

EasyPACK-I

TCAIY-THAIY 270÷2130



Cooling capacity: 67.1÷130.4 kW - Heating capacity:
71.2÷134.6 kW

√ **Chillers and heat pumps with inverter compressors**

√ **Precise and efficient power modulation**

√ **Plug&Play unit with integrated hydronic module and heat recovery**

√ **Integrated MASTER/SLAVE control**



Web code: EAI01

Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors, DC Inverter and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic and with Inverter actuation (1+i) complete with thermal protection and casing heater.
- Continuous regulation with high efficiency at partial loads.
- Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: featuring micro-channels (TCAIY) or finned coil with copper pipes and aluminium fins (THAIY).
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles. The electric fans, based on the sizes, are EC fans or fitted with a proportional electronic device for continuous regulation of the rotation speed of the fans.
- 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:
 - compressor and fan circuit breaker switches;
 - electronic expansion valve;
 - display of cooling circuit high and low pressure;
 - Master/Slave control up to 4 units in parallel;
 - clock board;
 - control of Variable Primary Flow (VPF_R).

Versions

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

condensing section (TCAIY-THAIY).

Models

- TCAIY: high efficiency unit designed for cooling only.
- TCAIQY: super silenced unit designed for cooling only.
- THAIY: heat pump unit.
- THAIQY: super silenced heat pump unit.

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.
- TANK&PUMP with 230 - 440 litre integrated buffer tank (depending on the sizes) 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
- Condensing control with fans with EC motor (standard in sizes 270-2100).
- 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.
- Optimised energy efficiency.
- Soft starter.
- Technical compressor compartment soundproofing.

- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or coil protection nets.
- Microchannel coils with E-coating treatment, copper/copper, copper/aluminium or pre-painted copper/aluminium depending on the 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, buffer tank, electric pumps and heat exchangers for heat recovery, if applicable.
- Interfaces for serial communication with other devices.
- Rubber 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

TCAIY-TCAIQY MODEL		270	280	290	2100	2115	2130
① Nominal cooling capacity	kW	69,8	82,6	90,3	97,9	117	130,4
① Nominal cooling capacity	kW	67,8	80,8	87,7	93,4	111,4	125,5
① E.E.R.		3,16	3,17	3,15	3,02	3,1	3,14
① E.E.R.		3,01	3,06	3	2,84	2,9	3,01
① Absorbed power	kW	22,09	26,06	28,67	32,42	37,74	41,53
① Absorbed power	kW	22,52	26,41	29,23	32,89	38,41	41,69
THAIY-THAIQY MODEL		270	280	290	2100	2115	2130
② Nominal heating capacity	kW	73,4	85,4	92,5	100,6	121,5	134,6
② Nominal heating capacity	kW	71,2	83,4	90,4	98,7	117,4	130,6
② C.O.P.		3,37	3,34	3,36	3,34	3,37	3,32
② C.O.P.		3,31	3,33	3,32	3,3	3,34	3,36
① Nominal cooling capacity	kW	67,1	79,3	86,8	93,5	112,6	126,5
① Nominal cooling capacity	kW	65	77,9	84,7	90,3	108,6	123,5
② Absorbed power	kW	21,78	25,57	27,53	30,12	36,05	40,54
② Absorbed power	kW	21,51	25,05	27,23	29,91	35,15	38,87
TCAIY-THAIY MODEL		270	280	290	2100	2115	2130
③ TCAIY-THAIY sound pressure	dB(A)	52	53	53	53	55	56
③ TCAIQY-THAIQY sound pressure	dB(A)	45	46	46	46	49	50
④ TCAIY-THAIY sound power	dB(A)	84	85	85	85	87	88
④ TCAIQY-THAIQY sound power	dB(A)	77	77,5	77,5	77,5	81	82
Scroll/step compressor	n.	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation
Circuits	n.	1	1	1	1	2	2
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		270	280	290	2100	2115	2130
L - Width	mm	3250	3250	3250	3250	3450	3450
H - Height	mm	1540	1540	1540	1540	2000	2000
P - Depth	mm	1210	1210	1210	1210	1520	1520
⑤ TCAIY weight	kg	765	790	795	800	1125	1145
⑤ THAIY weight	kg	880	915	920	925	1325	1345
SEASONAL ENERGY PERFORMANCE		270	280	290	2100	2115	2130
TCAIY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignh (EN 14825)	kW	69,8	82,6	90,3	97,9	117	130,4
① SEER (EN 14825)		4,59	4,69	4,65	4,6	4,27	4,27
② ηs,c	%	181	184	183	181	168	168
TCAIQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignh (EN 14825)	kW	67,8	80,8	87,7	93,4	111,4	125,5
① SEER (EN 14825)		4,49	4,58	4,49	4,45	4,11	4,12
② ηs,c	%	176	180	177	175	161	162
THAIY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	57	65	70	95	121	126
③ SCOP (EN 14825)		4,19	4,27	4,26	4,15	3,99	4,03
④ ηs	%	165	168	167	163	156	158
④ Energy class		A++	A++	A++	-	-	-
THAIQY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	54	63	69	93	111	133
③ SCOP (EN 14825)		4,04	4,17	4,11	4,06	3,88	3,96
④ ηs	%	159	164	162	160	152	155
④ Energy class		A++	A++	A++	-	-	-

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.
- TCAIY-THAIY super-silenced versions.
Performance according to EN 14511.
- ① Low temperature application (7°C)
- ② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
- ③ In Average climatic conditions, low temperature application (35°C)
- ④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/2013 and No.813/2013)

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

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