



# SINTECIS™

## PRIME



### Air-Cooled Variable Volume Index Screw Chillers



Models RTAF XSE-XSS  
350-1250 kW  
EER up to 3.8 - SEER up to 6.41



# Trane Sintesis™ Prime

## Air-cooled Chillers with Variable Vi Screw Compressors

Trane Sintesis™ Prime series provides **reliable temperature control** in the most demanding applications. *Exceptional efficiency* keeps your operating costs and environmental impact low. Smart and easy to use controls ensure you get the best out of your system day after day, year after year.

RTAF XSE-XSS goes two steps further in part load efficiency improvement. It features the latest Trane screw compressor with Variable Volume Index (Variable Vi) that allows the equipment to operate at the most appropriate pressure ratio to reach remarkable efficiency levels.

The compressors are equipped with a permanent magnet motor. The permanent magnet motor further enhances part load efficiencies by the much higher motor efficiency across the load curve of the compressor. The complete range of sizes therefore achieves **excellent part load efficiencies** to comply to and even exceed the current Ecodesign requirements for Comfort or Process Chillers.

We realize that our chillers can run day and night in noise sensitive environments. To accommodate the **lowest noise levels** possible, we integrated a noise attenuating muffler in this high-end screw compressor and we optionally further reduce noise by the use of bellow noise isolators.

The model XSE delivers best part and full load efficiency in any configuration while the model XSS is optimized to minimize overall chiller dimensions.

**Sintesis Prime RTAF XSE-XSS chillers are perfectly suited to critical environments such as**



Office buildings



Healthcare



Data Centers



Automotive industry



Pharmaceutical industry



Plastic industry



Hospitality industry



District Cooling

# Sintesis Prime RTAF

## An affordable choice of sound versions

- Choose from four levels of sound attenuation depending on the sensitivity of the application.
- Achieved without any loss of operating efficiency and even improving performances with the Extra Low Noise-EC version

### RTAF XSE/XSS sound offers

	Standard noise (SN)	Low noise (LN)	Extra low noise (XLN)	Whisper low noise (WLN)
Integrated muffler	X	X	X	X
Compressor enclosure		X	X	X
Refrigerant line insulation			X	X
Top diffusers			X*	X*
Bellows				X


\* : EC fans only

### Low Ambient Option

This option allow operation with low outdoor temperature by managing the airflow through the chiller condenser.

- XSE version are equipped with EC fans
- XSS version are equipped with AC fans

### Optional Hydraulic Module

- Dual Pumps
- Standard head or High head pressure
- Optional Variable Primary Flow compatibility 

### Heat Recovery Option

Heat recovery is reusing the energy which is produced as a natural by-product of the cooling cycle. Trane Sintesis chillers with Partial or Total Heat Recovery option combine the energy savings from heat recovery operation with the cost savings from installation and maintenance. Units with the Heat Recovery option operate as a standard chiller as long as heat is not required or can simultaneously produce chilled and hot water for use in applications like:

- Heating or preheating of boiler systems or domestic cater
- Air conditioning
- Ventilation air pre-heating
- Industrial processes.



EC fans with top diffusers



Optional hydraulic module

# Trane Proprietary Technology\*

Provides the innovative solution your building needs

**\* Compact - High performance - Integrated design**  
**- Low charge (CHIL) flooded evaporator**

- Reduced refrigerant volume
- Increased efficiency
- Reduced carbon footprint



**2 \*Redesigned fan diffusers**

- Remodelled to optimize airflow
- Fans consume less power
- Operating noise reduced

**1 Electronically Commutated (EC) fans (RTAF XSE)**

- Improved capacity modulation
- Reduced power consumption
- Reduced energy costs

**\* Connectivity**

- Full interoperability via SmartCom interface Lontalk®, BACnet® and Modbus
- Full remote control capability via our Trane BMS



**3 \* Micro-channel condenser coils**

- Leading edge coil design for increased corrosion resistance
- Longer life expectancy
- Increased efficiency with less refrigerant
- Reduced carbon footprint
- 10% overall unit weight reduction

**4 \* Trane smart control and interface combined**

- 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



**6 Adaptive Frequency™ Drive**

- Improved efficiency under part load conditions
- Improved capacity modulation
- Current surge reduced by a factor of 5



**5 \* Variable Volume Index**

- Direct drive, two screws helical rotary design
- Capacity control managed by external Trane Adaptive Frequency™ Drive
- Permanent magnet motor
- Integrated muffler

# General specifications

## RTAF XSE - Extra Low Noise (XLN) and Whisper Low Noise (WLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	369	604	727	980	1219
Net EER (1) (2)		3.80	3.67	3.53	3.59	3.60
Eurovent Energy class - Cooling		A	A	A	A	A
SEER (3)		6.16	6.38	5.82	6.11	6.39
Space cooling efficiency $\eta_{s.c}$ (3)	(%)	243	252	230	241	253
<b>Compressor</b>						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
<b>Refrigerant</b>						
Charge Circuit 1	(kg)	79	93	68	78	93
Charge Circuit 2	(kg)			66	86	86
<b>Dimensions &amp; Weight</b>						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2672	2672	2672	2672	2672
Operating weight	(kg)	3670	4320	5645	7220	8200

