



CARRIER OPTICLEAN™

UNIDAD DE PRESIÓN NEGATIVA
&
DEPURADOR DE AIRE

Miguel Wohler



Carrier OptiClean™

Unidad de presión negativa y Depurador de aire.

- El impacto del COVID-19 en nuestra industria.
- Información del producto.
- Timing
- Pruebas de campo
- Aplicaciones adicionales
- Recursos adicionales



El Impacto.

Cientes del cuidado de la salud

- Cada sistema hospitalario está haciendo lo propio.
- Diferentes niveles de urgencia.
 - Preparación de pacientes para cirugía
 - Disponibilidad de cuartos aislados
- Incertidumbre de fondos y suministros estatales / federales.
- Sistemas de abastecimiento individual
- Llegar directamente con los proveedores.

Oleada de pacientes.

Los hospitales necesitan proteger a los médicos y otros pacientes ayudando a disminuir la propagación.

- ¿A donde van los pacientes con COVID?
 - Carpas, barcos, estacionamientos, hoteles, escuelas, hospitales cerrados y hogares de ancianos.
 - Todos son espacios con presión positiva.

La unidad *Carrier OptiClean*[™] puede convertir un cuarto de hospital común, en un espacio de presión negativa o actuar como depurador de aire en espacios abiertos.



