

Air Cooled Chillers & Heat Pumps

FullPOWER EVO VFD (1+i)

TCAIT-TCAIQ 2560÷21500



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Cooling capacity: 548,4÷1510,1 kW

- Continuous power adjustment from 12.5 to 100%
- SEER up to 5,23 with FIEC accessory (EC fans)
- R513A and R134a
- Wide range of accessories
- Integrated MASTER/SLAVE control



Construction features

- Compressor: high energy efficiency semi-hermetic screw driven by fixed speed motor with linear capacity control and variable Vi regulated by inverter (12.5-100%), limited inrush start-up, complete with integral protection, casing heater, oil level sensor and shut-off valve on refrigerant gas outlet piping.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed adjustment.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
 - display of cooling circuit high/low pressure;
 - electronic expansion valve;
 - oil level sensor;
 - clock board;
 - Master/Slave control up to 4 units in parallel;
 - control of Variable Primary Flow (VPF_R).

Versions

- T - High efficiency version with oversized condensing section (TCAITL-TCAITZ).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, reduced speed fans and oversized condensing section (TCAIQL-TCAIQZ).

Models

- TCAITL: high efficiency unit designed for cooling only with R513A gas.
- TCAIQL: super silenced unit designed for cooling only with R513A gas.
- TCAITZ: high efficiency unit designed for cooling only with R134a gas.
- TCAIQZ: super silenced unit designed for cooling only with R134a gas.

Factory fitted accessories

- PUMP with single or double electric pump, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- Condensing control with fans with EC motor.
- Condensing control with over-pressure fans (T version only).
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- EMC anti-disturbance filters.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soft starter.
- Soundproofed compressor box.
- Cooling circuit intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection nets or buffer panels.
- Microchannel coils with E-coating treatment, copper/aluminium, copper/copper, pre-painted copper/aluminium.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- Interfaces for serial communication with other devices.
- Colour touch keypad (fitted on the machine or remotely) with 7" display.
- Spring anti-vibration mounts.
- Protective packaging.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Üntes supervisors for unit monitoring and remote management.
- Üntes sequencer for integrated management of multiple chillers.

TCAITL-TCAIQL MODEL		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
①	Nominal cooling capacity	kW	567,4	607,5	677,4	719,4	773,4	869,3	941,3	987,3	1089,2	1173,2	1319,1	1503,1
①	Nominal cooling capacity	kW	548,4	584,5	657,4	694,4	746,4	839,3	908,4	953,3	1051,3	1126,2	1266,1	1452,2
①	E.E.R.		3,14	3,18	3,16	3,15	3,2	3,17	3,25	3,22	3,18	3,06	3,16	3,05
①	E.E.R.		2,93	3,02	2,91	2,86	2,96	2,87	2,96	2,96	2,9	2,86	2,88	2,89
①	Absorbed power	kW	180,7	191	214,4	228,4	241,7	274,2	289,6	306,6	342,5	383,4	417,4	492,8
①	Absorbed power	kW	187,2	193,5	225,9	242,8	252,2	292,4	306,9	322,1	362,5	393,8	439,6	502,5
TCAITL-TCAIQL MODEL		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
②	Sound pressure	dB(A)	68	69	69	69	70	71	71	71	71	72	73	
②	Sound pressure	dB(A)	60	60	60	60	61	62	62	62	63	64	65	
⑤	Sound power	dB(A)	101	102	102	102	103	103	104	104	104	105	106	
⑤	Sound power	dB(A)	93	93	93	93	94	95	95	95	96	97	98	
	Screw compressors	n.	1 inverter + 1											
	Circuits	n.	2	2	2	2	2	2	2	2	2	2	2	
	Electrical supply	V-ph-Hz	400-3-50											

DIMENSIONS AND WEIGHTS		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500
	L - Width	mm	6090	7250	7250	7250	8350	8350	9450	10550	10550	11650	12810
	H - Height	mm	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
④	TCAITL weight	kg	4490	4890	4960	4970	5830	5930	6410	6680	6790	7150	9680
④	TCAIQL weight	kg	4870	5290	5360	5370	6230	6330	6810	7080	7190	7550	10120

SEASONAL ENERGY PERFORMANCE		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
TCAITL MODEL SEASONAL PERFORMANCE IN COOLING MODE														
①	P _{designc} (EN 14825)	kW	567,4	607,5	677,4	719,4	773,4	869,3	941,3	987,3	1089,2	1173,2	1319,1	1503,1
①	SEER (EN 14825)		5,02	4,94	4,96	4,97	4,96	4,98	4,94	4,96	4,96	4,95	4,96	4,96
②	η _{s,c}	%	198	195	195	196	195	196	195	196	196	195	195	195

