Sintesis Advantage CXAF Air-to-Water Heat Pump

TRANE
TECHNOLOGIES

Sintesis Advantage CXAF Air-to-Water Heat Pump

Cooling capacity: 181-680 kW

Heating capacity: 187-700 kW

- Sustainable and reliable cooling and heating, all year round
- Air-sourced renewable technology
- High efficiency at full load and part load with variable volume scroll compressor technology and variable speed fans
- The unique Trane SLHX system (patent pending) offers higher efficiency without increasing unit footprint
- Highly configurable: adapts perfectly to your performance requirements and budget needs
- Micro-channel condenser coils

The future of sustainable heating

At Trane, we believe in electrification of heating as an important global contributor to mitigate climate change and reduce carbon footprint. The Sintesis™ Advantage CXAF provides best-in-class efficiency levels at Eurovent Class A full load performance. CXAF models comply with ErP 2021 efficiency thresholds, using the most innovative technology on the market.

CXAF uses ambient air as its heat source, resulting in a substantially lower carbon footprint and no emissions compared to fossil fuel boilers.

Flexible, reliable and simple

Trane CXAF heat pumps are built on Trane's well-known Sintesis™ platform, which means they share many of the same components and technologies – all with a proven reliability record.

Tracer® Symbio™ 800 unit controller ensures smooth operation and reliable comfort for building users, while also allowing for easy maintenance, keeping costs to a minimum.

Improved performance at all operating conditions with Trane LESSS (patent pending)

The Trane Low Energy Super Subcooler system (LESSS) is a unique heat pump refrigerant system which makes intelligent usage of superheat generation and mass flow control to optimize the refrigerant charge under any operating conditions.

Fully designed and tested by Trane, the net capacity of the unit is increased by up to 7%, improving energy efficiency across all seasons. Trane LESSS also enhances system reliability by improving compressor lubrication and preventing liquid slugging.

Thanks to Trane's most recent innovation, the unit efficiency is higher without needing to oversize the heat exchanger section. In short, you can do more with LESSS.

Low noise operation

With variable volume scroll compressors, variable speed fans and insulation options to reduce sound even further, CXAF heat pumps are the ideal choice to keep your building warm or cool - quietly and efficiently.

Range description

- Model CXAF is available in two efficiency versions (SE and HE), which can be coupled with three low noise packages (SN, LN, XLN). You can also choose between AC, EC and EC Axitop fans to improve the efficiency of your system within budget.

Technical specifications

Cooling capacity	181-680 kW
Heating capacity	187-700 kW
Eurovent certification	●
ErP Certification	●
Refrigerants	R454B | R410A
Operating mode	Cooling only | Heat pump
Energy saving	Heat recovery | Adaptive Frequency™ Drive
Compressor	Scroll

Product data

CXAF Special Standard Efficiency

	Pc (1) kW	Pec (1) kW	EER (1)	SEER (2)	ηsc (2) %	Ph (3) kW	Peh (3) kW	COP (3)	Ph (4)	Peh (4) kW	COP (4) kW	SCOP (5)	ηsh (5) %	LwO (6) dB(A)	Refrigerant	L (7) mm	W (7) mm	H (7) mm	OW (4) kg
CXAF 080 SSE AC SN R454B	264,8	85,2	3,11	4,53	178,0	274,3	82,9	3,31	286,1	68,8	4,16	3,56	139,0	90	R454B	3395	2200	2530	2450
CXAF 090 SSE AC SN R454B	288,5	99,1	2,91	4,49	177,0	304,7	93,5	3,26	315,1	77,6	4,06	3,57	140,0	92	R454B	3395	2200	2530	2450
CXAF 100 SSE AC SN R454B	315,7	114,4	2,76	4,33	170,0	335,0	103,7	3,23	344,2	85,6	4,02	3,60	141,0	94	R454B	3395	2200	2530	2450

