



TRANE®

SINTECIS™ ADVANTAGE

**Sustainable and reliable
cooling and heating**



Chillers and heat pumps
CGAF/CXAF
Cooling: 139-261 kW
Heating 149-267 kW

TRANE
TECHNOLOGIES

The innovative solution for your building needs

CGAF and CXAF are built on Trane's well-known Sintesis™ platform, which means they share many of the same components and technologies with a proven reliability and quality record as Sintesis Prime RTAF, Sintesis Excellent GVAF and Sintesis Balance CMAF. This guarantees a smooth operation and reliable comfort for your building users, while also facilitating the life of service technicians and keeping maintenance costs to a minimum.

Fin & Tube heat exchanger (CXAF)

Modular design in 'V' shape for maximum performance in a small footprint

Micro-channel condenser coils (CGAF)

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

Tracer™ UC800 controller

Reliable controller platform with proven algorithms to ensure smooth operations and optimum defrost control

- New generation of Trane control platform for chillers
- Advanced algorithms for the most challenging conditions
- Perfect balance of performance and economy

Trane smart control 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



Connectivity

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



LONMARK
SPONSOR



Multi-speed axial outdoor fans

Available with AC and EC technologies

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

Optimized fan diffusers

- Remodelled to optimize airflow
- Fans consume up to 27% less power
- Noise level reduced at part load



Protection grills (Optional)

To ensure people's safety and to protect the unit placed in public space

Optional hydraulic module

- Housing within the chiller frame to keep overall footprint to a minimum
- Single or dual pump
- Optional water buffer tank
- Compatible with variable primary flow

Brazed plate heat exchanger

Compact and proven design

Industry leading variable volume scroll compressor

- Optimized for part-load efficiency and higher seasonal efficiency
- Reliable operation over the lifetime of the unit
- Reduced energy consumption: no overcompression thanks to intermediate discharge valves (IDVs)

Future-proof sustainability

Choose from 2 refrigerants: Low-GWP R454B or R410A



R454B is the lowest GWP value option to replace R410A, with a GWP decrease of 78% and 31% lower than R32. Units will deliver better cooling/heating capacity and power usage compared to R410A - up to 5% improvement.

Granting almost the same operating limits as R410A, R454B has greater efficiencies, both in cooling (EER and SEER) and in heating (COP and SCOP).

Preliminary General data CGAF chiller



CGAF SE - R410A		42	46	55	62	66	69	72	74
Cooling according to EN 14511 ⁽¹⁾									
Net cooling capacity	(kW)	149	160	193	217	231	241	252	261
Total power input	(kW)	50.2	55.3	64.9	76.0	80.3	84.5	88.9	93.3
EER		2.96	2.90	2.97	2.85	2.88	2.86	2.83	2.80
Water flow	(m ³ /h)	25.6	27.5	33.1	37.3	39.7	41.5	43.3	44.9
Water pressure drop	(kPa)	38	43	35	44	31	33	36	39
Seasonal efficiency according to EN 14825 ⁽²⁾									
P rated	(kW)	149	160	193	217	231	241	252	261
Seasonal space efficiency (η _{s.c})	(%)	166	161	169	161	161	161	161	161
SEER		4.21	4.11	4.30	4.10	4.10	4.11	4.10	4.10
Compressors									
Number of circuit(s)		2	2	2	2	2	2	2	2
Number of compressors per circuit		2	2	2	2	2	2	2	2
Minimum capacity step		22%	25%	21%	25%	24%	22%	21%	25%
Fans									
Number of fans		2	2	4	4	4	4	4	4
Sound levels									
Sound power level ⁽³⁾	(dB(A))	86	86	89	90	90	90	90	90
Sound pressure level at 10 m	(dB(A))	54	54	57	58	58	58	58	58
Dimensions and weight									
Length	(mm)	2477	2477	2477	2477	2477	2477	2477	2477
Width	(mm)	2002	2002	2002	2002	2002	2002	2002	2002
Height	(mm)	2357	2357	2357	2357	2357	2357	2357	2357
Operating Weight	(kg)	1198	1206	1427	1513	1546	1550	1553	1557

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.

(2) According to EN14825:2018.

(3) Data according to ISO9614 for standard noise unit.



