:: the dawn of a new era in commercial HVAC technology

The all-new Rheem® Commercial Renaissance Line featuring:

- VFD Technology
- Rheem HumidiDry™
- Rheem ClearControl™

7.5–12.5 Ton Package Air Conditioners (RACDZT, RACDZS, RACDZR)

3–12.5 Ton Package Gas Electric Units (RGEDZT, RGEDZS, RGEDZR, RGECZR)

7.5, 8.5 & 10 Ton Package Heat Pumps (RHPDZT, RHPDZS)
VFD Technology Helps Reduce Building Ventilation Costs by up to 60–80% Over Standard Rooftop Units

For different types of commercial buildings and occupancy, ASHRAE 62 and other building codes require ventilation rates that vary from 10–40% of the package unit airflow. Supply fans in standard package units use a constant, single high-speed airflow, resulting in maximum energy usage.

**Ventilation Energy Savings**

The Renaissance Line with VFD Technology reduces the supply fan speed to 62%, while still meeting fresh air requirements and saving up to 60–80% of overall supply fan operating cost. Modulating outside air dampers or modulating economizers are available along with field-installed CO₂ sensors (occupancy sensors) to maintain outside air ventilation requirements.

**Part Load Energy Savings**

Commercial equipment is sized for full load operation at maximum outdoor design conditions and indoor load, occurring only 10–30% of the time. VFD Technology can increase part load efficiency (IEER) up to 39% due to the reduction in indoor fan power during first-stage cooling.

**Improved Comfort**

A standard package unit in first-stage cooling operates the supply fan at 100% airflow. Operating in first-stage cooling at 62% airflow can remove more than twice as much moisture than a standard package unit. VFD Technology improves the comfort level by reducing the relative humidity in the conditioned space.

**Annual Unit Operating Cost Comparison**

<table>
<thead>
<tr>
<th>UNIT SIZE (NOMINAL TON) Without VFD</th>
<th>With VFD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>$1,573</td>
</tr>
<tr>
<td>8.5</td>
<td>$1,783</td>
</tr>
<tr>
<td>10.0</td>
<td>$2,098</td>
</tr>
<tr>
<td>12.5</td>
<td>$2,622</td>
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**Latent / Sensible Ratio**

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<td>7.5–12.5 Ton</td>
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**VFD is Available on 7.5–12.5 Ton Renaissance Prestige® Series (Standard Feature) and Classic Plus® Series (Option) Package Units.**

**Engineered for All Commercial Applications:**

- SCHOOLS
- RETAIL
- RESTAURANTS
- OFFICES
- HEALTH CLUBS
- HOTELS

**VFD Technology—brilliant efficiency, big savings.**

- REDUCED VENTILATION COSTS
  - Up to 60–80% reduction of indoor fan power consumption during ventilation and first-stage cooling
- ENHANCED EFFICIENCY
  - Improves part load efficiency (IEER) up to 39%
- INCREASED COMFORT
  - Removes twice as much moisture than standard package units for better humidity control

**This graph illustrates the following:**

- Low speed cfm = High speed cfm x (low speed watts / high speed watts)

- Low speed watts = high speed watts x (low speed cfm / high speed cfm)

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<td>8.5</td>
<td>$2,046</td>
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<tr>
<td>10.0</td>
<td>$2,407</td>
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<tr>
<td>12.5</td>
<td>$3,009</td>
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**Example 10 Ton Indoor Fan Power vs. Airflow:**

- Constant fan or first-stage cooling operation: 3729 cfm @ 1416 watts
- With VFD: Constant fan or first-stage cooling operation: 2244 cfm @ 404 watts

This graph illustrates the following:

- Low speed cfm = High speed cfm x (low speed watts / high speed watts)

- Low speed watts = high speed watts x (low speed cfm / high speed cfm)
The Renaissance™ Line Features HumidiDry, providing maximum humidity control without compromising the desired temperature set point. As one of our signature works of technology, it keeps humidity levels constant even when there’s little or no demand for air conditioning. HumidiDry gives business owners independent control of temperature and humidity, delivering a high degree of energy savings, performance and comfort.

**ADVANCED COMFORT**
Removes moisture from the inside unit while it is running, even when it is cooling mode.

**SERVING ACCESS**
Designed for easy maintenance with 1-1/2-hour service access, slide-out drain pan, blowers and filters, plus external gauge ports.

**NEUTRAL AIR**
Outdoor fan motor controller modulates condenser fan speed in relation to line temperature to maintain neutral air delivery over a wide range of indoor and outdoor conditions.

**VFD TECHNOLOGY**
The first system in the dehumidification market to incorporate a VFD that operates at a lower speed on first-stage cooling when in the reheat mode and when operating in occupied fan mode.

**CLEANCORE™ SYSTEM DIAGNOSTICS**
The keypad-driven menu and a two-line, 16-character display for convenient system communication and BAS-control capable control help identify problems quickly.

