

# WinPACK SE TCAEY-THAEY 2110÷4340



Cooling capacity: 97.6-328.6 kW - Heating capacity:  
109.5-354.6 kW

- √ **High performance range with extended working limits**
- √ **Wide range of accessories**
- √ **Compact version B for replacement markets**
- √ **Multi-purpose for systems with 2 pipes + DHW (with optional RC100)**
- √ **Built-in MASTER/SLAVE control**



Web code: WK011

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

## Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 2, 3 or 4 capacity steps 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 or finned coil with copper pipes and aluminium fins depending on models/sizes.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles. The electric fans, based on the models, are 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:
  - fan and compressor circuit breaker switches;
  - 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

- B -Standard version (TCAEY-THAEY).
- S - Silenced version complete with compressor technical compartment soundproofing, reduced speed fans (TCAESY-

THAESY).

## Models

- TCAEY: standard unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.
- THAEY: heat pump unit.
- THAESY: 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 integrated buffer tank from 300 to 700 litres (depending on models) 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.
- Electronic expansion valve.
- Condensing control (standard in models TCAEY, TCAESY, THAEY).
- Condensing control with fans with EC motor.
- Condensing control with over-pressure fans.
- 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.
- Soundproofed compressor box or technical 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 and 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.
- Buffer tank integrative heaters.
- Low temperature water production.
- 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

TCAEBY-TCAESY MODEL		2110	2120	2140	2150	2170	2200	2220	4150
① Nominal cooling capacity	kW	106,5	114,4	127,4	147,3	165,2	188,1	212,1	146,3
① Nominal cooling capacity	kW	102,5	110,4	122,4	142,3	159,2	183,2	205,1	142,3
① E.E.R.		2,81	2,79	2,8	2,81	2,81	2,8	2,8	2,99
① E.E.R.		2,72	2,67	2,65	2,71	2,7	2,66	2,7	2,93
① Absorbed power	kW	37,9	41	45,5	52,4	58,8	67,2	75,8	48,9
① Absorbed power	kW	37,7	41,3	46,2	52,5	59	68,9	76	48,6
THAEBY-THAESY MODEL		2110	2120	2140	2150	2170	2200	2220	4150
② Nominal heating capacity	kW	112,6	123,7	139,7	158,8	176,9	198	229,1	152,7
② Nominal heating capacity	kW	109,5	121,7	135,7	155,8	173,9	195,9	226	147,7
② C.O.P.		3,05	3,08	3,08	3,04	3,06	3,07	3,07	3,09
② C.O.P.		3,1	3,13	3,1	3,13	3,1	3,09	3,13	3,1
① Nominal cooling capacity	kW	99,5	110,4	123,4	142,3	159,3	182,2	206,1	141,3
① Nominal cooling capacity	kW	97,6	106,5	117,5	136,4	152,3	175,3	199,2	136,4
② Absorbed power	kW	36,9	40,2	45,4	52,2	57,8	64,5	74,6	49,4
② Absorbed power	kW	35,3	38,9	43,8	49,8	56,1	63,4	72,2	47,6
TCAEBY-TCAESY-THAEBY-THAESY MODEL		2110	2120	2140	2150	2170	2200	2220	4150
③ TCAEBY sound pressure	dB(A)	55	56	56	57	58	58	59	57
③ THAEBY sound pressure	dB(A)	53	54	54	55	56	56	57	54
③ TCAESY sound pressure	dB(A)	49	50	50	51	52	52	53	51
③ THAESY sound pressure	dB(A)	49	50	50	51	52	52	53	50
④ TCAEBY sound power	dB(A)	87	88	88	89	90	90	91	89
④ THAEBY sound power	dB(A)	85	86	86	87	88	88	89	86
④ TCAESY sound power	dB(A)	81	82	82	83	84	84	85	83
④ THAESY sound power	dB(A)	81	82	82	83	84	84	85	82
Scroll/step compressor	n.	2/3	2/3	2/2	2/3	2/2	2/3	2/2	4/4
Circuits	n.	1	1	1	1	1	1	1	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 WEIGHT		2110	2120	2140	2150	2170	2200	2220	4150
W - TCAEBY-TCAESY width	mm	2650	2650	2650	3600	3600	3600	4550	3600
W - THAEBY-THAESY width	mm	2650	2650	2650	3600	3600	3600	4550	3450
H - TCAEBY-TCAESY height	mm	2440	2440	2440	2440	2440	2440	2440	2440
H - THAEBY-THAESY height	mm	2440	2440	2440	2440	2440	2440	2440	2000
D - TCAEBY-TCAESY depth	mm	1350	1350	1350	1350	1350	1350	1350	1350
D - THAEBY-THAESY depth	mm	1350	1350	1350	1350	1350	1350	1350	1520
⑤ TCAEBY weight	kg	990	1000	1010	1160	1180	1180	1340	1165
⑤ TCAESY weight	kg	1110	1120	1130	1280	1300	1300	1460	1300
⑤ THAEBY weight	kg	1250	1310	1320	1470	1480	1565	1730	1450
⑤ THAESY weight	kg	1250	1310	1320	1470	1480	1565	1730	1475
SEASONAL ENERGY PERFORMANCE		2110	2120	2140	2150	2170	2200	2220	4150
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	106,5	114,4	127,4	147,3	165,2	188,1	212,1	146,3
① SEER (EN 14825)		4,16	4,15	4,13	4,17	4,14	4,27	4,13	4,3
② ηs,c	%	164	163	162	164	163	168	162	169
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	102,5	110,4	122,4	142,3	159,2	183,2	205,1	142,3
① SEER (EN 14825)		4,19	4,18	4,11	4,23	4,15	4,22	4,16	4,35
② ηs,c	%	164	164	161	166	163	166	163	171
THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③ Pdesignh (EN 14825)	kW	95	104	119	134	149	170	200	129
③ SCOP (EN 14825)		3,38	3,4	3,67	3,36	3,64	3,35	3,53	3,41
④ ηs	%	132	133	144	131	142	131	138	133
THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③ Pdesignh (EN 14825)	kW	92	102	115	131	146	167	197	125
③ SCOP (EN 14825)		3,47	3,49	3,71	3,5	3,73	3,39	3,62	3,41
④ ηs	%	136	136	145	137	146	133	142	134
TCAEBY-TCAESY MODEL		4170	4200	4220	4240	4270	4310	4340	
① Nominal cooling capacity	kW	166,4	189,2	213,2	229,2	256	299,9	328,7	
① Nominal cooling capacity	kW	161,4	182,3	207,2	224,2	250	291	319,7	
① E.E.R.		2,9	2,83	2,92	2,8	2,8	2,81	2,76	
① E.E.R.		2,82	2,67	2,82	2,68	2,66	2,68	2,61	
① Absorbed power	kW	57,4	66,9	73	81,9	91,4	106,7	119,1	
① Absorbed power	kW	57,2	68,3	73,5	83,7	94	108,6	122,5	
THAEBY-THAESY MODEL		4170	4200	4220	4240	4270	4310	4340	
② Nominal heating capacity	kW	172,6	197,8	225,9	249	281,3	319,3	354,6	
② Nominal heating capacity	kW	167,6	192,8	219,9	245	278,3	315,2	345,5	
② C.O.P.		3,14	3,04	3,04	3,03	3,01	3,01	2,98	
② C.O.P.		3,12	3,09	3,09	3,09	3,05	3,07	3,03	
① Nominal cooling capacity	kW	163,4	186,2	209,1	227,1	253,9	295,9	324,7	
① Nominal cooling capacity	kW	156,4	180,3	200,2	220,2	248	286,1	313,8	
② Absorbed power	kW	55	65,1	74,3	82,2	93,5	106,1	119	
② Absorbed power	kW	53,7	62,4	71,2	79,3	91,2	102,7	114	
TCAEBY-TCAESY-THAEBY-THAESY MODEL		4170	4200	4220	4240	4270	4310	4340	
③ TCAEBY sound pressure	dB(A)	57	57	58	60	60	60	61	
③ THAEBY sound pressure	dB(A)	54	56	56	58	60	60	61	
③ TCAESY sound pressure	dB(A)	51	51	52	54	54	56	57	
③ THAESY sound pressure	dB(A)	50	52	52	54	55	56	57	
④ TCAEBY sound power	dB(A)	89	89	90	92	92	92	93	
④ THAEBY sound power	dB(A)	86	88	88	90	92	92	93	

