



**TRANE®**

## **RTAD Air-Cooled Series R® Helical-rotary liquid chillers**

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*270-630 kW*

*Integrated Free-Cooling*

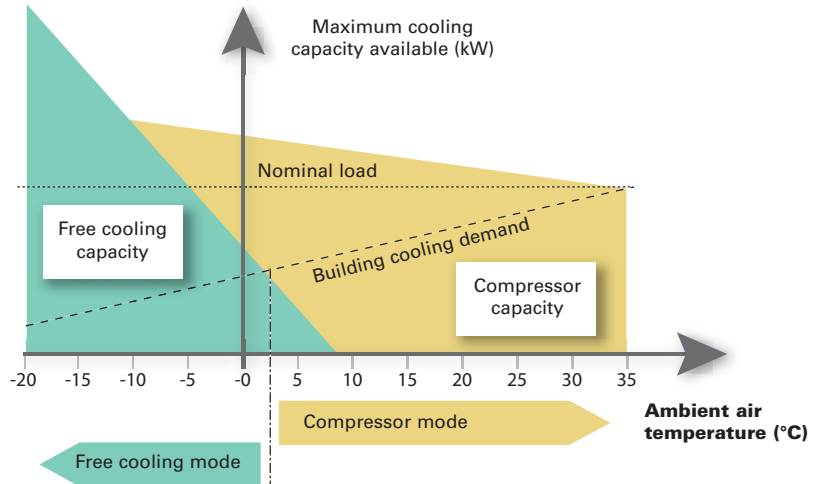




## Substantial energy savings during the cold season

RTAD Free-Cooling chillers are equipped with an additional heat exchanger in order to cool directly the building water loop with the outside ambient air. When the unit control detects that the Free-Cooling heat exchangers can overcome the cooling demand, the compressors are turned off. Only unit fans are remaining in operation. The energy consumption during the cold season is thus considerably reduced. **Yearly operation cost can be significantly reduced**, depending on the remaining winter cooling demand.

### Cooling Capacity Available versus Outside Ambient Temperature



## Is your building a good candidate to implement RTAD Free-Cooling ?

TRANE provides assistance in running extensive load simulations taking into account the specificity of your building which will determine whether it can benefit from the savings generated from the implementation of a RTAD Free-Cooling chiller.

Buildings with no cooling load in winter would not show a favorable payback period as would buildings with a high remaining load in winter as compressors would have to be maintained in operation for a longer period, thus limiting potential savings.

In general, the ideal situation is a building presenting a moderate remaining cooling load in winter, located in region where a significant number of hours below 0°C is encountered every year.

### Pre-determining Free-Cooling eligibility

#### Remaining cooling load in winter

		Null	Low	Medium	High
N=Number of hours below 0°C per year	N<850	D	B	C	D
	850<N<1550	D	B	B	C
	N>1550	D	A	B	B

- A = High savings and shortest payback period
- B = Savings will likely justify the implementation of Free-Cooling
- C = Savings might not justify the implementation of Free-Cooling
- D = No justification of implementation of Free-Cooling

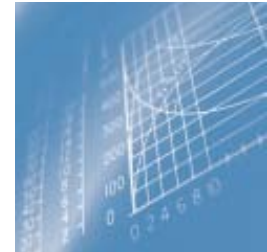




# Trane's offer goes beyond free-cooling technology

## Fully factory packaged equipment

Only one hydraulic connection (inlet /outlet) and one electrical connection on site. No additional external piping is required.



**Installation time is minimized**

## Single Source responsibility

Trane will provide and commission the complete equipment.

**No specific resource required to manage the project**

## Helical Rotary Technology

Designed to perform, Built to last. Since two decades, TRANE Helical Screw compressors superior design (hermetic design, low speed direct drive, no oil pump) has established a standard in terms of high reliability, longer life design and low maintenance requirements. This is even more important for all jobs where Free-Cooling option is implemented as typically a high number of hours of operation is expected.

## TRANE support to design, install, set-up, optimize your chilled water production

Trane can provide you the necessary assistance at all stages of the project in order to optimize equipment selection and operation.

**Guarantee of better return on investment**

**Higher dependability**



## Full Control of technology Implemented

With the control of the design of the main equipment components, Trane is able to fully optimize the operation in order to minimize energy consumption and maximize unit dependability.

**Reduced Operation Cost**

## Adaptive Control

Trane adaptive control has been designed to guarantee that chiller is kept on line even under most severe situations, hotter than average summer as well as colder than expected winter.

**Start-up and operation are safe and trouble-free.**

## Worldwide service support

Trane can provide in every European country the same level of service you can expect from an industry leader, whether you require assistance for preventive maintenance or emergency repair. This is even more important for project which are maintained in operation all year long.

