

# Water-Cooled Screw Chillers and Water/Water Heat Pumps

## RTWD

Model RTWD (R134a) 240 - 1005 kW  
Model RTWD G (R1234ze) 365 - 815 kW



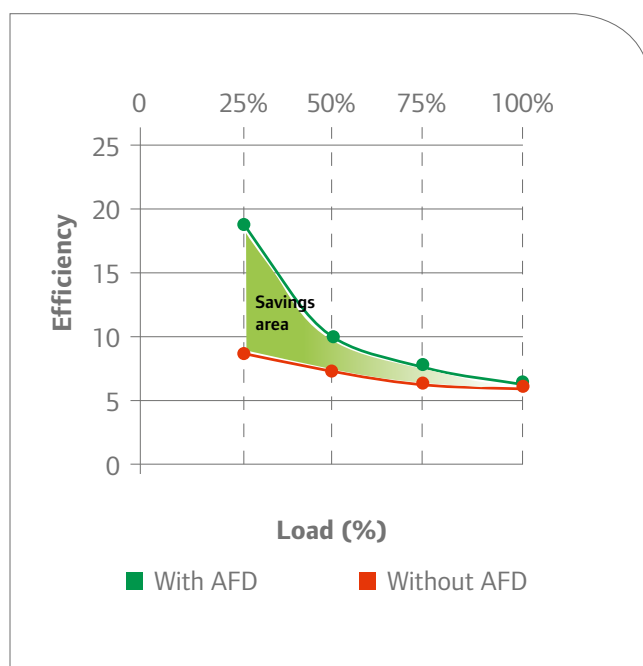
# A Sustainable HVAC Solution with Unmatched Levels of Performance, Comfort and Economy

High performance buildings need high performance, sustainable HVAC systems. Your buildings need to be supremely energy efficient, today, tomorrow and long into the future. A Trane RTWD chiller provides reliable and dependable performance to ensure continuous delivery of precise temperature control across the full spectrum of demanding comfort and industrial applications.

This model RTWD is available with a choice of refrigerants: R134a or R1234ze which has a GWP value of less than one to exceed current F-Gas legislation requirements and help customers reduce carbon dioxide (CO<sub>2</sub>) emissions and achieve extreme part load and full load efficiencies.

## Energy efficiency

To reach the highest standards of efficiency, Trane has more than 100 years of engineering expertise, world leading research and the most rigorous testing. As a result, the RTWD chiller achieves market-leading EER (Energy Efficiency Ratio) and ESEER (European Seasonal Energy Efficiency Ratio).



## Versatility

Whether your building requires comfort cooling or precision temperature control as part of a sensitive industrial process, Trane offers suitable RTWD models.

## Minimized total cost of ownership

Energy costs are minimized by optimizing efficiency. Maintenance costs are reduced as a result of effective performance and alarm monitoring linked to equipment with proven dependability. Installation costs are lower thanks to design improvements which reduce the time required for new plants or upgrades. An Adaptive Frequency™ Drive, available with the top of the range RTWD High Seasonal Efficiency model, reduces energy consumption even further by improving your chiller's efficiency under reduced load conditions.

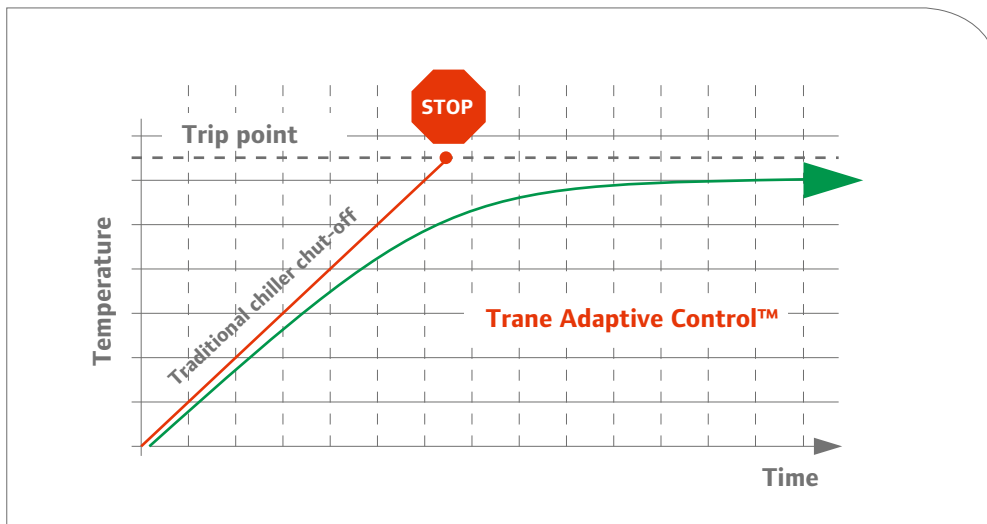
## Trane exceptional reliability

Your facility depends on a reliable HVAC system for employee comfort and well-being as well as for critical process applications. Trane reliability is based on over 100 years of designing, testing, installing and maintaining chillers around the world. Every Trane product guarantees that unique heritage and the pride we have in being the best at what we do.

# Leading Control Technology

## Trane Adaptive Control™:

### Tracer® CH530



## Driving Reduced Energy Consumption

Developing our own control algorithm and software is one of our unique strengths. Trane does not just use a controller from a vendor and adapt it to its units. We take the matter a step further and develop the unit from the beginning.

