TRANE

Water-cooled Chillers with High Speed Centrifugal Compressors

XSTREAM EXCELLENT

Model GVWF (R134a) 395-2123 kW
Model GVWF G (R1234ze) 312-1676 kW

Ingersoll Rand

Trane XStream™ eXcellent

Water-cooled Chillers with High Speed Centrifugal Compressors

XStream eXcellent is a new model within Trane's XStream range able to reach market-leading Energy Efficiency Ratio (EER) and European Seasonal Energy Efficiency Ratio (ESEER) with lower sound levels.

This model GVWF 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 their carbon dioxide (CO_2) emissions and achieve extreme part load and full load efficiencies.

XStream eXcellent chillers are suited for critical environments like

Office buildings

Healthcare

Data Centers

Automotive industry

Pharmaceutical industry

Plastic industry

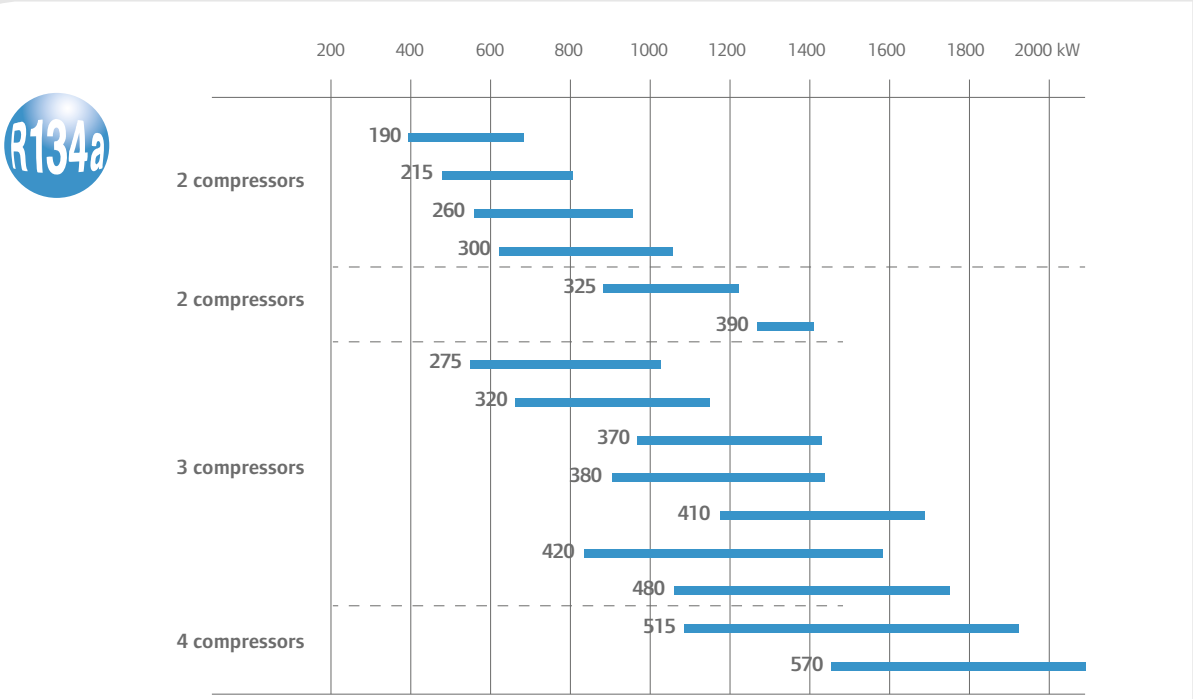
