PANDEMIC-READY PATIENT ROOMS
Easily Change Between Normal Operation and Isolation Room Mode

During a pandemic there is a sudden increase in demand for airborne infectious isolation rooms (AIIR). Traditionally hospitals are built with very few AIIR as these spaces are seldom used and are more expensive to build and operate than standard patient rooms. The pandemic-ready patient room solution from Price and Antec Controls allows the hospital to build one room that can be used for either standard patient care or an AIIR, and can change between operational modes at the touch of a button.
ROOM REQUIREMENTS

ASHRAE Standard 170-2017 Ventilation of Health Care Facilities dictates the following requirements for standard patient rooms and airborne infectious isolation rooms.

### Standard Patient Room

<table>
<thead>
<tr>
<th></th>
<th>NORMAL OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airflow – Fresh</strong></td>
<td>2 ACH</td>
</tr>
<tr>
<td><strong>Airflow – Total</strong></td>
<td>4 ACH</td>
</tr>
<tr>
<td><strong>Pressure Differential</strong></td>
<td>No requirement</td>
</tr>
<tr>
<td><strong>Exhaust</strong></td>
<td>Washroom exhaust</td>
</tr>
<tr>
<td><strong>Return</strong></td>
<td>Room return grille located near door</td>
</tr>
<tr>
<td><strong>Recirculation</strong></td>
<td>Allowed</td>
</tr>
<tr>
<td><strong>Supply Diffuser</strong></td>
<td>Not specified</td>
</tr>
</tbody>
</table>

### Airborne Infectious Isolation Room

<table>
<thead>
<tr>
<th></th>
<th>ISOLATION MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airflow – Fresh</strong></td>
<td>2 ACH</td>
</tr>
<tr>
<td><strong>Airflow – Total</strong></td>
<td>12 ACH</td>
</tr>
<tr>
<td><strong>Pressure Differential</strong></td>
<td>Negative 0.01 in. w.g. pressure monitor required</td>
</tr>
<tr>
<td><strong>Exhaust</strong></td>
<td>Washroom Exhaust. Room exhaust located near patient head and directed ducted outdoors.</td>
</tr>
<tr>
<td><strong>Return</strong></td>
<td>Return not allowed</td>
</tr>
<tr>
<td><strong>Recirculation</strong></td>
<td>Only allowed if room air is recirculated locally through a HEPA filter.</td>
</tr>
<tr>
<td><strong>Supply Diffuser</strong></td>
<td>Located near entry door. Air moves from clean to less-clean.</td>
</tr>
</tbody>
</table>
**Room Pressure Monitor (PMT)**
- **Normal Operation:** No room pressure requirement.
- **Isolation Mode:** Measures and displays room pressure. Activates FFU, closes return damper, and modulates exhaust damper to maintain negative room pressure.

**Recirculation Diffuser (SMD)**
- **Normal Operation:** Not in use.
- **Isolation Mode:** Recirculated, HEPA filtered air from FFU supplied to the room.

**Exhaust Grille (73SH)**
- **Normal Operation:** Exhausts air out of washroom.
- **Isolation Mode:** Exhausts air out of washroom.

**Exhaust Damper/Actuator**
- **Normal Operation:** Damper closed.
- **Isolation Mode:** Damper modulates to control exhaust airflow and maintain negative room pressure based on PMT control signal.

**Return Damper/Actuator**
- **Normal Operation:** Damper open to allow return airflow to the air handler.
- **Isolation Mode:** Damper closed to prevent return airflow to the air handler.

**Return Grille (80SR)**
- **Normal Operation:** Room air is returned to the air handler.
- **Isolation Mode:** Not in use.

**Exhaust Grille (73SH)**
- **Normal Operation:** Exhausts air out of washroom.
- **Isolation Mode:** Exhausts air out of washroom.

**Combination Exhaust and Recirculating Fan Filter Unit (FFU)**
- **Normal Operation:** FFU not in use.
- **Isolation Mode:** FFU turns on based on PMT control signal. HEPA filtered air is exhausted to maintain room pressure while the remainder is recirculated to the space.

**LCD Thermostat (TSTAT)**
- **Normal Operation:** Controls room temperature setpoint.
- **Isolation Mode:** Controls room temperature setpoint.