### Patented control algorithms

- The Tracer™ CH530 provides the intelligence behind the RTWD chiller and features Adaptive Control algorithms: proprietary control strategies that respond to a variety of conditions to maintain efficient operation
- Total chiller control through continuous monitoring

### Visibility

- Full system status at a glance
- Clear display of key operating parameters

### Ease of use

- The display shows key operating parameters and allows quick access to critical data
- Intuitive navigation allows quick access to critical data
- Main processor in the control panel

### Operational effectiveness

- Data trending
- Clear alarm log enables fast response and rapid resolution
- Adaptive Control algorithms preempt chiller disruption



*A leading combination: the proven Trane Adaptive Control™ Controller and the easy-to-use interface.*

# The Future of F-Gases

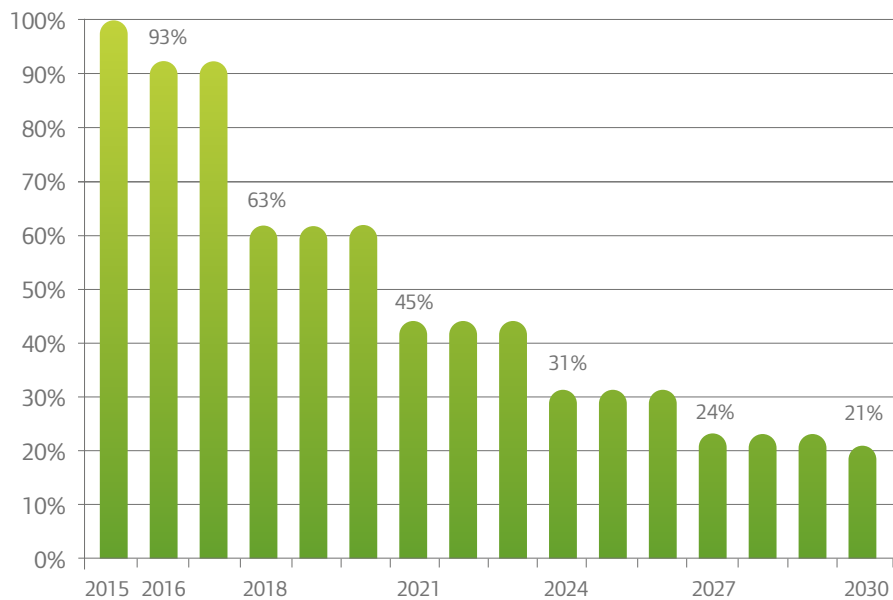
The fluorinated refrigerants phase-down, as defined in the new EU F-Gas Regulation, is a step-by-step approach where the quantities of HFCs expressed in CO<sub>2</sub> equivalent that are placed on the market are gradually reduced. As a result of the phase-down, HFC consumption will be reduced by 79% by 2030.

This is an unprecedented reduction and means that industry and users need to make, over time, the transition to refrigerants with a lower global warming potential.

Trane, recognized as a leading innovator in the HVAC industry, introduces this new, next generation, lower GWP refrigerant in Sintesis and other products to be front running in the marketplace and to support your strong sustainability objectives.

*Ingersoll Rand and Trane - providers of sustainable solutions.*

## HFC consumption



Baseline value (100%) is the annual average of total quantity of CO<sub>2</sub> equivalents placed on the EU market from 2009 to 2012.

# An environmentally sustainable solution

## EcoWise™

RTWD chillers and heat pumps with low GWP refrigerants are part of the Ingersoll Rand EcoWise™ portfolio of products that are designed to lower their environmental impact with next-generation, low global warming potential (GWP) refrigerants and high-efficiency operation.



- **New R1234ze**
- Ozone depletion potential = 0
- Low global warming potential (GWP<1)

Refrigerant	Global Warming Potential (GWP)
R410A	1924
R407C	1774
R134a	1300
R513A	572
R1233zd	1
R1234ze	<1

### What is GWP?

GWP is the global warming impact relative to the impact of the same quantity of carbon dioxide over a 100 year period.

### What is ODP?

Ozone depletion potential of a chemical is the amount of degradation to the ozone layer it can cause.