Hospitality industry

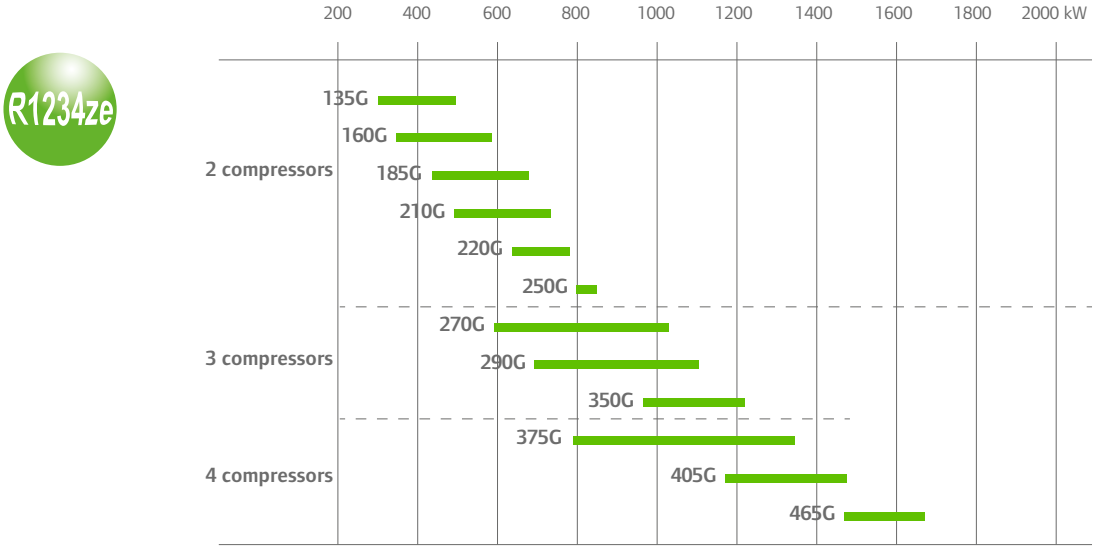
District Cooling

Range description

A model for every need

Trane's XStream eXcellent provides a wide capacity range up to 2.1 MW with industry-leading part load and full load efficiencies.





XStream eXcellent chillers

Excellence is standard

Standard on all models

- Multiple compressors (2, 3 or 4)
- Double refrigerant circuit
- Economizer circuit
- EMC filter to avoid harmonic transfer to compressor(s)

Smart

Easy operation thanks to smart controls and a user-friendly touchscreen interface.

Energy Efficient

Choose from three different efficiency tiers to respond to every building or process requirement.

Green

Two different refrigerant alternatives:

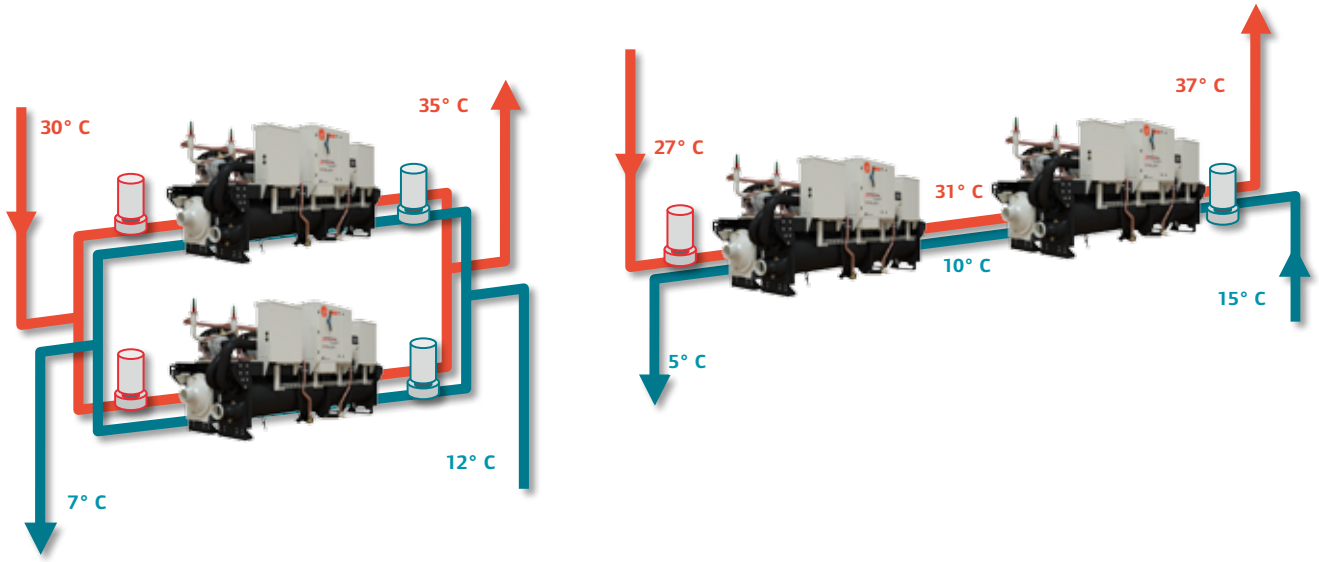
R134a and the new HFO R1234ze with GWP<1.