**FEATURES: HUMIDIDRY VS. STANDARD ROOFTOP UNIT**

<table>
<thead>
<tr>
<th>Feature</th>
<th>HumidiDry Series</th>
<th>Standard Rooftop Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dehumidification without a call for cooling</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Better dehumidification than temperature-based systems</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Full-load dehumidification with split-load cooling</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Improved latent capacity over cooling operation</td>
<td>Yes</td>
<td>No</td>
</tr>
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*HumidiDry is available on 2020 models, and will be available on 3-6 ton ZR/ZS models in 2020.*

**COMPARISON: MOISTURE REMOVAL**

<table>
<thead>
<tr>
<th>GALLONS PER HOUR</th>
<th>OPTIMUM ZONE</th>
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<td>Standard Unit</td>
<td>HumidiDry with VFD Low Fan</td>
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</table>

*When the temperature is desirable, but humidity exceeds the humidistat set point, HumidiDry initiates a dehumidification cycle using a combination of hot gas and subcooling reheat. During this cycle, HumidiDry delivers dry, conditioned air.*

*On the two-stage system, it is possible for both the thermostat and humidistat to register readings above set point. Under this condition, the first-stage system runs in the dehumidification cycle, the second-stage system runs in a cooling cycle and VFD operates on high speed. This provides dry, conditioned air.*
The New Renaissance™ Line Provides ClearControl™ as an option, allowing real-time system access, monitoring and communication between commercial units worldwide. Factory-installed Direct Digital Control (DDC) and sensors, which can connect to LonWorks™ or BACnet® BAS systems, offer flexible remote control and extensive diagnostics for all unit functions—helping to keep your customer’s business up and running with added peace-of-mind.

SYSTEM FAILURE PROTECTION
Ensure proper performance by analyzing key parameters such as: High & Low Pressure Control; Air Proving; Filter Indicator; Freeze-Stat Sensor; Return Air Sensor; Discharge Air Sensor; and Outdoor Air Sensor. Any issue is clearly communicated to the contractor on the Alarm Menu.

FASTER & SIMPLER SERVICE CALLS
No more wasted time interpreting codes or counting flashing lights. The system condition or current function is immediately spelled out on a two-line, 16-character LCD screen—eliminating the need for complicated code charts.

INTELLIGENT TROUBLESHOOTING
Industry-leading diagnostics manage and report on over 100 different system conditions and functions, enabling contractors to identify and address system maintenance more efficiently.

APPLICATION OPTIMIZATION
Keypad menu allows for swift navigation with “left & right arrows,” “up & down arrows” and a “center ‘enter’ button” for simple, maximized information retrieval.

ENERGY COST SAVINGS
Smart equipment performs brilliantly and more efficiently to satisfy the comfort requirements of the customer and ensures eco-friendly operation year round.

BUILDING CONTROL PANEL
Normally located in the building’s mechanical room, it maintains the operational schedule of the HVAC system and other building systems.

ZONE SENSORS
Positioned in each zone, sensors enable the occupant to override current system operation.

The LEAP Standard Leadership in Energy and Environment Design. Stems from a rating system that is the nationally accepted benchmark for the design, construction and operation of high performance green buildings.

**POWER:** 18–30VAC, 50–60Hz. 10W power consumption

**ENVIRONMENTAL OPERATING RANGE:** 40° to 158°F (-40° to 70°C), 10–95% RH non-condensing

**INPUTS:**
- Space Temperature
- Return Air Temperature
- Supply Air Temperature
- Outdoor Air Temperature
- Evaporator Temperature
- Condenser Temperature

**OUTPUTS:**
- Economizer
- Fan
- Cooling Stage 1
- Heat Stage 1
- Cooling Stage 2 / Heat Stage 2 / Exhaust / Reversing Valve
- “L ” Terminal for Thermostat

**COMMUNICATION PORTS:**
- Modbus RTU with Baud rate of 19,200 bits/sec
- LonWorks communication card
- BACnet communication card with RS-485 BACnet MS/TP and RJ-45 BACnet IP/Ethernet Network Connector

**ORIGINAL DIMENSIONS:**
7” (width) x 6 1/4” (height) x 1 1/4” (depth), 180mm (width) x 160mm (height) x 50mm (recommended panel depth)

The Renaissance Line is compatible with standard 24-Volt Programmable Thermostats.

:: Rheem® ClearControl™—smart communication. ultimate control.
Building on nearly a century of industry-leading innovations, Rheem was the first manufacturer to include Scroll™ compressor technology and one of the first to offer R-410A package heat pump solutions above five tons. Rheem led the way with micro-channel heat exchangers in 3–5 ton package units—and with the HAC® Rooftop Unit featuring eSync™ Integration Technology—a first-of-its-kind commercial integrated air and water system. The next step in this evolution is the Renaissance™ Line—commercial HVAC solutions designed to provide perfect comfort, flexibility and support for any business applications.

RHEEM-OWNED SELECTION TOOLS SOFTWARE
Rheem provides a free software portfolio developed with easy-to-use, smart selection tools you need to specify, select and document all Rheem equipment—including factory-installed options and field-installed accessories for all commercial applications.

DEDICATED TECHNICAL SUPPORT
Rheem offers a dedicated Support Team, plus resources such as our partner portal MyRheem.com, Innovation Learning Centers across the country, live product assistance and much more to support you and your customers at every step.

FLEXIBLE PRODUCT OPTIONS
The Renaissance Line is full of smart options and must-have accessories, which can be factory- or field-installed—ensuring your customers get a customized solution to suit their business needs.

RHEEM COMMERCIAL KWIKCOMFORT® FINANCING
Rheem has partnered with Fernwood Capital to offer customized financing plans that meet the specific needs of the customer, allowing them to obtain commercial equipment, with costs of $5,000–$3 million, that will facilitate their continued business growth.

WIDE PRODUCT AVAILABILITY
Rheem offers an ever-expanding range of heating and cooling solutions, plus a vast distribution network across the US and Canada—making it easier than ever to get the right product at the right time and in the right place, driving uptime for your customers.

In keeping with its policy of continuous progress & program improvement, Rheem reserves the right to make changes without notice.

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Help your customers create their next commercial masterpiece. Visit Rheem.com/Renaissance today.