

# FullPOWER VFD (1+i) TCAITZ-TCAIQZ 2560÷21310



Cooling capacity: 518÷1307.4 kW

- ✓ Continuous power regulation from 12.5 to 100%
- ✓ High efficiency levels
- ✓ Wide range of accessories
- ✓ Integrated MASTER/SLAVE control



Web code: FPV21

Packaged air-cooled water chillers with axial fans. Range with stepless semi-hermetic screw compressors and with variable Vi with inverter regulation and R134a refrigerant gas.

## 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 start, 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 regulation.
- 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;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

## Versions

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

## Models

- TCAITZ: high efficiency unit designed for cooling only.
- TCAIQZ: super silenced unit designed for cooling only.

## Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -15 °C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- 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.
- Optimised energy efficiency.
- 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.
- Micro-channel coils with E-coating treatment.
- 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.
- Anti-vibration mounts.

## Separately supplied accessories

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



# Technical Data

TCAITZ-TCAIQZ MODEL		2560	2600	2670	2710	2770	2860	2930	2980	
① Nominal cooling capacity	kW	561,4	602,2	671,6	712,3	766,5	861,7	933,1	978,8	
① Nominal cooling capacity	kW	517,9	553,5	633,9	670,7	707	804,2	869,5	909,4	
① E.E.R.		3,11	3,17	3,15	3,13	3,19	3,15	3,23	3,20	
① E.E.R.		2,74	2,86	2,79	2,76	2,85	2,80	2,84	2,83	
① Absorbed power	kW	180,5	189,9	213,2	227,6	240,3	273,6	288,9	305,9	
① Absorbed power	kW	189,0	193,5	227,2	243,0	248,1	287,2	306,2	321,3	
TCAITZ-TCAIQZ MODEL		2560	2600	2670	2710	2770	2860	2930	2980	
② Sound pressure	dB(A)	68,5	69	69	69	70	70	71	71	
② Sound pressure	dB(A)	58,5	59	59	59	60	61	61	61	
③ Sound power	dB(A)	101	102	102	102	103	103	104	104	
③ Sound power	dB(A)	91	92	92	92	93	94	94	94	
Screw/step compressor	no.	1+i /	1+i /	1+i /	1+i /	1+i /	1+i /	1+i /	1+i /	
Circuits	no.	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		2560	2600	2670	2710	2770	2860	2930	2980	
L - Width	mm	6090	7250	7250	7250	8350	8350	9400	10550	
H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450	
P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	
④ TCAITZ weight	kg	4390	4770	4840	4850	5690	5790	6250	6500	
④ TCAIQZ weight	kg	4770	5170	5240	5250	6090	6190	6650	6900	
SEASONAL ENERGY PERFORMANCE		2560	2600	2670	2710	2770	2860	2930	2980	
TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	561,4	602,2	671,6	712,3	766,5	861,7	933,1	978,8	
① SEER (EN 14825)		4,81	4,84	4,81	4,8	4,82	4,8	4,84	4,85	
② ηs,c	%	189	191	189	189	190	189	190	191	
TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	517,9	553,5	633,9	670,7	707	804,2	869,5	909,4	
① SEER (EN 14825)		4,68	4,74	4,73	4,72	4,74	4,72	4,71	4,76	
② ηs,c	%	184	187	186	186	187	186	186	187	
TCAITZ-TCAIQZ MODEL		21080			21160			21310		
① Nominal cooling capacity	kW	1079,8			1156,8			1307,4		
① Nominal cooling capacity	kW	1009,5			1067,6			1192,4		
① E.E.R.		3,16			3,16			3,17		
① E.E.R.		2,82			2,81			2,81		
① Absorbed power	kW	341,7			366,1			412,4		
① Absorbed power	kW	357,9			379,9			424,3		
TCAITZ-TCAIQZ MODEL		21080			21160			21310		
② Sound pressure	dB(A)	71			71			72		
② Sound pressure	dB(A)	62			62			63		
③ Sound power	dB(A)	104			104			105		
③ Sound power	dB(A)	95			95			96		
Screw/step compressor	no.	1+i / CONTINUOUS REGULATION			1+i / CONTINUOUS REGULATION			1+i / CONTINUOUS REGULATION		
Circuits	no.	2			2			2		
Electrical supply	V-ph-Hz	400-3-50			400-3-50			400-3-50		
DIMENSIONS AND WEIGHTS		21080			21160			21310		
L - Width	mm	10550			10550			11750		
H - Height	mm	2450			2450			2450		
P - Depth	mm	2260			2260			2260		
④ TCAITZ weight	kg	6610			6970			7330		
④ TCAIQZ weight	kg	7010			7370			7730		
SEASONAL ENERGY PERFORMANCE		21080			21160			21310		
TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	1079,8			1156,8			1307,4		
① SEER (EN 14825)		4,84			4,8			4,81		
② ηs,c	%	191			189			189		
TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	1009,5			1067,6			1192,4		
① SEER (EN 14825)		4,74			4,72			4,74		
② ηs,c	%	187			186			187		

Data at the following conditions:

- ❶ Air: 35°C - Water: 12/7°C.
  - ❷ In open field (Q = 2) at 10 m from the unit.
  - ❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
  - ❹ Weight referred to the unit without load and not accessorised.
  - TCAIQZ super-silenced versions.
- Performance according to EN 14511:2013.
- ❶ Low temperature application (7°C)
  - ❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



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