

FullPOWER EVO VFD

TCAIT-TCAIQ 2565÷31865

Cooling capacity 550,4÷1864,1 kW



Features

Screw compressors with variable Vi, suitable for all applications

Continuous power adjustment from 8 to 100%

SEER up to 5,49 with FIEC accessory (EC fans)

R513A and R134a

Wide range of accessories

Integrated MASTER/SLAVE control



Tax incentives*

Packaged air-cooled water chillers with axial fans. Series with semi-hermetic screw compressors with variable Vi, inverter adjustment and R513A or R134a refrigerant gas

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with variable Vi intrinsic compression ratio, star-delta limited start-up, inverter rotation adjustment (8-100%), complete with integral protection, casing heater, oil level sensor and refrigerant gas outlet piping shut-off valve.

- 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.

multiple chillers.

- 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.
- Freecooling module management.
- 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.
- 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.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Colour touch user 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.
- Rhoss supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of

Technical data

TCAITL-TCAIQL MODEL		2565	2615	2685	2775	2845	2945	21005	21195
① Nominal cooling capacity	kW	568,4	616,5	686,4	779,4	852,3	951,3	1010,3	1190,2
① Nominal cooling capacity	kW	550,4	601,5	670,4	756,4	829,3	923,4	985,3	1153,2
① E.E.R.		3,13	3,13	3,11	3,15	3,12	3,15	3,07	3,03
① E.E.R.		2,92	3,01	2,9	2,95	2,86	2,94	2,89	2,8
① Absorbed power	kW	181,6	197	220,7	247,4	273,2	302	329,1	392,8
① Absorbed power	kW	188,5	199,8	231,2	256,4	290	314,1	340,9	411,9
TCAITL-TCAIQL MODEL		2565	2615	2685	2775	2845	2945	21005	21195
② Sound pressure	dB(A)	69	70	70	71	71	72	72	72
② Sound pressure	dB(A)	61	61	61	62	63	63	64	64
③ Sound power	dB(A)	102	103	103	104	104	105	105	105
③ Sound power	dB(A)	94	94	94	95	96	96	97	97
Screw compressors	n.	2	2	2	2	2	2	2	2
Circuits	n.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		2565	2615	2685	2775	2845	2945	21005	21195
L – Width	mm	6090	7250	7250	8350	8350	10550	10550	10550
H – Height	mm	2480	2480	2480	2480	2480	2480	2480	2480
P – Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260
④ TCAITL weight	kg	4144	4607	4707	5021	5141	5766	5876	6977
④ TCAIQL weight	kg	4524	5007	5107	5421	5541	6166	6276	7397
SEASONAL ENERGY PERFORMANCE		2565	2615	2685	2775	2845	2945	21005	21195
TCAITL MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	568,4	616,5	686,4	779,4	852,3	951,3	1010,3	1190,2
① SEER (EN 14825)		5,3	5,23	5,28	5,27	5,23	5,25	5,28	5,2
② ηs,c	%	209	206	208	208	206	207	208	205
TCAIQL MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	550,4	601,5	670,4	756,4	829,3	923,4	985,3	1153,2
① SEER (EN 14825)		5,19	5,12	5,17	5,17	5,13	5,16	5,17	5,1
② ηs,c	%	205	202	204	204	202	204	204	201
TCAITZ-TCAIQZ MODEL		2565	2615	2685	2775	2845	2945	21005	21195
① Nominal cooling capacity	kW	570,4	619,5	689,4	782,4	856,3	955,3	1015,3	1195,2
① Nominal cooling capacity	kW	552,4	604,5	673,4	759,4	833,3	927,4	989,3	1158,2
① E.E.R.		3,21	3,21	3,2	3,23	3,21	3,23	3,15	3,11
① E.E.R.		3	3,09	2,98	3,02	2,94	3,02	2,96	2,87
① Absorbed power	kW	177,7	193	215,4	242,2	266,8	295,8	322,3	384,3
① Absorbed power	kW	184,1	195,6	226	251,5	283,4	307,1	334,2	403,6
TCAITZ-TCAIQZ MODEL		2565	2615	2685	2775	2845	2945	21005	21195
② Sound pressure	dB(A)	69	70	70	71	71	72	72	72
② Sound pressure	dB(A)	61	61	61	62	63	63	64	64
③ Sound power	dB(A)	102	103	103	104	104	105	105	105
③ Sound power	dB(A)	94	94	94	95	96	96	97	97
Screw compressors/steps	n.	2	2	2	2	2	2	2	2
Circuits	n.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		2565	2615	2685	2775	2845	2945	21005	21195
L – Width	mm	6090	7250	7250	8350	8350	10550	10550	10550
H – Height	mm	2480	2480	2480	2480	2480	2480	2480	2480
P – Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260
④ TCAITZ weight	kg	4144	4607	4707	5021	5141	5766	5876	6977
④ TCAIQZ weight	kg	4524	5007	5107	5421	5541	6166	6276	7397
SEASONAL ENERGY PERFORMANCE		2565	2615	2685	2775	2845	2945	21005	21195
TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	570,4	619,5	689,4	782,4	856,3	955,3	1015,3	1195,2
① SEER (EN 14825)		5,33	5,27	5,32	5,3	5,28	5,28	5,31	5,23
② ηs,c	%	210	208	210	209	208	208	210	206
TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									