CGAF SE - R454B		42	46	55	62	66	69	72	74
Cooling according to EN 14511 ⁽¹⁾									
Net cooling capacity	(kW)	144	155	187	210	224	234	244	253
Total power input	(kW)	47	52	61	72	76	80	84	88
EER		3.05	2.99	3.06	2.94	2.97	2.94	2.91	2.88
Water flow	(m ³ /h)	24.8	26.7	32.1	36.1	38.6	40.3	42.0	43.5
Water pressure drop	(kPa)	35	41	33	42	29	31	34	37
Seasonal efficiency according to EN 14825 ⁽²⁾									
P rated	(kW)	144	155	187	210	224	234	244	253
Seasonal space efficiency (η _{s.c})	(%)	166	161	169	161	161	161	161	161
SEER		4.21	4.11	4.30	4.10	4.10	4.11	4.10	4.10
Compressors									
Number of circuit(s)		2	2	2	2	2	2	2	2
Number of compressors per circuit		2	2	2	2	2	2	2	2
Minimum capacity step		22%	25%	21%	25%	24%	22%	21%	25%
Fans									
Number of fans		2	2	4	4	4	4	4	4
Sound levels									
Sound power level ⁽³⁾	(dB(A))	86	86	89	90	90	90	90	90
Sound pressure level at 10 m	(dB(A))	54	54	57	58	58	58	58	58
Dimensions and weight									
Length	(mm)	2477	2477	2477	2477	2477	2477	2477	2477
Width	(mm)	2002	2002	2002	2002	2002	2002	2002	2002
Height	(mm)	2357	2357	2357	2357	2357	2357	2357	2357
Operating Weight	(kg)	1198	1206	1427	1513	1546	1550	1553	1557

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.

(2) According to EN14825:2018.

(3) Data according to ISO9614 for standard noise unit.

HE

Delivering HIGH EFFICIENCY in HEATING mode

Trane Engineering has built on years of experience with heat pumps to bring forward the latest innovation in refrigeration circuit design.

Optimized defrost management

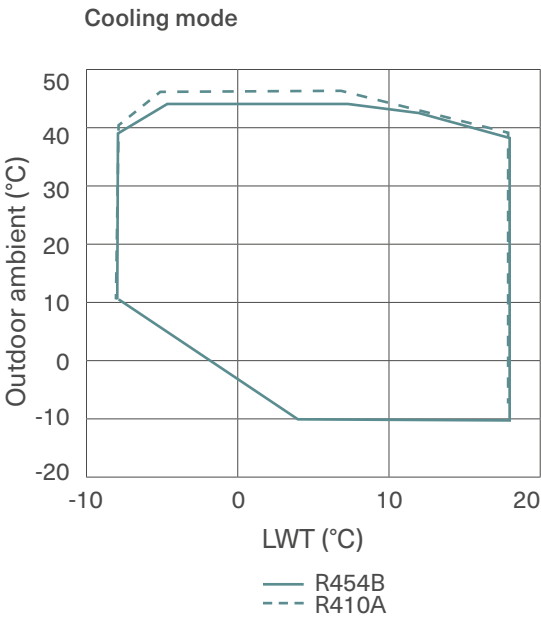
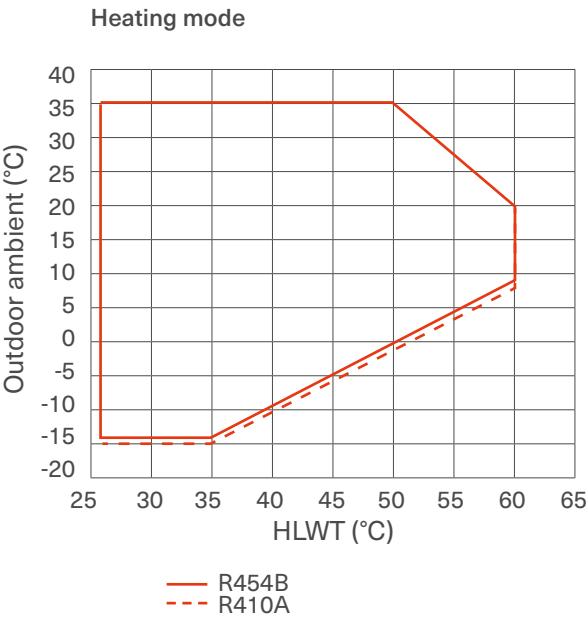
The characteristic Sintesis™ 'V' shaped heat exchanger has been optimized to accelerate the defrost cycle, improving the unit reliability by minimizing compressor cycling and maintaining comfort for building user.