Pc: Cooling capacity
Pec: Total power input in cooling
EER: Energy Efficiency Ratio (cooling)
SEER: Seasonal Energy Efficiency Ratio
ηsc: Seasonal space cooling energy efficiency
Ph: Heating capacity
Peh: Total power input in heating
COP: Coefficient Of Performance (heating)
SCOP: Seasonal Coefficient Of Performance
ηsh: Seasonal space heating energy efficiency
LwO: A-weighted sound power level outside
Refrigerant: Refrigerant type
L: Length
W: Width
H: Height
OW : Operating Weight

(1): Cooling: outdoor air temperature 35°C and chilled water temperature 12°C/7°C. (EN 14511:2022)
(2): Ecodesign rating for comfort chiller - Fan coil application. Outdoor air temperature 35°C and chilled water temperature in/ out: 12°C/7°C. ηs,c/SEER as defined in Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - REGULATION (EU) N° 2016/2281 of 20 December 2016.
(3): Outdoor air temperature 7°C - hot water temperature in/out 40/45°C. (EN 14511:2022)
(4): Outdoor air temperature 7°C - hot water temperature in/out 30/35°C. (EN 14511:2022)
(5): Ecodesign rating at low temperature conditions. Outdoor temperature: 7°C dry bulb/6°C wet bulb and hot water temperature in/out: 30°C/35°C. ηs,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 and combination heaters with Prated < 400kW - COMMISSION REGULATION (EU) N° 813/2013 of 2 August 2013
(6): According ISO 9614:2009. Eurovent conditions, with 1pW reference sound power (without accessories)
(7): Basic unit without accessories

CXAF Special High Efficiency

	Pc (1) kW	Pec (1) kW	EER (1)	SEER (2)	ηsc (2) %	Ph (3) kW	Peh (3) kW	COP (3)	Ph (4)	Peh (4) kW	COP (4) kW	SCOP (5)	ηsh (5) %	LwO (6) dB(A)	Refrigerant	L (7) mm	W (7) mm	H (7) mm	OW (4) kg
CXAF 080 SHE AC SN R454B	259,7	84,9	3,06	4,37	172,0	281,5	79,5	3,54	292,7	66,7	4,39	3,76	147,0	90	R454B	3395	2200	2530	2450
CXAF 090 SHE AC SN R454B	282,9	98,9	2,86	4,29	169,0	310,0	90,1	3,44	320,5	75,2	4,26	3,75	147,0	92	R454B	3395	2200	2530	2450
CXAF 100 SHE AC SN R454B	309,7	113,9	2,72	4,18	164,0	340,9	99,4	3,43	349,4	82,8	4,22	3,79	149,0	94	R454B	3395	2200	2530	2450