① Pdesignc (EN 14825)	kW	552,4	604,5	673,4	759,4	833,3	927,4	989,3	1158,2
① SEER (EN 14825)		5,23	5,18	5,21	5,23	5,17	5,19	5,2	5,14
② ηs,c	%	206	204	205	206	204	205	205	203
TCAITL-TCAIQL MODEL									
			21365	21495	21615 (*)	31715 (*)	31865 (*)		
① Nominal cooling capacity	kW		1358,3	1497,1	1609,1	1703,2	1850,1		
① Nominal cooling capacity	kW		1315,3	1451,2	1554,1	1648,2	1782,1		
① E.E.R.			3,1	3,05	3,02	3,04	2,94		
① E.E.R.			2,88	2,88	2,83	2,84	2,72		
① Absorbed power	kW		438,2	490,9	532,8	560,3	629,3		
① Absorbed power	kW		456,7	503,9	549,2	580,4	655,2		
TCAITL-TCAIQL MODEL									
			21365	21495	21615	31715	31865		
② Sound pressure	dB(A)		73	73	74	75	75		
② Sound pressure	dB(A)		65	65	67	68	68		
③ Sound power	dB(A)		106	106	107	108	108		
③ Sound power	dB(A)		98	98	100	101	101		
Screw compressors	n.		2	2	2	3	3		
Circuits	n.		2	2	2	3	3		
Electrical supply	V-ph-Hz		400-3-50	400-3-50	400-3-50	400-3-50	400-3-50		
DIMENSIONS AND WEIGHTS									
			21365	21495	21615	31715	31865		
L – Width	mm		11650	12810	11650	12730	12730		
H – Height	mm		2480	2480	2580	2580	2580		
P – Depth	mm		2260	2260	2260	2260	2260		
④ TCAITL weight	kg		7763	8734	8036	9640	9687		
④ TCAIQL weight	kg		8183	9174	8476	10180	10227		
SEASONAL ENERGY PERFORMANCE									
			21365	21495	21615 (*)	31715 (*)	31865 (*)		
TCAITL MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW		1358,3	1497,1	1609,1	1703,2	1850,1		
① SEER (EN 14825)			5,26	5,19	5,15	5,21	5,13		
② ηs,c	%		208	204	203	205	202		
TCAIQL MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW		1315,3	1451,2	1554,1	1648,2	1782,1		
① SEER (EN 14825)			5,19	5,13	5,06	5,11	5,03		
② ηs,c	%		205	202	199	202	198		
TCAITZ-TCAIQZ MODEL									
			21365	21495	21615 (*)	31715 (*)	31865 (*)		
① Nominal cooling capacity	kW		1364,3	1504,1	1616,1	1715,2	1864,1		
① Nominal cooling capacity	kW		1321,3	1458,2	1567,1	1664,2	1808,1		
① E.E.R.			3,17	3,13	3,12	3,14	3,02		
① E.E.R.			2,95	2,95	2,92	2,93	2,82		
① Absorbed power	kW		430,4	480,5	518,0	546,2	617,3		
① Absorbed power	kW		447,9	494,3	536,7	568,0	641,2		
TCAITZ-TCAIQZ MODEL									
			21365	21495	21615	31715	31865		
② Sound pressure	dB(A)		73	73	74	75	75		
② Sound pressure	dB(A)		65	65	67	68	68		
③ Sound power	dB(A)		106	106	107	108	108		
③ Sound power	dB(A)		98	98	100	101	101		
Screw compressors/steps	n.		2	2	2	3	3		
Circuits	n.		2	2	2	3	3		
Electrical supply	V-ph-Hz		400-3-50	400-3-50	400-3-50	400-3-50	400-3-50		
DIMENSIONS AND WEIGHTS									
			21365	21495	21615	31715	31865		
L – Width	mm		11650	12810	11650	12730	12730		
H – Height	mm		2480	2480	2580	2580	2580		
P – Depth	mm		2260	2260	2260	2260	2260		
④ TCAITZ weight	kg		7763	8734	8036	9640	9687		
④ TCAIQZ weight	kg		8183	9174	8476	10180	10227		
SEASONAL ENERGY PERFORMANCE									
			21365	21495	21615 (*)	31715 (*)	31865 (*)		
TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW		1364,3	1504,1	1616,1	1715,2	1864,1		
① SEER (EN 14825)			5,32	5,24	5,18	5,24	5,17		
② ηs,c	%		210	207	204	206	204		
TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									

① Pdesignc (EN 14825)	kW	1321,3	1458,2	1567,1	1664,2	1808,1
① SEER (EN 14825)		5,23	5,15	5,11	5,17	5,08
② $\eta_{s,c}$	%	206	203	201	204	200

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.
- ③ 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.
(*) Unit not Eurovent certified
- ① Low temperature application (7°C)
- ② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



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