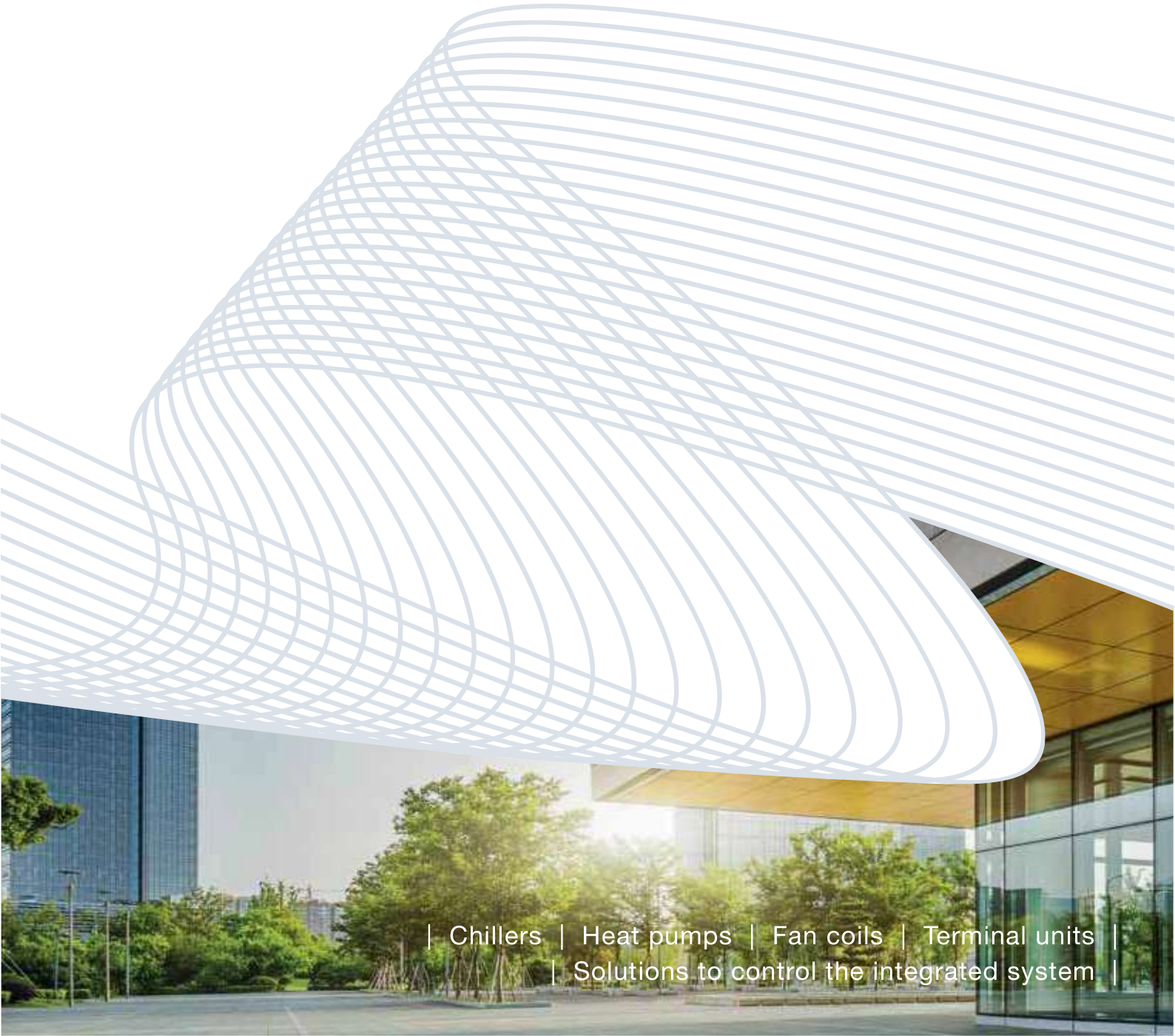
RHOSS

NIBE GROUP MEMBER

APPLIED SYSTEMS

Product Catalogue 2020



| Chillers | Heat pumps | Fan coils | Terminal units |
| Solutions to control the integrated system |

CHILLERS - HEAT PUMPS

Air cooled - Axial fans

Web code: EE001

Electa-ECO

THAITI 106÷116

new

Cooling capacity: 4-13 kW - Heating capacity: 6-15.5 kW

INVERTER

- Low GWP R32 refrigerant
- Energy class A+++ and A++
- Temperature of the produced water up to 60°C
- Domestic hot water production from –25°C to +45°C outdoor air
- Plant control system integrated in the heat pump
- Touch-screen control panel as standard
- APP for managing the unit via smartphone (iOS and Android)

Touch-screen control panel as standard

Electa-ECO THAITI 106-108

Electa-ECO THAITI 110-114-116

Packaged reversible air-cooled heat pumps with axial fans.
Range with hermetic rotary DC Inverter compressors and R32 refrigerant gas.

Construction features

- Compressor: hermetic, twin rotary DC Inverter with steam injection, complete with thermal protection and casing heater
- Expansion valve: electronic.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater.
- Air side heat exchanger: finned coil with copper pipes and aluminium-manganese fins with Golden Fin anti-corrosion treatment in epoxy resin and hydrophilic treatment.
- Fan: axial type impeller with DC brushless motors, equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation.
- Structure: made of galvanised and painted steel plate RAL9002, complete with condensate drain pan and unit base antifreeze heater.
- Control: microprocessor electronic control with touch-screen control panel with remote control option, for integrated management of the heat pump and the heating system, according to the various requirements relating to the use of the energy sources.
  - 3-way diverter valve management for production of domestic hot water.
  - Rapid heating function for domestic hot water.
  - Anti-legionella cycle function, with activation timer.
  - Auxiliary or supplementary heat source management.
  - Operation in silent mode with timer.
  - Weekly and daily time bands.
  - Holiday mode and antifreeze function.
  - Power consumption limiting function.
  - 2-way on/off valve management for shutting off a part of the system, in heating or cooling mode.
  - Management through room thermostat, as an alternative to the touch-screen panel.
  - Unit activation from external contact (remote ON/OFF)
- Unit complete with:
  - Outdoor temperature probe for set-point compensation.
  - Remote ambient air temperature probe, for managing the unit according to the ambient set-point.
  - Water temperature probe for domestic hot water tank.
  - Water temperature probe for auxiliary or supplementary heat source.
  - Connection cable for touch-screen.
- RS485 interface for serial communication with other devices (Modbus RTU protocol).
- iOS and Android APP for managing the unit via smartphone and tablet.

Version

- T - High efficiency.

Models

- THAITI: heat pump unit.

PUMP set up

- Pump unit complete with: EC circulator, automatic air vent valve, safety valve, flow switch, expansion tank, water filter.

Separately supplied accessories

- 3-way valve for the management of domestic hot water, managed by regulation
- Additional electrical resistance, managed by regulation.
- Rubber anti-vibration mounts.

	THAITI MODEL		106 M	108 M	110 M	114 M	116 M	116 T
❶	Heating capacity	kW	6	7,5	10	14	15,5	15,5
❶	Absorbed power	kW	1,58	2,0	2,7	4,18	4,7	4,7
❶	C.O.P.		3,8	3,75	3,7	3,35	3,3	3,3
❷	Heating capacity	kW	6	7,5	10	14	15,5	15,5
❷	Absorbed power	kW	1,2	1,63	2,17	3,22	3,6	3,6
❷	C.O.P.		5	4,6	4,61	4,35	4,31	4,3
❸	Cooling capacity	kW	4	5	7,8	12	13	13
❸	Absorbed power	kW	1,29	1,61	2,48	4,14	4,91	4,73
❸	E.E.R.		3,1	3,1	3,15	2,9	2,65	2,75
❹	Sound pressure	dB(A)	38	39	43	44	46	46
❸	Available circulator head	kPa	69	66	77	50	42	42
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3+N-50
	DIMENSIONS AND WEIGHT		**106 M**	**108 M**	**110 M**	**114 M**	**116 M**	**116 T**
	L - Width	mm	1150	1150	1200	1200	1200	1200
	H - Height	mm	758	758	878	878	878	878
	P - Depth	mm	345	345	460	460	460	460
❺	Weight	kg	109	109	166	166	166	166

Data at the following conditions:

❶ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❸ Air: 35° D.B. - Water: 12/7°C.

❹ In open field (Q = 2) at 5 m from the unit.

❺ Weight refers to the most complete setup.

Performance according to EN 14511

	SEASONAL ENERGY PERFORMANCE		106 M	108 M	110 M	114 M	116 M	116 T
	THAITI MODEL SEASONAL PERFORMANCE IN HEATING MODE - Low temperature application 35°C							
③	Pdesignh (EN 14825)	kW	5	6	9	11	13	13
③	SCOP (EN 14825)		4,7	4,65	4,48	4,28	4,18	4,18
④	η_S	%	185	183	176	168	164	164
④	Energy class		A+++	A+++	A+++	A+++	A++	A++
	THAITI MODEL SEASONAL PERFORMANCE IN HEATING MODE - Medium temperature application 55°C							
③	Pdesignh (EN 14825)	kW	6	7	8	11	13	13
③	SCOP (EN 14825)		3,23	3,25	3,23	3,2	3,2	3,2
④	η_S	%	126	127	126	125	125	125
④	Energy class		A++	A++	A++	A++	A++	A++

③ In Average climatic conditions.

④ Seasonal energy efficiency: heating in Average climate (EU Regulations No.811/2013 and No.813/2013)

Web code: **MYN01**

Mini-Y NF

THAEY 105-111 NF

Cooling capacity: 5.6÷11.3 kW - Heating capacity: 5.7÷11.8 kW

- **Compact units and Plug&Play**
- **Hot water up to –15°C outdoor air**

Packaged reversible air-cooled heat pumps with axial fans.
Range with hermetic scroll compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll type, complete with thermal protection.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins with hydrophilic treatment and complete with protective mesh.
- 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 with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate, complete with condensate drain pan and unit base antifreeze heater.

Models

- THAEY: heat pump unit.

PUMP set up

- Pump unit complete with: circulator, membrane expansion tank, manual air vent valve, safety valve.

TANK&PUMP set up

- Pump unit complete with: inertial buffer tank, circulator, membrane expansion tank, manual air vent valve, automatic air vent valve, safety valve.

Factory fitted accessories

- Soft-start device (for models with 230V power supply).
- Compressor casing heater.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Low water set-point temperature.