## 1 Easier to use

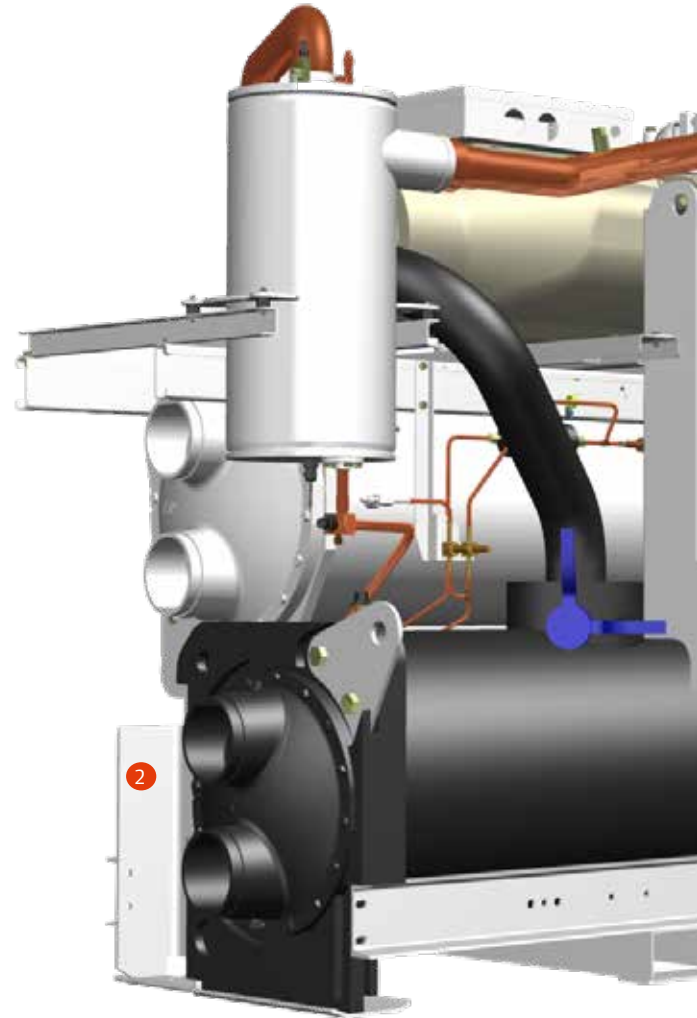
### Trane AdaptiView™ CH530

The control comprises a LCD display for user-friendly monitoring at the local level and various communication interfaces (LonTalk®, BACnet® and Modbus) for easy integration into a BMS.



## Two different refrigerant alternatives

R134a and R1234ze with GWP<1



## 2 Proven Trane reliability

- Trane design simplicity
- Trane direct drive, low speed, semi-hermetic compressor with only 3 moving parts
- Infinite unloading for exact load matching
- RTWD uses system differential to move oil, not an oil pump, meaning no extra moving parts to wear out or break down

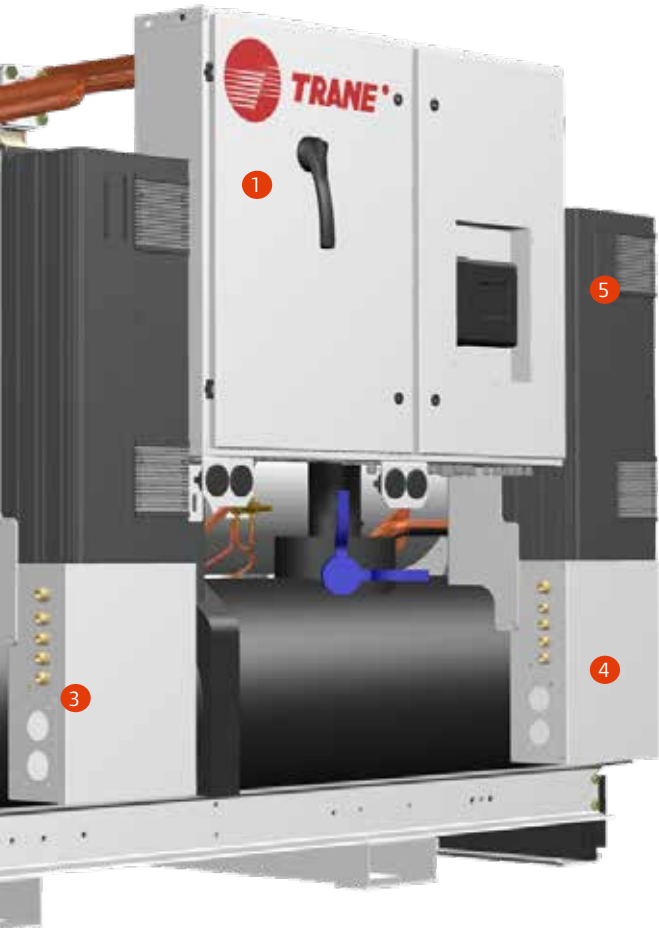


## Trane RTWD is also a water-to-water heat pump

- Perfectly addresses the market needs for most heat pump applications, including geothermal applications.
- Able to produce hot water up to 63°C with RTWD and 75°C with RTWD G
- High level of performances (COP up to 4.8 at 45°C)
- Units below 400 kW are compliant with Ecodesign regulation for heat pumps.

### Easier to install

- All versions and sizes fit through standard 2 meter wide doors
- Only one water connection on the condenser (inlet/outlet)
- Only one electrical connection (single point) as standard
- Saves time, saves costs



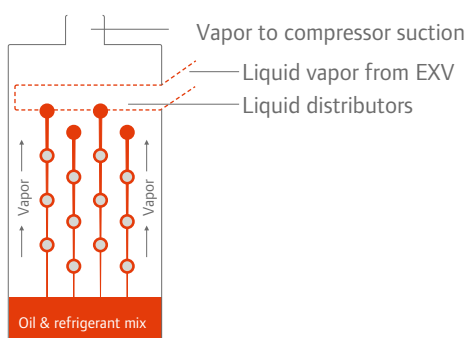
### 5 Increased savings with HSE (High Seasonal Efficiency) version

- AFD (Adaptive Frequency™ Drive) as standard
- Fewer start-stop cycles
- Increased compressor life
- Reduced start-up current draw
- Turning your current RTWD into a top performing chiller is possible thanks to Trane Field Retrofit solution



### 3 Maximum efficiency

- Patented Trane Falling Film Evaporator
- Industry leading efficiency
- Reduces energy bills



### 4 Prepared for the future

In reply to the rise of energy consumption concerns and the need to closely monitor installations, Trane has integrated a special “Power Meter” function that lets you see exactly how much power the compressor is consuming.