Carrier OptiClean™

HEPA-GRADE
FILTRATION



REMOVES
PARTICLES
AS SMALL AS
0.3
MICRONS

99.97%
EFFICIENT

MORE THAN
40,000
HOURS OF OPERATION

PORTABLE



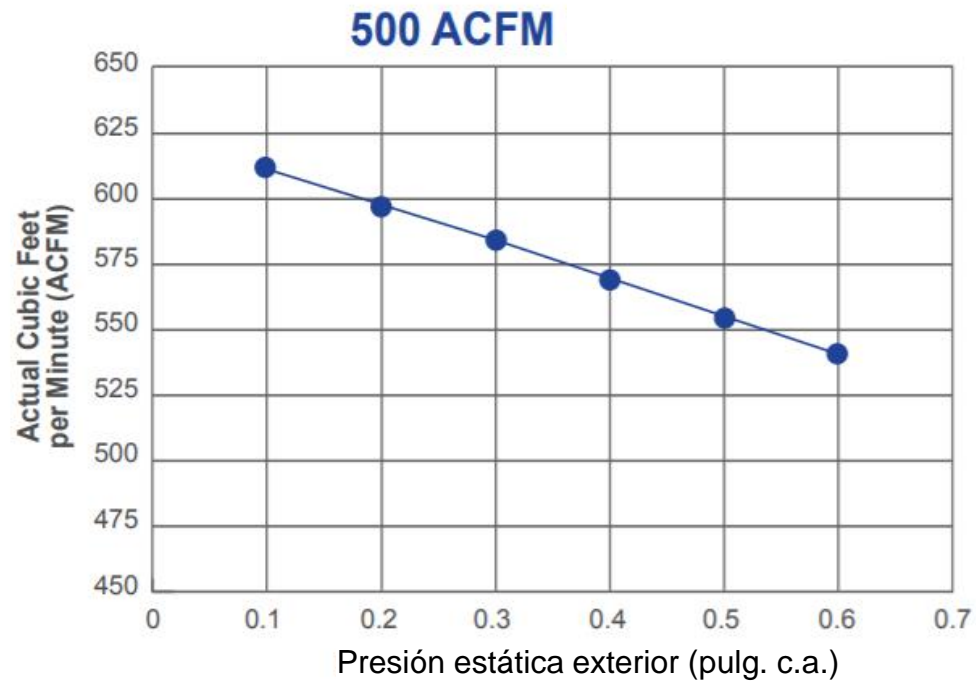
STANDARD
120V POWER



QUICK
DEPLOYMENT



Carrier OptiClean™

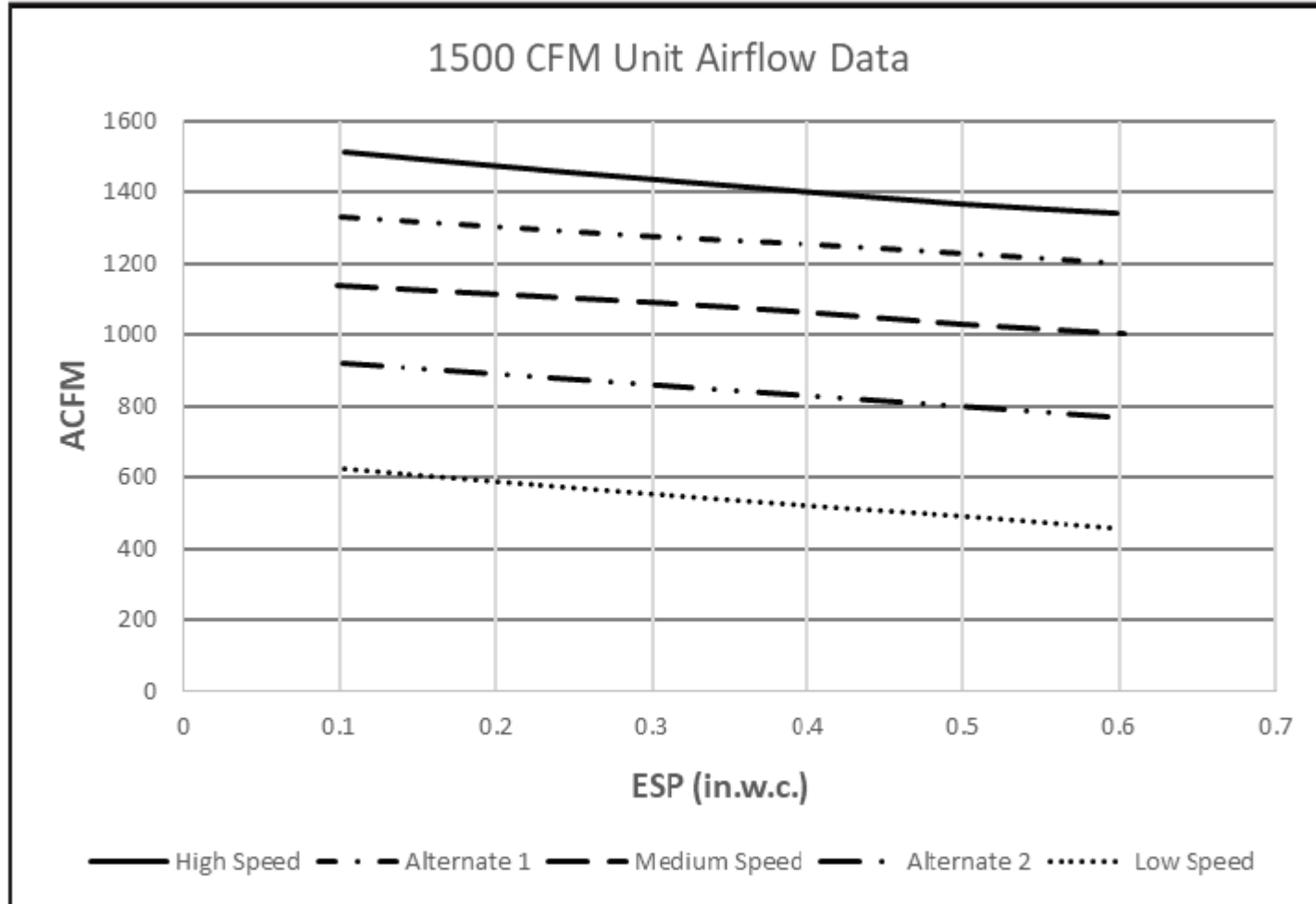


Flujo de aire basado en un pre filtro limpio a 115V con filtro HEPA aprobado por la fabrica.