Proven reliability

The system prevents any liquid from entering into the compressor, improving unit reliability.

Operating maps

Sustainable and reliable cooling or heating. All year round.



Preliminary General data CXAF heat pump



CXAF SE - R410A		40	42	52	58	62	64	67	69
Cooling ⁽¹⁾									
Net cooling capacity	(kW)	139	148	183	204	217	225	235	243
Total power input	(kW)	52.6	58.2	68.4	79.7	84.4	88.7	93.5	98.2
EER		2.65	2.55	2.68	2.56	2.57	2.54	2.51	2.47
Water flow	(m ³ /h)	24.0	25.5	31.5	35.1	37.3	38.8	40.4	41.7
Water pressure drop	(kPa)	35	39	33	41	28	31	33	35
Heating ⁽²⁾									
Net heating capacity	(kW)	154	166	199	225	236	246	256	267
Total power input	(kW)	48.4	52.9	64.4	73.6	76.1	79.5	82.9	86.3
COP		3.18	3.14	3.10	3.05	3.10	3.10	3.09	3.09
Water flow	(m ³ /h)	26.4	28.5	34.3	38.6	40.5	42.3	44.1	45.9
Water pressure drop	(kPa)	40	46	38	47	32	35	38	40
Heating ⁽³⁾									
Net heating capacity	(kW)	157	169	207	234	246	257	267	278
Total power input	(kW)	40.6	39.0	54.4	62.3	64.1	66.9	69.7	72.5
COP		3.87	4.32	3.81	3.76	3.84	3.84	3.84	3.83
Water flow	(m ³ /h)	27.0	29.0	35.6	40.2	42.3	44.2	46.0	47.7
Water pressure drop	(kPa)	42	49	41	52	35	38	41	44
Seasonal efficiency - Heating ⁽⁴⁾									
P rated	(kW)	112	130	156	175	180	211	211	207
Seasonal space efficiency (ηs.h)	(%)	134%	132%	129%	123%	132%	125%	132%	126%
SCOP		3.43	3.37	3.30	3.14	3.38	3.21	3.37	3.23
Compressors									
Number of circuit(s)		2	2	2	2	2	2	2	2
Number of compressors per circuit		2	2	2	2	2	2	2	2
Minimum capacity step		22%	20%	21%	25%	24%	22%	21%	25%
Fans									
Number of fans		2	2	4	4	4	4	4	4
Sound levels									
Sound power level ⁽⁵⁾	(dB(A))	86	86	89	90	90	90	90	90
Sound pressure level at 10 m	(dB(A))	54	54	57	58	58	58	58	58
Dimensions and weight									
Length	(mm)	2477	2477	2477	2477	2477	2477	2477	2477
Width	(mm)	2002	2002	2002	2002	2002	2002	2002	2002
Height	(mm)	2357	2357	2357	2357	2357	2357	2357	2357
Operating Weight	(kg)	1335	1342	1516	1602	1631	1634	1637	1640

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature, according to EN 14511-2018.

(2) At Eurovent conditions: 40/45°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature, according to EN 14511-2018.

(3) At Eurovent conditions: 30/35°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature, according to EN 14511-2018.

(4) According to EN14825:2018.

(5) Data according to ISO9614 for standard noise unit.

