IsolationAir®

Portable Contamination Control System

AiR INNOVATIONS

IsolationAir® is a portable contamination control system ideal for hospitals, extended care facilities, and emergency preparedness centers. This system maintains a sterile environment in an isolated room, which prevents cross-contamination throughout the rest of the facility— creating a better environment for patients and staff.

In addition to providing strict temperature and humidity control, IsolationAir is equipped with on-board HEPA filtration, UV sterilization, and ductwork connections. This system is capable of quickly converting a standard-sized patient room into a negative or positive pressure environment.

IsolationAir combines known technologies into an easy-to-deploy portable unit

- HEPA filtration for airborne particulate removal
- UV light to aide in sterilizing airborne viruses and bacteria trapped on the HEPA
- Pressure control either negative or positive
    - Infectious disease control (TB, SARS, smallpox, etc.) requires negative
    - Protective environment control (burn, immuno-suppressed) is positive
- Temperature control – the room becomes isolated from the central system
    - Only air having passed through both UV and HEPA will be returned to hospital HVAC

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7000 Performance Drive, North Syracuse, NY 13212
1 (315) 452-7400 or 1 (800) 825-3268
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Installation Method - Negative Pressure

Step 1	Connect flex duct mounted on the top of the IsolationAir unit to the ceiling return air grill with universal grill adapter
Step 2	Close off supply air grill with universal grill adapter and snap cover
Step 3	Check for other air exhausts or leakages in room, seal closed (ie. bathroom exhaust, open windows, etc)
Step 4	Plug into emergency outlet and turn on
Step 5	Verify pressurization is negative with a tissue

Ships With

Duct Adapter (2) Flex Duct (2)

+

Cap (1)

+

IsolationAir unit (1)

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Installation Method - Positive Pressure

Step 1	Connect flex duct mounted on the top of the IsolationAir unit to the ceiling return air grill with universal grill adapter
Step 2	Connect one end of a separate flex duct to supply air grill with universal grill adapter and connect the other end to the bottom inlet on the IsolationAir unit
Step 3	Check for other air exhausts or leakages in room, seal closed (ie. bathroom exhaust, open windows, etc)
Step 4	Plug into emergency outlet and turn on
Step 5	Verify pressurization is positive with a tissue

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Standards and Guidelines

Office of the Assistant Secretary for Preparedness and Response

Helps hospitals meet or address Capability 4 Medical Surge Objective 2:

Activity #9 Enhance Infectious Disease Preparedness & Surge Response

Activity #6 Provide Burn Care during a Medical Surge Response

Activity #1 Develop Emergency Department and Inpatient Medical Surge Capacity and Capability
[Ensure Immediate Bed Availability by rapidly… using non-traditional spaces; Critical Care: rapidly expand capacity by adapting… areas for critical care]

Originally Designed to Meet U.S. Department of Health and Human Services Critical Benchmarks

Critical Benchmark #2-2: Surge Capacity: Isolation Capacity

Critical Benchmark #2-9: Surge Capacity: Trauma and Burn Care

Cross-cutting Critical Benchmark #6: Preparedness for Pandemic Influenza

IsolationAir Meets the Guidelines for the Following Organizations:

1. **CDC** guidelines for infectious disease control in health care facilities
    1. Minimum of 12 air changes per hour via HEPA filters
    2. Use portable units as needed to augment ACH – recirculating room air
    3. Maintains minimum pressure differential of 0.01” (+ or – depending on the application)
    4. Maintains dehumidification controls
    5. Maintains backup ventilation – can be portable units – for emergency provision
    6. Ultraviolet light can be used for supplemental control
2. **AIA** guidelines for design and construction of hospitals, incl. heating and cooling control to 75 °F
3. **ASHRAE** – Chapter 7 in Applications Handbook regarding health care facilities

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Specifications

Technical Data & Standard Features		
Capabilities	Cooling Capacity	Nominal 1/4-ton (3,000 BTU/H) R-134a refrigerant
	Heating Capacity	Optional 1 kW electric heating element
	Final Filtration	HEPA 99.97% efficient in trapping 0.3 microns particles; MERV 17 rating; All-recirculated and exhausted air is HEPA treated. Wood (for incineration) or aluminum frame options
	Pre-Filter	Washable media @ 10 pores per inch
	Room Airflow	12 air exchanges per hour minimum via HEPA filters; ACH based on maximum room size 375 SF with 8-foot high ceiling
	Condenser Airflow	Exhausted to return air grille or directly outside
	UV-C Lights	Dual, 36-watt bulbs upstream of HEPA
	Sound Level	59db(A) 6' from the unit at bed height
	Ambient Range	Unit is not designed to operate in ambient conditions over 90°F
Controls	Temperature Control	Set point range 65-80°F; user adjustable; electronic controller
	Hour Meter	Total run time
	Service Light	Flashing indicator light at service intervals
	On/Off Switch	Rocker
Utilities	Electric	110 Volts / 1 Phase / 60 Hz; 15 amps
	Condensate	32-ounce internal bottle (no drain connections are required)
Physical	Dimensions	30" deep x 20" wide x 48" tall
	Weight	125 pounds
	Cabinet	Powder coated aluminum, white
	Power Cord	Factory-installed LCDI cord (leakage current detection inter-rupter), rated for 15 amp protection
	Casters	4" wheels, front locking