Flujo de aire y presión medidos con un ducto flexible de 10' instalado.



Carrier OptiClean™



Flujo de aire basado en un pre filtro limpio a 115V con filtro HEPA aprobado por la fabrica.

Carrier OptiClean™

- Filtros pre instalados.
 - La unidad Carrier OptiClean se envía con dos filtros preinstalados para su comodidad: un prefiltro MERV 7 mínimo y un filtro HEPA
 - El reemplazo del filtro MERV 7 es de 60-90 días y debe estar disponible localmente*
 - El filtro HEPA de larga duración proporciona aprox. 40,000 horas de operación o 4 años, bajo operación y mantenimiento normales.
- Alerta de filtro / Indicador de presión.
 - Una luz roja se enciende cuando es hora de revisar o reemplazar uno o ambos filtros de la unidad.
 - Un interruptor verde de ON/OFF se ilumina cuando a unidad está encendida y funcionando.
- Se requiere un ensamblaje mínimo.
 - Las ruedas con Seguro y el conjunto de transición de conducto redondo se envían con cada unidad.

* Aplica para unidades de presión negativa únicamente, en el caso de los depuradores de aire el tiempo de vida del filtro se reduce.



Características y especificaciones del producto.

- El filtro HEPA de larga duración y 99.7% de eficiencia elimina partículas tan pequeñas como 0.3 micras.
- Filtro estándar MERV 7 o superior.
- Tamaños 500 CFM & 1500 CFM
- Cumple o excede el estándar 170 de ASHRAE: ventilación de instalaciones de atención médica.
- El diseño del marco y el sello del filtro cumplen con los requisitos de fuga de aire.
- Diseño vertical y una huella mas pequeña comparada con muchos competidores.
- Portátil y adaptable a casi cualquier ubicación de tamaño apropiado.
- Ruedas bloqueables de alta resistencia para facilitar el transporte .



Características y especificaciones del producto.

- Luz roja indicadora cuando es hora de reemplazar el filtro.
- El interruptor verde de ON/OFF se ilumina cuando la unidad está encendida y funcionando.
- Cable de alimentación de 10 pies de largo con alivio de tensión.
- Transición de desfogue al conducto redondo estándar de 10 pulgadas.
- El gabinete es de acero galvanizado, pre pintado y completamente aislado.
- 115V.
- Listado en UL® .
- Dimensiones del gabinete 17 5/8" ancho x 22 1/16" profundo x 49 5/8" alto.
- **Sonido probado para unidad de presión negativa 53 dB, prueba como depurador de aire 61 dB.**
- Garantía limitada de un año.



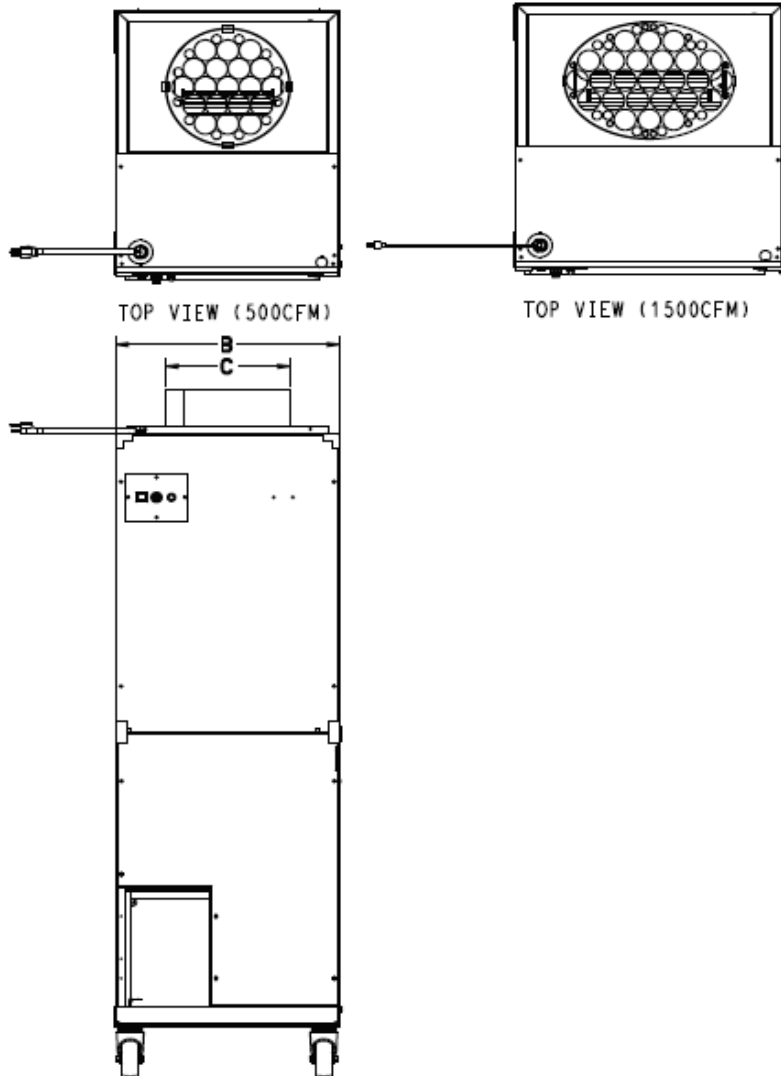
Características y especificaciones del producto.