CXAF SE - R454B		40	42	52	58	62	64	67	69
Cooling ⁽¹⁾									
Net cooling capacity	(kW)	135	144	178	198	210	219	228	235
Total power input	(kW)	49.5	54.8	64.4	75.0	79.5	83.5	88.1	92.5
EER		2.73	2.63	2.76	2.64	2.65	2.62	2.59	2.54
Water flow	(m ³ /h)	23.2	24.8	30.6	34.0	36.2	37.6	39.2	40.5
Water pressure drop	(kPa)	33	37	31	39	27	29	31	33
Heating ⁽²⁾									
Net heating capacity	(kW)	149	161	193	218	228	239	249	259
Total power input	(kW)	45.6	49.8	60.6	69.3	71.6	74.8	78.1	81.3
COP		3.27	3.23	3.19	3.14	3.19	3.19	3.19	3.18
Water flow	(m ³ /h)	25.7	27.7	33.3	37.5	39.3	41.0	42.8	44.5
Water pressure drop	(kPa)	38	44	36	45	30	33	35	38
Heating ⁽³⁾									
Net heating capacity	(kW)	152	164	201	227	238	249	259	269
Total power input	(kW)	38.2	36.8	51.2	58.6	60.3	63.0	65.6	68.3
COP		3.98	4.45	3.92	3.87	3.95	3.95	3.95	3.94
Water flow	(m ³ /h)	26.2	28.1	34.6	39.0	41.0	42.8	44.6	46.3
Water pressure drop	(kPa)	40	46	39	49	33	36	39	42
Seasonal efficiency - Heating ⁽⁴⁾									
P rated	(kW)	109	126	152	170	175	205	205	201
Seasonal space efficiency (η _s .h)	(%)	134%	132%	129%	123%	132%	125%	132%	126%
SCOP		3.43	3.37	3.30	3.14	3.38	3.21	3.37	3.23
Compressors									
Number of circuit(s)		2	2	2	2	2	2	2	2
Number of compressors per circuit		2	2	2	2	2	2	2	2
Minimum capacity step		22%	20%	21%	25%	24%	22%	21%	25%
Fans									
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Sound power level ⁽⁵⁾	(dB(A))	86	86	89	90	90	90	90	90
Sound pressure level at 10 m	(dB(A))	54	54	57	58	58	58	58	58
Dimensions and weight									
Length	(mm)	2477	2477	2477	2477	2477	2477	2477	2477
Width	(mm)	2002	2002	2002	2002	2002	2002	2002	2002
Height	(mm)	2357	2357	2357	2357	2357	2357	2357	2357
Operating Weight	(kg)	1335	1342	1516	1602	1631	1634	1637	1640

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(3) At Eurovent conditions: 30/35°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature, according to EN 14511-2018.

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(5) Data according to ISO9614 for standard noise unit.



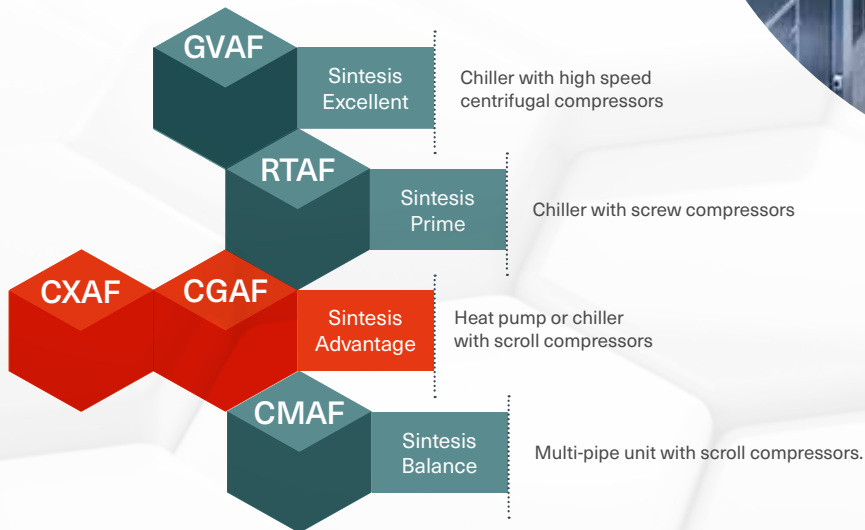


Family of chillers, heat pumps and multi-pipe units



© Jérôme Baudoin

Trane Air-Cooled Testing Facility in Charmes, France



The Sintes™ Advantage models CGAF and CXAF belong to the Trane Sintes™ air-cooled portfolio representing industry leading performance and flexibility — for a perfect fit not only to your building and application requirements, but also to your sustainability and budget targets.

The full Trane Sintes Advantage range:

- 22 units offering capacities from 139 kW to 700 kW
- 3 efficiency levels: SE, HE, XE
- 3 low-noise packages: SN, LN, XLN
- Perfectly suited for comfort and process application with extended operating map:
 - Standard ambient option from -10°C to +46°C
 - High ambient option from -10°C to +52°C
 - Low ambient option from -20°C to +46°C
 - Wide ambient option from -20°C to +52°C.

Factory-mounted options:

- Hydraulic module with single or dual pump and buffer tank
- Partial heat recovery
- Total heat recovery
- Free-cooling

For a complete and detailed list of all options and accessories, please refer to the product catalog or contact your local Trane office.



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.