

WinPOWER ECO TCAEU-THAEU 4370÷6660



Cooling capacity: 359.7÷664.5 kW - Heating capacity:
368.3÷654.5 kW

- √ **Efficient and eco-friendly range in R454B**
- √ **SEER up to 5,38 with FIEC accessory (EC fans)**
- √ **Extended operating limits**
- √ **Up to 6 capacity steps**
- √ **Built-in MASTER/SLAVE control**
- √ **Innovative refrigerant distribution system to optimise operation of the unit, improving its performance and efficiency in heat pump mode (patent pending).**



Web code: WPE05

Air cooled water chillers and reversible heat pumps with axial fans. Range with scroll hermetic compressors and R454B refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Up to 6 capacity steps with high efficiency at partial loads.
- Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: featuring micro-channels (TCAEU) or finned coil with copper pipes and aluminium fins (THAEU).
- 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 with Adaptive Function Plus logic.
- Structure: load-bearing structure made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
 - fan and compressor circuit breaker switches;
 - display of cooling circuit high and low pressure;
 - electronic expansion valve;
 - clock board;
 - Master/Slave control up to 4 units in parallel;
 - control of Variable Primary Flow (VPF_R).

Versions

- T - High efficiency version (TCAEU - THAEU).

Q - Super silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TCAEUQ - THAEUQ).

Models

- TCAEU: high efficiency unit designed for cooling only.
- TCAEUQ: super silenced unit designed for cooling only.
- THAEU: high efficiency heat pump unit.
- THAEUQ: super silenced heat pump unit.

Factory fitted accessories

- Shell and tube evaporator.
- 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.
- TANK&PUMP with 700 or 1000 litre integrated buffer tank (depending on size) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit (TCAEU).
- Condensing control with fans with EC motor.
- Condensing control with over-pressure fans (T version only).

- Power factor correction capacitors ($\cos\phi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soft starter.
- Soundproofed compressor box or Compressor box and soundproofed cooling circuit (THAEU).
- Compressor soundproof enclosures.
- Cooling circuit outlet and intake valves (TCAEU).
- Cooling circuit delivery cocks (THAEU).
- 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/copper, pre-painted copper/aluminium or with hydrophilic treatment depending on versions.
- 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, coil basement, buffer tank, 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 multiple chillers.