Sound vs Airflow Data

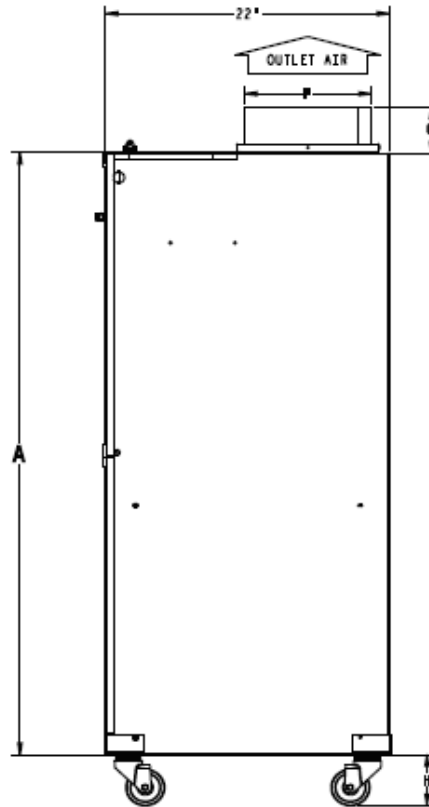
005 Model				
		Airflow*	as NAM (dB)	as Scrubber (dB)
		583	53	61
015 Model				
Motor Tap	Switch Position	Airflow	as NAM (dB)	as Scrubber (dB)
1	Low	555	51	53
2		860	56	59
3	Medium	1090	60	63
4		1275	61	65
5	High	1435	61	67

*. Airflow measured at 0.3 ESP (external static pressure). For other ESP values, see Static Pressure tables above.

Características y especificaciones del producto.

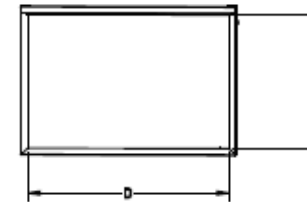


UNIT	SERIES	ELECTRICAL CHARACTERISTICS		A	B	C	D	E	F	G	H	SHIPPING WT (LBS)
FN1AAF005000	A	X		49 5/8"	17 5/8"	10"	15 1/2"	19 13/16"	10"	3 3/4"	3 5/8"	125
FN1AAF015000	A	X		53 7/16"	21 1/8"	13 3/8"	19"	19 13/16"	10"	3 3/4"	3 5/8"	150



NOTE:

1. SERIES DESIGNATION IS THE 4TH POSITION OF UNIT PRODUCT NUMBER
2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.
3. ALLOW 21" FROM FRONT FOR SERVICE
4. POWER CORD IS 10 FEET, 3 METERS LONG

