



# A HEALTHIER FUTURE **STARTS** **INDOORS: MARINE**

As awareness and knowledge of infectious disease has increased around the world, cruise ships are looking to ensure passenger health and safety more than ever – and they're facing unique challenges in the process. Through engineering and administrative controls and healthy building strategies, owners and operators can navigate these challenges to protect passenger and staff health, enhance experiences and increase consumer trust. Together, we can help create a bright future for the industry – and that future starts indoors.

## MARINE PRIORITIES



## HEALTHY CRUISE SHIPS IN ACTION

Delivering a healthy ship requires ship owners and builders to focus on addressing foundational aspects of the indoor environment to positively impact the crew and passengers inside. Dr. Joseph Allen and a multidisciplinary team of experts from the Healthy Buildings Program at the Harvard T.H. Chan School of Public Health have identified these key areas as “The 9 Foundations of a Healthy Building.” Based on the 9 Foundations, we’ve outlined specific strategies cruise ship owners and operators can take to create healthy onboard environments.



### VENTILATION

Maximize outdoor air ventilation  
Monitor and control target ventilation



### AIR QUALITY

Implement multipoint indoor air quality (IAQ) monitoring  
Incorporate advanced IAQ controls



### THERMAL HEALTH

Design to appropriate comfort standard  
Advanced localized controls



### FILTRATION

Filter air at MERV 13 or higher  
Implement advanced purification solutions



### MOISTURE

Control to 40%-60% relative humidity



### NOISE

Design for minimum equipment background noise



## CARRIER HEALTHY BUILDINGS PROGRAM

As the inventors of modern air conditioning and a global leader in intelligent climate and energy solutions, Carrier has a legacy of creating safe and comfortable indoor environments. Now we're building on that legacy through our Healthy Buildings Program. Our experts have in-depth knowledge and experience in marine applications and a holistic suite of healthy building technologies and services to help meet the needs of the industry today and long into the future.

## HEALTHY ASSESSMENTS FOR MARINE

At Carrier, our experts are here every step of the way to help you develop a healthy strategy for your marine spaces – starting with assessments across three specific aspects of your ship or fleet.



### EMERGENCY ASSETS

Access to on-demand supplemental HVAC equipment in the event of emergency  
Detailed site evaluations  
Ensure system is able to meet your ventilation and IAQ requirements



### IAQ ASSESSMENT

Test air quality  
Develop and implement upgrades for optimal filtration, ventilation, airflow, controls, etc.  
Develop corporatewide IAQ engineering standards



### WELLNESS ASSESSMENT

WELL building standard certification  
WELL performance testing

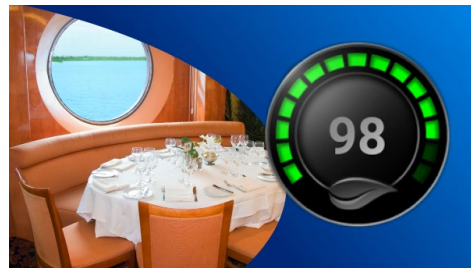
## AIRSIDE TECHNOLOGIES

### HEALTHY BUILDINGS SOLUTIONS FOR MARINE

Carrier offers a full suite of products and services designed to help create safe and healthy environments onboard today's ships. The following are just a few highlights of our offering.



[RMAP AIR PURIFIER](#)



[WEBCTRL®](#)

### HEALTHY BUILDINGS SERVICES FOR MARINE

Healthy cruise ships are about more than design and solutions. Ongoing management and operation are essential to optimizing indoor environments for efficiency, safety and occupant health and performance. Here are a few examples of Carrier remote services available to help.



#### REMOTE AIRSIDE MANAGEMENT

Manage IAQ and ventilation in line with best practices

Make changes and fix issues remotely

Optimize maintenance and operational costs

24x7 command center



#### REMOTE ENERGY MANAGEMENT

Provide advanced cloud-based analytics

Optimize energy efficiency, equipment uptime, occupant comfort and operational productivity

Actionable insights by CORTIX™ building IoT platform

Optimize autonomously or through a mobile application



#### REMOTE HVAC SERVICES

Maximize performance and efficiency

Increase uptime

Improve budgeting and scheduling

Fault detection and diagnostics



### GET STARTED WITH AN EXPERT

From safely setting sail to ensuring passenger confidence, a healthier future starts indoors. Let's work together to unlock the enormous potential of healthy cruise ships. Visit us at [carrier.com/healthybuildings](https://carrier.com/healthybuildings) to learn more about our Healthy Buildings Program and connect with one of our experts.



HEALTHYBUILDINGS

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