Separately supplied accessories

- 3-way valve for the production of domestic hot water.
- Additional electrical resistance for heat pump, managed by regulation.
- Outdoor air temperature probe for set-point compensation.
- Rubber anti-vibration mounts.
- Water filter.
- Antifreeze heater on the tank.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

	THAEY NF MODEL		105	107	109	111
❶	Heating capacity	kW	5,71	7,33	9,3	11,35/11,8
❶	Absorbed power	kW	2,19	2,84	3,5	4,65/5,65
❶	C.O.P.		2,61	2,58	2,66	2,44/2,09
❷	Heating capacity	kW	5,9	7,7	9,4	11,9/12,3
❷	Absorbed power	kW	1,68	2,07	2,63	3,30/3,30
❷	C.O.P.		3,52	3,72	3,58	3,61/3,73
❸	Heating capacity	kW	3,8	4,6	6,1	7,3/7,3
❸	Absorbed power	kW	1,65	2,13	2,69	3,35/3,38
❸	C.O.P.		2,3	2,16	2,27	2,18/2,16
❹	Cooling capacity	kW	5,6	7	9	10,9/11,3
❹	E.E.R.		2,71	2,58	2,64	2,62/2,61
❺	Sound pressure	dB(A)	46	47	47	47
	Scroll/step compressor	no.	1/1	1/1	1/1	1/1
	Buffer tank water content	l	19	19	30	30
❹	Available circulator head	kPa	55	55	85	75
	Electrical supply	V-ph-Hz	230-1-50	230-1-50 / 400-3+N-50	230-1-50 / 400-3+N-50	230-1-50 / 400-3+N-50
	DIMENSIONS AND WEIGHT		**105**	**107**	**109**	**111**
	L - Width	mm	990	990	990	990
	H - PUMP height	mm	905	905	1085	1085
	H - TANK&PUMP height	mm	905	905	1295	1295
	P - Depth	mm	380	380	380	380
❻	Weight	kg	141	143	167	176

Data at the following conditions:

❶ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❸ Air: -7°C D.B. - Water: 30/35°C.

❹ Air: 35° D.B. - Water: 12/7°C.

❺ In open field (Q = 2) at 5 m from the unit.

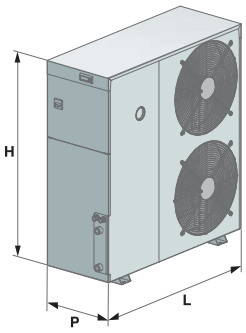
❻ Weight refers to the most complete setup.

Performance according to EN 14511

	SEASONAL ENERGY PERFORMANCE		105	107	109	111
	THAEY NF MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③	Pdesignh (EN 14825)	kW	6	7	9	11
③	SCOP (EN 14825)		3,2	3,31	3,2	3,3
④	η_s	%	125	129	125	129
④	Energy class		A+	A+	A+	A+

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)



MidiPACK-I

TCAITY-THAITY 120÷130

new

Cooling capacity: 18,8÷29,3 kW - Heating capacity: 20÷30,4 kW

INVERTER

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- Hot water up to –15°C outdoor air
- Temperature of the produced water up to 60°C
- Version with pump or with pump and storage tank
- Integrated MASTER/SLAVE control

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

Construction features

- Compressor: scroll type, rotary, hermetic with Inverter actuation, complete with thermal protection and casing heater.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins for TCAITY with hydrophilic treatment for THAITY, complete with protection grilles.
- 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 with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate, complete with condensate drain pan and unit base antifreeze heater for THAITY.
- The unit is also complete with:
  - outdoor air temperature probe for set-point compensation;
  - electronic expansion valve;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Version

T - High efficiency.

Models

TCAITY: unit designed for cooling only.
THAITY: heat pump unit.

PUMP set up

- Pump unit complete with: EC circulator with 3 speed selector or continuous speed regulation or electric pump, membrane expansion tank, manual air vent valve, safety valve and pressure gauge.

TANK&PUMP set up

- Pump unit complete with: inertial buffer tank, circulator or electric circulation pump, membrane expansion tank, manual air vent valve, safety valve, and pressure gauge.

Factory fitted accessories

- Forced Download. Compressor partialisation or switch-off to limit power and current consumption (digital input).
- –10°C condensing control with fans with EC motor.
- Silenced set up.
- Antifreeze heater on the tank.
- Circulator/electric pump antifreeze heater.
- Pre-painted copper/coils or copper/copper coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.

Separately supplied accessories

- 3-way valve for the production of domestic hot water, managed by regulation.
- Additional electrical resistance for heat pump, managed by regulation.
- Remotely controllable outdoor air temperature probe for set-point compensation.
- Water filter.
- Rubber anti-vibration mounts.
- Remote keypad with display.
- Interfaces for serial communication with other devices.
- RS485/USB serial converter.
- Rhoss supervisors for unit monitoring and remote management.

	TCAITY MODEL		120	125	130
❶	Cooling capacity	kW	18,8	25,2	29,3
❶	Absorbed power	kW	6,53	8,72	10,17
❶	E.E.R.		2,88	2,89	2,88
	THAITY MODEL		**120**	**125**	**130**
❷	Heating capacity	kW	20	25,6	30,4
❷	Absorbed power	kW	6,15	7,83	9,5
❷	C.O.P. NOM		3,25	3,27	3,2
❸	Heating capacity	kW	21,1	26,1	30,7
❸	Absorbed power	kW	5,2	6,41	7,62
❸	C.O.P.		4,06	4,07	4,03
❹	Heating capacity	kW	14,8	18,1	21,3
❹	Absorbed power	kW	4,92	6,51	7,61
❹	C.O.P.		3,01	2,78	2,8
❶	Cooling capacity	kW	18,5	24,1	28,3
❶	E.E.R.		2,7	2,75	2,71
	TCAITY-THAITY MODEL		**120**	**125**	**130**
❺	Sound pressure	dB(A)	47	50	51
❶	P0 circulator available head	kPa	77	80	67
	Buffer tank water content	l	110	110	110
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHT		**120**	**125**	**130**
	L - PUMP width	**mm**	**1522**	**1522**	**1522**
	L - TANK&PUMP width	mm	1625	1625	1625
	H - PUMP height	mm	1280	1280	1280
	H - TANK&PUMP height	mm	1590	1590	1590
	P - PUMP Depth	mm	600	600	600
	P - TANK&PUMP Depth	mm	600	600	600
❻	PUMP Weight	kg	245	265	275
❻	TANK&PUMP Weight	kg	445	465	475

Data at the following conditions:

❶ Air: 35° D.B. - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❹ Air: -7°C D.B. - Water: 30/35°C.

❺ In open field (Q = 2) at 5 m from the unit.

❻ Weight refers to the most complete setup.

Performance according to EN 14511. P0 setup.

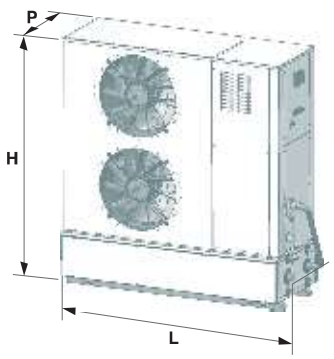
	SEASONAL ENERGY PERFORMANCE		120	125	130
	TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	**Pdesignc (EN 14825)**		18,8	25,2	29,3
①	SEER (EN 14825)		4,31	4,33	4,29
②	$\eta_{s,c}$	%	169	170	169
	THAITY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	**Pdesignh (EN 14825)**		21	**26**	**30**
③	SCOP (EN 14825)		4,18	3,63	3,88
④	η_s	%	164	142	152
④	Energy class		A++	A+	A++

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)



TANK&PUMP

Compact-Y NF Plus

THAETY 115-127 NF

Cooling capacity: 15.5÷26.6 kW - Heating capacity: 16.6÷30.4 kW

- **Hot water up to –15°C outdoor air**
- **Temperature of the produced water up to 60°C**
- **Plug&Play unit with integrated hydraulic module**
- **Included evaporating/ condensing control**

Packaged reversible air-cooled heat pumps with axial fans.
Range with hermetic scroll compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll compressor, complete with thermal protection and casing heater for mod. 127.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins with hydrophilic treatment and complete with protection grille.
- 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 with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate, complete with condensate drain pan and unit base antifreeze heater.

Version

- T - High efficiency/temperature version.

Models

- THAETY: heat pump unit.

PUMP set up

- Pump unit complete with: circulator or electric circulation pump, membrane expansion tank, manual air vent valve, safety valve and pressure gauge.

TANK&PUMP set up

- Pump unit complete with: inertial buffer tank, circulator or electric circulation pump, membrane expansion tank, manual air vent valve, automatic air vent valve, safety valve, and pressure gauge.

Factory fitted accessories

- Soft-start device.
- Silenced set up.
- Antifreeze heater on the tank.
- Compressor casing heater (mod. 115÷124).
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Low water set-point temperature.

Separately supplied accessories

- 3-way valve for the production of domestic hot water, managed by regulation.
- Additional electrical resistance for heat pump, managed by regulation.
- Outdoor air temperature probe for set-point compensation.
- Rubber anti-vibration mounts.
- Water filter.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

	THAETY NF MODEL		115	117	122	124	127
❶	Heating capacity	kW	16,6	17,7	23,4	25,9	30,4
❶	Absorbed power	kW	5,72	6,32	8,18	9,08	10,03
❶	C.O.P.		2,9	2,8	2,86	2,85	3,03
❷	Heating capacity	kW	18	19	24,8	27,8	32,3
❷	Absorbed power	kW	4,33	4,53	5,9	6,59	7,58
❷	C.O.P.		4,16	4,19	4,2	4,22	4,26
❸	Heating capacity	kW	11,7	12	15,7	17,9	20,8
❸	C.O.P.		2,77	2,77	2,8	2,77	2,84
❹	Cooling capacity	kW	15,5	17,6	22,5	23,9	26,6
❹	Absorbed power	kW	5,81	6,62	8,14	9,45	10,11
❹	E.E.R.		2,67	2,66	2,75	2,53	2,63
❺	Sound pressure	dB(A)	50	50	52	52	53
❺	Silenced setup sound pressure	dB(A)	46	46	49	49	50
	Scroll/step compressor	no.	1/1	1/1	1/1	1/1	1/1
	Buffer tank water content	l	35	35	45	45	45
❹	P0 circulator/P1 electric pump nominal available head	kPa	75/147	64/136	66/131	69/130	63/116
	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
	DIMENSIONS AND WEIGHT		**115**	**117**	**122**	**124**	**127**
	L - PUMP width	mm	1230	1230	1230	1230	1535
	L - TANK&PUMP width	mm	1522	1522	1522	1522	1822
	H - Height	mm	1090	1090	1280	1280	1510
	P - Depth	mm	580	580	600	600	695
❻	Weight	kg	215	225	278	288	320

Data at the following conditions:

❶ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❸ Air: -7°C D.B. - Water: 30/35°C.

❹ Air: 35° D.B. - Water: 12/7°C.

❺ In open field (Q = 2) at 5 m from the unit.

❻ Weight refers to the most complete setup.

Performance according to EN 14511. Setup with circulator.

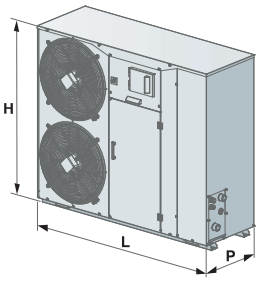
Important note:

- With circulator (P0/ASP0 setup) the units are not suitable for radiant cooling operation.
- Permissible heat exchanger thermal gradient ΔT = 4-8°C.

	SEASONAL ENERGY PERFORMANCE		115	117	122	124	127
	THAETY NF MODEL SEASONAL PERFORMANCE IN HEATING MODE						
③	Pdesignh (EN 14825)	kW	18	18	24	27	32
③	SCOP (EN 14825)		3,62	3,74	3,72	3,74	3,68
④	η_S	%	142	146	146	146	144
④	Energy class		A+	A+	A+	A+	A+

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)



Web code: **CY001**

Compact-Y SM

THAEY 122-130

Cooling capacity: 22.7÷29 kW - Heating capacity: 23.5÷34 kW

- **Plug&Play unit with integrated hydraulic module**

Packaged reversible air-cooled heat pumps with axial fans. Range with hermetic scroll compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll compressor, complete with thermal protection and casing heater for mod. 127÷130.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins, complete with protection grilles.
- Fan: external rotor axial type electric fans equipped with internal thermal protection and accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: in galvanised and painted steel plate, complete with condensate drain pan.