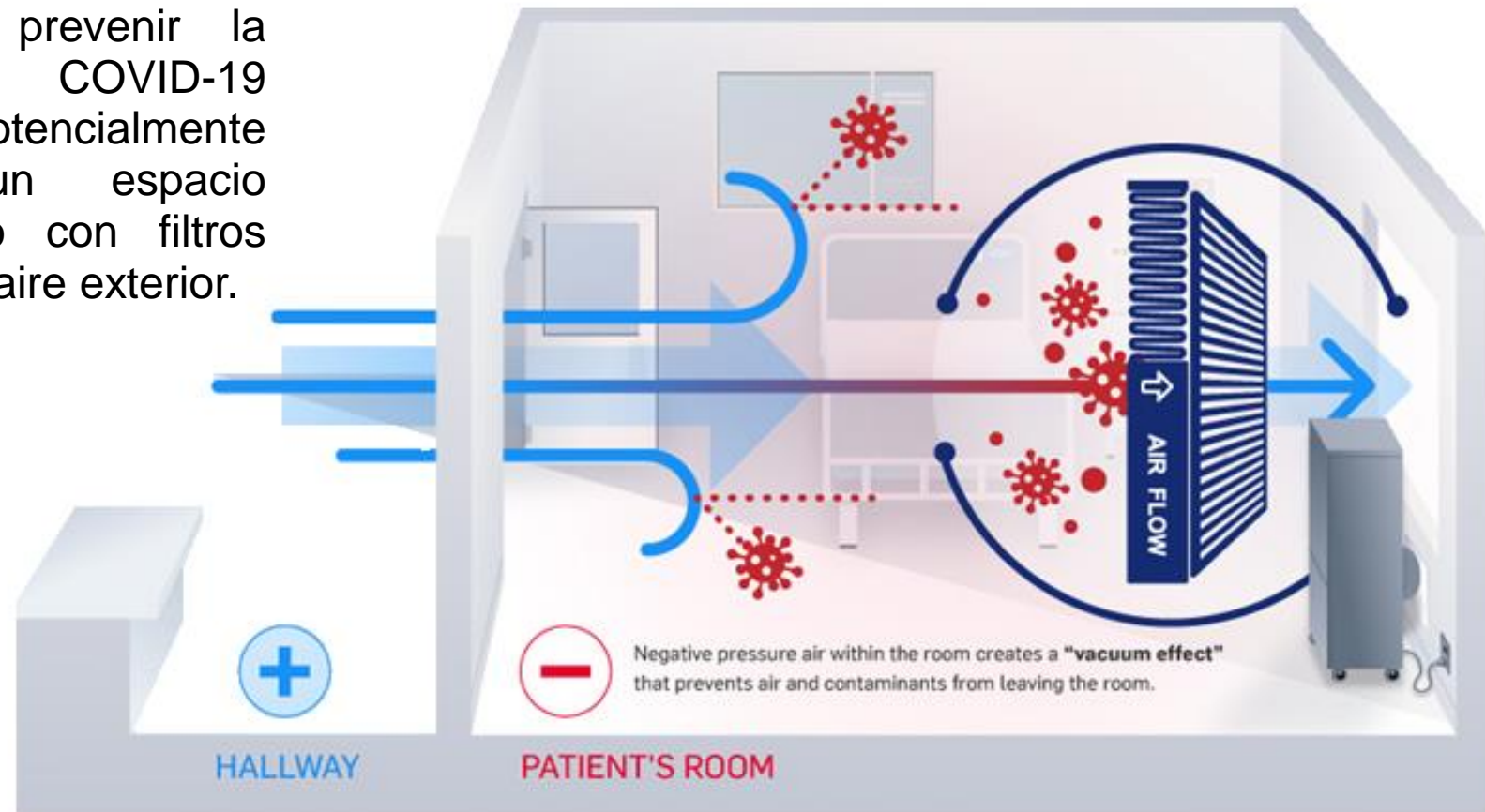


BOTTOM VIEW

Unidad de presión negativa.