Reliable

No compromise: You can count on Trane's legendary reliability.

Multiple chiller plants

Overall efficiency can be further improved by using an alternative chiller lay-out to the conventional parallel-piped configuration. For example, chillers can be piped in series, on the evaporator side, on the condenser side or both.



This layout provides the opportunity for

- Lower chilled water design temperature with larger ΔT
- Reduced design flow
- Installation and operational cost savings by fewer installed pumps and valves, reduced pipe diameters and chiller downsizing
- Maximized system efficiency
- Continuous temperatures allow better stability of controls

By combining series configuration with Variable Primary Flow (VPF) it is possible to further increase system efficiency.

Variable Primary Flow (VPF) capabilities

VPF systems provide building owners with multiple cost savings derived directly from pump operation. The XStream series is designed to make VPF easy to use.

- The evaporator on the XStream series can run safely with up to 50% water flow reduction.
- The microprocessor and capacity control algorithms are designed to handle a maximum of 10% change in water flow rate per minute in order to maintain ±0.3°C temperature control leaving the evaporator.
- For applications in which system energy savings are the priority and tight temperature control is classified as +/- 1.1°C, up to 30% change in flow per minute is possible.
- With the help of a TRANE software analysis tool, you can determine whether the anticipated energy savings justify the use of VPF in a particular application.

The Future of F-Gases

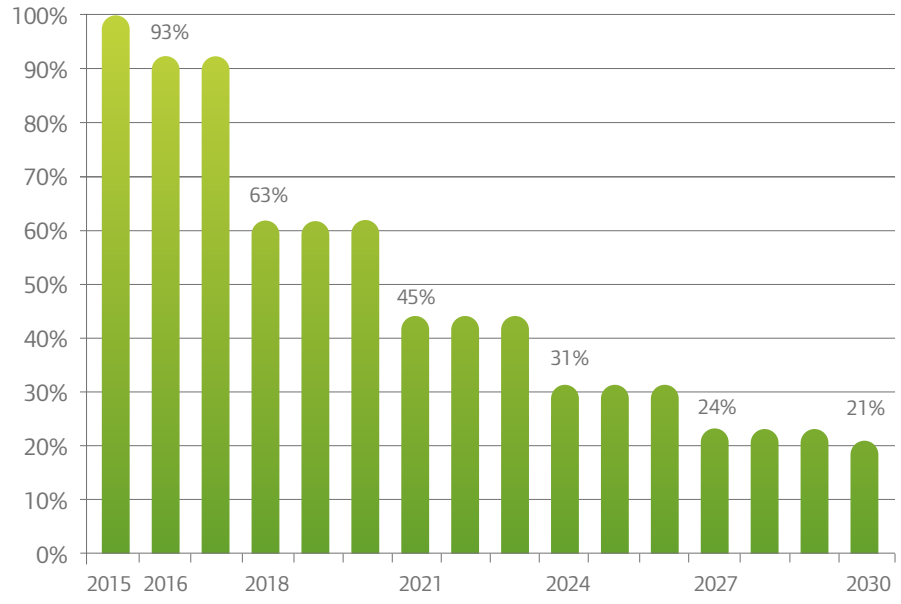
The fluorinated refrigerants phase-down, as defined in the new EU F-Gas Regulation, is a step-by-step approach where the quantities of HFCs expressed in CO_2 equivalent that are placed on the market are gradually reduced. As a result of the phase-down, HFC consumption will be reduced by 79% by 2030.

