

ISOLATION-READY PATIENT ROOMS

Easily Change From Normal Operation to Isolation Room Mode

Traditionally hospitals are built with very few negative pressure isolation rooms as these spaces are seldom used and are more expensive to build and operate than standard patient rooms. The CARES is a critical component of the isolation-ready patient room solution from Price and Antec Controls that allows a hospital to build one room that can operate with the air distribution requirements of a standard patient room or a negative pressure isolation room. Conversion of the air distribution system to a negative pressure isolation room at the touch of a button eliminates the need for time consuming and unsightly field modifications in response to increased demand for isolation spaces.



ROOM REQUIREMENTS

ASHRAE Standard 170-2021 Ventilation of Health Care Facilities dictates the following requirements for standard patient rooms and isolation rooms. In the proposed isolation-ready layouts on the following pages “Normal Operation” aligns with the ASHRAE Standard 170 air distribution requirements for “Standard Patient Rooms” while “Isolation Mode” aligns with the operational requirements of an “Airborne Infectious Isolation Room”.

Standard Patient Room

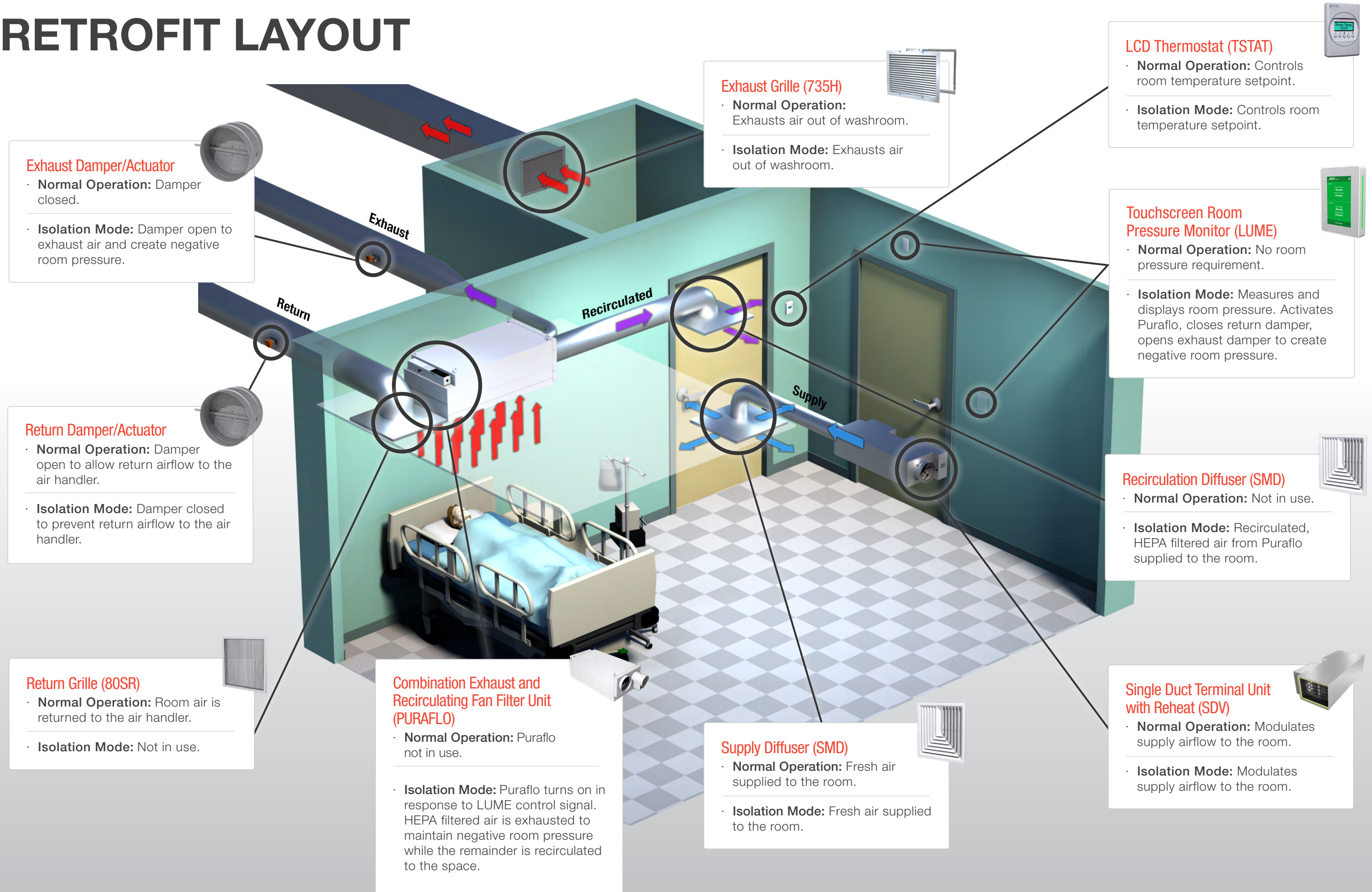
| | |
|------------------------------|---------------------------------------|
| Airflow – Fresh | 2 ACH |
| Airflow – Total | 4 ACH |
| Pressure Differential | No requirement. |
| Exhaust | Washroom exhaust. |
| Return | Room return grille located near door. |
| Recirculation | Allowed. |
| Supply Diffuser | Not specified. |

