

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 |
| CONTINUOUS REGULATION | | CONTINUOUS REGULATION | CONTINUOUS REGULATION | CONTINUOUS REGULATION | CONTINUOUS REGULATION | CONTINUOUS REGULATION | CONTINUOUS REGULATION | CONTINUOUS REGULATION | CONTINUOUS REGULATION |
| 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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