① TCAESY sound power	dB(A)	83	83	84	86	86	88	89
① THAESY sound power	dB(A)	82	84	84	86	87	88	89
Scroll/step compressor	n.	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Circuits	n.	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
<b>DIMENSIONS AND WEIGHT</b>		<b>4170</b>	<b>4200</b>	<b>4220</b>	<b>4240</b>	<b>4270</b>	<b>4310</b>	<b>4340</b>
W - TCAEBY-TCAESY width	mm	3600	3600	4550	4550	4550	4800	4800
W - THAEBY-THAESY width	mm	3450	3700	3700	4800	4800	4800	4800
H - TCAEBY-TCAESY height	mm	2440	2440	2440	2440	2440	2030	2030
H - THAEBY-THAESY height	mm	2000	2030	2030	2030	2030	2030	2030
D - TCAEBY-TCAESY depth	mm	1350	1350	1350	1350	1350	2090	2090
D - THAEBY-THAESY depth	mm	1520	2090	2090	2090	2090	2090	2090
⑤ TCAEBY weight	kg	1185	1190	1335	1670	1690	2400	2410
⑤ TCAESY weight	kg	1320	1325	1470	1830	1850	2440	2450
⑤ THAEBY weight	kg	1525	1725	1800	2375	2460	2580	2595
⑤ THAESY weight	kg	1550	1765	1840	2415	2500	2620	2635
<b>SEASONAL ENERGY PERFORMANCE</b>		<b>4170</b>	<b>4200</b>	<b>4220</b>	<b>4240</b>	<b>4270</b>	<b>4310</b>	<b>4340</b>
<b>TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE</b>								
① Pdesignc (EN 14825)	kW	166,4	189,2	213,2	229,2	256	299,9	328,6
① SEER (EN 14825)		4,26	4,3	4,33	4,26	4,32	4,26	4,25
② $\eta_{s,c}$	%	167	169	170	168	170	167	167
<b>TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE</b>								
① Pdesignc (EN 14825)	kW	161,4	182,3	207,2	224,2	250	291	319,7
① SEER (EN 14825)		4,28	4,19	4,33	4,24	4,25	4,26	4,21
② $\eta_{s,c}$	%	168	165	170	167	167	167	165
<b>THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE</b>								
③ Pdesignh (EN 14825)	kW	145	168	192	211	240	271	301
③ SCOP (EN 14825)		3,47	3,33	3,33	3,35	3,33	3,34	3,32
④ $\eta_s$	%	136	130	130	131	130	131	130
<b>THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE</b>								
③ Pdesignh (EN 14825)	kW	140	164	187	207	238	267	292
③ SCOP (EN 14825)		3,45	3,4	3,4	3,44	3,39	3,41	3,37
④ $\eta_s$	%	135	133	133	135	132	133	132

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.
- TCAESY-THAESY 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)

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