



# WEATHEREXPERT® ULTRA HIGH EFFICIENCY ROOFTOP UNITS

Tonnages: 6, 7.5, 10, 15



Flexible performance solutions for single zone, multi-zone, and high outdoor air applications

Model 48/50WE



## Introducing Carrier's WeatherExpert Single-Packaged Rooftop Units – The flexible solution for Efficient Comfort You and Your Tenants Can Depend On.

Carrier's ultra-high-efficiency 48/50WE rooftop unit with Puron Advance™ is engineered to deliver precise comfort, superior efficiency, and advanced operating control across a wide range of applications. The 48/50WE equipped with Carrier's EcoBlue™ vane axial fan system with three-stage cooling, modulating hot gas reheat, and intelligent low-load control to optimize performance at part-load and peak conditions alike. The result is consistent space comfort, reduced energy consumption, and a sustainable, high-performance rooftop solution built to meet today's most demanding design criteria.

### SMARTVU™ INTUITIVE INTELLIGENT CONTROLLER FEATURES:

- > Large, 7" touchscreen display
- > USB flash drive port for data transfer
- > Built-in i-Vu®, CCN, and BACnet®
- > Easy-to-read refrigerant pressures shown via the display – no checking gauges
- > Quick LED Status for Run, Alert, and Fault
- > Conventional thermostat or sensor capabilities
- > Historical component runtime and starts
- > Supply air tempering
- > Network Service Tool compatible



### POWERFUL, INTELLIGENT SYSTEM CONTROL

All 48/50WE units come standard with our powerful, intelligent SmartVu™ digital equipment controller. SmartVu, with its simple, user-friendly interface, makes setup, operation, monitoring and system troubleshooting as easy – and flexible – as possible.

### MODULATING HOT GAS REHEAT

The modulating hot gas reheat valve enables supply-air temperature control during dehumidification by allowing the 48/50WE to continuously adjust how much hot discharge gas is bypassed through the reheat coil.

### LOW LOAD VALVE

The Carrier high outside air rooftop unit is factory equipped with a low-load valve designed to help prevent freeze-ups by keeping the evaporator coil temperature from dropping too low during light-load conditions.



All 48/50WE units come standard with Puron Advance refrigerant and EcoBlue Technology.

**Puron**  
ADVANCE™

**ecoblue™** technology

## UNDER THE HOOD OF A 48/50WE

1. EcoBlue indoor fan
2. SmartVu Touchscreen Controller
3. 3-Stage Scroll Compressors
4. Copper Tube/Aluminum Fin Evaporator Coil
5. Galvanized Steel Double Wall Construction (Option)
6. Modulating gas heat or SCR electric heat available
7. Perimeter Base Rail with Rigging Adapters and Fork Slots
8. Corrosive-Resistant Composite Condensate Pan
9. Modulating Hot Gas Reheat
10. Hinged Panels



## 48/50WE ROOFTOP UNITS DELIVER EFFICIENT, COMFORT ACROSS MANY APPLICATIONS

The WeatherExpert platform delivers flexibility, adapting seamlessly to a wide range of application needs. Whether configured as a dedicated make-up air unit, a high-efficiency ventilation solution, a dependable single-zone air conditioner, or a versatile MZ VAV system, the 48/50WE provides a unified solution capable of meeting diverse project requirements.

The 48/50WE can operate like a DOAS to bring in 100% outdoor air when required, or like a standard RTU to blend return and outdoor air for consistent dilution of indoor pollutants. This flexibility helps maintain cleaner, fresher indoor environments across varying building conditions.

This system supports strong energy performance with an economizer factory installed optional parts which leverages favorable outdoor conditions to provide free cooling and reduce compressor runtime. Its three-stage compressor further improves efficiency by matching capacity to load, avoiding unnecessary full-capacity operation during part-load conditions.

### WeatherExpert 48/50WE Applications\*

Make Up Air System	Dedicated Ventilation System	Single Zone Air Conditioning	Multi-Zone Variable Air Volume
Delivers constant "neutral air" to the space	Delivers constant "neutral air" to the building	Delivers neutral air, cool air, or warm air to the space	Delivers 55°F air to zones with continuous fan & compressor
Used with or without space air conditioning units, such as VRF, DFS, WSHPs, etc.	Used in conjunction with space air conditioning units, such as VRF, DFS, WSHPs, etc.	Used with or without space air conditioning units, such as VRF, DFS, WSHPs, RTUs, etc.	Used with zone boxes to modulate air delivery and temperature to each zone.
Conditions and supplies 100% outdoor air operation to replace exhaust air	Conditions and supplies 100% outdoor air for building ventilation	Conditions mixed outdoor and return air for space air conditioning and ventilation or make-up air	Conditions mixed outdoor and return air for space air conditioning and meet ventilation requirements.
Common applications: Non-critical spaces, like gym changing rooms, kitchens and hallways	Common applications: Ventilation for schools, hotels, retail. Separate space air conditioning system required	Common applications: Non-critical spaces, like cafeterias, gymnasiums, classrooms	Common applications: Non-critical spaces, offices, conference rooms and classrooms
Performance down to 130 cfm/ton	Performance down to performance down to 130 cfm/ton	Standard cfm ranges Suitable for ~50% OA in non-extreme climates (regionally dependent)	Standard cfm ranges Suitable for ~50% OA in non-extreme climates.

\*48/50WE must be reconfigured to operate in each mode. Mode changes are not automatic and may require adjustments during installation.

# We Should Have Named it the 48/50W-Easy

These exceptional new rooftop units have been designed for easier installation, commissioning and maintenance.

- **Easy to install –**

These 48/50WE models have the same footprint as previous Carrier models, making them perfect for the replacement market. Clearly labeled connection points reduce installation time, and a large control box provides ample room to work and make accessory connections.

- **Easy to commission –**

All 48/50WE models include SmartVu touchscreen control, which can accommodate thermostat operation or building management system integration, to allow for simplified controls commissioning.



- **Easy to maintain –**

EcoBlue fan technology makes belts and pulleys a thing of the past to save time on installation, maintenance, and commissioning. Large hinged access panels with easy-grip handles provide quick entry to commonly accessed components, and our sloped, corrosion-resistant composite drain pan is virtually maintenance-free.

## OPERATING EFFICIENCY AND FLEXIBILITY

The 48/50WE rooftop units meet the DOE 2023 efficiency standard, as well as ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1 and IECC® (International Energy Conservation Code) requirements.

WeatherExpert 48/50WE Specifications

Nominal Cooling Ton Size	Cooling Stages	AHRI Efficiency IEER	Dimensions (in) LxWxH	Gas Heating Input Range (Btuh) 48WE	Electric Heat Range (kW) 50WE	Approx Unit Weight (lbs)
6	3	20.5	88×59×49	14-140	10.4-25.0	1059
7.5	3	20.5	116×63×57	16-160	16.0-36.0	1516
10	3	20.2	116×53×57	24-200	16.0-50.0	1596
15	3	18.8	141×86×57	30-300	24.8-50.0	2120

As you weigh your options for occupant comfort for your light commercial space, keep in mind that Carrier has been the innovative leader in the HVAC industry from day one. As the inventor of modern air conditioning, we are excited that you are considering a WeatherExpert Single-Packaged Rooftop Unit with EcoBlue technology. All 48/50WE models continue our tradition of excellence, innovation and comfort with Hybrid Heat technology that delivers efficient, lasting comfort you and building occupants can count on.



To learn more about the 48/50WE, simply scan the QR Code.



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