Airborne Infectious Isolation Room

| | |
|------------------------------|---|
| Airflow – Fresh | 2 ACH |
| Airflow – Total | 12 ACH |
| Pressure Differential | Negative 0.01 in. w.g. pressure monitor required. |
| Exhaust | Washroom Exhaust. Room exhaust located near patient head. |
| Return | Return not allowed. |
| Recirculation | Only allowed if room air is recirculated locally through a HEPA filter. |
| Supply Diffuser | Air moves from clean to less-clean. |



RETROFIT LAYOUT



Exhaust Damper/Actuator

- **Normal Operation:** Damper closed.
- **Isolation Mode:** Damper open to exhaust air and create negative room pressure.

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.

Combination Exhaust and Recirculating Fan Filter Unit (PURAFLU)

- **Normal Operation:** Puraflo not in use.
- **Isolation Mode:** Puraflo turns on in response to LUME control signal. HEPA filtered air is exhausted to maintain negative room pressure while the remainder is recirculated to the space.

Exhaust Grille (735H)

- **Normal Operation:** Exhausts air out of washroom.
- **Isolation Mode:** Exhausts air out of washroom.

Supply Diffuser (SMD)

- **Normal Operation:** Fresh air supplied to the room.
- **Isolation Mode:** Fresh air supplied to the room.

LCD Thermostat (TSTAT)

- **Normal Operation:** Controls room temperature setpoint.
- **Isolation Mode:** Controls room temperature setpoint.

Touchscreen Room Pressure Monitor (LUME)

- **Normal Operation:** No room pressure requirement.
- **Isolation Mode:** Measures and displays room pressure. Activates Puraflo, closes return damper, opens exhaust damper to create negative room pressure.