Technical Data

TCAETU-TCAEQU MODEL		4370	4410	4450	5490	5520	5560	6600	6630	
① Nominal cooling capacity	kW	374,7	407,7	450,6	490,6	521,6	562,5	604,5	632,6	
① Nominal cooling capacity	kW	365,7	398,7	438,6	479,6	510,6	546,6	593,5	618,6	
① E.E.R.		3,36	3,32	3,27	3,3	3,27	3,26	3,28	3,27	
① E.E.R.		3,26	3,23	3,12	3,21	3,18	3,12	3,22	3,18	
① Absorbed power	kW	110,5	121,7	136,8	147,5	158,3	170,9	182,2	191,8	
① Absorbed power	kW	111,2	122,5	139,3	148,4	159,1	173,9	182,7	193,3	
TCAETU-TCAEQU MODEL		4370	4410	4450	5490	5520	5560	6600	6630	
⑥ TCAETU sound pressure	dB(A)	62	62,5	62,5	63,5	63,5	63,5	64	64	
⑥ TCAEQU sound pressure	dB(A)	54	54,5	54,5	55,5	55,5	55,5	56	56	
④ TCAETU sound power	dB(A)	94	95	95	96	96	96	97	97	
④ TCAEQU sound power	dB(A)	86	87	87	88	88	88	89	89	
Scroll/step compressor	n.	4/4	4/4	4/4	5/5	5/5	5/5	6/6	6/6	
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		4370	4410	4450	5490	5520	5560	6600	6630	
L - Width	mm	4840	4840	4840	5940	5940	5940	7100	7100	
H - Height	mm	2480	2480	2480	2480	2480	2480	2480	2480	
P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	
⑤ TCAETU weight	kg	2545	2645	2690	3190	3230	3265	3910	3960	
⑤ TCAEQU weight	kg	2790	2890	2920	3465	3505	3540	4240	4290	
THAETU-THAEQU MODEL		4370	4410	4450	5490	5520	5560	6600	6630	
② Nominal heating capacity	kW	374,3	405,3	440,4	488,4	513,4	552,4	597,5	628,4	
② Nominal heating capacity	kW	368,3	400,3	434,4	480,4	505,4	544,4	588,5	618,4	
② C.O.P.		3,41	3,34	3,32	3,37	3,36	3,35	3,35	3,33	
② C.O.P.		3,47	3,41	3,37	3,42	3,41	3,41	3,4	3,38	
① Nominal cooling capacity	kW	367,7	400,7	440,6	484,6	505,6	553,5	597,5	623,6	
① Nominal cooling capacity	kW	359,7	390,7	429,7	472,6	493,6	538,6	583,5	607,6	
① E.E.R.		3,34	3,24	3,21	3,22	3,21	3,2	3,27	3,25	
① E.E.R.		3,25	3,14	3,08	3,12	3,1	3,06	3,16	3,13	
② Absorbed power	kW	109,3	122,8	136,1	149,3	156,5	171,4	181,2	190,3	
② Absorbed power	kW	109,7	123,6	138,3	150,4	158,1	174,3	182,8	192,5	
THAETU-THAEQU MODEL		4370	4410	4450	5490	5520	5560	6600	6630	
⑥ THAETU sound pressure	dB(A)	62	62,5	62,5	63,5	63,5	63,5	64	64	
⑥ THAEQU sound pressure	dB(A)	54	54,5	54,5	55,5	55,5	55,5	56	56	
④ THAETU sound power	dB(A)	94	95	95	96	96	96	97	97	
④ THAEQU sound power	dB(A)	86	87	87	88	88	88	89	89	
Scroll/step compressor	n.	4/4	4/4	4/4	5/5	5/5	5/5	6/6	6/6	
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		4370	4410	4450	5490	5520	5560	6600	6630	
L - Width	mm	4840	4840	4840	5940	5940	5940	7100	7100	
H - Height	mm	2480	2480	2480	2480	2480	2480	2480	2480	
P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	
⑤ THAETU weight	kg	2545	2645	2690	3190	3230	3265	3910	3960	
⑤ THAEQU weight	kg	2790	2890	2920	3465	3505	3540	4240	4290	
SEASONAL ENERGY PERFORMANCE		4370	4410	4450	5490	5520	5560	6600	6630	
TCAETU MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	374,7	407,7	450,6	490,6	521,6	562,5	604,5	632,6	
① SEER (EN 14825)		4,99	4,84	4,81	4,99	4,92	4,86	5,03	5	
② ηs,c	%	196	190	189	197	194	191	198	197	
TCAEQU MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	365,7	398,7	438,6	479,6	510,6	546,6	593,5	618,6	
① SEER (EN 14825)		4,95	4,79	4,76	4,97	4,9	4,84	4,99	4,96	
② ηs,c	%	195	189	187	196	193	191	196	196	
THAETU MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	-	-	-	484,6	505,6	553,5	597,5	623,6	
① SEER (EN 14825)		-	-	-	4,95	4,86	4,82	4,97	4,96	
② ηs,c	%	-	-	-	195	191	190	196	195	
THAEQU MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	-	-	-	-	493,6	538,6	583,5	607,6	
① SEER (EN 14825)		-	-	-	-	4,84	4,79	4,94	4,93	
② ηs,c	%	-	-	-	-	191	189	195	194	
THAETU MODEL SEASONAL PERFORMANCE IN HEATING MODE										
③ Pdesignh (EN 14825)	kW	307	335	363	-	-	-	-	-	
③ SCOP (EN 14825)		3,87	3,83	3,81	-	-	-	-	-	
④ ηs	%	152	150	149	-	-	-	-	-	
THAEQU MODEL SEASONAL PERFORMANCE IN HEATING MODE										
③ Pdesignh (EN 14825)	kW	303	330	358	397	-	-	-	-	
③ SCOP (EN 14825)		3,93	3,89	3,85	3,88	-	-	-	-	
④ ηs	%	154	153	151	152	-	-	-	-	
TCAETU-TCAEQU MODEL									6660	
① Nominal cooling capacity	kW								664,5	
① Nominal cooling capacity	kW								645,5	
① E.E.R.									3,26	
① E.E.R.									3,12	