**Higher dependability**

## General Data

Standard unit size		085	100	115	125	145	150	165	180
<b>Compressor mode</b>									
Cooling capacity (1) (3)	(kW)	271	316	371	435	498	528	583	623
Power input (1) (4)	(kW)	107.4	125.7	161.2	197.7	206.0	229.6	240.2	264.9
Coefficient of Performance	(kW/kW)	2.5	2.5	2.3	2.2	2.4	2.3	2.4	2.4
<b>Free Cooling mode (7)</b>									
Cooling capacity (2) (3)	(kW)	170	221	239	251	312	312	380	382
Power input (2) (5)	(kW)	15.4	14.5	14.6	20.5	21.9	25.2	26.7	30.0
Coefficient of Performance	(kW/kW)	11.1	15.3	16.4	12.3	14.2	12.4	14.2	12.7
Refrigerant		R134a							
Number of refrigerant circuits		2	2	2	2	2	2	2	2
Number of compressors		2	2	2	2	2	2	2	2
Evaporator water connection diameter	(mm)	114.3	141.3	141.3	141.3	141.3	141.3	168.3	168.3
Length	(mm)	3900	4850	4850	4850	5770	5770	6810	6810
Width	(mm)	2420	2420	2420	2420	2420	2420	2460	2460
Height	(mm)	2603	2603	2623	2623	2643	2643	2743	2743
Shipping weight (6)	(kg)	3456	4000	4721	4895	5727	5939	6960	7048
Operating weight (6)	(kg)	3781	4587	5387	5542	6395	6607	7978	8064

(1) Evaporator temperatures 13/7°C, fouling factor 0.0176 m<sup>2</sup>·°K/kW, ambient temperature 35°C

(2) Evaporator temperatures 17/11°C, fouling factor 0.0176 m<sup>2</sup>·°K/kW, ambient temperature 0°C

(3) Net cooling capacity = Cooling capacity

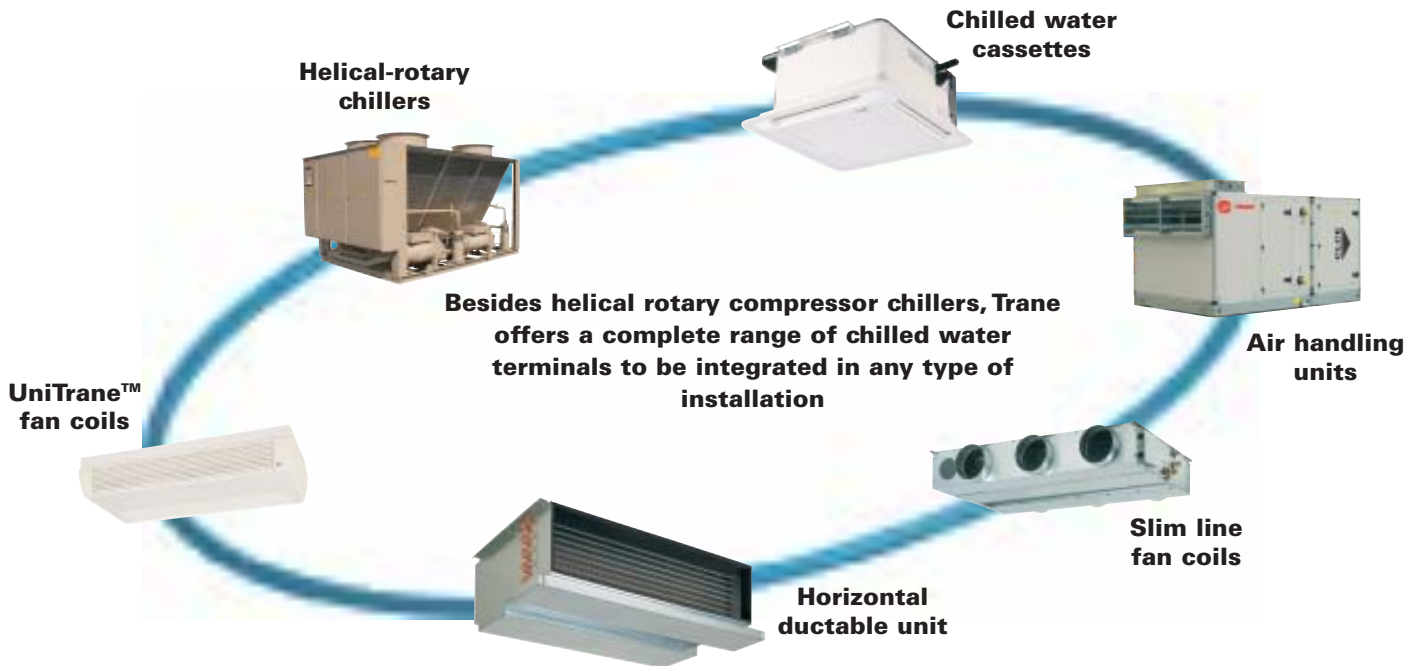
(4) Net power input = Compressors/fans power input + Control, in accordance with Eurovent Certification Program

(5) Net power input = fans power input + control, in accordance with Eurovent Certification Program

(6) With aluminium fins (7)

(7) Data with 50% water flow - 30% ethylene glycol

## Trane comfort chilled water systems



Quality Management  
System Approval



LONMARK®  
SPONSOR



Literature Order Number RLC-SLB013-E4

Date 0505

New

Literature Stocking Location Europe

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

[www.trane.com](http://www.trane.com)

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

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