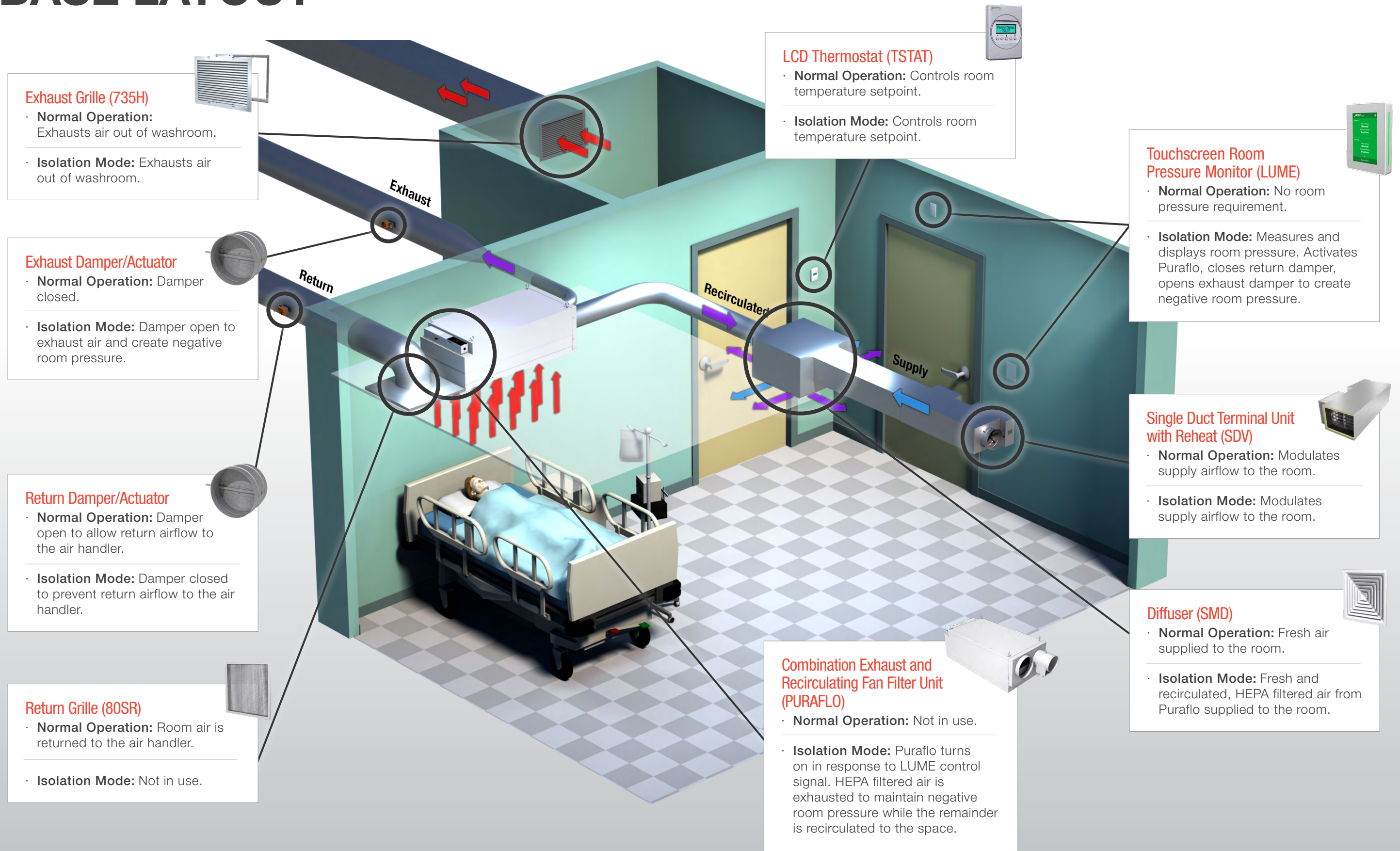
Recirculation Diffuser (SMD)

- **Normal Operation:** Not in use.
- **Isolation Mode:** Recirculated, HEPA filtered air from Puraflo supplied to the room.

Single Duct Terminal Unit with Reheat (SDV)

- **Normal Operation:** Modulates supply airflow to the room.
- **Isolation Mode:** Modulates supply airflow to the room.

BASE LAYOUT



Exhaust Grille (735H)

- **Normal Operation:** Exhausts air out of washroom.
- **Isolation Mode:** Exhausts air out of washroom.

Exhaust Damper/Actuator

- **Normal Operation:** Damper closed.
- **Isolation Mode:** Damper open to exhaust air and create negative room pressure.

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.

LCD Thermostat (TSTAT)

- **Normal Operation:** Controls room temperature setpoint.
- **Isolation Mode:** Controls room temperature setpoint.

Touchscreen Room Pressure Monitor (LUME)

- **Normal Operation:** No room pressure requirement.
- **Isolation Mode:** Measures and displays room pressure. Activates Puraflo, closes return damper, opens exhaust damper to create 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.