①	Absorbed power	kW	201,9
①	Absorbed power	kW	205,6
TCAETU-TCAEQU MODEL			6660
②	TCAETU sound pressure	dB(A)	65
②	TCAEQU sound pressure	dB(A)	56
①	TCAETU sound power	dB(A)	98
①	TCAEQU sound power	dB(A)	89
	Scroll/step compressor	n.	6/6
	Circuits	n.	2
	Electrical supply	V-ph-Hz	400-3-50
DIMENSIONS AND WEIGHTS			6660
	L - Width	mm	7100
	H - Height	mm	2480
	P - Depth	mm	2260
⑤	TCAETU weight	kg	3990
⑤	TCAEQU weight	kg	4320
THAETU-THAEQU MODEL			6660
②	Nominal heating capacity	kW	654,5
②	Nominal heating capacity	kW	645,5
②	C.O.P.		3,34
②	C.O.P.		3,38
①	Nominal cooling capacity	kW	654,5
①	Nominal cooling capacity	kW	637,5
①	E.E.R.		3,24
①	E.E.R.		3,1
②	Absorbed power	kW	200,5
②	Absorbed power	kW	203,8
THAETU-THAEQU MODEL			6660
②	THAETU sound pressure	dB(A)	65
②	THAEQU sound pressure	dB(A)	56
①	THAETU sound power	dB(A)	98
①	THAEQU sound power	dB(A)	89
	Scroll/step compressor	n.	6/6
	Circuits	n.	2
	Electrical supply	V-ph-Hz	400-3-50
DIMENSIONS AND WEIGHTS			6660
	L - Width	mm	7100
	H - Height	mm	2480
	P - Depth	mm	2260
⑤	THAETU weight	kg	3990
⑤	THAEQU weight	kg	4320
SEASONAL ENERGY PERFORMANCE			6660
TCAETU MODEL SEASONAL PERFORMANCE IN COOLING MODE			
①	Pdesignc (EN 14825)	kW	664,5
①	SEER (EN 14825)		4,96
②	ηs,c	%	195
TCAEQU MODEL SEASONAL PERFORMANCE IN COOLING MODE			
①	Pdesignc (EN 14825)	kW	645,5
①	SEER (EN 14825)		4,91
②	ηs,c	%	193
THAETU MODEL SEASONAL PERFORMANCE IN COOLING MODE			
①	Pdesignc (EN 14825)	kW	654,5
①	SEER (EN 14825)		4,9
②	ηs,c	%	193
THAEQU MODEL SEASONAL PERFORMANCE IN COOLING MODE			
①	Pdesignc (EN 14825)	kW	637,5
①	SEER (EN 14825)		4,87
②	ηs,c	%	192
THAETU MODEL SEASONAL PERFORMANCE IN HEATING MODE			
③	Pdesignh (EN 14825)	kW	-
③	SCOP (EN 14825)		-
④	ηs	%	-
THAEQU MODEL SEASONAL PERFORMANCE IN HEATING MODE			
③	Pdesignh (EN 14825)	kW	-
③	SCOP (EN 14825)		-
④	ηs	%	-

Data at the following conditions:

- ① Air: 35°C - Water: 12/7°C.
- ② Air: 7°C, D.B. 6°C W.B. - Water: 40/45°C.
- ③ In open field (Q = 2) at 10 m from the unit.
- ④ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
- ⑤ Weight referred to the unit without load and not accessorised.
- TCAEQU super-silenced versions.
- Performance according to EN 14511.
- ① Low temperature application (7°C)

RHOSS S.p.A. assumes all responsibility for possible mistakes in this document. RHOSS S.p.A. reserves the right to alter the features of their products without notice.

Rhoss S.p.A.
Via Oltre Ferrovia, 32
33033 Codroipo (UD) - Italy
tel. +39 0432 911611 - rhoss@rhoss.it
www.rhoss.it www.rhoss.com



RhossOfficial



RhossOfficialChannel



Rhoss