Sample Field Performance Data		Single room – 125 sqft	Double room – 288 sqft
	Air Changes per Hour	36	16
	Negative Pressure Control	-0.034" to –0.052" note 1	-0.01" to –0.017" note 1
	Positive Pressure Control	+0.015" to +0.022" note 1	+0.003" to +0.011" note 1
	Particle Reduction (0.5µ/ft3) note 3	6,480 to 225 in 2 hours	34,254 to 1,630 in 3 hours
	Temperature Control	70F +/- 1.5F	75F +/- 1.5F note 2

Note on sample field performance data	Technical data results based on Alpha Test performed at SUNY Upstate Medical University, February 14, 2005 Air Innovations makes no guarantees that these test results can be duplicated in any similar sized space; many variables such as room leakage and initial airborne contamination levels can affect IsolationAir's performance

Note 1: - Pressure measured as a differential between patient room and adjoining hallway
- Highest values are based on results with additional temporary door seals, lowest figures are without any additional seals
Note 2: - AIA recommends temperature control capability of at least 75F; testing was conducted to that point, could have also held 70F
Note 3: - Room particle counts based on measuring total particle concentration of 0.5 micron particles per cubic foot of room air, tests done with a laser particle counter positioned over patient bed, room was unoccupied during test

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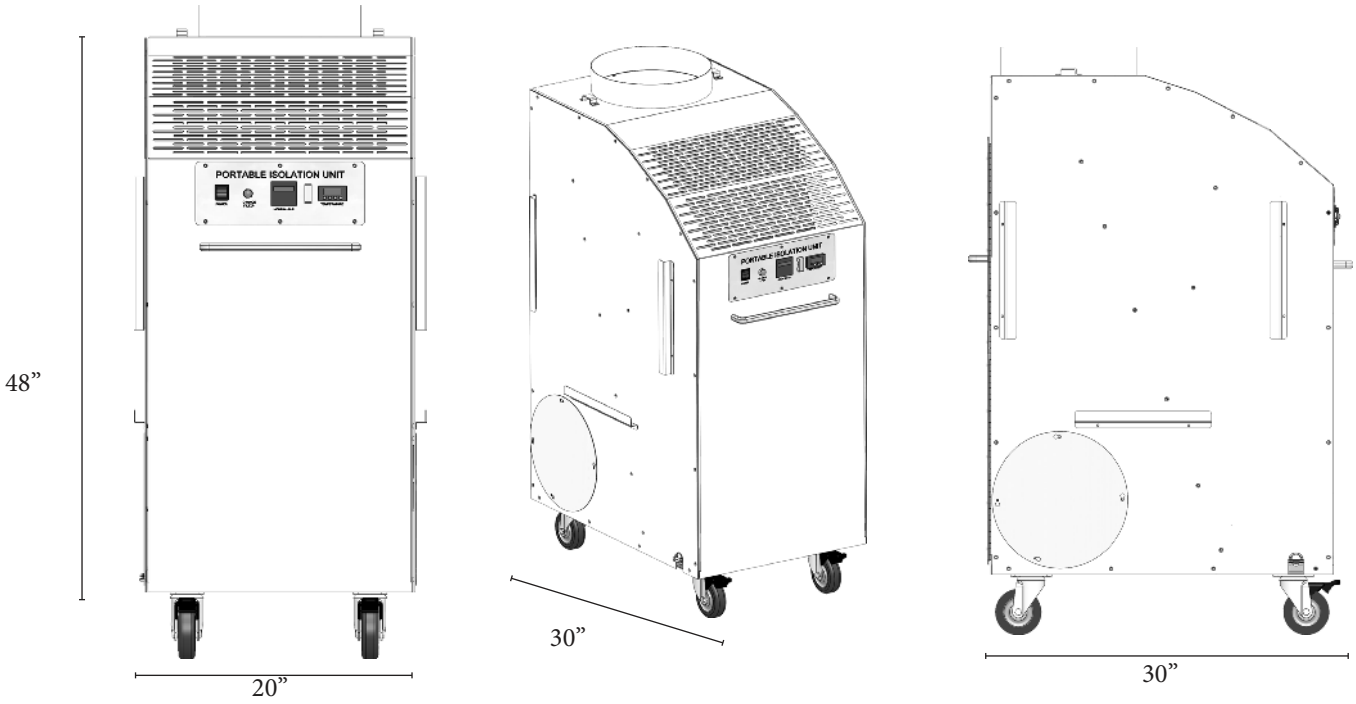
Dimensions



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