## RTAF XSS - Extra Low Noise (XLN) and Whisper Low Noise (WLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	355	570	696	929	1168
Net EER (1) (2)		3.31	3.07	3.12	3.04	3.14
Eurovent Energy class - Cooling		A	B	A	B	A
SEER (3)		5.13	5.39	5.07	5.22	5.50
Space cooling efficiency $\eta_{s.c}$ (3)	(%)	202.2	212.6	200.0	205.9	217.1
<b>Compressor</b>						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
<b>Refrigerant</b>						
Charge Circuit 1	(kg)	66	80	61	69	81
Charge Circuit 2	(kg)			60	78	80
<b>Dimensions &amp; Weight</b>						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	2970	3550	4865	6060	7015

## RTAF XSE - Standard Noise (SN) and Low Noise (LN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	369	604	729	984	1223
Net EER (1) (2)		3.76	3.61	3.51	3.58	3.58
Eurovent Energy class - Cooling		A	A	A	A	A
SEER (3)		5.97	6.40	5.77	6.15	6.41
Space cooling efficiency $\eta_{s.c}$ (3)	(%)	236	253	228	243	253
<b>Compressor</b>						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
<b>Refrigerant</b>						
Charge Circuit 1	(kg)	79	93	68	78	93
Charge Circuit 2	(kg)			66	86	86
<b>Dimensions &amp; Weight</b>						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	3520	4150	5405	6940	7900

## RTAF XSS - Standard Noise (SN) and Low Noise (LN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	358	576	702	937	1179
Net EER (1) (2)		3.31	3.11	3.14	3.07	3.17
Eurovent Energy class - Cooling		A	A	A	B	A
SEER (3)		4.95	5.21	4.97	5.13	5.38
Space cooling efficiency $\eta_{s.c}$ (3)	(%)	195	205	196	202	212
<b>Compressor</b>						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
<b>Refrigerant</b>						
Charge Circuit 1	(kg)	66	80	61	69	81
Charge Circuit 2	(kg)			60	78	80
<b>Dimensions &amp; Weight</b>						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	2920	3500	4765	5960	6915

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

(2) Net performances calculated as per EN 14511-2018 & 14825:2018

(3)  $\eta_{s.c}$  / 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 30 November 2016

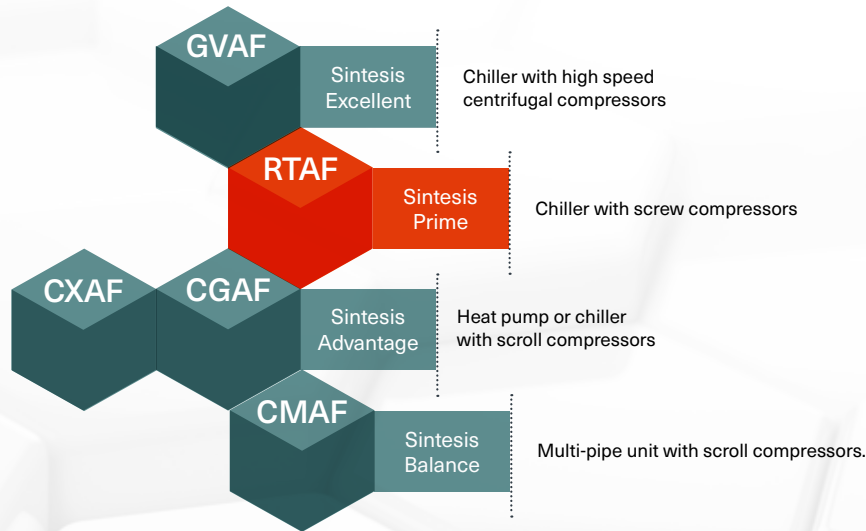
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## Family of chillers, heat pumps and multi-pipe units



The Sintesis™ Prime model RTAF belongs to the Trane Sintesis™ portfolio representing industry leading performance and flexibility. Always striving for a perfect fit, not only to your building and application requirements but also to your sustainability and budget targets.

### The Trane Sintesis Prime models XSE/XSS range:

- Unit sizes providing cooling capacities from 350-1250 kW
- Two efficiency versions
  - Four levels of sound attenuation
  - Standard leaving water temperature range from +5°C up to +20°C
  - Low leaving water temperature range from +5°C down to -12°C with Glycol
  - Standard ambient option: from -10°C to 46°C
  - Low ambient option: right down to -20°C.

### 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 solutions optimize indoor environments with a broad portfolio of energy efficient heating, ventilating and air conditioning systems, building services, parts support and advanced controls.

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 an extensive support network.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit [trane.eu](http://trane.eu) or [tranetechnologies.com](http://tranetechnologies.com).