TRANE®

SINTESIS™

PRIME

Air-Cooled Variable Volume Index Screw Chillers

Models RTAF XSE-XSS
350-1250 kW
EER up to 3.9 - SEER up to 6.53

TRANE TECHNOLOGIES

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.

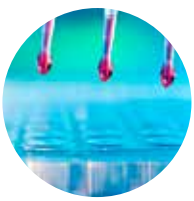
Sintesis Prime RTAF XSE-XSS chillers are perfectly suited to critical environments such as

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
- Optimized compressor speed and refrigerant connection with bellows for the Whisper low noise 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 allows operation with low outdoor temperature, down to -20°C, by managing the airflow through the chiller condenser.

- Units are equipped with EC fans.

Optional Hydraulic Module

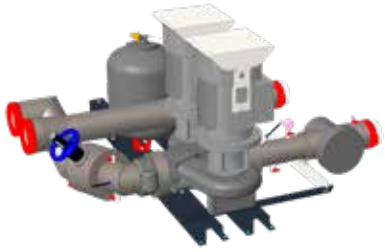
- Dual Pumps
- Standard head or High head pressure
- Optional Variable Primary Flow compatibility VPF

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

Electronically Commutated (EC) fans (RTAF XSE)

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

*Redesigned fan diffusers

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

Adaptive Frequency™ Drive

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

* 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

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

- Reduced refrigerant volume
- Increased efficiency
- Reduced carbon footprint

*** Variable Volume Index Compressor**

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

*** 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

*** Connectivity**

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

LonMark® Sponsor

BACnet™

Modbus

General specifications

RTAF XSE - Whisper Low Noise (EC WLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	345	561	691	914	1110
Net EER (1) (2)		3,86	3,76	3,45	3,69	3,75
Eurovent Energy class - Cooling		A	A	A	A	A
SEER (3)		6,17	6,46	5,85	6,24	6,53
Space cooling efficiency ηs.c (3)	(%)	244	255	231	247	258
Sound Power Level (4)	dB(A)	83	89	88	91	92
SEPR HT		7,82	7,86	7,40	7,54	7,87
SEPR MT*		4,08	4,52	4,17	4,35	4,62
Max Amps	(A)	218	362	416	566	715
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	70	93	68	78	93
Charge Circuit 2	(kg)	-	-	66	86	86
Dimensions & Weight						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672
Operating weight	(kg)	3790	4440	5885	7460	8440

RTAF XSE - Extra Low Noise (EC XLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	369	589	729	984	1223
Net EER (1) (2)		3,8	3,58	3,56	3,63	3,63
Eurovent Energy class - Cooling		A	A	A	A	A
SEER (3)		6,16	6,38	5,82	6,11	6,39
Space cooling efficiency ηs.c (3)	(%)	243	252	230	241	153
Sound Power Level (4)	dB(A)	88	93	92	96	97
SEPR HT		7,69	7,57	7,31	7,38	7,56
SEPR MT*		3,95	4,23	3,77	4,11	4,35
Max Amps	(A)	218	362	416	566	715
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2		-	-	1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	70	93	68	78	93
Charge Circuit 2	(kg)	-	-	66	86	86
Dimensions & Weight						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672
Operating weight	(kg)	3670	4320	5645	7220	8200

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

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	6,4	5,77	6,15	6,41
Space cooling efficiency ηs.c (3)	(%)	236	253	228	243	253
Sound Power Level Standard Noise version (4)	dB(A)	93	99	98	102	103
Sound Power Level Low noise version (4)	dB(A)	92	98	97	100	102
SEPR HT		7,61	7,45	7,20	7,30	7,44
SEPR MT*		3,83	4,05	3,62	3,94	4,18
Max Amps	(A)	218	362	416	566	715
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	70	93	68	78	93
Charge Circuit 2	(kg)	-	-	66	86	86
Dimensions & Weight						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	3670	4320	5645	7220	8200

RTAF XSS - Whisper Low Noise (EC WLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	335	533	665	901	1064
Net EER (1) (2)		3,38	3,37	3,17	3,19	3,29
Eurovent Energy class - Cooling		A	A	A	A	A
SEER (3)		5,63	5,72	5,39	5,62	6,1
Space cooling efficiency ηs.c (3)	(%)	222	226	213	222	241
Sound Power Level (4)	dB(A)	86	92	90	94	95
SEPR HT		6,97	6,87	6,67	6,80	6,93
SEPR MT*		3,74	4,23	3,74	4,07	4,29
Max Amps	(A)	206	349	403	547	696
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	64	78	60	65	77
Charge Circuit 2	(kg)	-	-	59	75	76
Dimensions & Weight						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672
Operating weight	(kg)	3090	3670	5105	6300	7255

RTAF XSS - Extra Low Noise (EC XLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	358	563	701	935	1177
Net EER (1) (2)		3,41	3,11	3,18	3,1	3,22
Eurovent Energy class - Cooling		A	A	A	A	A
SEER (3)		5,65	5,6	5,48	5,66	6
Space cooling efficiency ηs.c (3)	(%)	223	221	216	223	237
Sound Power Level (4)	dB(A)	90	97	94	97	100
SEPR HT		7,09	6,98	6,78	6,91	7,05
SEPR MT*		3,87	4,36	3,86	4,19	4,43
Max Amps	(A)	206	349	403	547	696
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	64	78	60	65	77
Charge Circuit 2	(kg)	-	-	59	75	76
Dimensions & Weight						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672
Operating weight	(kg)	2970	3550	4865	6060	7015