Hospitales

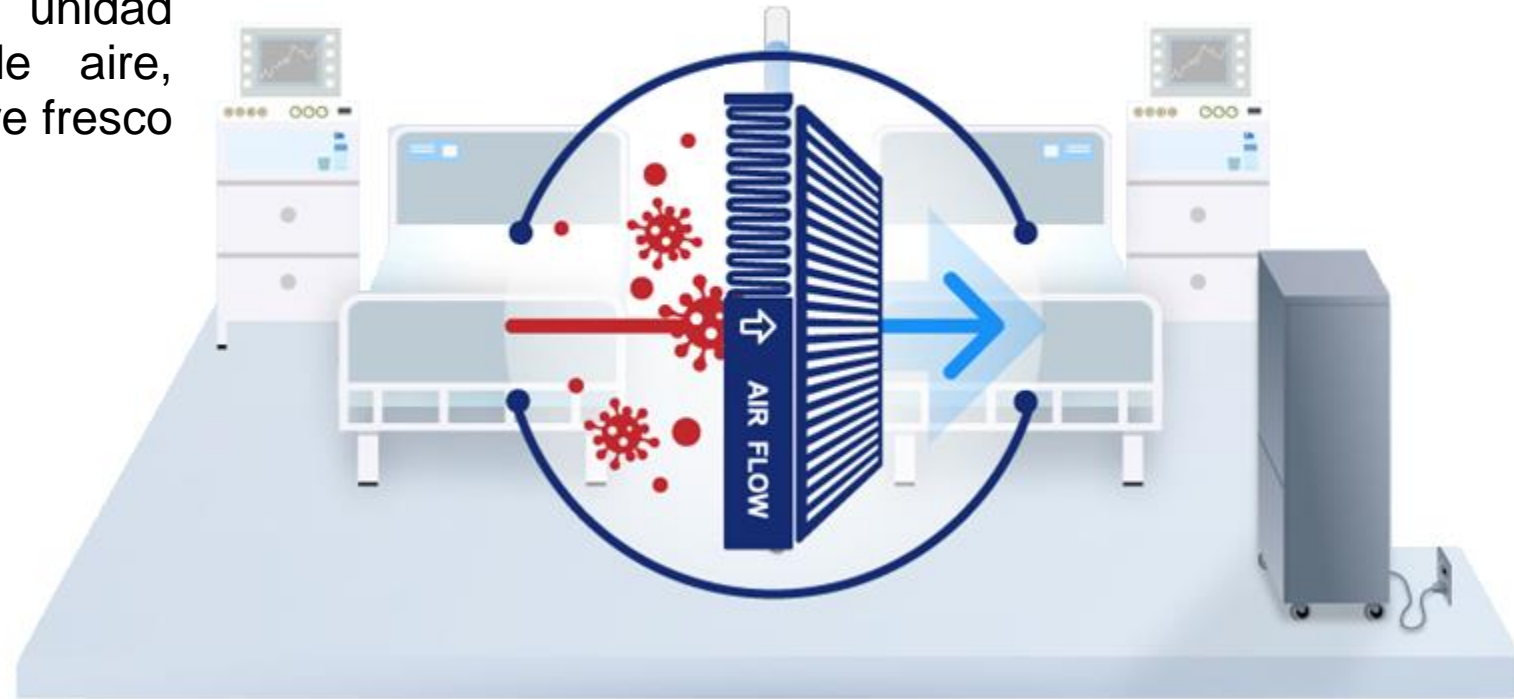
Carrier OptiClean puede ser usada en hospitales para prevenir la propagación de COVID-19 manteniendo aire potencialmente contaminado en un espacio específico, limpiándolo con filtros HEPA y ventilando con aire exterior.



Depurador de aire.

Hospitales al aire libre.