Models

- THAEY: heat pump unit.

PUMP set up

- Pump unit complete with: circulator or electric circulation pump, membrane expansion tank, manual air vent valve, safety valve and pressure gauge.

TANK & PUMP set up

- Pump unit complete with: inertial buffer tank, circulator or electric circulation pump, membrane expansion tank, manual air vent valve, automatic air vent valve, safety valve, and pressure gauge.

Factory fitted accessories

- Soft-start device.
- Silenced set up.
- –10°C condensing control.
- Antifreeze heater on the buffer tank.
- Compressor casing heater (mod. 122).
- Unit base antifreeze heater for operation in heat pump mode at low outdoor air temperatures.
- Digital input for double set-point
- 4-20 mA analogue signal for shifting set-point.
- Low water set-point temperature.
- Pre-painted copper/coils or copper/copper coils.

Separately supplied accessories

- Rubber anti-vibration mounts.
- –10°C condensing control.
- Water filter.
- 3-way valve for the production of domestic hot water.
- Outdoor air temperature probe for set-point compensation.
- Additional electrical resistance for heat pump, managed by regulation.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

	THAEY MODEL		122	127	130
❶	Heating capacity	kW	23,5	30,3	34
❶	Absorbed power	kW	7,94	10,16	11,25
❶	C.O.P.		2,96	3,02	3,02
❷	Heating capacity	kW	24	30,9	34,5
❷	C.O.P.		3,75	3,80	3,72
❸	Cooling capacity	kW	22,7	26,7	29
❸	Absorbed power	kW	7,99	10,23	11,84
❸	E.E.R.		2,84	2,64	2,45
❹	Sound pressure	dB(A)	52	53	53
❹	Silenced setup sound pressure	dB(A)	49	50	50
	Scroll/step compressor	no.	1/1	1/1	1/1
	Circuits	no.	1	1	1
	Buffer tank water content	l	45	45	45
❸	Circulator/standard electric pump nominal available head	kPa	64/131	61/116	57/112
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHT		**122**	**127**	**130**
	L - PUMP width	mm	1230	1535	1535
	W - TANK & PUMP width	mm	1522	1822	1822
	H - Height	mm	1280	1510	1510
	P - Depth	mm	600	695	695
❺	THAEY weight	kg	278	320	380

Data at the following conditions:

❶ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❸ Air: 35°C - Water: 12/7°C.

❹ In open field (Q = 2) at 5 m from the unit.

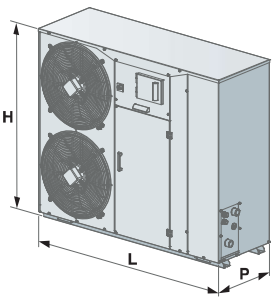
❺ Weight refers to the most complete setup.

Performance according to EN 14511. Setup with electric pump.

	SEASONAL ENERGY PERFORMANCE		122	127	130
	THAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	Pdesignh (EN 14825)	kW	24	32	36
③	SCOP (EN 14825)		3,21	3,26	3,2
④	η_s	%	125	127	125
④	Energy class		A+	A+	A+

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)



MidiPACK-I

TCAITY-THAITY 138÷262

new

Cooling capacity: 37,4÷62,6 kW - Heating capacity: 40,2÷71 kW

INVERTER

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- Hot water up to –15°C outdoor air
- Temperature of the produced water up to 60°C
- Plug&Play unit with integrated hydraulic module
- Optional EC fans and inverter-based circulation pump
- Multi-purpose for systems with 2 pipes + DHW (with optional RC100)
- Integrated MASTER/ SLAVE control

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

Construction features

- Compressor: scroll type, rotary, hermetic with Inverter actuation, complete with thermal protection and casing heater.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins, complete with protection grilles.
- 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 with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate
- The unit is also complete with:
  - outdoor air temperature probe for set-point compensation;
  - display of cooling circuit high and low pressure;
  - electronic expansion valve;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Version

T - High efficiency.

Models

TCAITY: unit designed for cooling only.
THAITY: heat pump unit.

PUMP set up

Pump unit with single or double electric pump, including an automatic actuation pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The pumps are available in low or high pressure head versions, and with INVERTER operation.

TANK&PUMP set up

- Pump unit complete with inertial buffer tank and single or double electric pump, including an automatic actuation pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The pumps are available in low or high pressure head versions, and with INVERTER operation.

Factory fitted accessories

- Pre-painted copper/aluminium coils with hydrophilic treatment or copper/copper.
- Desuperheater.
- 100% heat recovery unit.
- 3-way diverter valve for the production of domestic hot water, managed by regulation.
- –10°C condensing control with fans with EC motor.
- Base antifreeze heater
- Antifreeze heater for buffer tank and electric pumps
- Forced Download. Compressor partialisation or switch-off to limit power and current consumption (digital input).
- Refrigerant leak detector
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Energy parameters measurement.
- Silenced set up.
- Cooling circuit high and low pressure gauges.

Separately supplied accessories

- 3-way valve for the production of domestic hot water, managed by regulation.
- Remotely controllable outdoor air temperature probe for set-point compensation.
- Additional electrical resistance for heat pump, managed by regulation.
- Rubber anti-vibration mounts.
- Water filter.
- Thermostat with display.
- Remote keypad with display.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

	TCAITY MODEL		138	146	154	262
❶	Cooling capacity	kW	37,4	47,7	55,1	62,6
❶	Absorbed power	kW	13,6	16,1	18,4	22,8
❶	E.E.R.		2,76	2,97	2,99	2,75
	THAITY MODEL		**138**	**146**	**154**	**262**
❷	Heating capacity	kW	40,2	52,1	58,7	71
❷	Absorbed power	kW	12,5	16,2	18,2	22,2
❷	C.O.P.		3,21	3,22	3,23	3,2
❸	Heating capacity	kW	40,2	54,2	60,4	74
❸	Absorbed power	kW	10,3	14,3	15,9	20,2
❸	C.O.P.		3,91	3,8	3,81	3,67
❹	Heating capacity	kW	28,3	38,6	42,3	51
❹	Absorbed power	kW	9,7	13,4	14,9	19,5
❹	C.O.P.		2,92	2,89	2,83	2,62
❶	Cooling capacity	kW	36,7	46,1	54	61,4
❶	E.E.R.		2,69	2,9	2,92	2,7
	TCAITY-THAITY MODEL		**138**	**146**	**154**	**262**
❺	Sound pressure	dB(A)	54	55	55	57
	Scroll compressor	no.	1-inverter	1-inverter	1-inverter	1-inverter + 1
	Circuits	no.	1	1	1	1
	Buffer tank water content (TANK&PUMP)	l	80	150	150	150
❶	Basic head pump nominal available head (TCAITY)	kPa	124	98	107	111
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHT		**138**	**146**	**154**	**262**
	L - Width	**mm**	**1660**	**2315**	**2315**	**2315**
	H - Height	mm	1570	1570	1570	1570
	P - Depth	mm	1000	1000	1000	1000
❻	TCAITY weight	kg	540	635	695	825
❻	THAITY weight	kg	550	655	725	845

Data at the following conditions:

❶ Air: 35° D.B. - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❹ Air: -7°C D.B. - Water: 30/35°C.

❺ In open field (Q = 2) at 5 m from the unit.

❻ Weight refers to the most complete setup.

Performance according to EN 14511.

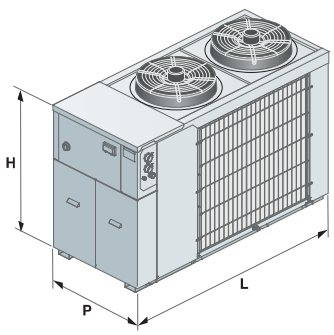
	SEASONAL ENERGY PERFORMANCE		138	146	154	262
	TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE					
①	**Pdesignc (EN 14825)**			**47,7**	**55,1**	**62,6**
①	SEER (EN 14825)		4,33	4,31	4,27	4,31
②	$\eta_{s,c}$	%	170	169	168	169
	THAITY MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③	**Pdesignh (EN 14825)**			**54**	**60**	**75**
③	SCOP (EN 14825)		3,9	3,85	3,84	4,19
④	η_s	%	153	151	150	165
④	Energy class		A++	A++	A++	A++

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)



Web code: **CY011**

Compact-Y MD

TCAEY-THAEY 233-265

Cooling capacity: 32.3÷63.7 kW - Heating capacity: 37.8÷68.3 kW

- **3 capacity steps (mod. 245÷265)**
- **HT65 version for 65°C water production (°)**

(°) Refer to the specific documentation to check available models and accessories.

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

Construction features

- Compressor: hermetic, rotary scroll type, complete with thermal protection and casing heater. 3 capacity steps with high efficiency at partial loads for models 245÷265.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins, complete with protection grilles.
- Fan: external rotor helical type electric fan equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan speed regulation.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted sheet steel.

Models

- TCAEY: unit designed for cooling only.
- THAEY: heat pump unit.

Factory fitted accessories

PUMP with single or double electric pump (mod. 245÷265) including an automatic pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The electric pumps are available in the low or high pressure head versions.

- TANK&PUMP with inertial buffer tank and single or double electric pump (mod. 245÷265) including an automatic pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The electric pumps are available in the low or high pressure head versions.
- Soft-start device.
- Silenced set up.
- 15% desuperheater.
- 100% heat recovery unit.
- Cooling circuit high and low pressure gauges (mod. 245-265).
- Antifreeze heater for buffer tank and electric pumps (mod. 245-265).
- Digital input for double set-point
- 4-20 mA analogue signal for shifting set-point.
- Low water set-point temperature.
- Pre-painted copper/coils or copper/copper coils.

Separately supplied accessories

- Outdoor air temperature probe for set-point compensation.
- Additional electrical resistance for heat pump, managed by regulation.
- Rubber anti-vibration mounts.
- Water filter.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

	TCAEY MODEL		233	238	245	250	260	265
❶	Cooling capacity	kW	32,3	38,5	44	51	58,9	63,7
❶	Absorbed power	kW	12,47	13,05	17,67	19,92	22,4	24,31
❶	E.E.R.		2,59	2,95	2,50	2,55	2,63	2,62
	THAEY MODEL							
❷	Heating capacity	kW	37,8	42,1	48,1	56,2	62,6	68,3
❷	Absorbed power	kW	12,54	13,19	16,82	18,97	20,86	23,71
❷	C.O.P.		3,01	3,19	2,86	2,96	3	2,88
❶	Cooling capacity		32,3	38,5	42,3	50,3	57,8	61,6
❶	E.E.R.		2,59	2,95	2,49	2,68	2,64	2,54
	TCAEY-THAEY MODEL		**233**	**238**	**245**	**250**	**260**	**265**
❸	Sound pressure	dB(A)	54	54	56	56	57	57
❸	Silenced setup sound pressure	dB(A)	51	51	53	53	54	54
	Scroll/step compressor	no.	2/2	2/2	2/3	2/3	2/3	2/3
	Circuits	no.	1	1	1	1	1	1
	Buffer tank water content (TANK&PUMP)	l	80	150	150	150	150	150
❶	Available nominal head of standard electric pump	kPa	106	87	113	103	88	75
	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 WEIGHT		**233**	**238**	**245**	**250**	**260**	**265**
	L - Width	mm	1660	2315	2315	2315	2315	2315
	H - Height	mm	1570	1570	1570	1570	1570	1570
	P - Depth	mm	1000	1000	1000	1000	1000	1000
❹	TCAEY weight	kg	465	625	725	750	775	820
❹	THAEY weight	kg	475	645	745	770	795	840

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ In open field (Q = 2) at 5 m from the unit.