RTAF XSS - Low Noise Low Ambient (LN LA) and Standard Noise Low Ambient (SN LA)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	358	563	701	935	1177
Net EER (1) (2)		3,37	3,08	3,16	3,08	3,19
Eurovent Energy class - Cooling		A	B	A	B	A
SEER (3)		5,35	5,36	5,23	5,47	5,73
Space cooling efficiency ηs.c (3)	(%)	211	211	206	216	226
Sound Power Level Standard Noise LA version (4)	dB(A)	96	103	101	104	106
Sound Power Level Low noise LA version (4)	dB(A)	94	102	99	102	105
SEPR HT		6,97	6,87	6,67	6,80	6,93
SEPR MT*		3,74	4,23	3,74	4,07	4,29
Max Amps	(A)	206	349	403	547	696
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	64	78	60	65	77
Charge Circuit 2	(kg)	-	-	59	75	76
Dimensions & Weight						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	2970	3550	4865	6060	7015

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

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	339	527	667	888	1075
Net EER (1) (2)		3,37	3,25	3,14	3,07	3,28
Eurovent Energy class - Cooling		A	A	A	B	A
SEER (3)		5,09	5,36	5,03	5,22	5,43
Space cooling efficiency ηs.c (3)	(%)	201	211	198	206	214
Sound Power Level (4)	dB(A)	86	92	90	94	95
SEPR HT		6,21	6,44	6,11	6,29	6,51
SEPR MT*		3,57	4,15	3,53	3,90	4,21
Max Amps	(A)	206	349	403	547	696
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	64	78	60	65	77
Charge Circuit 2	(kg)	-	-	59	75	76
Dimensions & Weight						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	3090	3670	5105	6300	7255

RTAF XSS - AC Extra Low Noise (AC XLN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	355	570	692	921	1162
Net EER (1) (2)		3,3	3,07	3,07	2,98	3,1
Eurovent Energy class - Cooling		A	B	B	B	A
SEER (3)		5,13	5,39	5,07	5,22	5,5
Space cooling efficiency ηs.c (3)	(%)	202	213	200	206	217
Sound Power Level (4)	dB(A)	90	97	94	97	100
SEPR HT		6,08	6,25	6,00	6,23	6,31
SEPR MT*		3,43	4,17	3,5	3,86	4,23
Max Amps	(A)	206	349	403	547	696
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	64	78	60	65	77
Charge Circuit 2	(kg)	-	-	59	75	76
Dimensions & Weight						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	2970	3550	4865	6060	7015

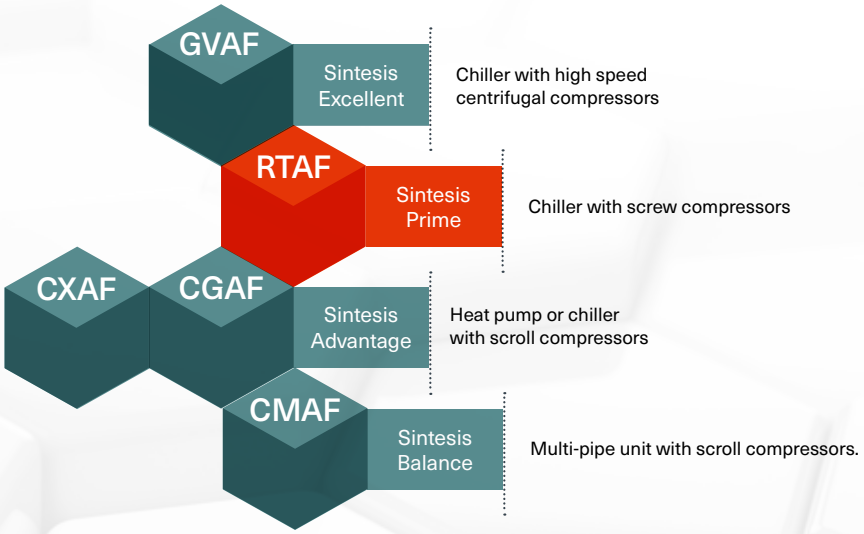
RTAF XSS - Low Noise (LN) and Standard Noise (SN)

Eurovent performances (1)		100	165	200	265	330
Net cooling capacity (1) (2)	(kW)	358	576	700	934	1176
Net EER (1) (2)		3,30	3,10	3,10	3,03	3,13
Eurovent Energy class - Cooling		A	A	A	B	A
SEER (3)		4,95	5,21	4,97	5,13	5,38
Space cooling efficiency ηs.c (3)	(%)	195	205	196	202	212
Sound Power Level Standard Noise version (4)	dB(A)	96	103	101	104	106
Sound Power Level Low noise version (4)	dB(A)	94	102	99	102	105
SEPR HT		5,94	6,12	5,88	6,11	6,18
SEPR MT*		3,59	4,03	3,42	3,77	4,09
Max Amps	(A)	212	358	414	560	713
Compressor						
Circuit 1		1	1	1	1	1
Circuit 2				1	1	1
Refrigerant R134a						
Charge Circuit 1	(kg)	64	78	60	65	77
Charge Circuit 2	(kg)	-	-	59	75	76
Dimensions & Weight						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526
Operating weight	(kg)	2970	3550	4865	6060	7015

(1) Evaporator 12/7°C and 0.0 m^2K/kW, and condenser at 35°C
(2) Net performances calculated as per EN 14511-2018 & 14825:2018
(3) hs,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
(4) Mesured in accordance with ISO 9614 and certified by Eurovent
* Evaporator includes Turbulators

SINTESIS™

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®

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* or *tranetechnologies.com.*

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