



**TRANE®**

*Cooling and Heating  
Systems and Services*

# Air-Cooled Series R™ Helical-Rotary Liquid Chiller

---

**Model RTAC 120 to 400  
(400 to 1500 kW – 50 Hz)  
Built for the Industrial and  
Commercial Markets**



Model RTAC size 155

---

**RLC-PRC005-E4**

## Introduction

---

The Trane Model RTAC Air-Cooled Helical-Rotary Chiller is the result of a search for higher reliability, higher energy efficiency, and lower sound levels for today's environment.

In an effort to reduce energy consumed by HVAC equipment and to continually produce chilled water, Trane has developed the Model RTAC chiller with higher efficiencies and a more reliable design than any other air-cooled chiller available on the market today.

The Model RTAC chiller uses the proven design of the Trane helical-rotary compressor, which embraces all of the design features that have made the Trane helical-rotary compressor liquid chillers such a success since 1987.

The RTAC offers high reliability coupled with greatly improved energy efficiency, vastly reduced physical footprint, and improved acoustical performance, due to its advanced design, low-speed, direct-drive compressor, and proven Series R™ performance.

The major advantages of the Series R, Model RTAC are:

- 99.5% reliability rate
- Smaller physical footprint
- Lower sound levels
- Higher energy efficiency
- Designed specifically for operating with environmentally-safe HFC-134a.

The Series R Model RTAC helical-rotary chiller is an industrial-grade design, built for both the industrial and commercial markets. It is ideal for schools, hospitals, retailers, office buildings, and industrial applications.

*Figure 1 - Model RTAC size 350*



# General Data

## SI Units

**Table G-1 - General Data RTAC 140-200 Standard**

| Size   |                   | 140       | 155       | 170       | 185       | 200       |
|--|-------------------|-----------|-----------|-----------|-----------|-----------|
| Cooling capacity (5) (6)   | kW                | 491.9     | 537.3     | 585.4     | 648.0     | 714.5     |
| Power input (7)  | kW                | 170.1     | 187.8     | 206       | 224.7     | 244.2     |
| Energy Efficiency Ratio (5) (6) (as Eurovent)  | kW/kW             | 2.89      | 2.86      | 2.84      | 2.89      | 2.93      |
| ESEER (as Eurovent)  | kW/kW             | 3.68      | 3.68      | 3.61      | 3.43      | 3.67      |
| IPLV (According to ARI conditions 44°F leaving water temperature, 95°C entering air temperature) | kW/kW             | 4.20      | 4.16      | 4.10      | 4.09      | 4.19      |
| <b>Compressor</b>  |                   |           |           |           |           |           |
| Quantity   |                   | 2         | 2         | 2         | 2         | 2         |
| Nominal Size (1)   | tons              | 70/70     | 70/85     | 85/85     | 85/100    | 100/100   |
| <b>Evaporator</b>  |                   |           |           |           |           |           |
| Evaporator Model   |                   | H140      | H155      | H170      | H185      | H200      |
| Water Storage  | l                 | 112       | 122       | 127       | 135       | 147       |
| Minimum Flow   | l/s               | 13        | 14        | 13        | 14        | 16        |
| Maximum Flow   | l/s               | 44        | 49        | 46        | 49        | 55        |
| Number of water passes   |                   | 2         | 2         | 2         | 2         | 2         |
| <b>Condenser</b>   |                   |           |           |           |           |           |
| Quantity of Coils  |                   | 4         | 4         | 4         | 4         | 4         |
| Coil Length  | mm                | 3962/3962 | 4572/3962 | 4572/4572 | 5486/4572 | 5486/5486 |
| Coil Height  | mm                | 1067      | 1067      | 1067      | 1067      | 1067      |
| Fin series   | fins/ft           | 192       | 192       | 192       | 192       | 192       |
| Number of Rows   |                   | 3         | 3         | 3         | 3         | 3         |
| <b>Condenser Fans</b>  |                   |           |           |           |           |           |
| Quantity (1)   |                   | 4/4       | 5/4       | 5/5       | 6/5       | 6/6       |
| Diameter   | mm                | 762       | 762       | 762       | 762       | 762       |
| Total Air Flow   | m <sup>3</sup> /s | 35.45     | 39.19     | 42.94     | 47.23     | 51.53     |
| Nominal RPM  |                   | 915       | 915       | 915       | 915       | 915       |
| Tip Speed  | m/s               | 36.48     | 36.48     | 36.48     | 36.48     | 36.48     |
| Motor kW   | kW                | 1.57      | 1.57      | 1.57      | 1.57      | 1.57      |
| <b>Minimum Starting/Operating Ambient (2)</b>  |                   |           |           |           |           |           |
| Standard Unit  | °C                | 0         | 0         | 0         | 0         | 0         |
| Low-Ambient Unit   | °C                | -18       | -18       | -18       | -18       | -18       |
| <b>General Unit</b>  |                   |           |           |           |           |           |
| Refrigerant  |                   | HFC 134a  | HFC 134a  | HFC 134a  | HFC 134a  | HFC 134a  |
| Number of Independent Refrigerant Circuits   |                   | 2         | 2         | 2         | 2         | 2         |
| % Minimum Load (3)   |                   | 17        | 17        | 17        | 17        | 17        |
| Operating Weight (4)   | kg                | 4481      | 4659      | 4794      | 5366      | 5488      |
| Shipping Weight (4)  | kg                | 4525      | 4691      | 4834      | 5399      | 5508      |

**Notes:**

1. Data containing information on two circuits shown as follows: ckt1/ckt2
2. Minimum start-up/operation ambient based on a 2.22 m/s (5mph) wind across the condenser.
3. Percent minimum load is for total machine at 10°C (50°F) ambient and 7°C (44°F) leaving chilled water temperature, not each individual circuit.
4. With aluminium fins.
5. At Eurovent conditions, 7°C leaving water temperature and 35°C entering condenser air temperature.
6. Ratings based on sea level altitude and evaporator fouling factor of 0.044 m<sup>2</sup>K/kW
7. Unit kW input, including fans



**TRANE®**

Cooling and Heating  
Systems and Services



LONMARK®  
SPONSOR

---

|                         |                    |
|-------------------------|--------------------|
| Literature Order Number | RLC-PRC005-E4      |
| Date                    | 0110               |
| Supersedes              | RLC-PRC005-E4_0409 |

---

*Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice. Only qualified technicians should perform the installation and servicing of equipment referred to in this publication.*

**www.trane.com**

For more information, contact your local  
sales office or e-mail us at [comfort@trane.com](mailto:comfort@trane.com)

Trane bvba  
Lenneke Marelaan 6 - 1932 Sint-Stevens-Woluwe, Belgium  
ON 0888.048.262 - RPR BRUSSELS