# General specifications

## Operating limits

		RTWD (R134a)	RTWD G (R1234ze)
Condenser leaving water temperature (min/max)	(°C)	+14 / +63	+14 / +75
Evaporator leaving water temperature (min/max)	(°C)	-12 / +18	-12 / +20
Power supply	(V/Ph/Hz)	400/3/50	

## General Data for cooling performances



### RTWD Standard Efficiency (SE)

Unit size		160 SE*	170 SE*	190 SE*	200 SE*
Gross Cooling Capacity (1)	(kW)	585.7	647.7	726	797.3
Gross EER (1)		4.76	4.74	4.89	4.94
Gross ESEER (Not Certified) (1)		6.33	6.23	6.34	6.35
Net Cooling capacity (1)(3)	(kW)	585.1	647.1	725.3	796.6
Net EER (1) (3)		4.55	4.53	4.66	4.70
Eurovent Energy Class - Cooling		B	B	B	B
Net ESEER (3)		5.57	5.5	5.55	5.58
SEER (4)		5.50	5.42	5.72	5.82
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	212	209	221	225
Sound power level (5)	(dB(A))	101	101	101	101
<b>Weights and dimensions</b>					
Length	(mm)	3490	3490	3490	3490
Width	(mm)	1310	1310	1310	1310
Height	(mm)	1970	1970	1970	1970
Operating Weight	(kg)	3874	4049	4086	4125

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software)

(3) Net performances calculated as per EN 14511-2013.

(4)  $\eta_{s,c}$  / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016

(5) At full load and in accordance with ISO9614

\* Not available for comfort applications for countries adopting the Ecodesign directive.



## RTWD High Efficiency (HE)

Unit size		060 HE	070 HE	080 HE	090 HE	100 HE	110 HE	120 HE
Gross Cooling Capacity (1)	(kW)	239.8	282.7	323.8	372.5	398.1	426.8	462.4
Gross EER (1)		5.41	5.43	5.35	5.40	5.46	5.53	5.49
Gross ESEER (Not Certified) (1)		7.13	7.13	7.13	7.04	7.03	7.10	7.10
Net Cooling capacity (1)(3)	(kW)	239.4	282.2	323.3	372.1	397.6	426.3	461.8
Net EER (1) (3)		5.14	5.11	5.06	5.12	5.16	5.22	5.19
Eurovent Energy Class - Cooling		A	A	A	A	A	A	A
Net ESEER (3)		6.17	6.05	6.04	6.05	6.03	6.07	6.12
SEER (4)		6.08	6.33	6.25	6.15	6.30	6.38	6.40
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	235	245	242	238	244	247	248
Sound power level (5)	(dB(A))	90	90	97	99	99	99	98
<b>Weights and dimensions</b>								
Length	(mm)	3210	3210	3210	3230	3320	3230	3240
Width	(mm)	1070	1070	1070	1060	1060	1060	1060
Height	(mm)	1940	1940	1940	1960	1960	1960	1960
Operating Weight	(kg)	2650	2658	2673	2928	2970	3008	3198

Unit size		130 HE	140 HE	160 HE	180 HE	200 HE	220 HE	250 HE
Gross Cooling Capacity (1)	(kW)	503.7	546.6	591.1	651.5	714.4	782.2	854.2
Gross EER (1)		5.55	5.56	5.55	5.49	5.49	5.48	5.44
Gross ESEER (Not Certified) (1)		7.20	7.19	7.14	7.10	7.08	7.13	7.04
Net Cooling capacity (1)(3)	(kW)	503.2	546	590.4	650.9	713.7	781.5	853.5
Net EER (1) (3)		5.32	5.31	5.26	5.21	5.23	5.25	5.20
Eurovent Energy Class - Cooling		A	A	A	A	A	A	A
Net ESEER (3)		6.40	6.33	6.18	6.11	6.21	6.33	6.21
SEER (4)		6.55	6.55	6.55	6.48	6.63	6.75	6.75
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	254	254	254	251	257	262	262
Sound power level (5)	(dB(A))	96	96	96	101	101	101	101
<b>Weights and dimensions</b>								
Length	(mm)	3400	3400	3400	3490	3490	3490	3490
Width	(mm)	1280	1280	1280	1310	1310	1310	1310
Height	(mm)	1950	1950	1950	1970	2010	2010	2010
Operating Weight	(kg)	3771	3802	3874	4042	4488	4504	4579

(1) Evaporator 12/7°C and 0.0 m<sup>2</sup>K/kW, and condenser at 30/35°C and 0.0 m<sup>2</sup>K/kW

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software)

(3) Net performances calculated as per EN 14511-2013.