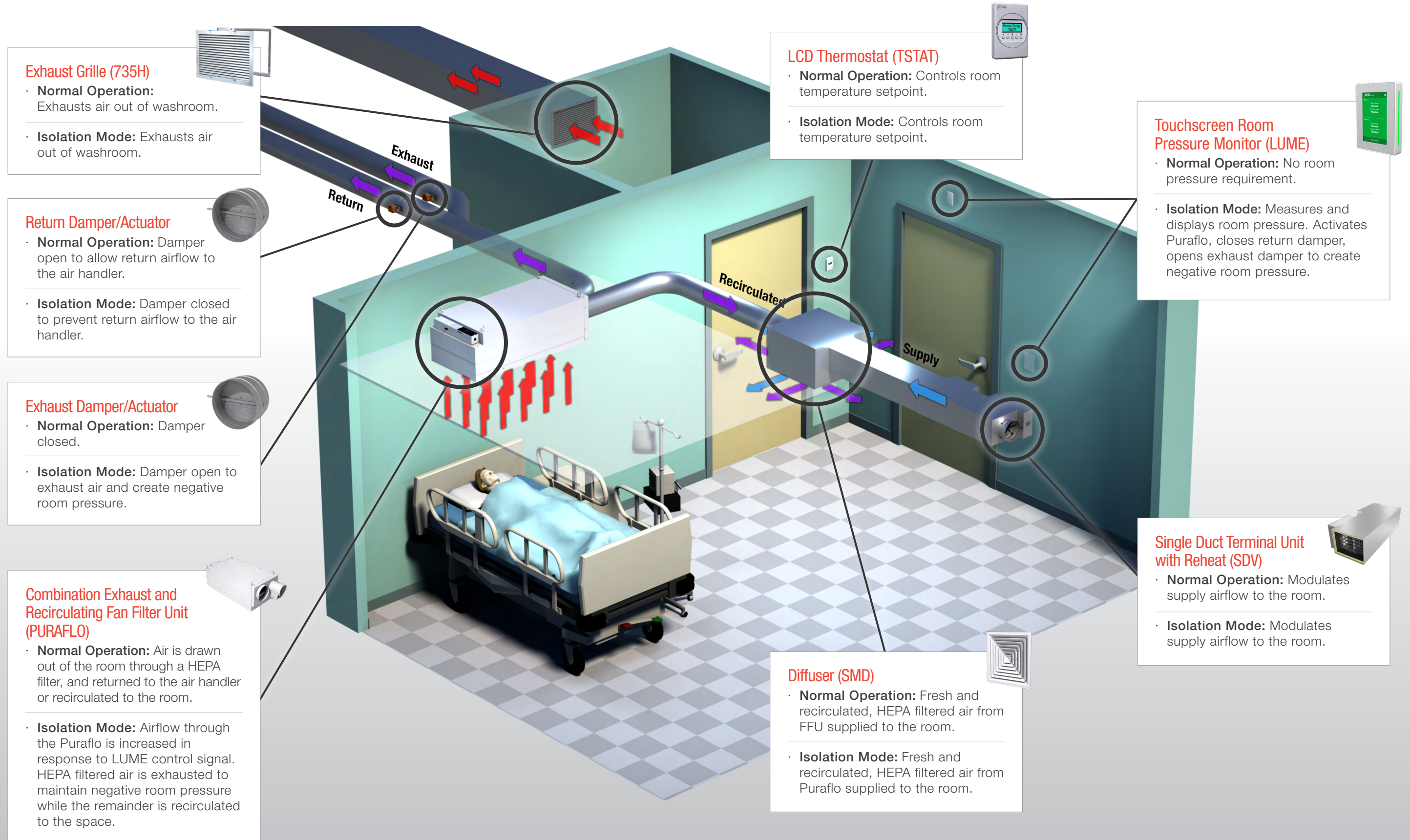
Diffuser (SMD)

- **Normal Operation:** Fresh air supplied to the room.
- **Isolation Mode:** Fresh and recirculated, HEPA filtered air from Puraflo supplied to the room.

Combination Exhaust and Recirculating Fan Filter Unit (PURAFLO)

- **Normal Operation:** Not in use.
- **Isolation Mode:** Puraflo turns on in response to LUME control signal. HEPA filtered air is exhausted to maintain negative room pressure while the remainder is recirculated to the space.

DELUXE 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 open to exhaust air and create negative room pressure.

Combination Exhaust and Recirculating Fan Filter Unit (PURAFO)

- **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 the Puraflo is increased in response to LUME control signal. HEPA filtered air is exhausted to maintain negative 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.

Touchscreen Room Pressure Monitor (LUME)

- **Normal Operation:** No room pressure requirement.
- **Isolation Mode:** Measures and displays room pressure. Activates Puraflo, closes return damper, opens exhaust damper to create negative room pressure.