Si no se requiere a presión negativa como en los hospitales temporales al aire libre esta unidad puede ser usada como depurador de aire, removiendo contaminantes e inyectando aire fresco dentro del cuarto.



Carrier OptiClean™

Pruebas de campo de la unidad de presión negativa (500 CFM)

- **Rochester, NY:** Centro médico de la Universidad de Rochester. En uso como unidad de presión negativa en el área de observación y descarte de pacientes con COVID 19 desde el 13 de abril del 2020
- **Ogden, UT:** Hospital McKayDee. En uso como unidad de presión negativa en el área de cuidados intensivos para pacientes de COVID desde el 19 de abril del 2020
- **Baltimore, MD:** Centro médico de la Universidad de Maryland. Verificación de operación como una unidad NAM en el área desocupada 14/04/20



Testimonial Carrier OptiClean™ PR

New Carrier OptiClean™ Negative Air Machine to Help Hospitals Slow Spread of COVID-19

RAJAH BEACH GARDENS, FLA. - Apr. 16, 2020

Device cleans contaminated air and prevents it from spreading to different sections of a hospital; potential future uses include homes, businesses, and assisted living facilities

To help hospitals treating patients with the novel coronavirus (COVID-19), Carrier Global Corporation (NYSE: CARR) today launched the OptiClean™ portable negative air machine, which cleans and removes air potentially contaminated by the virus. In a closed room, the machine uses high-efficiency particulate air (HEPA) filters, an air management system to significantly reduce the presence of coronavirus and other contaminants in the air, and flexible ducting to exhaust the filtered air. The machine creates negative pressure so that when the hospital room door is opened, air is pulled into the room from outside instead of letting potentially contaminated air out from the room. If negative pressure is not required, such as in an open-air, temporary hospital, the machine can be used as an air "scrubber," pulling air in, removing many contaminants, and discharging cleaner air back into the room.

"During this global pandemic, it is essential that companies like Carrier do what we can to help stem the spread of the disease and protect caregivers, hospital workers, and patients," said Carrier President & CEO Dave Gilin. "Carrier's strengths lie in the expertise, creativity and passion of our employees to solve some of society's most challenging problems. I am so proud of our team for identifying a need and quickly developing an innovative solution that will have an immediate impact for hospitals throughout the country."

Reducing Risk in Hospitals

While hospitals generally have air filtration systems that reduce the spread of infectious diseases, those systems might only be available in certain sections of the hospital. The rate at which COVID-19 spreads has put inordinate strain on hospitals in the most affected cities, where there are more COVID-19 patients than there are infectious isolation rooms. As a result, hospitals have had to convert rooms that were not intended for patients with infectious diseases, and new field hospitals have been established that are not equipped with hospital-level air filtration.

"The Carrier negative air machine fills a significant need in these critical situations when it is necessary to create a negative offset in temporary facilities," said Mark Schwartz, Director of Facilities at the University of Rochester Medical Center, which trialed the machine. "As the number of coronavirus cases continues to grow, facilities must expand their capacity to treat patients in spaces that typically do not have the same air handling capabilities as hospital rooms, which are specifically designed for treating airborne infectious diseases. Solutions from Carrier like the OptiClean are necessary to effectively remove contaminants from the air, create negative pressure within the patient care space while protecting the adjacent areas, and slowing the spread of the disease."

Development and Distribution

Carrier began developing the OptiClean in late March. After quickly and successfully testing prototypes in Carrier facilities, the company began field trials in hospitals across the country and expects to begin shipping units shortly. The machines are portable, plug into a normal wall outlet, and sit on wheels that enable hospitals to move them to rooms as needed.

HEPA FILTERS

99.97% EFFICIENCY

30,000 CFM

100% HEPA

DOWNLOAD

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[Link to Press Release](#)

Otras aplicaciones.



- Oficinas.
- Asilos.
- Tiendas de conveniencia.
- Restaurantes.
- Tiendas minoristas.
- Consultorios dentales.

Application Sizing

Airside Systems

HEALTHCARE



Healthcare

Pautas de salud.

