

# Air Cooled Chillers & Heat Pumps

**FullPower HE-A**

TCAVTZ-TCAVQZ 2345-21335



**ÜNTES®**

**52**  
years

# FULLPOWER HE-A

TCAVTZ-TCAVQZ 2345-21335



Cooling capacity: 317-1.325 kW



TCAVTZ 2425  
with FIAP accessory and BCI

TCAVQZ 2715

- Efficient range in class A
- Extended operating limits
- Linear capacity control (25-100%)
- Wide range of accessories
- Integrated MASTER/SLAVE control



Packaged air-cooled water chillers with axial fans.

Range with semi-hermetic screw and R134a refrigerant gas compressors.

## Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with linear capacity control (25-100%). Star-delta limited start and complete with integral protection, casing heater 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 with internal thermal protection, accident protection grilles.
- 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 (TCAVTZ).
- Q - Super-silenced version complete with soundproof compressor technical compartment, super-reduced speed fans and oversized condensing section (TCAVQZ).

## Models

- TCAVTZ: high efficiency unit designed for cooling only.
- TCAVQZ: 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
- -10°C condensing control.
- -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.
- Oil level sensor.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- 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.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

## Separately supplied accessories

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

TCAVTZ-TCAVQZ MODEL			2345	2385	2425	2475	2525	2585	2655	2715
❶	Nominal cooling capacity	kW	339,9	379,6	423,7	474,3	524,8	577,3	655,8	712,2
❶	Nominal cooling capacity	kW	317,1	352,8	389,0	452,4	481,2	525,9	601,2	659,6
❶	E.E.R.		3,24	3,23	3,20	3,23	3,20	3,18	3,23	3,21
❶	E.E.R.		3,02	2,96	2,88	2,97	2,87	2,75	2,81	2,76
❶	Absorbed power	kW	104,9	117,5	132,4	146,8	164,0	181,5	203,0	221,9
❶	Absorbed power	kW	105,0	119,2	135,1	152,3	167,7	191,2	214,0	239,0
TCAVTZ-TCAVQZ MODEL			2345	2385	2425	2475	2525	2585	2655	2715
❷	Sound pressure	dB(A)	66	66	66	66	66	67	67	67
❷	Sound pressure	dB(A)	56	56	56	56	56	56	56	56
❸	Sound power	dB(A)	98	98	98	98	98	99	99	99
❸	Sound power	dB(A)	88	88	88	88	88	89	89	89
Screw/step compressor		no.	2/ CONTINUOUS LINEAR REGULATION (25-100%)							
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			2345	2385	2425	2475	2525	2585	2655	2715
L - Width		mm	4.840	4.840	4.840	5.990	5.990	5.990	7.150	7.150
H - Height		mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹	TCAVTZ weight	kg	3.040	3.045	3.070	3.415	4.170	4.200	4.690	4.720
❹	TCAVQZ weight	kg	3.315	3.320	3.345	3.690	4.550	4.580	5.090	5.120

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.

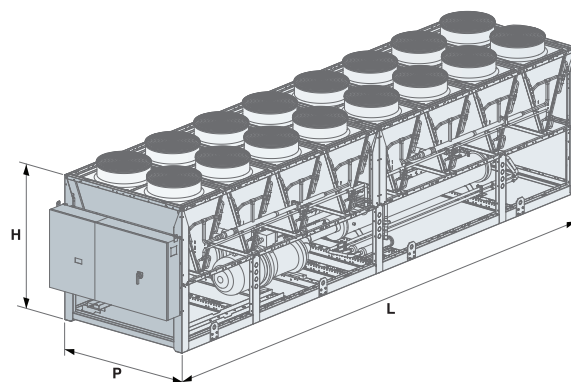
■ TCAVQZ super-silenced versions.