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CXAF Standard Efficiency

	Pc (1) kW	Pec (1) kW	EER (1)	SEER (2)	ηsc (2) %	Ph (3) kW	Peh (3) kW	COP (3)	Ph (4)	Peh (4) kW	COP (4) kW	SCOP (5)	ηsh (5) %	LwO (6) dB(A)	Refrigerant	L (7) mm	W (7) mm	H (7) mm	OW (4) kg
CXAF 055 SE AC SN R454B	179,7	61,5	2,92	4,52	177,7	178,9	59,4	3,01	-	-	-	3,47	135,8	92	R454B	2505	1997	2412	1549
CXAF 060 SE AC SN R454B	200,9	72,8	2,76	4,31	169,5	202,5	67,9	2,98	-	-	-	3,50	136,9	92	R454B	2505	1997	2412	1630
CXAF 061 SE AC SN R454B	217,4	69,5	3,13	4,65	183,0	218,1	67,5	3,23	-	-	-	3,50	136,9	93	R454B	3255	2232	2531	2044
CXAF 070 SE AC SN R454B	238,1	77,3	3,08	4,64	182,5	240,0	73,9	3,25	-	-	-	3,68	144,1	93	R454B	3255	2232	2531	2044
CXAF 074 SE AC SN R454B	260,9	91,2	2,86	4,49	176,7	266,8	84,4	3,16	-	-	-	3,65	143,0	95	R454B	3255	2232	2531	2030
CXAF 075 SE AC SN R454B	264,2	83,4	3,17	4,71	185,2	274,4	83,4	3,29	-	-	-	3,60	140,9	93	R454B	3255	2232	2531	2190
CXAF 080 SE AC SN R454B	279,1	82,3	3,39	4,90	193,0	275,1	82,6	3,33	288,6	68,9	4,19	3,57	140,0	90	R454B	4520	2200	2530	2835
CXAF 085 SE AC SN R454B	288,7	96,9	2,98	4,67	183,7	304,9	94,1	3,24	-	-	-	3,60	141,1	96	R454B	3255	2232	2531	2316
CXAF 090 SE AC SN R454B	304,7	95,2	3,20	4,83	190,0	305,6	93,2	3,28	318,6	77,5	4,11	3,58	140,0	92	R454B	4520	2200	2530	2934
CXAF 095 SE AC SN R454B	314,5	111,1	2,83	4,41	173,5	334,6	104,6	3,20	-	-	-	3,63	142,4	97	R454B	3255	2232	2531	2702
CXAF 100 SE AC SN R454B	334,1	108,8	3,07	4,75	187,0	336,9	103,7	3,25	349,1	85,6	4,08	3,62	142,0	94	R454B	4520	2200	2530	3078
CXAF 110 SE AC SN R454B	377,0	125,2	3,01	4,76	187,0	379,2	116,0	3,27	392,4	96,6	4,06	3,66	143,0	95	R454B	4520	2200	2530	3168
CXAF 130 SE AC SN R454B	415,4	141,8	2,93	4,65	183,0	417,2	126,8	3,29	430,6	106,1	4,06	3,73	146,0	96	R454B	4520	2200	2530	3235
CXAF 140 SE AC SN R454B	462,9	153,8	3,01	4,79	189,0	466,7	143,6	3,25	483,0	118,7	4,07	3,51	137,0	95	R454B	5645	2200	2530	3876
CXAF 150 SE AC SN R454B	489,3	168,2	2,91	4,65	183,0	494,9	153,7	3,22	510,3	127,0	4,02	3,53	138,0	96	R454B	5645	2200	2530	4060
CXAF 165 SE AC SN R454B	524,7	185,4	2,83	4,59	181,0	531,8	164,6	3,23	547,8	136,9	4,00	3,62	142,0	96	R454B	5645	2200	2530	4100
CXAF 180 SE AC SN R454B	583,0	195,6	2,98	4,79	189,0	588,6	179,5	3,28	610,4	149,6	4,08	3,60	141,0	97	R454B	6770	2200	2530	4554
CXAF 190 SE AC SN R454B	620,5	211,8	2,93	4,77	188,0	626,3	190,4	3,29	649,2	159,1	4,08	3,69	145,0	97	R454B	6770	2200	2530	4628

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COP: Coefficient Of Performance (heating)
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LwO: A-weighted sound power level outside
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(7): Basic unit without accessories