❹ Weight refers to the most complete setup.

Performance according to EN 14511

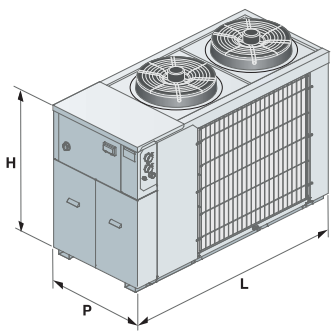
	SEASONAL ENERGY PERFORMANCE		233	238	245	250	260	265
	TCAEY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	32,3	38,5	43,9	51	58,8	63,7
①	SEER (EN 14825)		3,9	3,96	4	4,09	4,06	4,04
②	$\eta_{s,c}$	%	153	155	157	160	159	159
	THAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	36	41	49	56	62	70
③	SCOP (EN 14825)		3,72	3,72	3,61	3,58	3,56	3,66
④	η_s	%	146	146	141	140	140	144
④	Energy class		A+	A+	A+	A+	A+	A+

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)



Web code: **PK001**

POKER

THAETY 234 H.T.

Cooling capacity: 28.8÷115.2 kW - Heating capacity: 33.8÷135.2 kW

- **Modular range: up to 4 units may be combined**
- **Total system redundancy with multiple modules installed**
- **Cascade management including DHW with multiple modules installed**
- **Hot water production from -20°C to 40°C outdoor air**
- **Temperature of the produced water up to 60°C**

Modular reversible heat pumps for high temperature water production, air cooled with axial fans.
Range with hermetic scroll compressors and R410A refrigerant gas.

Construction features

- Compressors: hermetic scroll type rotary compressors with steam injection, thermal protection and casing heater.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil heat exchanger, with copper pipes and aluminium fins with hydrophilic treatment.
- Fan: external rotor helical type electric fan and permanent magnet motor (EC brushless) for electronic speed control, equipped with internal thermal protection and accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: suitably sound-proofed, galvanised and painted steel plate, complete with antifreeze heater on the condensate drain pan.
- The unit is also complete with:
  - outdoor air temperature probe for set-point compensation;
  - display of cooling circuit high and low pressure;
  - clock board.

Version

T - High efficiency/temperature version.

Set ups

- PUMP P1 - Unit complete with: electric circulation pump and manual air vent valve.
- PUMP P1 V3V - Unit complete with: electric circulation pump, manual air vent valve, 3-way diverter valve for the production of domestic hot water.
- PUMP P1 DS - Unit complete with: electric circulation pump to the main heat exchanger, manual air vent valve and desuperheater complete with antifreeze heater.

Separately sold kits are MANDATORY

- Remote keypad with back-lit LCD display, which can be wall-mounted or installed on the machine.
- Side buffer panels.

Separately sold kits are MANDATORY

when multiple modules are installed in parallel

- Connection hoses between modules.
- Panels and telephone cables for module connection.

Factory fitted accessories

- Forced Download. Compressor partialisation or switch-off to limit power and current consumption (digital input). When multiple modules are connected in parallel, a KCSC accessory must be purchased in order to enable this signal.
- Set up with oversized head pump.
- Soft-Start device.
- Unit with copper/pre-painted aluminium or copper/copper condensation coils.
- Flow switch and hot wire heaters protecting pump and piping down to -20°C outdoor air.
- Silenced set up (muffled compressors).
- Cooling circuit high and low pressure gauges.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.

Separately supplied accessories

- Digital input and output concentrator (KCSC).
- Rubber anti-vibration mounts.
- Water filter.
- Right-hand connection kit.
- 3-way diverter valve to manage the production of domestic hot water complete with protective casing and hoses for machine connection. For downstream installation of the group of machines. Not compatible with PUMP V3V set up.
- Additional electrical resistance for heat pump managed by regulation.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

THAETY H.T. MODEL		234			
		1 module	2 modules	3 modules	4 modules
❶ Heating capacity	kW	33,8	67,6	101,4	135,2
❶ Absorbed power	kW	9,85	19,71	29,56	39,42
❶ C.O.P.		3,42	3,42	3,42	3,42
❷ Heating capacity	kW	23,49	46,98	70,47	93,96
❷ Absorbed power	kW	9,83	19,66	29,48	39,31
❷ C.O.P.		2,39	2,39	2,39	2,39
❸ Heating capacity	kW	33,9	67,88	101,82	135,76
❸ Absorbed power	kW	8,11	16,24	24,36	32,48
❸ C.O.P.		4,18	4,18	4,18	4,18
❹ Cooling capacity	kW	28,8	57,6	86,4	115,2
❹ E.E.R.		2,93	2,93	2,93	2,93
❺ Sound pressure	dB(A)	43	46	47	48
❺ Silenced setup sound pressure	dB(A)	41	44	45	46
Scroll/step compressor	no.	2/2	4/4	6/6	8/8
❹ Electric pump nominal available head	kPa	137	137	137	137
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHT		**1 module**	**2 modules**	**3 modules**	**4 modules**
L - Width	mm	1297	2541	3785	5029
H - Height	mm	2152	2152	2152	2152
P - Depth	mm	1224	1224	1224	1224
❻ Weight	kg		510 (with single module)		

Data at the following conditions:

❶ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❷ Air: -7°C D.B. - Water: 40/45°C.

❸ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❹ Air: 35° D.B. - Water: 12/7°C.

❺ In open field (Q = 2) at 10 m from the unit.

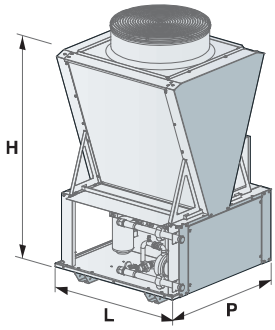
❻ Weight refers to P1 DS setup.

Performance according to EN 14511

SEASONAL ENERGY PERFORMANCE		234			
		1 module	2 modules	3 modules	4 modules
THAETY H.T. MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③ Pdesignh (EN 14825)	kW	32	65	98	131
③ SCOP (EN 14825)		3,94	4,00	4,07	4,12
④ η_s	%	155	157	160	165
④ Energy class		A++	A++	-	-

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)



EASYPACK-I

TCAIY-THAIY 270-2130

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

INVERTER

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- 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

THAITY 2130 with coil protection metal filters accessory

TCAITY 2100 with coil protection metal filters accessory

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 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 sizes, are EC fans or fitted with a proportional electronic device for continuous regulation of the rotation speed.
- 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;
  - electronic expansion valve;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

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

Models

- TCAITY: high efficiency unit designed for cooling only.
- TCAIQY: super silenced unit designed for cooling only.
- THAITY: 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.
- VPF control.
- 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 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.

	TCAITY-TCAIQY MODEL		270	280	290	2100	2115	2130
❶	Nominal cooling capacity	kW	69,8	82,6	90,3	97,9	117	130,4
❶	Nominal cooling capacity	kW	67,8	80,8	87,7	93,4	111,4	125,5
❶	E.E.R.		3,16	3,17	3,15	3,02	3,10	3,14
❶	E.E.R.		3,01	3,06	3,00	2,84	2,90	3,01
❶	Absorbed power	kW	22,09	26,06	28,67	32,42	37,74	41,53
❶	Absorbed power	kW	22,52	26,41	29,23	32,89	38,41	41,69
	THAITY-THAIQY MODEL		**270**	**280**	**290**	**2100**	**2115**	**2130**
❷	Nominal heating capacity	kW	73,4	85,4	92,5	100,6	121,5	134,6
❷	Nominal heating capacity	kW	71,2	83,4	90,4	98,7	117,4	130,6
❷	C.O.P.		3,37	3,34	3,36	3,34	3,37	3,32
❷	C.O.P.		3,31	3,33	3,32	3,30	3,34	3,36
❶	Nominal cooling capacity	kW	67,1	79,3	86,8	93,5	112,6	126,5
❶	Nominal cooling capacity	kW	65	77,9	84,7	90,3	108,6	123,5
❷	Absorbed power	kW	21,78	25,57	27,53	30,12	36,05	40,54
❷	Absorbed power	kW	21,51	25,05	27,23	29,91	35,15	38,87
	TCAIY-THAIY MODEL		**270**	**280**	**290**	**2100**	**2115**	**2130**
❸	TCAITY-THAITY sound pressure	dB(A)	52	53	53	53	55	56
❸	TCAIQY-THAIQY sound pressure	dB(A)	45	46	46	46	49	50
❹	TCAITY-THAITY sound power	dB(A)	84	85	85	85	87	88
❹	TCAIQY-THAIQY sound power	dB(A)	77	77,5	77,5	77,5	81	82
	Scroll/step compressor		no. 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	no.	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 WEIGHT		**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
❺	TCAITY weight	kg	765	790	795	800	1125	1145
❺	THAITY weight	kg	880	915	920	925	1325	1345

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C

❷ Air: 7°C, D.B. - 6°C W.B.- Water: 40/45°C.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

■ TCAIQY-THAIQY super-silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		270	280	290	2100	2115	2130
	TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	69,8	82,6	90,3	97,9	117	130,4
①	SEER (EN 14825)		4,45	4,55	4,53	4,49	4,19	4,17
②	ηs,c	%	175	179	178	176	165	164
	TCAIQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	67,8	80,8	87,7	93,4	111,4	125,5
①	SEER (EN 14825)		4,36	4,45	4,39	4,33	4	4,04
②	ηs,c	%	172	175	173	170	157	159
	THAITY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	71	78	85	92	121	126
③	SCOP (EN 14825)		4,09	4,18	4,16	4,16	3,99	4,03
④	ηs	%	161	164	164	163	156	158
④	Energy class		-	-	-	-	-	-
	THAIQY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	64	77	83	91	111	133
③	SCOP (EN 14825)		3,99	4,08	4,04	4,06	3,88	3,96
④	ηs	%	156	160	159	159	152	155
④	Energy class		A++	-	-	-	-	-

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)

EasyPACK

TCAEY-THAEY 269-2146

Cooling capacity: 63.7÷144.4 kW - Heating capacity: 70.3÷151.7 kW

TCAETY 289 with coil protection metal filters accessory

- **Complete and flexible range of accessories and set-ups**
- **Multi-purpose for systems with 2 pipes+DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**
- **HT65 version for 65°C water production (°)**

(°) Refer to the specific documentation to check available models and accessories.

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.
- 3 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.
- 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.

Versions

- B - Standard version (TCAEBY).
- T - High efficiency version with oversized condensing section (TCAETY-THAETY).
- S - Silenced version complete with compressor compartment soundproofing, reduced speed fans, and oversized condensing section (TCAESY-THAESY).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section (TCAEQY-THAEQY).

Models

- TCAEBY: standard unit designed for cooling only.
- TCAETY: high efficiency unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.
- THAETY: heat pump unit.
- THAESY: silenced heat pump unit.
- THAEQY: 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 230 to 440 litre integrated buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve, and water side pressure gauge.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit
- Electronic expansion valve.
- -10°C condensing control (standard in S-Q versions).
- –15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans (B-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 compartment soundproofing.
- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.