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_2 equivalents placed on the EU market from 2009 to 2012.

An environmentally sustainable solution

EcoWise™

Sintesis™ chillers 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.

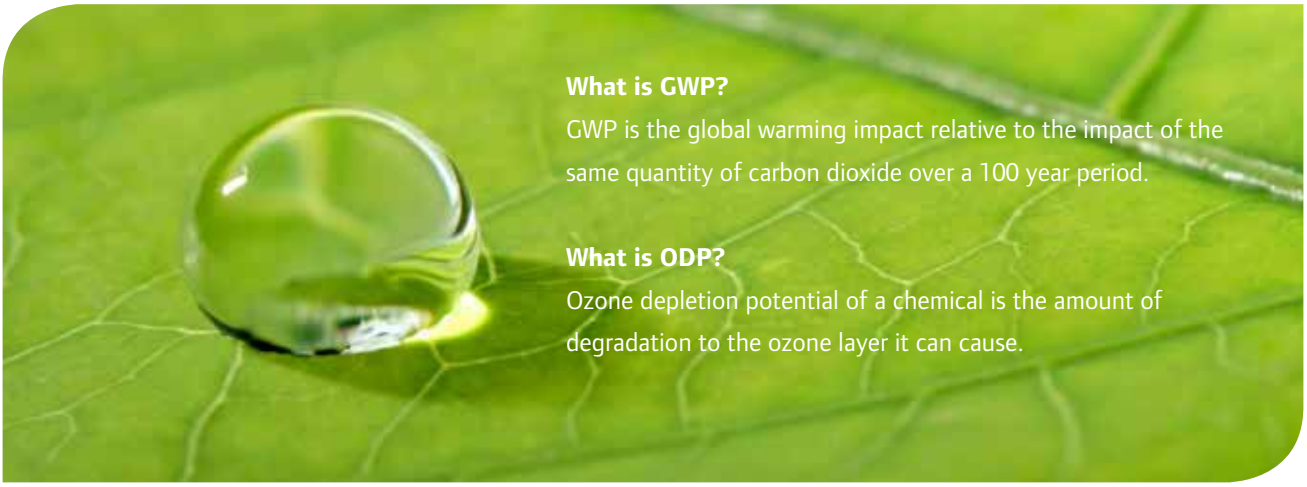
R1234ze

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.

Features

Innovative solutions to your needs

1 High speed centrifugal compressor

- Oil free and silent operation thanks to magnetic bearings
- Integrated Variable Frequency Drive
- Soft starter module
- Only one moving part

Two different refrigerant alternatives

- R134a
- R1234ze with GWP<1

2 Trane combined smart control and interface*

- Leading TD7 touch screen with 7" color display
- Clear display of critical information
- Monitor settings, data trending, reports and alarms
- Simple, intuitive navigation
- Effective operation, monitoring and management
- Durable construction for both indoor and outdoor use

3 Trane patented Compact - High performance - Integrated design - Low charge (CHIL) flooded evaporator*

- **Double pass or counter flow single pass, depending on unit size**
- Reduced refrigerant volume
- Increased efficiency
- Reduced carbon footprint

4 Dual refrigerant circuit Multi Compressor

- Provide redundancy
- Reduce the impact of any failure

** Trane Proprietary Technology*

General specifications

General Data for cooling performances

		GVWF	GVWF G
Condenser leaving water temperature (min/max)	(°C) Low Lift units	+20 / +55	
	High Lift units	+20 / +42	
Evaporator leaving water temperature (min/max)	(°C)	+5 / +20	
Power supply	(V/Ph/Hz)	400/3/50	
Refrigerant		R134a	R1234ze