(4)  $\eta_{s,c}$  / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016

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# General specifications



## RTWD Extra Efficiency (XE)

Unit size		160 XE	180 XE	200 XE
Gross Cooling Capacity (1)	(kW)	607.0	668.6	720.6
Gross EER (1)		5.77	5.69	5.59
Gross ESEER (Not Certified) (1)		7.47	7.38	7.23
Net Cooling capacity (1)(3)	(kW)	606.4	667.9	720.0
Net EER (1) (3)		5.49	5.40	5.38
Eurovent Energy Class - Cooling		A	A	A
Net ESEER (3)		6.52	6.37	6.51
SEER (4)		6.22	6.28	6.46
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	241	243	250
Sound power level (5)	(dB(A))	96	101	101
<b>Weights and dimensions</b>				
Length	(mm)	3760	3810	3490
Width	(mm)	1280	1310	1310
Height	(mm)	2010	2010	2010
Operating Weight	(kg)	4172	4408	4625

(1) Evaporator 12/7°C and 0.0 m<sup>2</sup>K/kW, and condenser at 30/35°C and 0.0 m<sup>2</sup>K/kW

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software)

(3) Net performances calculated as per EN 14511-2013.

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## RTWD High Seasonal Efficiency (HSE)

Unit size		060 HSE	070 HSE	080 HSE	090 HSE	100 HSE	110 HSE	120 HSE	130 HSE
Gross Cooling Capacity (1)	(kW)	244	286.4	329.3	380.1	405.6	434.4	468.3	502.5
Gross EER (1)		5.30	5.31	5.20	5.23	5.31	5.41	5.40	5.38
Gross ESEER (Not Certified) (1)		7.68	7.65	7.66	7.73	7.84	7.88	8.06	8.02
Net Cooling capacity (1)(3)	(kW)	243.6	286.0	328.9	379.6	405.1	433.8	467.7	501.9
Net EER (1) (3)		5.03	5.00	4.92	4.96	5.03	5.11	5.11	5.10
Eurovent Energy Class - Cooling		B	B	B	B	B	A	A	A
Net ESEER (3)		6.46	6.30	6.35	6.43	6.50	6.51	6.62	6.66
SEER (4)		6.41	6.62	6.61	6.67	6.70	6.95	6.62	7.15
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	249	257	257	259	260	270	257	278
Sound power level (5)	(dB(A))	90	90	97	99	99	99	98	96
<b>Weights and dimensions</b>									
Length	(mm)	3210	3210	3210	3223	3318	3223	3235	3395
Width	(mm)	1131	1131	1131	1118	1118	1118	1118	1302
Height	(mm)	1938	1938	1938	1955	1955	1955	1955	1943
Operating Weight	(kg)	2788	2796	2829	3102	3144	3182	3372	3945

Unit size		140 HSE	160 HSE	180 HSE	200 HSE	220 HSE	250 HSE	260 HSE	270 HSE
Gross Cooling Capacity (1)	(kW)	547.2	612	671.7	721.1	777.5	845.3	923.9	1003.8
Gross EER (1)		5.41	5.67	5.55	5.39	5.22	5.22	4.95	4.95
Gross ESEER (Not Certified) (1)		7.98	8.1	8.12	7.95	7.92	7.87	7.56	7.49
Net Cooling capacity (1)(3)	(kW)	546.6	611.4	671.0	720.5	776.8	844.5	923.0	1002.9
Net EER (1) (3)		5.13	5.36	5.27	5.20	4.97	4.98	4.66	4.67
Eurovent Energy Class - Cooling		A	A	A	A	B	B	B	B
Net ESEER (3)		6.63	6.75	6.81	6.99	6.63	6.66	6.14	6.17
SEER (4)		7.15	7.22	7.22	7.35	7.26	7.43	7.22	7.32
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	278	281	281	286	282	289	281	285
Sound power level (5)	(dB(A))	96	96	101	101	101	101	101	101
<b>Weights and dimensions</b>									
Length	(mm)	3395	3752	3811	3489	3489	3489	3489	3489
Width	(mm)	1302	1302	1332	1341	1341	1341	1341	1341
Height	(mm)	1943	2004	2004	2004	2004	2004	2004	2004
Operating Weight	(kg)	3996	4386	4622	4839	4718	4793	4718	4793

(1) Evaporator 12/7°C and 0.0 m<sup>2</sup>K/kW, and condenser at 30/35°C and 0.0 m<sup>2</sup>K/kW

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software)

(3) Net performances calculated as per EN 14511-2013.

(4)  $\eta_{s,c}$  / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016

(5) At full load and in accordance with ISO9614

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# General specifications



## RTWD G High Efficiency (HE G)

Unit size		100 HE G	110 HE G	120 HE G*	130 HE G	140 HE G	160 HE G	170 HE G
Gross Cooling Capacity (1)	(kW)	363.9	399.4	436.4	476.1	534.4	584.1	636.0
Gross EER (1)		4.76	4.80	4.84	5.05	5.47	5.44	5.44
Gross ESEER (Not Certified) (1)		5.89	5.80	5.97	6.14	6.82	6.72	6.84
Net Cooling capacity (1)(3)	(kW)	363.6	399.1	436	475.7	533.9	583.5	635.4
Net EER (1) (3)		4.65	4.67	4.70	4.89	5.26	5.21	5.19
Eurovent Energy Class - Cooling		B	B	B	B	A	A	A
Net ESEER (3)		5.53	5.43	5.53	5.66	6.19	6.04	6.05
SEER (4)		5.55	5.57	5.61	6.18	6.72	6.74	6.75
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	214	215	216	239	261	262	262
Sound power level (5)	(dB(A))	96	96	96	96	94	94	94
<b>Weights and dimensions</b>								
Length	(mm)	3400	3400	3400	3400	3490	3490	3490
Width	(mm)	1280	1280	1280	1280	1310	1310	1310
Height	(mm)	1950	1950	1950	1950	1970	1970	1970
Operating Weight	(kg)	3820	3820	3820	3820	4525	4525	4525

(1) Evaporator 12/7°C and 0.0 m<sup>2</sup>K/kW, and condenser at 30/35°C and 0.0 m<sup>2</sup>K/kW

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software)

(3) Net performances calculated as per EN 14511-2013.