TCAEBY 269

- Metal filters or coil protection nets.
- Copper/copper or copper/pre-painted aluminium coils.
- 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.
- 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.

EasyPACK

TCAEY-THAEY 269-2146

	TCAEBY MODEL		269	279	289	296	2112	2125	2146
❶	Nominal cooling capacity	kW	65,6	72,1	77,6	86,5	105,5	-	-
❶	E.E.R.		2,74	2,81	2,81	2,62	2,79	-	-
❶	Absorbed power	kW	23,94	25,66	27,62	33,02	37,81	-	-
	TCAETY-TCAESY-TCAEQY MODEL		**269**	**279**	**289**	**296**	**2112**	**2125**	**2146**
❶	Nominal cooling capacity	kW	69,2	79,1	90,1	96,1	112	125,5	144,4
❶	Nominal cooling capacity	kW	67,7	76,7	87,6	92,1	108	122	138,9
❶	Nominal cooling capacity	kW	64,7	71,2	84,6	89,6	101,1	116,5	131
❶	E.E.R.		3,12	3,18	3,12	3,11	3,1	3,12	3,12
❶	E.E.R.		2,92	3,05	2,95	2,92	2,94	2,99	2,94
❶	E.E.R.		2,82	2,72	2,8	2,72	2,53	2,72	2,59
❶	Absorbed power	kW	22,18	24,87	28,88	30,9	36,13	40,22	46,28
❶	Absorbed power	kW	23,18	25,15	29,69	31,54	36,73	40,8	47,24
❶	Absorbed power	kW	22,94	26,18	30,21	32,94	39,96	42,83	50,58
	THAETY-THAESY-THAEQY MODEL		**269**	**279**	**289**	**296**	**2112**	**2125**	**2146**
❷	Nominal heating capacity	kW	73,4	82,4	92,4	100,5	118,5	133,1	151,7
❷	Nominal heating capacity	kW	70,8	80,4	90,4	98	115	129,1	147,6
❷	Nominal heating capacity	kW	70,3	77,3	88,4	95,4	111	125,5	143,6
❷	C.O.P.		3,35	3,36	3,31	3,28	3,31	3,25	3,23
❷	C.O.P.		3,32	3,36	3,31	3,29	3,3	3,27	3,27
❷	C.O.P.		3,31	3,3	3,27	3,26	3,21	3,23	3,22
❶	Nominal cooling capacity	kW	67,2	76,7	86,6	93,6	107,5	121,5	139,4
❶	Nominal cooling capacity	kW	66,2	74,7	85,7	89,6	104,6	119	136,9
❶	Nominal cooling capacity	kW	63,7	69,7	82,7	86,6	99,1	112,1	128,5
❷	Absorbed power	kW	21,91	24,52	27,92	30,64	35,8	40,95	46,97
❷	Absorbed power	kW	21,33	23,93	27,31	29,79	34,85	39,48	45,14
❷	Absorbed power	kW	21,24	23,42	27,03	29,26	34,58	38,85	44,6
	TCAEY-THAEY MODEL		**269**	**279**	**289**	**296**	**2112**	**2125**	**2146**
❸	TCAEBY sound pressure	dB(A)	50	50	50	50	52	-	-
❸	TCAETY-THAETY sound pressure	dB(A)	50	51	51	51	53	54	54
❸	TCAESY-THAESY sound pressure	dB(A)	46	47	47	47	49	50	50
❸	TCAEQY-THAEQY sound pressure	dB(A)	42	42	43	43	46	47	47
❹	TCAEBY sound power	dB(A)	82	82	82	82	84	-	-
❹	TCAETY-THAETY sound power	dB(A)	82	83	83	83	85	86	86
❹	TCAESY-THAESY sound power	dB(A)	78	79	79	79	81	82	82
❹	TCAEQY-THAEQY sound power	dB(A)	74	74	75	75	78	79	79
	Scroll/step compressor	no.	2/3	2/3	2/3	2/3	2/3	2/3	2/3
	Circuits	no.	1	1	1	1	1	1	1
	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	400-3+N-50
	DIMENSIONS AND WEIGHT		**269**	**279**	**289**	**296**	**2112**	**2125**	**269**
	W - Width of version B	mm	2650	2650	2650	2650	3250	-	-
	W - Width of version T - S - Q	mm	3250	3250	3250	3250	3450	3450	3450
	H - Height of version B	mm	1700	1700	1700	1700	1700	-	-
	H - Height of version T - S	mm	1700	1700	1700	1700	2000	2000	2000
	H - Height of version Q	mm	1520	1520	1520	1520	2000	2000	2000
	D - Depth of version B	mm	1210	1210	1210	1210	1210	-	-
	D - Depth of version T - S - Q	mm	1210	1210	1210	1210	1520	1520	1520
❺	TCAEBY weight	kg	755	760	795	800	980	-	-
❺	TCAETY weight	kg	850	865	870	905	1160	1195	1255
❺	THAETY weight	kg	915	930	935	980	1240	1280	1355

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C

❷ Air: 7°C, D.B. - 6°C W.B.- Water: 40/45°C.

❸ In open field (Q = 2) at 10 m from the unit.

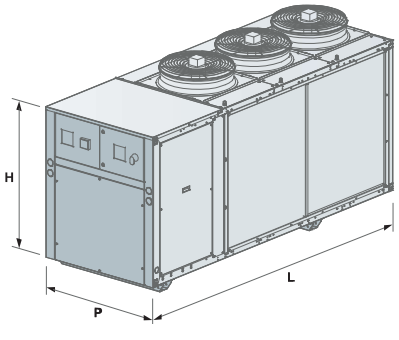
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY-THAESY silenced versions.

TCAEQY-THAEQY super-silenced versions.

Performance according to EN 14511.



	SEASONAL ENERGY PERFORMANCE		269	279	289	296	2112	2125	2146
	TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	65,6	72,1	77,6	86,5	105,5	-	-
①	SEER (EN 14825)		4,11	3,95	3,96	3,92	4,11	-	-
②	$\eta_{s,c}$	%	161	155	156	154	161	-	-
	TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	69,2	79,1	90,1	96,1	112	125,5	144,4
①	SEER (EN 14825)		4,29	4,22	4,3	4,32	4,29	4,26	4,27
②	$\eta_{s,c}$	%	169	166	169	170	169	167	168
	TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	67,7	76,7	87,6	92,1	108	122	138,9
①	SEER (EN 14825)		4,21	4,22	4,24	4,24	4,25	4,28	4,25
②	$\eta_{s,c}$	%	165	166	167	166	167	168	167
	TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	64,7	71,2	84,6	89,6	101,1	116,5	131
①	SEER (EN 14825)		4,17	4,07	4,19	4,12	4,04	4,05	3,99
②	$\eta_{s,c}$	%	164	160	164	162	159	159	157
	THAETY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	66	74	84	91	108	121	138
③	SCOP (EN 14825)		3,99	3,97	3,91	3,9	4,03	3,89	3,87
④	η_S	%	157	156	153	153	158	153	152
④	Energy class		A++	-	-	-	-	-	-
	THAESY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	64	73	82	89	104	117	134
③	SCOP (EN 14825)		3,97	3,99	3,92	3,92	4,02	3,96	3,93
④	η_S	%	156	157	154	154	158	155	154
④	Energy class		A++	-	-	-	-	-	-
	THAEQY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	64	70	80	86	100	114	130
③	SCOP (EN 14825)		3,99	3,97	3,91	3,91	3,93	3,92	3,88
④	η_S	%	157	156	154	154	154	154	152
④	Energy class		A++	A++	-	-	-	-	-

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)

WinPACK HE-A

TCAEY-THAEY 2110-4340

Cooling capacity: 91.6÷345 kW - Heating capacity: 110.5÷357 kW

THAETY 4270 with coil protection nets accessory

- **High energy efficiency chillers and heat pumps**
- **Standard electronic expansion valve**
- **Multi-purpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

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.
- 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;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- T - High efficiency version with oversized condensing section (TCAETY-THAETY).
- Q - Super-silenced version complete with soundproofing compressor technical compartment, super-reduced speed fans and oversized condensing section (TCAEQY-THAEQY).

Models

- TCAETY: high efficiency unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.
- THAETY: heat pump unit.
- THAEQY: 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 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.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- –10°C condensing control.
- –15°C condensing control with fans with EC motor (standard in Q versions).
- 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.

TCAEQY 2150
with Tank&Pump

- Metal filters or coil protection nets.
- Micro-channel coils with E-coating treatment.
- Copper/copper or copper/pre-painted aluminium coils.
- 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.

WinPACK HE-A

TCAEY-THAEY 2110-4340

	TCAETY-TCAEQY MODEL		2110	2120	2140	2150	2170	2200	2220	4240	4270	4310	4340
❶	Nominal cooling capacity	kW	110,5	121,5	138,4	156,4	175,4	200,3	223,2	241,3	276,3	309,1	345,1
❶	Nominal cooling capacity	kW	100,6	108,6	126,5	140,5	155,5	181,4	199,4	218,4	251,4	280,2	318,2
❶	E.E.R.		3,13	3,1	3,13	3,11	3,1	3,11	3,1	3,1	3,1	3,1	3,1
❶	E.E.R.		2,73	2,6	2,69	2,65	2,6	2,64	2,61	2,56	2,68	2,62	2,63
❶	Absorbed power	kW	35,3	39,2	44,2	50,3	56,6	64,4	72	77,8	88,8	99,7	111,3
❶	Absorbed power	kW	36,8	41,8	47	53	59,8	68,7	76,4	85	93,8	106,9	121
	THAETY-THAEQY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**	**4240**	**4270**	**4310**	**4340**
❷	Nominal heating capacity	kW	114,5	124,5	141,6	161,6	181,7	204,8	233,9	249,8	282,8	321	357
❷	Nominal heating capacity	kW	110,5	118,5	136,5	153,6	171,6	194,7	221,8	236,7	266,7	301	341,9
❷	C.O.P.		3,22	3,22	3,21	3,22	3,23	3,22	3,21	3,2	3,2	3,2	3,2
❷	C.O.P.		3,28	3,29	3,27	3,26	3,26	3,23	3,26	3,12	3,11	2,95	3,08
❶	Nominal cooling capacity	kW	101,6	112,6	126,5	145,4	161,4	186,3	209,3	231,3	263,3	301,1	334,1
❶	Nominal cooling capacity	kW	91,6	100,6	118,6	130,6	144,5	169,5	187,4	206,5	238,4	270,3	302,3
❷	Absorbed power	kW	35,6	38,7	44,1	50,2	56,3	63,6	72,9	78,1	88,4	100,3	111,6
❷	Absorbed power	kW	33,7	36	41,7	47,1	52,6	60,3	68	75,9	85,8	102	111
	TCAETY-TCAEQY-THAETY-THAEQY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**	**4240**	**4270**	**4310**	**4340**
❸	TCAETY sound pressure	dB(A)	55	56	57	57	58	59	59	58	60	60	62
❸	THAETY sound pressure	dB(A)	53	54	55	55	56	57	57	58	60	60	62
❸	TCAEQY-THAEQY sound pressure	dB(A)	47	47	48	48	49	50	50	51	53	53	54
❹	TCAETY sound power	dB(A)	87	88	89	89	90	91	91	90	92	92	94
❹	THAETY sound power	dB(A)	85	86	87	87	88	89	89	90	92	92	94
❹	TCAEQY-THAEQY sound power	dB(A)	79	79	80	80	81	82	82	83	85	85	86
	Scroll/step compressor	no.	2/3	2/3	2/2	2/3	2/2	2/3	2/2	4/4	4/4	4/4	4/4
	Circuits	no.	1	1	1	1	1	1	1	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	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHT		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**	**4240**	**4270**	**4310**	**4340**
	L - Width	mm	3600	3600	3600	3600	4550	4550	4550	4800	4800	5300	5300
	H - Height	mm	2440	2440	2440	2440	2440	2440	2440	2030	2030	2030	2030
	P - Depth	mm	1350	1350	1350	1350	1350	1350	1350	2090	2090	2090	2090
❺	TCAETY weight	kg	1090	1100	1110	1130	1280	1300	1320	2290	2390	2520	2640
❺	TCAEQY weight	kg	1250	1260	1270	1290	1440	1460	1480	2420	2520	2650	2770
❺	THAETY weight	kg	1380	1410	1420	1500	1670	1690	1780	2470	2570	2720	2840
❺	THAEQY weight	kg	1420	1450	1460	1540	1710	1730	1820	2600	2700	2850	2970