- ASHRAE-170
- Las habitaciones requieren 12 cambios de aire por hora.

Otras aplicaciones (Método del flujo de aire)

- 1 cfm per 1 ft²
- 1500 cfm per 1500 ft²



Recursos del producto.

HVAC Partners

- Catalogo del producto.
- Airside
- [Negative Air Machine](#)

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YOUR SINGLE SOURCE

All Products > Airside > Negative Air Machine

Airside ^

- Air Handlers
- Air Terminals
- Negative Air Machine**

FN1AAF Carrier OptiClean™ Negative Air Machine

Minimum 500 CFM

Resources Available.

- Boletines del producto.
- Hoja de datos del producto.
- Folleto del producto.
- Presentaciones.
- Instrucciones de instalación.
- Manual de operaciones y mantenimiento.
- Información de garantías.

Carrier

CARRIER OPTICLEAN™

NEGATIVE AIR MACHINE – MINIMUM 500 CFM
FN1AAF005000

The Carrier OptiClean negative air machine is a portable, minimum 500 CFM solution primarily designed to help convert normal hospital rooms into airborne infectious isolation rooms (AIIR). Designed to comply with ASHRAE's Standard 170 for Ventilation of Health Care Facilities, the Carrier OptiClean uses a 99.97% efficient filter and a heavy duty, yet quiet, motor to remove filtered contaminated air from the room. The resulting negative air pressure, or "vacuum effect," helps limit the spread of airborne contaminants into surrounding areas. If negative pressure is not required, such as an open-air, temporary hospital, the machine can be used as an air "scrubber," pulling air in, removing many contaminants, and discharging cleaner air back into the space.

Product Highlights and Specifications

<ul style="list-style-type: none">• 99.97% efficient, long-life HEPA filter removes particles as small as 0.3 microns• Standard MERV 7 or higher pre-filter• Minimum 500 CFM• Meets or exceeds the ASHRAE Standard 170: Ventilation of Health Care Facilities• HEPA filter rack and sealing design meet air leakage requirement• Vertical design for smaller footprint compared to many competitors• Portable and adaptable to nearly any appropriately-sized location• Heavy-duty, lockable casters for easy transport	<ul style="list-style-type: none">• Red filter indicator light alerts user when it's time to replace a filter• Green on/off switch illuminates when the unit is on and operating• Ten-foot long power cord with strain relief• Exhaust transition to standard 10-inch round duct included• Galvanized steel, pre-painted cabinet is fully insulated• 115V• UL® listed• Cabinet dimensions: 17-5/8" W x 22-1/16" D x 49-5/8" H• One-year limited warranty
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Recursos específicos para la salud.

HVAC Partners

- Marketing Tools
- Commercial Strategic Accounts
- Healthcare

[Healthcare Resource Page](#)

Dashboard > Marketing Tools > Commercial Strategic Accounts > Healthcare

HEALTHCARE



Healthcare

Contact Information

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Resources

Carrier HVAC Comfort Solutions for Temporary Facilities (flyer)
Carrier's Resonse to COVID-19 / Providing Essential Services (press release)
ASHRAE COVID-19 Guidance (.ppt)
ASHRAE Position Document on Airborne Infectious Diseases (.pdf)
ASHRAE Position Document on Infectious Aerosols (.pdf)
Negative Pressure and HVAC Measures for COVID-19 Surge Bed Units (.pdf)
MDH - Airborne Infectious Disease Management Methods for Temporary Negative Pressure Isolation (.pdf)
Immediate HVAC Solutions (website)
Healthcare Solutions (website)
US Army Corps of Engineers Alternate Care Sites (website)
Carrier OptiClean™ Negative Air Machine



Reemplazo de filtro HEPA.

[Guidance for Building Operations During the ... - ashrae.org](#)

<https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>

Considere los filtros contaminados, proteja al personal cambiándolos y séllelos en bolsas de plástico para su eliminación.



PREGUNTAS?