**Room Pressure Monitor (PMT)**
- **Normal Operation:** No room pressure requirement.
- **Isolation Mode:** Measures and displays room pressure. Activates FFU, closes return damper, and modulates exhaust damper to maintain negative room pressure.

**Single Duct Terminal Unit with Reheat (SDV)**
- **Normal Operation:** Modulates supply airflow to the room.
- **Isolation Mode:** Modulates supply airflow to the room.

**Supply Diffuser (SMD)**
- **Normal Operation:** Fresh air supplied to the room.
- **Isolation Mode:** Fresh air supplied to the room.
Exhaust Grille (735H)
- Normal Operation: Exhausts air out of washroom.
- Isolation Mode: Exhausts air out of washroom.

LCD Thermostat (TSTAT)
- Normal Operation: Controls room temperature setpoint.
- Isolation Mode: Controls room temperature setpoint.

Room Pressure Monitor (PMT)
- Normal Operation: No room pressure requirement.
- Isolation Mode: Measures and displays room pressure. Activates FFU, closes return damper, and modulates exhaust damper to maintain negative room pressure.

Single Duct Terminal Unit with Reheat (SDV)
- Normal Operation: Modulates supply airflow to the room.
- Isolation Mode: Modulates supply airflow to the room.

Exhaust Damper/Actuator
- Normal Operation: Damper closed.
- Isolation Mode: Damper modulates to control exhaust airflow and maintain negative room pressure based on PMT control signal.

Return Damper/Actuator
- Normal Operation: Damper open to allow return airflow to the air handler.
- Isolation Mode: Damper closed to prevent return airflow to the air handler.

Return Grille (80SR)
- Normal Operation: Room air is returned to the air handler.
- Isolation Mode: Not in use.

Diffuser (SMD)
- Normal Operation: Fresh air supplied to the room.
- Isolation Mode: Fresh and recirculated, HEPA filtered air from FFU supplied to the room.

Combination Exhaust and Recirculating Fan Filter Unit (FFU)
- Normal Operation: Not in use.
- Isolation Mode: FFU turns on based on PMT control signal. Air is drawn out of the room through a HEPA filter, exhausting a portion and recirculating the remainder.

BASE LAYOUT
Exhaust Grille (735H)
- **Normal Operation:** Exhausts air out of washroom.
- **Isolation Mode:** Exhausts air out of washroom.

Return Damper/Actuator
- **Normal Operation:** Damper open to allow return airflow to the air handler.
- **Isolation Mode:** Damper closed to prevent return airflow to the air handler.

Exhaust Damper/Actuator
- **Normal Operation:** Damper closed.
- **Isolation Mode:** Damper modulates to control exhaust airflow and maintain negative room pressure based on PMT control signal.

Diffuser (SMD)
- **Normal Operation:** Fresh and recirculated, HEPA filtered air from FFU supplied to the room.
- **Isolation Mode:** Fresh and recirculated, HEPA filtered air from FFU supplied to the room.

Combination Exhaust and Recirculating Fan Filter Unit (FFU)
- **Normal Operation:** Air is drawn out of the room through a HEPA filter, and returned to the air handler or recirculated to the room.
- **Isolation Mode:** Airflow through FFU is increased in response to PMT control signal. Air is drawn out of the room through a HEPA filter, exhausting a portion and recirculating the remainder.

LCD Thermostat (TSTAT)
- **Normal Operation:** Controls room temperature setpoint.
- **Isolation Mode:** Controls room temperature setpoint.

Room Pressure Monitor (PMT)
- **Normal Operation:** No room pressure requirement.
- **Isolation Mode:** Measures and displays room pressure. Activates FFU, closes return damper, and modulates exhaust damper to maintain negative room pressure.

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- **Isolation Mode**: Damper closed to prevent return airflow to the air handler.

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- **Normal Operation**: Room air is returned to the air handler.
- **Isolation Mode**: Not in use.

Exhaust Damper/Actuator
- **Normal Operation**: Damper closed.
- **Isolation Mode**: Damper modulates to control exhaust airflow and maintain negative room pressure based on PMT control signal.