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

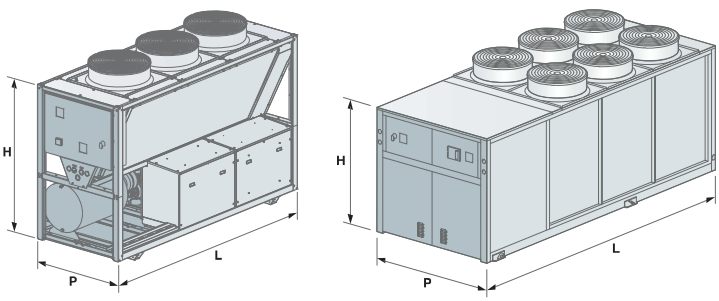
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAEQY-THAEQY super-silenced versions.

Performance according to EN 14511.



	SEASONAL ENERGY PERFORMANCE		2110	2120	2140	2150	2170	2200	2220	4240	4270	4310	4340
	TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE												
①	Pdesignc (EN 14825)	kW	110,5	121,5	138,4	156,3	175,3	200,2	223,1	241,3	276,2	309,1	345
①	SEER (EN 14825)		4,21	4,26	4,1	4,22	4,27	4,21	4,24	4,29	4,3	4,29	4,3
②	$\eta_{s,c}$	%	165	167	161	166	168	165	167	169	169	168	169
	TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE												
①	Pdesignc (EN 14825)	kW	100,6	108,6	126,5	140,5	155,4	181,3	199,3	218,4	251,4	280,2	318,2
①	SEER (EN 14825)		4,13	3,99	4,01	4,07	3,95	4,08	4	4,09	4,17	4,17	4,13
②	$\eta_{s,c}$	%	162	157	157	160	155	160	157	160	164	164	162
	THAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE												
③	Pdesignh (EN 14825)	kW	96	104	118	135	150	173	201	211	242	273	302
③	SCOP (EN 14825)		3,53	3,51	3,75	3,49	3,76	3,39	3,57	3,64	3,62	3,64	3,63
④	η_s	%	138	138	147	137	148	133	140	142	142	143	142
	THAEQY MODEL SEASONAL PERFORMANCE IN HEATING MODE												
③	Pdesignh (EN 14825)	kW	91	98	113	127	141	165	190	199	227	254	288
③	SCOP (EN 14825)		3,62	3,61	3,84	3,59	3,87	3,53	3,65	3,56	3,54	3,37	3,52
④	η_s	%	142	141	151	141	152	138	143	139	139	132	138

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)

Web code: **WK011**

WinPACK SE

TCAEY-THAEY 2110-4340

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

TCAESY 2200
with Tank&Pump

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

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.
- 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.

Versions

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

Models

- TCAEBY: standard unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.
- THAEBY: 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.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- Electronic expansion valve.
- –10°C condensing control (standard in S versions).
- –15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans.

THAEBY 4310 with coil
protection nets accessory

- Power factor correction capacitors (cosϕ > 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.
- Micro-channel coils with E-coating treatment.
- Copper/copper or copper/pre-painted aluminium coils.
- 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.

WinPACK SE

TCAEY-THAEY 2110-4340

	TCAEBY-TCAESY MODEL		2110	2120	2140	2150	2170	2200	2220
❶	Nominal cooling capacity	kW	106,5	114,4	127,4	147,3	165,2	188,1	212,1
❶	Nominal cooling capacity	kW	102,5	110,4	122,4	142,3	159,2	183,2	205,1
❶	E.E.R.		2,81	2,79	2,8	2,81	2,81	2,8	2,8
❶	E.E.R.		2,72	2,67	2,65	2,71	2,7	2,66	2,7
❶	Absorbed power	kW	37,9	41	45,5	52,4	58,8	67,2	75,8
❶	Absorbed power	kW	37,7	41,3	46,2	52,5	59	68,9	76
	THAEBY-THAESY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**
❷	Nominal heating capacity	kW	112,6	123,7	139,7	158,8	176,9	198	229,1
❷	Nominal heating capacity	kW	109,5	121,7	135,7	155,8	173,9	195,9	226
❷	C.O.P.		3,05	3,08	3,08	3,04	3,06	3,07	3,07
❷	C.O.P.		3,1	3,13	3,1	3,13	3,1	3,09	3,13
❶	Nominal cooling capacity	kW	99,5	110,4	123,4	142,3	159,3	182,2	206,1
❶	Nominal cooling capacity	kW	97,6	106,5	117,5	136,4	152,3	175,3	199,2
❷	Absorbed power	kW	36,9	40,2	45,4	52,2	57,8	64,5	74,6
❷	Absorbed power	kW	35,3	38,9	43,8	49,8	56,1	63,4	72,2
	TCAEBY-TCAESY-THAEBY-THAESY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**
❸	TCAEBY sound pressure	dB(A)	55	56	56	57	58	58	59
❸	THAEBY sound pressure	dB(A)	53	54	54	55	56	56	57
❸	TCAESY sound pressure	dB(A)	49	50	50	51	52	52	53
❸	THAESY sound pressure	dB(A)	49	50	50	51	52	52	53
❹	TCAEBY sound power	dB(A)	87	88	88	89	90	90	91
❹	THAEBY sound power	dB(A)	85	86	86	87	88	88	89
❹	TCAESY sound power	dB(A)	81	82	82	83	84	84	85
❹	THAESY sound power	dB(A)	81	82	82	83	84	84	85
	Scroll/step compressor	no.	2/3	2/3	2/2	2/3	2/2	2/3	2/2
	Circuits	no.	1	1	1	1	1	1	1
	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
	DIMENSIONS AND WEIGHT		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**
	W - TCAEBY-TCAESY width	mm	2650	2650	2650	3600	3600	3600	4550
	W - THAEBY-THAESY width	mm	2650	2650	2650	3600	3600	3600	4550
	H - TCAEBY-TCAESY height	mm	2440	2440	2440	2440	2440	2440	2440
	H - THAEBY-THAESY height	mm	2440	2440	2440	2440	2440	2440	2440
	D - TCAEBY-TCAESY depth	mm	1350	1350	1350	1350	1350	1350	1350
	D - THAEBY-THAESY depth	mm	1350	1350	1350	1350	1350	1350	1350
❺	TCAEBY weight	kg	990	1000	1010	1160	1180	1180	1340
❺	TCAESY weight	kg	1110	1120	1130	1280	1300	1300	1460
❺	THAEBY weight	kg	1250	1310	1320	1470	1480	1565	1730
❺	THAESY weight	kg	1250	1310	1320	1470	1480	1565	1730

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

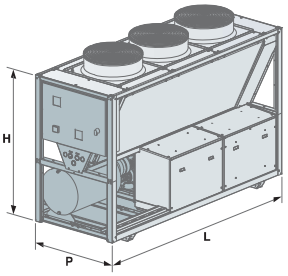
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY-THAESY silenced versions.

Performance according to EN 14511.



	SEASONAL ENERGY PERFORMANCE		2110	2120	2140	2150	2170	2200	2220
	TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	106,5	114,4	127,3	147,2	165,2	188,1	212
①	SEER (EN 14825)		3,85	3,87	3,89	3,84	3,91	4	3,89
②	$\eta_{s,c}$	%	151	152	153	150	153	157	153
	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
①	SEER (EN 14825)		3,92	3,94	3,93	3,96	3,95	4	3,96
②	$\eta_{s,c}$	%	154	155	154	155	155	157	155
	THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	95	104	119	134	149	170	200
③	SCOP (EN 14825)		3,38	3,4	3,67	3,36	3,63	3,34	3,53
④	η_s	%	132	133	144	131	142	131	138
	THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	92	102	115	131	146	167	197
③	SCOP (EN 14825)		3,47	3,49	3,71	3,5	3,72	3,39	3,62
④	η_s	%	136	136	145	137	146	133	142

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)

WinPACK SE

TCAEY-THAEY 2110-4340

	TCAEBY-TCAESY MODEL		4150	4170	4200	4220	4240	4270	4310	4340
❶	Nominal cooling capacity	kW	146,3	166,4	189,2	213,2	229,2	256	299,9	328,7
❶	Nominal cooling capacity	kW	142,3	161,4	182,3	207,2	224,2	250	291	319,7
❶	E.E.R.		2,99	2,9	2,83	2,92	2,8	2,8	2,81	2,76
❶	E.E.R.		2,93	2,82	2,67	2,82	2,68	2,66	2,68	2,61
❶	Absorbed power	kW	48,9	57,4	66,9	73	81,9	91,4	106,7	119,1
❶	Absorbed power	kW	48,6	57,2	68,3	73,5	83,7	94	108,6	122,5
	THAEBY-THAESY MODEL		**4150**	**4170**	**4200**	**4220**	**4240**	**4270**	**4310**	**4340**
❷	Nominal heating capacity	kW	152,7	172,6	197,8	225,9	249	281,3	319,3	354,6
❷	Nominal heating capacity	kW	147,7	167,6	192,8	219,9	245	278,3	315,2	345,5
❷	C.O.P.		3,09	3,14	3,04	3,04	3,03	3,01	3,01	2,98
❷	C.O.P.		3,1	3,12	3,09	3,09	3,09	3,05	3,07	3,03
❶	Nominal cooling capacity	kW	141,3	163,4	186,2	209,1	227,1	253,9	295,9	324,7
❶	Nominal cooling capacity	kW	136,4	156,4	180,3	200,2	220,2	248	286,1	313,8
❷	Absorbed power	kW	49,4	55	65,1	74,3	82,2	93,5	106,1	119
❷	Absorbed power	kW	47,6	53,7	62,4	71,2	79,3	91,2	102,7	114
	TCAEBY-TCAESY-THAEBY-THAESY MODEL		**4150**	**4170**	**4200**	**4220**	**4240**	**4270**	**4310**	**4340**
❸	TCAEBY sound pressure	dB(A)	57	57	57	58	60	60	60	61
❸	THAEBY sound pressure	dB(A)	54	54	56	56	58	60	60	61
❸	TCAESY sound pressure	dB(A)	51	51	51	52	54	54	56	57
❸	THAESY sound pressure	dB(A)	50	50	52	52	54	55	56	57
❹	TCAEBY sound power	dB(A)	89	89	89	90	92	92	92	93
❹	THAEBY sound power	dB(A)	86	86	88	88	90	92	92	93
❹	TCAESY sound power	dB(A)	83	83	83	84	86	86	88	89
❹	THAESY sound power	dB(A)	82	82	84	84	86	87	88	89
	Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
	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 WEIGHT		**4150**	**4170**	**4200**	**4220**	**4240**	**4270**	**4310**	**4340**
	W - TCAEBY-TCAESY width	mm	3600	3600	3600	4550	4550	4550	4800	4800
	W - THAEBY-THAESY width	mm	3450	3450	3700	3700	4800	4800	4800	4800
	H - TCAEBY-TCAESY height	mm	2440	2440	2440	2440	2440	2440	2030	2030
	H - THAEBY-THAESY height	mm	2000	2000	2030	2030	2030	2030	2030	2030
	D - TCAEBY-TCAESY depth	mm	1350	1350	1350	1350	1350	1350	2090	2090
	D - THAEBY-THAESY depth	mm	1520	1520	2090	2090	2090	2090	2090	2090
❺	TCAEBY weight	kg	1165	1185	1190	1335	1670	1690	2400	2410
❺	TCAESY weight	kg	1300	1320	1325	1470	1830	1850	2440	2450
❺	THAEBY weight	kg	1450	1525	1725	1800	2375	2460	2580	2595
❺	THAESY weight	kg	1475	1550	1765	1840	2415	2500	2620	2635

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

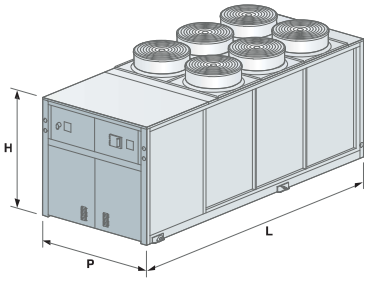
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY-THAESY silenced versions.