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## RTWD G High Seasonal Efficiency (HSE G)

Unit size		100 HSE G	110 HSE G	120 HSE G	130 HSE G	140 HSE G	160 HSE G
Gross Cooling Capacity (1)	(kW)	365.0	399.5	439.3	477.7	534.1	586.6
Gross EER (1)		4.74	4.73	4.78	4.95	5.30	5.29
Gross ESEER (Not Certified) (1)		6.42	6.36	6.43	6.74	7.05	6.92
Net Cooling capacity (1)(3)	(kW)	364.7	399.1	438.9	477.3	533.6	586
Net EER (1) (3)		4.63	4.61	4.65	4.79	5.10	5.07
Eurovent Energy Class - Cooling		C	C	C	B	A	A
Net ESEER (3)		5.95	5.91	5.87	6.06	6.29	6.11
SEER (4)		5.82	5.83	5.95	6.25	6.51	6.51
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	225	225	230	242	252	252
Sound power level (5)	(dB(A))	96	96	96	96	94	94
<b>Weights and dimensions</b>							
Length	(mm)	3395	3395	3395	3395	3810	3810
Width	(mm)	1300	1300	1300	1300	1330	1330
Height	(mm)	1945	1945	1945	1945	2005	2005
Operating Weight	(kg)	4030	4030	4030	4189	4720	4720

Unit size		170 HSE G	180 HSE G	200 HSE G	220 HSE G	250 HSE G
Gross Cooling Capacity (1)	(kW)	641.6	688.8	717.9	765.4	814.2
Gross EER (1)		5.30	5.11	4.88	4.77	4.68
Gross ESEER (Not Certified) (1)		6.84	6.66	6.41	6.28	6.16
Net Cooling capacity (1)(3)	(kW)	640.9	688.1	717.2	764.8	813.5
Net EER (1) (3)		5.06	4.86	4.72	4.60	4.51
Eurovent Energy Class - Cooling		A	B	B	C	C
Net ESEER (3)		5.96	5.76	5.80	5.65	5.51
SEER (4)		6.59	6.49	6.41	6.30	6.23
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	256	252	248	244	241
Sound power level (5)	(dB(A))	94	95	96	96	96
<b>Weights and dimensions</b>						
Length	(mm)	3810	3810	3490	3490	3490
Width	(mm)	1330	1330	1340	1340	1340
Height	(mm)	2005	2005	2005	2005	2005
Operating Weight	(kg)	4720	4720	4780	4780	4780

(1) Evaporator 12/7°C and 0.0 m<sup>2</sup>K/kW, and condenser at 30/35°C and 0.0 m<sup>2</sup>K/kW

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software)

(3) Net performances calculated as per EN 14511-2013.

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# General specifications



## General Data for heating performances

### RTWD Standard Efficiency (SE)



Unit Size		160 SE	170 SE	190 SE	200 SE
<b>Air Conditioning (1)</b>					
Net Heating Capacity (2)	(kW)	672.7	743.0	831.3	910.7
Net COP (2)		4.15	4.14	4.26	4.34
<b>Low Temperature Heating (3)</b>					
Net Heating Capacity (2)	(kW)	691.7	761.9	849.4	929.3
Net COP (2)		4.88	4.84	4.91	4.94
SCOP(4)		4.99	4.94	4.96	5.04
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	192	190	191	194

### RTWD High Efficiency (HE)



Unit Size		060 HE	070 HE	080 HE	090 HE	100 HE	110 HE	120 HE
<b>Air Conditioning (1)</b>								
Net Heating Capacity (2)	(kW)	263.8	311.8	357.9	410.2	438.4	469.1	509.8
Net COP (2)		4.50	4.49	4.45	4.50	4.52	4.57	4.56
<b>Low Temperature Heating (3)</b>								
Net Heating Capacity (2)	(kW)	279.0	331.6	377.4	430.0	459.3	491.2	526.7
Net COP (2)		5.23	5.11	5.07	5.11	5.13	5.18	5.20
SCOP(4)		5.37	5.20	5.17	5.17	5.11	5.10	5.15
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	207	200	199	199	197	196	198

Unit Size		130 HE	140 HE	160 HE	180 HE	200 HE	220 HE	250 HE
<b>Air Conditioning (1)</b>								
Net Heating Capacity (2)	(kW)	550.6	601.6	654.8	723.0	791.6	870.1	950.2
Net COP (2)		4.54	4.57	4.64	4.6	4.61	4.61	4.67
<b>Low Temperature Heating (3)</b>								
Net Heating Capacity (2)	(kW)	566.1	621.5	678.4	746.8	815.3	892.2	973.0
Net COP (2)		5.38	5.37	5.32	5.23	5.22	5.23	5.21
SCOP(4)		5.49	5.44	5.31	5.26	5.29	5.38	5.39
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	212	210	204	202	204	207	208

(1) At 40/45°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(2) Net performances calculated as per EN 14511-2013.