CXAF High Efficiency

	Pc (1) kW	Pec (1) kW	EER (1)	SEER (2)	ηsc (2) %	Ph (3) kW	Peh (3) kW	COP (3)	Ph (4)	Peh (4) kW	COP (4) kW	SCOP (5)	ηsh (5) %	LwO (6) dB(A)	Refrigerant	L (7) mm	W (7) mm	H (7) mm	OW (4) kg
CXAF 055 HE EC SN R454B	179,9	61,0	2,95	4,81	189,4	178,9	58,9	3,04	-	-	-	3,54	138,4	92	R454B	2505	1997	2412	1549
CXAF 060 HE EC SN R454B	201,2	72,4	2,78	4,48	176,3	202,5	67,3	3,01	-	-	-	3,56	139,4	93	R454B	2505	1997	2412	1630
CXAF 061 HE EC SN R454B	217,7	69,1	3,15	5,07	199,9	218,1	66,9	3,26	-	-	-	3,57	139,6	94	R454B	3255	2232	2531	2044
CXAF 070 HE EC SN R454B	238,3	76,9	3,10	4,91	193,3	240,1	73,4	3,27	-	-	-	3,74	146,6	94	R454B	3255	2232	2531	2044
CXAF 074 HE EC SN R454B	261,2	90,7	2,88	4,69	184,7	266,9	83,9	3,18	-	-	-	3,70	145,2	96	R454B	3255	2232	2531	2030
CXAF 075 HE EC SN R454B	264,3	82,6	3,20	4,99	196,7	274,7	82,7	3,32	-	-	-	3,66	143,5	94	R454B	3255	2232	2531	2190
CXAF 080 HE AC SN R454B	272,9	82,2	3,32	4,69	185,0	284,2	80,3	3,54	297,5	67,5	4,41	3,75	147,0	90	R454B	4520	2200	2530	2885
CXAF 085 HE EC SN R454B	288,7	96,2	3,00	4,83	190,3	305,2	93,6	3,26	-	-	-	3,67	143,6	96	R454B	3255	2232	2531	2316
CXAF 090 HE AC SN R454B	297,8	94,9	3,14	4,62	182,0	313,2	90,8	3,45	326,6	76,0	4,30	3,75	147,0	92	R454B	4520	2200	2530	2984
CXAF 095 HE EC SN R454B	314,6	110,4	2,85	4,62	181,6	335,0	104,0	3,22	-	-	-	3,69	144,8	98	R454B	3255	2232	2531	2702
CXAF 100 HE AC SN R454B	326,8	108,6	3,01	4,55	179,0	344,3	100,1	3,44	357,0	83,4	4,28	3,80	149,0	94	R454B	4520	2200	2530	3138
CXAF 110 HE AC SN R454B	368,6	124,5	2,96	4,49	177,0	386,1	112,2	3,44	400,0	94,1	4,25	3,80	149,0	95	R454B	4520	2200	2530	3228
CXAF 130 HE AC SN R454B	405,7	140,9	2,88	4,46	175,0	423,3	122,7	3,45	437,9	103,3	4,24	3,88	152,0	96	R454B	4520	2200	2530	3295
CXAF 140 HE AC SN R454B	451,9	153,2	2,95	4,65	183,0	474,5	138,7	3,42	491,8	115,7	4,25	3,68	144,0	95	R454B	5645	2200	2530	3956
CXAF 150 HE AC SN R454B	477,3	167,5	2,85	4,57	180,0	501,9	148,1	3,39	518,4	123,1	4,21	3,70	145,0	96	R454B	5645	2200	2530	4140
CXAF 165 HE AC SN R454B	511,0	183,8	2,78	4,58	180,0	538,0	159,2	3,38	555,3	132,8	4,18	3,76	147,0	96	R454B	5645	2200	2530	4180
CXAF 180 HE AC SN R454B	567,3	194,3	2,92	4,65	183,0	597,2	174,1	3,43	619,2	146,0	4,24	3,76	147,0	97	R454B	6770	2200	2530	4639
CXAF 190 HE AC SN R454B	603,5	210,3	2,87	4,62	182,0	634,3	184,4	3,44	657,0	155,3	4,23	3,82	150,0	97	R454B	6770	2200	2530	4713

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(7): Basic unit without accessories

Improve Operations

Technology is continuously evolving and Trane Engineering is ahead of the curve in bringing innovation into product development. Our sustainable solutions deliver enhancements to the Trane installed base to make your chillers and heat pumps even "better than before". That's Trane Building Advantage - TBA.

Trane Rental Services

Cooling and heating are services, not products. A process or a building does not need a chiller or a boiler sitting on a roof, but a reliable and efficiency supply of cold or hot water, cold or warm air. This is the essence of what we do at Trane Rental Services. Let us take care of it for you.

Read more https://trane.eu/rental

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

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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