capacities ranging from 50 – 8,000 cfm in 11 sizes
- Performance certified in accordance with the AHRI 880 certification program
- SP300 multipoint flow sensor designed to maintain control accuracy independent of field installation conditions

Room Pressure Sensor

- Maintenance and calibration-free sensor technology
- Accurate to 3% of reading + 0.0008 in.w.c. (0.02 Pa)
- Designed to prevent buildup of airborne particulates

Touchscreen Room Pressure Monitor

- Elegantly designed with the industry's highest resolution
- Innovative side-bar room status indicator
- BTL certified for reliable BACnet integration
- Available pressure alarm delays to help prevent nuisance alarms



COMPOUNDING PHARMACY SOLUTIONS

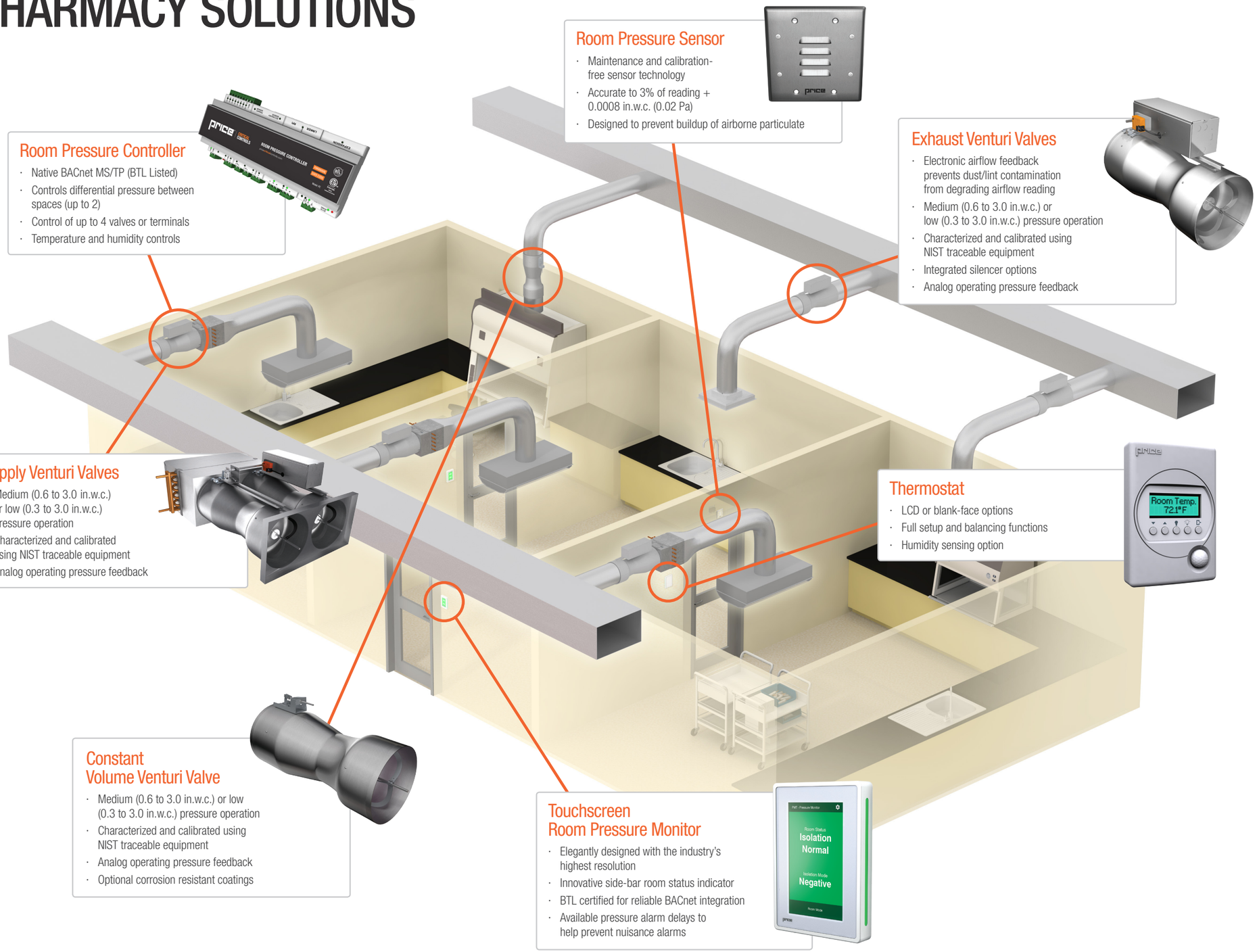
Hazardous Drugs (HD) must be handled under conditions that promote worker safety and environmental protection.

Volumetric offset is typically used to maintain room pressurization. Compounding pharmacies are constant volume spaces, operating at high air change rates 24/7. Exhaust airflow requirements can often be met with BSC exhaust in buffer isolation rooms, requiring a constant volume supply valve to provide offset control.

GENERAL REQUIREMENTS

USP 797/800

- A continuously operated biological safety cabinet (BSC) or compounding aseptic containment isolator (CACI) is used in the preparation of hazardous drugs (HDs).
- The drug preparation area is an isolated space kept at a negative pressure with respect to adjacent spaces.
- Required pressure differential: 0.01 - 0.03 in.w.c.
- Required air change rate for nonsterile HD compounding: 12 ACPH.
- Required air change rate for sterile HD compounding: 30 ACPH.
- Room differential pressures to be continuously monitored and indicated.
- USP recommends separate rooms for sterile and nonsterile compounding.