Performance according to EN 14511.



	SEASONAL ENERGY PERFORMANCE		4150	4170	4200	4220	4240	4270	4310	4340
	TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	146,3	166,4	189,2	213,1	229,2	256	299,9	328,6
①	SEER (EN 14825)		4,05	4,09	4,09	4,12	4,04	4,1	4,02	4,03
②	$\eta_{s,c}$	%	159	161	161	162	159	161	158	158
	TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	142,3	161,4	182,3	207,2	224,2	250	291	319,7
①	SEER (EN 14825)		4,15	4,15	4,03	4,16	4,06	4,07	4,07	4,03
②	$\eta_{s,c}$	%	163	163	158	163	159	160	160	158
	THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③	Pdesignh (EN 14825)	kW	129	145	168	192	211	240	271	301
③	SCOP (EN 14825)		3,41	3,47	3,33	3,33	3,35	3,34	3,35	3,32
④	η_s	%	133	136	130	130	131	130	131	130
	THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③	Pdesignh (EN 14825)	kW	125	140	164	187	207	238	267	292
③	SCOP (EN 14825)		3,42	3,46	3,4	3,4	3,44	3,39	3,41	3,37
④	η_s	%	134	135	133	133	135	133	133	132

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)

Web code: **WKE21**

WinPACK-R HE-A

TCAETY-TCAEQY 4235-4370

Cooling capacity: 221.4-372 kW

TCAETY 4290 with Tank&Pump and BCI, RPB, RPE, FI10 accessories

- **High energy efficiency compact chillers**
- **Standard electronic expansion valve**
- **Integrated MASTER/ SLAVE control**

Packaged air-cooled water chillers 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.
- 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: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- 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;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

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

Models

- TCAETY: high efficiency unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.

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 - 1000 litre integrated buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- –10°C condensing control.
- –15°C condensing control with fans with EC motor (standard in Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\varphi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet 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, buffer tank, 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.
- Rhoss supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of multiple chillers.

	TCAETY-TCAEQY MODEL		4235	4260	4290	4330	4370
❶	Nominal cooling capacity	kW	235,3	261,3	292,2	334,0	372,0
❶	Nominal cooling capacity	kW	221,4	243,4	269,4	312,1	343,1
❶	E.E.R.		3,27	3,2	3,12	3,19	3,15
❶	E.E.R.		3,12	2,88	2,68	2,89	2,75
❶	Absorbed power	kW	72,0	81,7	93,7	104,7	118,1
❶	Absorbed power	kW	71,0	84,5	100,5	108,0	124,8
	TCAETY-TCAEQY MODEL		**4235**	**4260**	**4290**	**4330**	**4370**
❷	TCAETY sound pressure	dB(A)	59	60	61	62	63
❷	TCAEQY sound pressure	dB(A)	50	51	52	53	54
❸	TCAETY sound power	dB(A)	91	92	93	94	95
❸	TCAEQY sound power	dB(A)	82	83	84	85	86
	Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**4235**	**4260**	**4290**	**4330**	**4371**
	L - Width	mm	3650	3650	3650	4750	4750
	H - Height	mm	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260
❹	TCAETY weight	kg	1620	1820	1985	2265	2310
❹	TCAEQY weight	kg	1895	2095	2260	2540	2585

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.

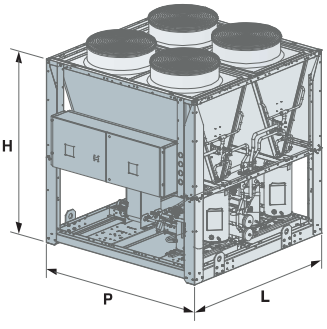
TCAEQY super-silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		4235	4260	4290	4330	4370
	TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	235,3	261,3	292,2	334,0	372,0
①	SEER (EN 14825)		4,34	4,34	4,31	4,43	4,40
②	ηs,c	%	170	170	170	174	173
	TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	221,4	243,4	269,4	312,1	343,1
①	SEER (EN 14825)		4,29	4,24	4,22	4,30	4,30
②	ηs,c	%	169	167	166	169	169

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Web code: **WK021**

WinPACK-R SE

TCAEBY-TCAESY 4225-4345

Cooling capacity: 214.2÷345.7 kW

TCAESY 4245 with Tank&Pump and PTL, RPE accessories

- **Compact chillers also for replacement markets**
- **High performance range with extended operating limits**
- **Simplified installation thanks to pumping unit accessories**
- **Integrated MASTER/ SLAVE control**

Packaged air-cooled water chillers 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.
- 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: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- 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.

Versions

- B - Standard version.
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans.

Models

- TCAEBY: standard unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.

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 500 - 700 litre integrated buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- Electronic expansion valve.
- –10°C condensing control (standard in S versions).
- –15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans.
- Power factor correction capacitors (cosφ > 0.94).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet 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, buffer tank, 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.
- Rhoss supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of multiple chillers.

	TCAEBY-TCAESY MODEL		4225	4245	4265	4315	4345
❶	Nominal cooling capacity	kW	220,2	241,2	264	313,9	345,7
❶	Nominal cooling capacity	kW	214,2	234,2	252,1	305	333,8
❶	E.E.R.		3,00	2,81	2,61	2,88	2,81
❶	E.E.R.		2,90	2,67	2,4	2,76	2,66
❶	Absorbed power	kW	73,4	85,8	101,1	108,9	123,0
❶	Absorbed power	kW	73,9	87,7	105,0	110,5	125,5
	TCAEBY-TCAESY MODEL		**4225**	**4245**	**4265**	**4315**	**4345**
❷	Sound pressure	dB(A)	58	59	60	61	62
❷	Sound pressure	dB(A)	52	53	54	56	57
❸	Sound power	dB(A)	90	91	92	93	94
❸	Sound power	dB(A)	84	85	86	88	89
	Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**4225**	**4245**	**4265**	**4315**	**4345**
	L - Width	mm	2550	2550	2550	3650	3650
	H - Height	mm	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260
❹	TCAEBY weight	kg	1300	1500	1650	1985	2000
❹	TCAESY weight	kg	1460	1660	1810	2215	2230

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.

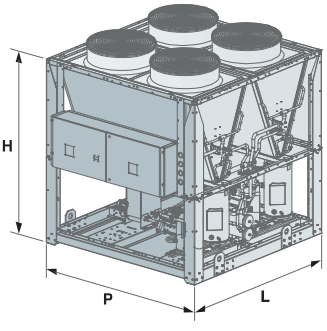
TCAESY silenced versions

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		4225	4245	4265	4315	4345
	TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	220,2	241,2	264,0	313,9	345,7
①	SEER (EN 14825)		4,17	4,16	4,14	4,18	4,16
②	ηs,c	%	164	163	163	164	163
	TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	214,2	234,2	252,1	305,0	333,8
①	SEER (EN 14825)		4,15	4,13	4,12	4,15	4,14
②	ηs,c	%	163	162	162	163	163

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Web code: **YKF11**

Y-Pack FREECOOLING

TFAEY-TGAEY 4160-4320

Cooling capacity: 170÷361 kW

TFAETY 4230 with coil protection nets accessory

- **NO GLYCOL version available**
- **Plug&Play Range**
- **Software to estimate energy savings**

Packaged air cooled water chillers in Freecooling mode (TFAEY) and Freecooling NO-GLYCOL mode (TGAEY) 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.
- 4 capacity steps with high efficiency at partial loads.
- Water side heat exchanger (evaporator): with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch (TFAEY) or flow switch (TGAEY).
- Heat exchanger (water-water) in Freecooling NO-GLYCOL: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger (condenser): featuring finned coil with copper pipes and aluminium fins.
- 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 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;
  - clock board;
  - water side 3-way modulating valve.

Versions

- T - High efficiency version (TFAETY-TGAETY).
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TFAESY - TGAESY).

Models

- TFAETY: high efficiency unit in Freecooling mode.
- TFAESY: silenced unit in Freecooling mode.
- TGAETY: high efficiency unit in NO-GLYCOL Freecooling mode.
- TGAESY: silenced unit in NO-GLYCOL Freecooling mode.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic actuation pump in standby complete with safety valve. The electric pumps are available in the low or high head versions.
- Electronic expansion valve.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft starter.
- Cooling circuit high and low pressure gauges.
- Metal filters or coil protection nets.
- Copper/copper or copper/pre-painted aluminium coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electric pumps if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Rhoss supervisors for unit monitoring and remote management.

TFAETY-TFAESY MODEL		4160	4180	4200	4230	4260	4290	4320
FREE-COOLING OFF								
❶ Nominal cooling capacity	kW	178	202	224	251	286	326	361
❶ Nominal cooling capacity	kW	170	197	215	240	274	312	344
❶ E.E.R.		3,31	3,41	3,27	3,20	3,34	3,20	3,09
❶ E.E.R.		3,21	3,32	3,11	3,11	3,22	3,09	2,92
❶ Absorbed power	kW	53,8	59,3	68,4	78,5	85,6	102,0	117,0
❶ Absorbed power	kW	53,0	59,3	69,2	77,2	85,2	100,9	117,9
FREE-COOLING ON 100%								
❷ Nominal cooling capacity	kW	178	202	224	251	286	326	361
❷ Nominal cooling capacity	kW	170	197	215	240	274	312	344
❷ E.E.R.		21,3	24,4	26,9	20,5	22,8	19,5	21,5
❷ E.E.R.		33,0	37,8	41,4	31,7	35,2	30,0	32,9
❷ Absorbed power	kW	8	8	8	12	12	16	16
❷ Absorbed power	kW	5	5	5	7,5	7,5	10	10
❷ Total Free-cooling Temperature	°C	0,3	1	0,4	0,7	0,9	0,4	–0,8
❷ Total Free-cooling Temperature	°C	–1,3	–0,8	–1,5	–1,3	–1,1	–1,6	–3,0
TFAETY-TFAESY MODEL		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
❸ Sound pressure	dB(A)	60	63	63	65	65	66	66
❸ Sound pressure	dB(A)	55	56	56	58	59	60	60
❹ Sound power	dB(A)	89	91	91	93	93	94	94
❹ Sound power	dB(A)	85	86	86	88	89	90	90
Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Circuits	no.	2	2	2	2	2	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	400-3+N-50
DIMENSIONS AND WEIGHT		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
L - Width	mm	4.800	4.800	4.800	4.800	5.300	5.300	5.300
H - Height	mm	2.030	2.030	2.030	2.030	2.030	2.030	2.030
P - Depth	mm	2.090	2.090	2.090	2.090	2.090	2.090	2.090
❺ TFAETY-TFAESY Weight	kg	2.370	2.820	2.920	3.020	3.230	3.380	3.430
❺ TGAETY-TGAESY Weight	kg	2.470	2.970	3.070	3.170	3.280	3.430	3.480

Data at the following conditions:

❶ Air: 30°C - Water: 15/10°C - Ethylene glycol 30%.