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		2345	2385	2425	2475	2525	2585	2655	2715	
TCAVTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	P <sub>designc</sub> (EN 14825)	kW	339,8	379,4	423,6	474,1	524,7	577,2	655,6	712,0
①	SEER (EN 14825)		4,38	4,36	4,36	4,34	4,37	4,36	4,39	4,41
②	η <sub>s,c</sub>	%	172	171	171	170	172	171	173	173
TCAVQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	P <sub>designc</sub> (EN 14825)	kW	317,0	352,7	388,9	452,3	481,0	525,7	601,1	659,5
①	SEER (EN 14825)		4,31	4,26	4,24	4,26	4,24	4,21	4,25	4,18
②	η <sub>s,c</sub>	%	169	167	167	167	167	166	167	164

❶ Low temperature application (7°C)

❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



TCAVTZ-TCAVQZ MODEL		2765	2815	2885	2955	21025	21105	21175	21335
❶ Nominal cooling capacity	kW	760,7	813,3	879,7	955,9	1.020,5	1.100,8	1.167,3	1.324,6
❶ Nominal cooling capacity	kW	711,2	749,9	795,4	868,6	924,3	1.000,7	1.055,4	1.229,7
❶ E.E.R.		3,19	3,24	3,19	3,27	3,22	3,20	3,17	3,21
❶ E.E.R.		2,75	2,86	2,73	2,83	2,74	2,77	2,71	2,76
❶ Absorbed power	kW	238,5	251,0	275,8	292,3	316,9	344,0	368,2	412,6
❶ Absorbed power	kW	258,6	262,2	291,4	306,9	337,3	361,3	389,4	445,5
TCAVTZ-TCAVQZ MODEL		2765	2815	2885	2955	21025	21105	21175	21335
❷ Sound pressure	dB(A)	67	67	68	68	68	69	69	69
❷ Sound pressure	dB(A)	57	58	59	59	59	59	60	60
❸ Sound power	dB(A)	100	100	101	101	101	102	102	102
❸ Sound power	dB(A)	90	91	92	92	92	92	93	93
Screw/step compressor	no.	2/ CONTINUOUS LINEAR REGULATION (25-100%)							
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		2765	2815	2885	2955	21025	21105	21175	21335
L - Width	mm	7.150	8.250	8.250	9.350	9.350	10.450	10.450	11.550
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹ TCAVTZ weight	kg	4.740	5.565	5.995	6.520	6.585	6.950	6.970	7.355
❹ TCAVQZ weight	kg	5.140	5.965	6.395	6.920	6.985	7.350	7.370	7.755

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.

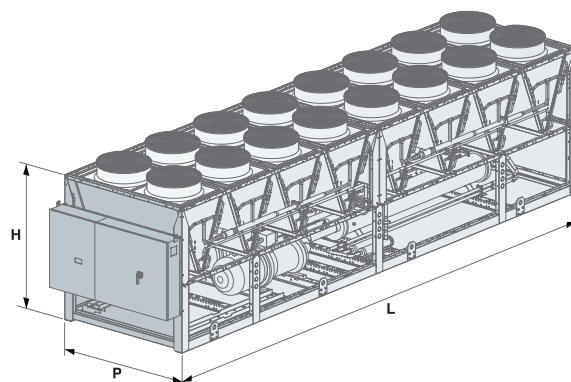
■ TCAVQZ super-silenced versions.

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		2765	2815	2885	2955	21025	21105	21175	21335
TCAVTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
❶ P <sub>designc</sub> (EN 14825)	kW	760,6	813,1	879,4	955,6	1.020,2	1.100,4	1.167,1	1.324,3
❶ SEER (EN 14825)		4,37	4,41	4,33	4,43	4,41	4,43	4,42	4,37
❷ $\eta_{s,c}$	%	172	173	170	174	173	174	174	172
TCAVQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
❶ P <sub>designc</sub> (EN 14825)	kW	711,0	749,6	795,2	868,3	924,0	1.000,4	1.055	1.229,4
❶ SEER (EN 14825)		4,19	4,25	4,27	4,27	4,21	4,19	4,17	4,16
❷ $\eta_{s,c}$	%	164	167	168	168	165	165	164	164

❶ Low temperature application (7°C)

❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)





# ÜNTES®

52  
years

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Fan Coil Systems  
Packaged Air Conditioning Systems  
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Kahramankazan, Ankara, Turkey

#### Manufacturing Plant-2

Water Chiller and Heat Pumps  
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