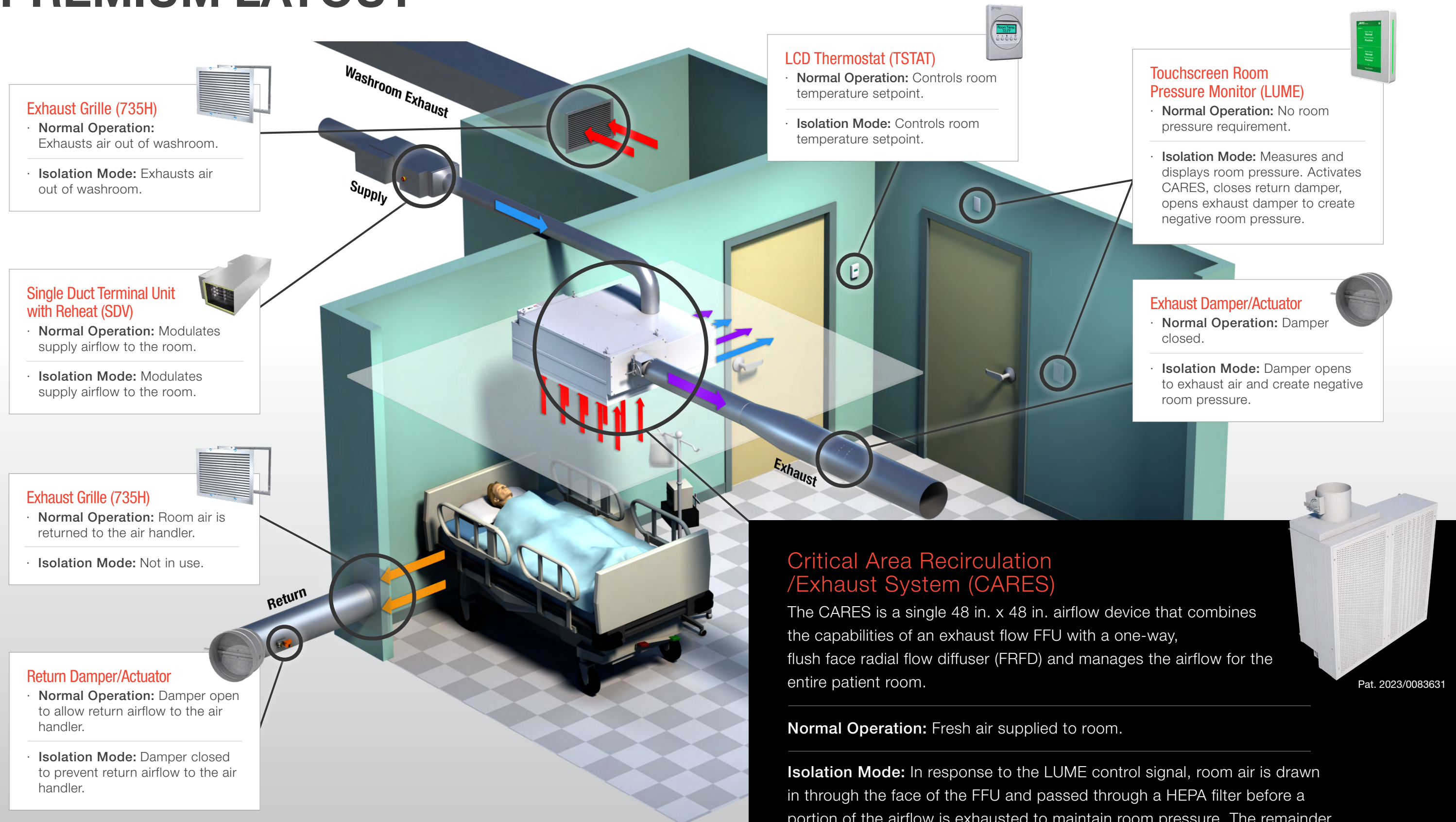
Single Duct Terminal Unit with Reheat (SDV)

- **Normal Operation:** Modulates supply airflow to the room.
- **Isolation Mode:** Modulates supply airflow to the room.