GVWF

Unit size		190	215	260	300	325	390	275
Compressor Lift		High	High	High	Low	Low	Low	High
Maximum Gross Capacity (1)	(kW)	684	828	972	1076	1230	1425	1031
Performances at Optimum EER (1)								
Gross Cooling capacity	(kW)	395	479	565	622	884	1283	555
Gross EER		5.87	5.80	5.84	5.70	5.84	6.03	6.07
Gross ESEER		8.40	8.44	8.32	8.36	8.99	9.29	9.30
IPLV (2)		8.910	8.798	8.798	8.527	9.368	9.646	9.648
Net Cooling capacity (3)	(kW)	395	478	564	621	882	1280	554
Net EER (3)		5.69	5.64	5.69	5.53	5.71	5.89	5.97
Eurovent Energy efficiency class - Cooling		A	A	A	A	A	A	A
Net ESEER (3)		7.47	7.63	7.54	7.44	8.23	8.47	8.68
Number of refrigerant circuits					2			
Number of compressors		2	2	2	2	2	2	3
Sound Power level	(dB(A))	87	88	89	92	96	99	88
Weights and dimensions								
Length	(mm)	2976	2976	2976	3476	4730	4804	4730
Width	(mm)	1125	1125	1125	1125	1700	1800	1700
Height	(mm)	1920	1920	1920	1920	2032	2135	2032
Operating weight	(kg)	2310	2810	3020	3370	4094	4954	4110

Unit size		320	370	380	410	420	480	515	570
Compressor Lift		High	Low	High	Low	Low	Low	High	Low
Maximum Gross Capacity (1)	(kW)	1167	1424	1439	1697	1582	1776	1924	2123
Performances at Optimum EER (1)									
Gross Cooling capacity	(kW)	675	976	904	1186	835	1064	1094	1462
Gross EER		5.99	5.93	6.03	6.04	5.88	5.83	6.07	5.92
Gross ESEER		9.10	9.28	9.24	9.17	9.26	9.30	9.28	9.24
IPLV (2)		9.466	9.712	9.521	9.673	9.539	9.687	9.628	9.515
Net Cooling capacity (3)	(kW)	674	974	902	1184	834	1062	1093	1459
Net EER (3)		5.87	5.84	5.88	5.91	5.76	5.73	5.96	5.78
Eurovent Energy efficiency class - Cooling		A	A	A	A	A	A	A	A
Net ESEER (3)		8.40	8.72	8.41	8.46	8.50	8.67	8.63	8.39
Number of refrigerant circuits					2				
Number of compressors		3	3	3	3	3	3	4	4
Sound Power level	(dB(A))	90	95	91	96	93	96	92	96
Weights and dimensions									
Length	(mm)	4730	4804	4730	4804	4730	4804	4804	4804
Width	(mm)	1700	1800	1700	1800	1700	1800	1800	1800
Height	(mm)	2032	2135	2032	2135	2032	2135	2135	2135
Operating weight	(kg)	4102	5177	4317	5177	4317	5177	5401	5574

(1) at 12/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser
(2) according to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software) version 201
(3) according to EN14511:2013