(3) At 30/35°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(4)  $\eta_{s,h}$  / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for space heaters with 400 kW maximum rated capacity - COMMISSION REGULATION (EU) N° 813/2013/EU of 2 August 2013

(5) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator





# General specifications

## RTWD Extra Efficiency (XE)



Unit Size		160 XE	180 XE	200 XE
<b>Air Conditioning (1)</b>				
Net Heating Capacity (2)	(kW)	668.0	736.6	794.5
Net COP (2)		4.76	4.73	4.72
<b>Low Temperature Heating (3)</b>				
Net Heating Capacity (2)	(kW)	693.9	763.7	820.5
Net COP (2)		5.46	5.34	5.34
SCOP(4)		5.48	5.38	5.52
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	211	207	213

## RTWD High Seasonal Efficiency (HSE)



Unit Size		060 HSE	070 HSE	080 HSE	090 HSE	100 HSE	110 HSE	120 HSE
<b>Air Conditioning (1)</b>								
Net Heating Capacity (2)	(kW)	270.2	317.6	367.3	423.3	451.0	481.4	520.7
Net COP (2)		4.42	4.40	4.35	4.40	4.42	4.47	4.49
<b>Low Temperature Heating (3)</b>								
Net Heating Capacity (2)	(kW)	281.4	330.9	381.0	438.1	468.2	500.7	536.8
Net COP (2)		4.96	4.88	4.84	4.87	4.91	4.98	5.12
SCOP(4)		5.55	5.19	4.96	4.96	4.97	5.00	5.16
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	214	200	191	190	191	192	198

## RTWD High Seasonal Efficiency (HSE)



Unit Size		130 HSE	140 HSE	160 HSE	180 HSE	200 HSE	220 HSE	250 HSE	260 HSE	270 HSE
<b>Air Conditioning (1)</b>										
Net Heating Capacity (2)	(kW)	560.0	609.3	674.6	741.9	798.2	869.5	945.3	1049.6	1139.8
Net COP (2)		4.50	4.52	4.70	4.60	4.54	4.44	4.49	4.24	4.29
<b>Low Temperature Heating (3)</b>										
Net Heating Capacity (2)	(kW)	572.5	627.6	701.6	772.2	829.8	899.8	977.6	1059.3	1150.6
Net COP (2)		5.25	5.2	5.29	5.28	5.34	5.14	5.15	4.89	4.9
SCOP(4)		5.30	5.29	5.35	5.47	5.82	5.23	5.43	4.99	4.98
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	204	204	206	211	225	201	209	192	191

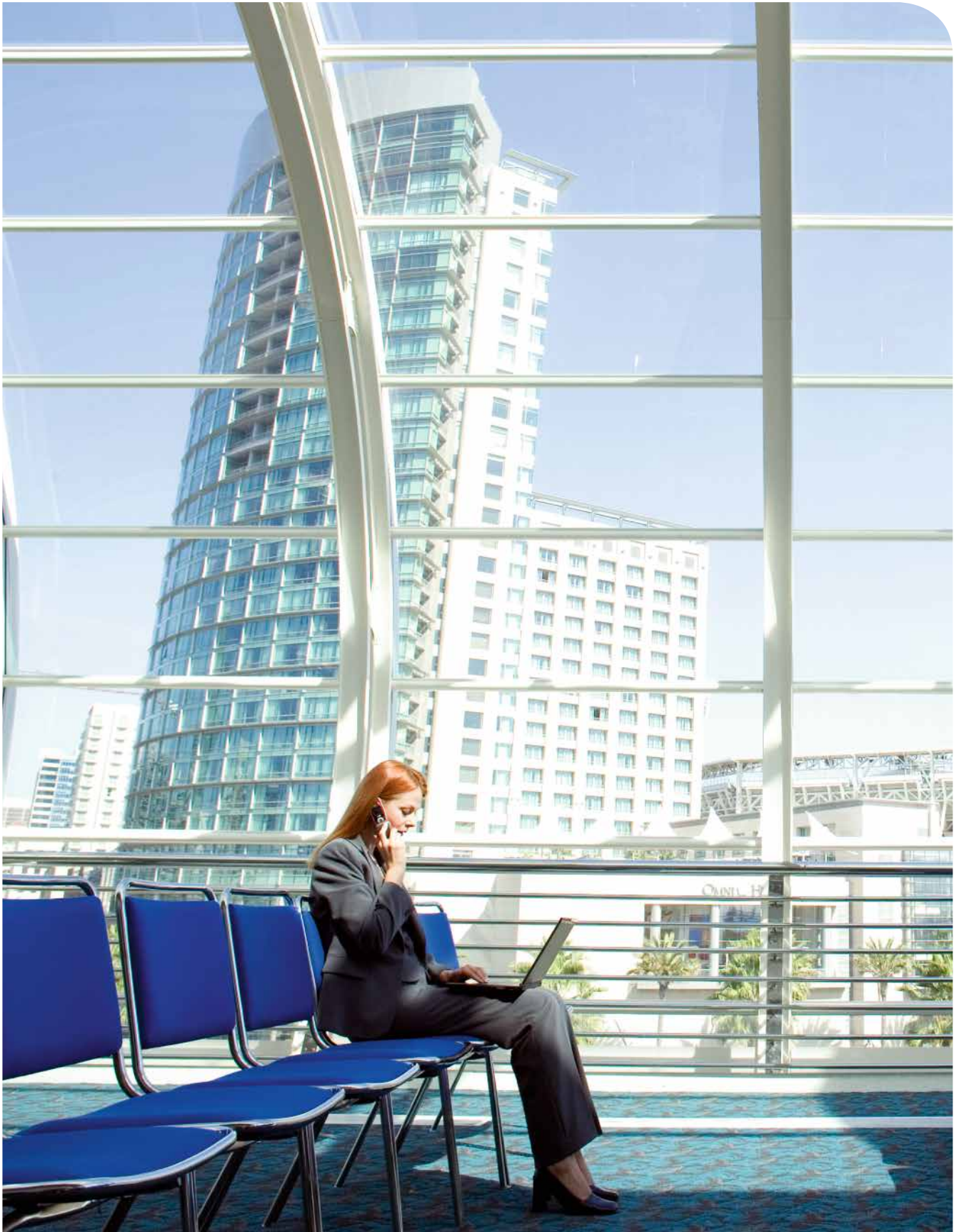
(1) At 40/45°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(2) Net performances calculated as per EN 14511-2013.