LCD Thermostat (TSTAT)
- **Normal Operation**: Controls room temperature setpoint.
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Room Pressure Monitor (PMT)
- **Normal Operation**: No room pressure requirement.
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Single Duct Terminal Unit with Reheat (SDV)
- **Normal Operation**: Modulates supply airflow to the room.
- **Isolation Mode**: Modulates supply airflow to the room.

Isolation Fan Filter Unit
The Isolation FFU combines a fan filter unit and flush face radial flow supply diffuser in one convenient package. Air is drawn in through the FFU, and HEPA filtered air is exhausted to maintain room pressure while the remainder of the filtered air is recirculated to the space. Optional features like integrated LED lighting make this product a one-size-fits all solution for modern patient rooms.

- **Normal Operation**: Not in use.
- **Isolation Mode**: Airflow through FFU is increased in response to PMT control signal. Air is drawn out of the room through a HEPA filter, exhausting a portion and recirculating the remainder.
EQUIPMENT

RETROFIT LAYOUT
Combination Exhaust and Recirculating Fan Filter Unit

Room Pressure Monitor
PMT-1-4/6/WSRPS1/BAC/

Dampers/Actuators
Return: MISCF-GRD-CE/5/RET/12/24V
Exhaust: MISCF-GRD-CE/5/EX/12/24V

Single Duct Terminal Unit with Reheat & LCD Thermostat
SDV/8/2801/6/EHP/CFM/EC/2/0/277/1/2/0/DSW/FUS/200/400/500/1000/FF////PS/F/V/F/LF/PRB/BAC/65/550/140/140/

Exhaust Grille
735H//I/24.000/16.000/F/S/////#4

Return Grille
80SR//I/24.000/12/BN///B12

Supply Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

Recirculating Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

BASE LAYOUT
Combination Exhaust and Recirculating Fan Filter Unit

Room Pressure Monitor
PMT-1-4/6/WSRPS1/BAC/

Dampers/Actuators
Return: MISCF-GRD-CE/5/RET/12/24V
Exhaust: MISCF-GRD-CE/5/EX/12/24V

Single Duct Terminal Unit with Reheat & LCD Thermostat
SDV/8/2801/6/EHP/CFM/EC/2/0/277/1/2/0/DSW/FUS/200/400/500/1000/FF////PS/F/V/F/LF/PRB/BAC/65/550/140/140/

Exhaust Grille
735H//I/24.000/16.000/F/S/////#4

Return Grille
80SR//I/24.000/12/BN///B12

Supply Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

Recirculating Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

DELUXE LAYOUT
Combination Exhaust and Recirculating Fan Filter Unit

Room Pressure Monitor
PMT-1-4/6/WSRPS1/BAC/

Dampers/Actuators
Return: MISCF-GRD-CE/5/RET/12/24V
Exhaust: MISCF-GRD-CE/5/EX/12/24V

Single Duct Terminal Unit with Reheat & LCD Thermostat
SDV/8/2801/6/EHP/CFM/EC/2/0/277/1/2/0/DSW/FUS/200/400/500/1000/FF////PS/F/V/F/LF/PRB/BAC/65/550/140/140/

Exhaust Grille
735H//I/24.000/16.000/F/S/////#4

Return Grille
80SR//I/24.000/12/BN///B12

Supply Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

Recirculating Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

PREMIUM LAYOUT
Isolation Fan Filter Unit

Room Pressure Monitor
PMT-1-4/6/WSRPS1/BAC/

Dampers/Actuators
Return: MISCF-GRD-CE/5/RET/12/24V
Exhaust: MISCF-GRD-CE/5/EX/12/24V

Single Duct Terminal Unit with Reheat & LCD Thermostat
SDV/8/2801/6/EHP/CFM/EC/2/0/277/1/2/0/DSW/FUS/200/400/500/1000/FF////PS/F/V/F/LF/PRB/BAC/65/550/140/140/

Exhaust Grille
735H//I/24.000/16.000/F/S/////#4

Return Grille
80SR//I/24.000/12/BN///B12

Supply Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

Recirculating Diffuser
SMD//I/18/18/36/3A/24/24/48/12//B12

RETURN GRILLE NOT REQUIRED
SUPPLY DIFFUSER NOT REQUIRED
RECIRCULATING DIFFUSER NOT REQUIRED
RECIRCULATING DIFFUSER NOT REQUIRED