Room Pressure Sensor

- Maintenance and calibration-free sensor technology
- Accurate to 3% of reading + 0.0008 in.w.c. (0.02 Pa)
- Designed to prevent buildup of airborne particulate

Room Pressure Controller

- Native BACnet MS/TP (BTL Listed)
- Controls differential pressure between spaces (up to 2)
- Control of up to 4 valves or terminals
- Temperature and humidity controls

Exhaust Venturi Valves

- Electronic airflow feedback prevents dust/lint contamination from degrading airflow reading
- Medium (0.6 to 3.0 in.w.c.) or low (0.3 to 3.0 in.w.c.) pressure operation
- Characterized and calibrated using NIST traceable equipment
- Integrated silencer options
- Analog operating pressure feedback

Supply Venturi Valves

- Medium (0.6 to 3.0 in.w.c.) or low (0.3 to 3.0 in.w.c.) pressure operation
- Characterized and calibrated using NIST traceable equipment
- Analog operating pressure feedback

Thermostat

- LCD or blank-face options
- Full setup and balancing functions
- Humidity sensing option

Constant Volume Venturi Valve

- Medium (0.6 to 3.0 in.w.c.) or low (0.3 to 3.0 in.w.c.) pressure operation
- Characterized and calibrated using NIST traceable equipment
- Analog operating pressure feedback
- Optional corrosion resistant coatings

Touchscreen Room Pressure Monitor

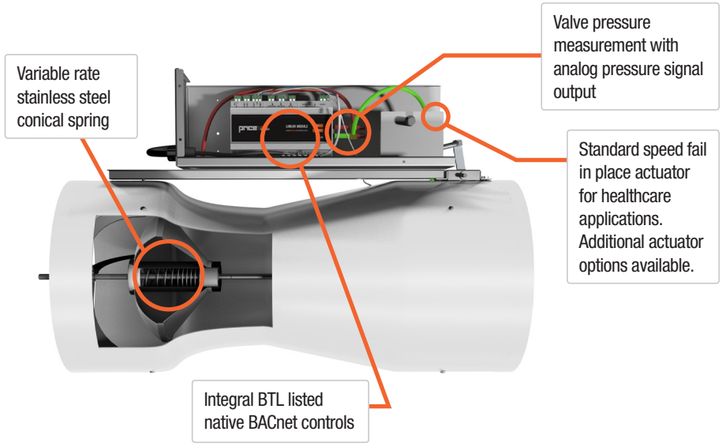
- Elegantly designed with the industry's highest resolution
- Innovative side-bar room status indicator
- BTL certified for reliable BACnet integration
- Available pressure alarm delays to help prevent nuisance alarms

APPLYING TERMINAL UNITS AND VENTURI VALVES

Price Venturi Valves (VV) are mechanically pressure independent airflow control devices designed specifically for critical applications.

The high concentrations of lint found in exhaust air streams (from frequent gowning/linen changes) in the healthcare environment typically require a rigorous cleaning/maintenance cycle to airflow-measuring terminal units. This makes the Price Venturi Valve's insensitivity to effects of dust/lint on airflow measurement an essential advantage in healthcare applications.

Single duct terminal units (SDV) can often be successfully applied as the supply airflow devices in healthcare environments. These spaces typically do not require high turndown ratios or high speeds of response, and the filtered supply air stream is typically devoid of the levels of dust and lint required to degrade the reading of airflow sensors.



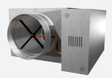
A hybrid solution using supply terminal units and exhaust venturi valves can offer the best performance in airflow accuracy, and sound power levels, as well as low initial purchase and operating costs.

Price Venturi Valves offer advantages in:

- High turndown ratio
- High speed of response
- No inlet/discharge straight-duct requirements
- Low maintenance due to the absence of direct airflow measuring devices in the airstream

Use the table below to determine which valve type best meets your requirements.

PRODUCT FEATURE LIST

FEATURE	 **VV** Venturi Valve (VV)	 **SDV** Single-Duct Terminal Unit (SDV)	DETAILS
Minimum Operating Pressure		✓	Terminal units typically have a lower minimum operating pressure than venturi valves, contributing to energy and cost savings.
Turndown Ratio	✓		Venturi valves have higher turndown ratios than conventional terminal units, facilitating energy savings during unoccupied hours.
Sound Level		✓	Terminal units typically have lower sound levels compared with venturi valves. Integral silencers are available for all airflow devices to improve acoustical performance.
Airborne Particulate Insensitivity	✓		The accuracy of airflow sensors typically found in terminal units can be negatively impacted by the buildup of airborne lint. Venturi valves control flow based on factory calibration and characterization without the use of flow sensors, leaving them unaffected by particulates in the airstream.
Inlet/Outlet Insensitivity	✓		Terminal unit flow sensors typically require three duct diameters of straight duct leading into and out of the valve. Venturi valve performance is virtually unaffected by inlet or outlet duct configurations.

MONITOR & CONTROL SELECTION

Use the table below to determine which healthcare control or monitor solution best meets your requirements.

PRODUCT SELECTION GUIDE

FEATURE	 **PM** Room Pressure Monitor	 **PMX** Room Pressure Monitor Deluxe	 **PMT** Touchscreen Room Pressure Monitor	 **PC** Room Pressure Controller	 **TC** Tracking Controller	 **VC** Valve Controller
Direct Pressure Control				✓		
Dynamic Pressure Control				✓		
Volumetric Offset Control				✓	✓	
Temperature Control				✓	✓	✓
Humidity Control				✓		
Pressure Monitor	✓	✓	✓	✓		
Secondary Room Support		✓		✓		
BACnet Communication		✓	✓	✓	✓	✓
Analog Pressure Output		✓	✓	✓		
Remote Station Interface		✓		✓		
Door Switch Input		✓	✓	✓		
Key Switch Interface		✓	✓	✓		
Touchscreen Display			✓			

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Please visit **pricecriticalcontrols**.com or contact a representative for additional product information.