GVWF G

Unit size		135 G	160 G	185 G	210 G	220 G	250 G
Compressor Lift		High	High	High	Low	Low	Low
Maximum Gross Capacity (1)	(kW)	497	589	682	733	787	850
Performances at Optimum EER (1)							
Gross Cooling capacity	(kW)	312	358	435	498	644	799
Gross EER		5.83	5.76	5.82	5.63	5.50	5.52
Gross ESEER		8.24	8.24	8.17	7.89	7.96	8.09
IPLV (2)		8.634	8.462	8.684	7.950	8.398	8.436
Net Cooling capacity (3)	(kW)	311	357	434	497	642	796
Net EER (3)		5.65	5.59	5.62	5.47	5.33	5.29
Eurovent Energy efficiency class - Cooling		A	A	A	A	A	A
Net ESEER (3)		7.41	7.38	7.24	7.07	7.07	6.92
Number of refrigerant circuits					2		
Number of compressors		2	2	2	2	2	2
Sound Power level	(dB(A))	86	88	89	92	96	98
Weights and dimensions							
Length	(mm)	2976	2976	2976	2976	2976	3476
Width	(mm)	1125	1125	1125	1125	1125	1125
Height	(mm)	1920	1920	1920	1920	1920	1920
Operating weight	(kg)	2130	2280	2420	2740	3000	3380

Unit size		270 G	290 G	350 G	375 G	405 G	465 G
Compressor Lift		High	Low	Low	High	Low	Low
Maximum Gross Capacity (1)	(kW)	1023	1107	1221	1365	1477	1676
Performances at Optimum EER (1)							
Gross Cooling capacity	(kW)	593	696	976	790	1181	1491
Gross EER		6.07	5.90	5.41	6.18	5.90	5.58
Gross ESEER		9.33	9.15	9.06	9.46	9.22	9.17
IPLV (2)		9.612	9.451	9.249	9.796	9.438	9.193
Net Cooling capacity (3)	(kW)	592	695	974	789	1178	1488
Net EER (3)		5.96	5.79	5.28	6.08	5.76	5.45
Eurovent Energy efficiency class - Cooling		A	A	A	A	A	A
Net ESEER (3)		8.67	8.49	8.14	8.88	8.34	8.29
Number of refrigerant circuits					2		
Number of compressors		3	3	3	4	4	4
Sound Power level	(dB(A))	90	93	99	91	95	100
Weights and dimensions							
Length	(mm)	4730	4730	4730	4804	4804	4804
Width	(mm)	1700	1700	1700	1800	1800	1800
Height	(mm)	2032	2032	2032	2135	2135	2135
Operating weight	(kg)	4025	4085	4304	5002	5128	5556

(1) at 12/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser
(2) according to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software) version 201
(3) according to EN14511:2013

The Trane advantage

Trane is recognized as a world leader with over **100 years of experience** in creating and sustaining safe, comfortable and energy efficient environments while improving the performance of buildings and processes around the world.

Trane innovative solutions optimize indoor environments with the **broadest portfolio** of energy efficient heating, ventilating and air conditioning systems, building services, parts support and advanced controls in the industry.

To ensure your equipment continues to work at its optimum, throughout the life of the building, Trane provides a full range of service solutions, combined with in-house expertise and the **most extensive service and support network** in the industry.

And with Trane's **extensive rental fleet** all your temporary cooling and heating needs are served: we provide continuous cooling or heating during equipment changeouts or supplemental supply for those times when your cooling loads exceed your current system's capacity. For more information: www.trane-chiller-rental.eu

Ingersoll Rand recognition

FORTUNE WORLD'S MOST ADMIRED COMPANIES 2016

For the fifth consecutive year, Ingersoll Rand has been recognized as one of the World's Most Admired Companies according to FORTUNE Magazine. What's more, we ranked second in our Industrial Machinery category – up two places from the previous year.

CLIMATE LEADERSHIP AWARDS 2016

Ingersoll Rand was recognized at the 2016 Climate Leadership Conference for its refrigerant phase-out efforts by the US EPA, its greenhouse gas emissions reduction goal of 35% by 2020 and its commitment to reduce the climate impact of the refrigerants used in its products by 50% by 2020.

Ingersoll Rand

Trane® is a brand of Ingersoll Rand®. Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Ingersoll Rand®, Trane®, Thermo King® and Club Car® — work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results.

TRANE THERMO KING Ingersoll Rand Club Car

trane.eu ingersollrand.com

We are committed to using environmentally conscious print practices that reduce waste.

© 2017 Trane – All rights reserved
CTV-SLB060-GB September 2017