TCAIQL MODEL SEASONAL PERFORMANCE IN COOLING MODE		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
①	P _{designc} (EN 14825)	kW	548,4	584,5	657,4	694,4	746,4	839,3	908,4	953,3	1051,3	1126,2	1266,1	1452,2
①	SEER (EN 14825)		4,92	4,86	4,88	4,86	4,87	4,9	4,86	4,87	4,87	4,85	4,87	4,87
②	η _{s,c}	%	194	192	192	191	192	193	191	192	192	191	192	192

TCAITZ-TCAIQZ MODEL		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
①	Nominal cooling capacity	kW	569,4	610,5	680,4	722,4	776,4	873,3	945,3	991,3	1094,2	1178,2	1325,1	1510,1
①	Nominal cooling capacity	kW	550,4	586,5	660,4	697,4	749,4	843,3	912,4	957,3	1056,3	1131,2	1272,1	1459,2
①	E.E.R.		3,22	3,27	3,25	3,23	3,28	3,25	3,33	3,3	3,26	3,14	3,24	3,13
①	E.E.R.		3	3,09	2,99	2,94	3,03	2,95	3,03	3,04	2,98	2,93	2,95	2,96
①	Absorbed power	kW	176,8	186,7	209,4	223,7	236,7	268,7	283,9	300,4	335,6	375,2	409	482,5
①	Absorbed power	kW	183,5	189,8	220,9	237,2	247,3	285,9	301,1	314,9	354,5	386,1	431,2	493
TCAITZ-TCAIQZ MODEL		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
②	Sound pressure	dB(A)	68	69	69	69	70	71	71	71	71	72	73	
②	Sound pressure	dB(A)	60	60	60	60	61	62	62	62	63	64	65	
⑤	Sound power	dB(A)	101	102	102	102	103	103	104	104	104	105	106	
⑤	Sound power	dB(A)	93	93	93	93	94	95	95	95	96	97	98	
	Screw compressors	n.	1 inverter + 1											
	Circuits	n.	2	2	2	2	2	2	2	2	2	2	2	
	Electrical supply	V-ph-Hz	400-3-50											

DIMENSIONS AND WEIGHTS		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500
	L - Width	mm	6090	7250	7250	7250	8350	8350	9450	10550	10550	11650	12810
	H - Height	mm	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
④	TCAITZ weight	kg	4490	4890	4960	4970	5830	5930	6410	6680	6790	7150	9680
④	TCAIQZ weight	kg	4870	5290	5360	5370	6230	6330	6810	7080	7190	7550	10120

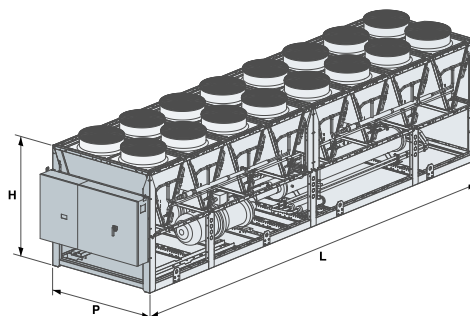
SEASONAL ENERGY PERFORMANCE		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE														
①	P _{designc} (EN 14825)	kW	569,4	610,5	680,4	722,4	776,4	873,3	945,3	991,3	1094,2	1178,2	1325,1	1510,1
①	SEER (EN 14825)		5,08	5,01	5,03	5	5,01	5,04	5,03	5	5,01	5	5,02	5
②	η _{s,c}	%	200	197	198	197	197	199	198	197	197	197	198	197

TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310	21500	
①	P _{designc} (EN 14825)	kW	550,4	586,5	660,4	697,4	749,4	843,3	912,4	957,3	1056,3	1131,2	1272,1	1459,2
①	SEER (EN 14825)		4,98	4,91	4,91	4,91	4,9	4,93	4,9	4,91	4,93	4,88	4,91	4,9
②	η _{s,c}	%	196	193	193	193	193	194	193	193	194	192	193	193

Data at the following conditions:

- ① Air: 35°C - Water: 12/7°C.
- ② In open field (Q = 2) at 10 m from the unit.
- ⑤ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
- ④ Weight referred to the unit without load and not accessorised.
- TCAIQL-TCAIQZ super-silenced versions.
Performance according to EN 14511.

- ① Low temperature application (7°C)
- ② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



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