(3) At 30/35°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(4)  $\eta_{s,h}$  / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for space heaters with 400 kW maximum rated capacity - COMMISSION REGULATION (EU) N° 813/2013/EU of 2 August 2013

(5) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator



# General specifications



## RTWD G High Efficiency (HE G)

Unit Size		100 HE G	110 HE G	120 HE G*	130 HE G	140 HE G	160 HE G	170 HE G
<b>Air Conditioning (1)</b>								
Net Heating Capacity (2)	(kW)	404.6	443.3	482.6	522.7	577.3	631.4	686.5
Net COP (2)		4.53	4.53	4.54	4.65	4.92	4.86	4.82
<b>Low Temperature Heating (3)</b>								
Net Heating Capacity (2)	(kW)	433.1	474.2	516.0	558.4	618.5	676.3	734.9
Net COP (2)		5.44	5.43	5.43	5.57	5.88	5.80	5.72
SCOP(4)		5.55	5.54	5.50	5.64	5.96	5.81	5.67
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	214	214	212	218	230	224	219
<b>High Temperature Heating (5)</b>								
Net Heating Capacity (2)	(kW)	-	-	455.8	493.6	544.3	595.7	647.8
Net COP (2)		-	-	3.75	3.85	4.08	4.04	4.01
SCOP(4)		-	-	4.54	4.72	4.93	4.87	4.80
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	-	-	174	181	189	187	184

(1) At 40/45°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(2) Net performances calculated as per EN 14511-2013.

(3) At 30/35°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(4)  $\eta_{s,h}$  / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for space heaters with 400 kW maximum rated capacity - COMMISSION REGULATION (EU) N° 813/2013/EU of 2 August 2013

(5) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator





## RTWD G High Seasonal Efficiency (HSE G)

Unit Size		100 HSE G	110 HSE G	120 HSE G	130 HSE G	140 HSE G	160 HSE G
<b>Air Conditioning (1)</b>							
Net Heating Capacity (2)	(kW)	402.5	442.2	482.6	523.0	577.9	634.9
Net COP (2)		4.48	4.47	4.46	4.58	4.84	4.76
<b>Low Temperature Heating (3)</b>							
Net Heating Capacity (2)	(kW)	433.4	475.8	518.9	560.3	619.5	680.1
Net COP (2)		5.40	5.38	5.36	5.47	5.72	5.65
SCOP(4)		5.83	5.74	5.69	5.61	5.93	5.62
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	225	221	220	216	229	217
<b>High Temperature Heating (5)</b>							
Net Heating Capacity (2)	(kW)			454.0	492.8	544.5	597.7
Net COP (2)				3.67	3.78	4.01	3.94
SCOP(4)				4.64	4.75	4.92	4.86
Space Heating efficiency $\eta_{s,h}$ (4)	(%)			178	182	189	186

Unit Size		170 HSE G	180 HSE G	200 HSE G	220 HSE G	250 HSE G
<b>Air Conditioning (1)</b>						
Net Heating Capacity (2)	(kW)	693.0	750.8	789.8	847.0	904.8
Net COP (2)		4.70	4.55	4.49	4.40	4.33
<b>Low Temperature Heating (3)</b>						
Net Heating Capacity (2)	(kW)	741.6	800.8	838.7	897.9	957.5
Net COP (2)		5.60	5.38	5.34	5.21	5.10
SCOP(4)		5.56	5.35	5.63	5.51	5.39
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	214	206	217	212	207
<b>High Temperature Heating (5)</b>						
Net Heating Capacity (2)	(kW)	651.8	709.1	749.9	804.9	860.2
Net COP (2)		3.90	3.80	3.73	3.66	3.61
SCOP(4)		4.78	4.69	4.75	4.72	4.69
Space Heating efficiency $\eta_{s,h}$ (4)	(%)	183	180	182	181	180

(1) At 40/45°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(2) Net performances calculated as per EN 14511-2013.

(3) At 30/35°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

(4)  $\eta_{s,h}$  / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for space heaters with 400 kW maximum rated capacity - COMMISSION REGULATION (EU) N° 813/2013/EU of 2 August 2013

(5) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator

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