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 Puraflo supplied to the room.

PREMIUM LAYOUT



EQUIPMENT

RETROFIT LAYOUT



Combination Exhaust and Recirculating Fan Filter Unit

PURAFLO-1-2//I/CEILING/DUAL-OUTLET/24/48/10/8/RSR/HEPA-2/FC/ECM/115/CF/RMB/BACnet/BFC/TC//DSW-115//ASSP/M8PFE/PL-AL/F-AL/PL-B12/F-B12



Touchscreen Room Pressure Monitor

LUME-1-1//I/20/SVI/1/0.25B/ABS/ENV/



Dampers/Actuators

Return: MISCF_GRD_CE/S//PURAFLO-1-X/RET/12/24V

Exhaust: MISCF_GRD_CE/S//PURAFLO-1-X/EX/12/24V



Single Duct Terminal Unit with Reheat & LCD Thermostat



Exhaust Grille

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



Return Grille

80SR//I/24/24//2//TOP/12/BN/////B12



Supply Diffuser

SMD//I/18/18/36/3A/24/24/SR/12//B12



Recirculating Diffuser

SMD//I/18/18/36/3A/24/24/SR/12//B12

BASE LAYOUT



Combination Exhaust and Recirculating Fan Filter Unit

PURAFLO-1-2//I/CEILING/DUAL-OUTLET/24/48/10/8/RSR/HEPA-2/FC/ECM/115/CF/RMB/BACnet/BFC/TC//DSW-115//ASSP/M8PFE/PL-AL/F-AL/PL-B12/F-B12



Touchscreen Room Pressure Monitor

LUME-1-1//I/20/SVI/1/0.25B/ABS/ENV/



Dampers/Actuators

Return: MISCF_GRD_CE/S//PURAFLO-1-X/RET/12/24V

Exhaust: MISCF_GRD_CE/S//PURAFLO-1-X/EX/12/24V



Single Duct Terminal Unit with Reheat & LCD Thermostat



Exhaust Grille

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



Return Grille

80SR//I/24/24//2//TOP/12/BN/////B12

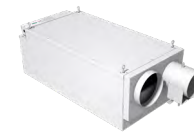


Supply Diffuser

SMD//I/18/18/36/3A/24/24/SR/12//B12

RECIRCULATING DIFFUSER NOT REQUIRED

DELUXE LAYOUT



Combination Exhaust and Recirculating Fan Filter Unit

PURAFLO-1-2//I/CEILING/DUAL-OUTLET/24/48/10/8/RSR/HEPA-2/FC/ECM/115/CF/RMB/BACnet/BFC/TC//DSW-115//ASSP/M8PFE/PL-AL/F-AL/PL-B12/F-B12



Touchscreen Room Pressure Monitor

LUME-1-1//I/20/SVI/1/0.25B/ABS/ENV/



Dampers/Actuators

Return: MISCF_GRD_CE/S//PURAFLO-1-X/RET/12/24V

Exhaust: MISCF_GRD_CE/S//PURAFLO-1-X/EX/12/24V



Single Duct Terminal Unit with Reheat & LCD Thermostat



Exhaust Grille

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



Supply Diffuser

SMD//I/18/18/36/3A/24/24/SR/12//B12

RETURN GRILLE NOT REQUIRED

RECIRCULATING DIFFUSER NOT REQUIRED

PREMIUM LAYOUT



Critical Area Recirculation/Exhaust System (CARES)

CARES-1-1//I/48/48/10/10/RSR/HEPA-2/FC/ECM/115/CF/RMB/BACnet/BFC/NONE/TC/DSW-115//ASSP/M8PFE/PL-AL/F-AL/PL-B12/F-B12



Touchscreen Room Pressure Monitor

LUME-1-1//I/20/SVI/1/0.25B/ABS/ENV/



Dampers/Actuators

Return: MISCF_GRD_CE/S//CARES-1-X/RET/12/24V

Exhaust: MISCF_GRD_CE/S//CARES-1-X/EX/12/24V



Single Duct Terminal Unit with Reheat & LCD Thermostat



Exhaust Grille

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



Return Grille

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

SUPPLY DIFFUSER NOT REQUIRED

RECIRCULATING DIFFUSER NOT REQUIRED

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