❷ Water: 15/10°C – Ethylene glycol 30%.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the accessorised unit without load.

TFAESY silenced version.

SEASONAL ENERGY PERFORMANCE		4160	4180	4200	4230	4260	4290	4320
TFAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	158,2	179,4	198,9	222,8	254	289,5	320,5
⑤ SEPR		5,1	5,14	5,11	5,06	5,13	5,11	5,09
TFAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	151,2	175,1	191	213,1	243,5	277,1	305,5
⑤ SEPR		5,1	5,09	5,08	5,04	5,1	5,08	5,05
TGAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	155,3	178,4	197,4	220,6	250,9	286,9	317,1
⑤ SEPR		4,83	4,87	4,9	4,78	4,84	4,77	4,64
TGAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	148,5	171,6	188,9	211,1	240,7	274,2	300,9
⑤ SEPR		4,81	4,81	4,83	4,74	4,8	4,71	4,57

⑤ Application for high temperature (7°C) process chiller (EU Regulation 2016/2281)

WinPOWER HE-A

TCAEY 4385-8920 / THAEY 4385-6700

Cooling capacity: 337.3÷916.8 kW - Heating capacity: 368.8÷698.9 kW

TCAETY 6700
with BCI accessory

- **High energy efficiency chillers**
- **Extended operating limits**
- **Up to 6 capacity steps**
- **Multi-purpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

* Refer to the Rhoss website to learn which heat pump models can avail of the incentives.

Air cooled water chillers and reversible 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.
- 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 (TCAEY) or finned coil with copper pipes and aluminium fins (THAEY).
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- 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,
  - display of cooling circuit high and 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 (TCAETY - THAETY).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section (TCAEQY-THAEQY).

Models

- TCAETY: high efficiency unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.
- THAETY: high efficiency heat pump unit.
- THAEQY: super silenced heat pump unit.

TCAEQY 8920

THAETY 4460
with BFI accessory

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.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- –10°C condensing control.
- –15°C condensing control with fans with EC motor (standard in Q versions).
- 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 Compressor box and soundproofed cooling circuit (THAEY).
- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves
- Metal filters (THAEY) or coil protection nets.
- Micro-channel coils with E-coating treatment (TCAEY).
- Copper/copper or copper/pre-painted aluminium coils (THAEY).
- 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.
- 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.

WinPOWER HE-A

TCAEY 4385-8920 / THAEY 4385-6700

	TCAETY-TCAEQY MODEL		4385	4415	4460	5525	6570	6625
❶	Nominal cooling capacity	kW	385	414	460,8	524,5	569,5	623,1
❶	Nominal cooling capacity	kW	355,2	381,1	420,1	469,9	510,8	558,6
❶	E.E.R.		3,24	3,16	3,13	3,19	3,17	3,1
❶	E.E.R.		2,87	2,71	2,64	2,71	2,63	2,47
❶	Absorbed power	kW	118,9	131,1	147,3	164,5	179,7	201
❶	Absorbed power	kW	123,8	140,7	159,2	173,4	194,3	226,2
	TCAETY-TCAEQY MODEL		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
❸	TCAETY sound pressure	dB(A)	62,5	63,5	64,5	64,5	64,5	64,5
❸	TCAEQY sound pressure	dB(A)	53,5	53,5	54,5	54,5	54,5	54,5
❹	TCAETY sound power	dB(A)	95	96	97	97	97	97
❹	TCAEQY sound power	dB(A)	86	86	87	87	87	87
	Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
	L - Width	mm	4840	4840	4840	5940	5940	5940
	H - Height	mm	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260
❺	TCAETY weight	kg	2440	2460	2510	2980	3200	3210
❺	TCAEQY weight	kg	2715	2735	2785	3300	3565	3575

	THAETY-THAEQY MODEL		4385	4415	4460	5525	6570	6625
❷	Nominal heating capacity	kW	386,9	425	464,2	520,4	571,5	626,8
❷	Nominal heating capacity	kW	368,8	404,9	441	493,2	535,3	598,6
❷	C.O.P.		3,2	3,2	3,2	3,2	3,2	3,2
❷	C.O.P.		3,24	3,22	3,22	3,2	3,2	3,21
❶	Nominal cooling capacity		359,2	399	439,9	498,7	538,6	584,4
❶	Nominal cooling capacity		337,3	367,2	401,1	453	483,9	520,8
❶	E.E.R.		2,97	2,96	2,95	3,02	2,95	2,9
❶	E.E.R.		2,66	2,55	2,49	2,6	2,47	2,29
❷	Absorbed power	kW	121	132,9	145,1	162,7	178,6	195,9
❷	Absorbed power	kW	113,9	125,8	137	154,2	167,3	186,5
	THAETY-THAEQY MODEL		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
❸	THAETY sound pressure	dB(A)	62,5	63,5	64,5	64,5	64,5	64,5
❸	THAEQY sound pressure	dB(A)	53,5	53,5	54,5	54,5	54,5	54,5
❹	THAETY sound power	dB(A)	95	96	97	97	97	97
❹	THAEQY sound power	dB(A)	86	86	87	87	87	87
	Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
	L - Width	mm	4840	4840	4840	5940	5940	5940
	H - Height	mm	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260
❺	THAETY weight	kg	3030	3200	3250	3830	4040	4070
❺	THAEQY weight	kg	3395	3565	3615	4310	4520	4550

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

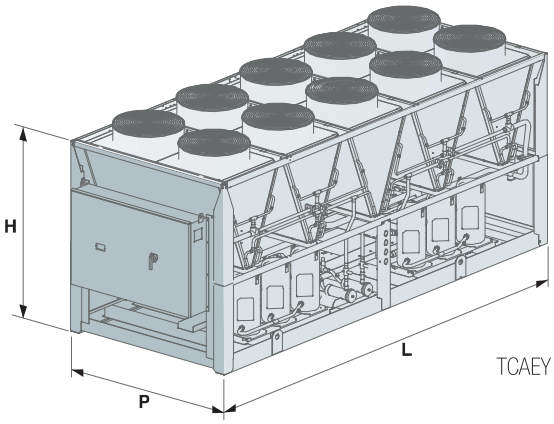
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAEQY super-silenced versions.

Performance according to EN 14511.



TCAEY

	SEASONAL ENERGY PERFORMANCE		4385	4415	4460	5525	6570	6625
	TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	384,9	413,8	460,7	524,3	569,3	622,9
①	SEER (EN 14825)		4,44	4,43	4,4	4,49	4,44	4,42
②	$\eta_{s,c}$	%	175	174	173	176	174	174
	TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	355,1	381	419,9	469,7	510,7	558,4
①	SEER (EN 14825)		4,31	4,19	4,23	4,24	4,19	4,23
②	$\eta_{s,c}$	%	169	165	166	167	165	166
	THAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	-	-	439,8	498,5	538,4	584,2
①	SEER (EN 14825)		-	-	4,18	4,22	4,17	4,19
②	$\eta_{s,c}$	%	-	-	164	166	164	165
	THAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	-	-	401	452,8	483,8	520,6
①	SEER (EN 14825)		-	-	4,18	4,21	4,17	4,2
②	$\eta_{s,c}$	%	-	-	164	165	164	165
	THAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	354	388	-	-	-	-
③	SCOP (EN 14825)		3,61	3,64	-	-	-	-
④	η_S	%	141	143	-	-	-	-
	THAEQY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	337	370	-	-	-	-
③	SCOP (EN 14825)		3,71	3,71	-	-	-	-
④	η_S	%	145	145	-	-	-	-

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)

WinPOWER HE-A

TCAEY 4385-8920 / THAEY 4385-6700

	TCAETY-TCAEQY MODEL		6665	6700	7760	8820	8870	8920
❶	Nominal cooling capacity	kW	665,3	695,2	758,3	819,9	870	916,8
❶	Nominal cooling capacity	kW	604,7	632,6	694,7	753,3	791,5	827,3
❶	E.E.R.		3,16	3,13	3,14	3,15	3,14	3,13
❶	E.E.R.		2,7	2,65	2,67	2,67	2,64	2,6
❶	Absorbed power	kW	210,6	222,2	241,5	260,3	277,1	293
❶	Absorbed power	kW	224	238,8	260,2	282,2	299,9	318,2
	TCAETY-TCAEQY MODEL		**6665**	**6700**	**7760**	**8820**	**8870**	**8920**
❸	TCAETY sound pressure	dB(A)	65,5	65,5	65,5	65,5	66	67
❸	TCAEQY sound pressure	dB(A)	55,5	56,5	57	57	58	59
❹	TCAETY sound power	dB(A)	98	98	98	98	99	100
❹	TCAEQY sound power	dB(A)	88	89	90	90	91	92
	Scroll/step compressor	no.	6/6	6/6	7/6	8/6	8/6	8/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**6665**	**6700**	**7760**	**8820**	**8870**	**8920**
	L - Width	mm	7100	7100	8250	9350	9350	9350
	H - Height	mm	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260
❺	TCAETY weight	kg	3715	3740	4250	4650	4750	4770
❺	TCAEQY weight	kg	4080	4105	4655	5105	5205	5225

	THAETY-THAEQY MODEL		6665	6700
❷	Nominal heating capacity	kW	662,6	698,9
❷	Nominal heating capacity	kW	631,4	661,6
❷	C.O.P.		3,21	3,22
❷	C.O.P.		3,25	3,23
❶	Nominal cooling capacity		633,5	660,3
❶	Nominal cooling capacity		578,9	601,7
❶	E.E.R.		3,02	2,97
❶	E.E.R.		2,54	2,51
❷	Absorbed power	kW	206,5	217,1
❷	Absorbed power	kW	194,3	204,9
	THAETY-THAEQY MODEL		**6665**	**6700**
❸	THAETY sound pressure	dB(A)	65,5	65,5
❸	THAEQY sound pressure	dB(A)	55,5	56,5
❹	THAETY sound power	dB(A)	98	98
❹	THAEQY sound power	dB(A)	88	89
	Scroll/step compressor	no.	6/6	6/6
	Circuits	no.	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50
	DIMENSIONS AND WEIGHT		**6665**	**6700**
	L - Width	mm	7100	7100
	H - Height	mm	2450	2450
	P - Depth	mm	2260	2260
❺	THAETY weight	kg	4680	4710
❺	THAEQY weight	kg	5210	5240

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

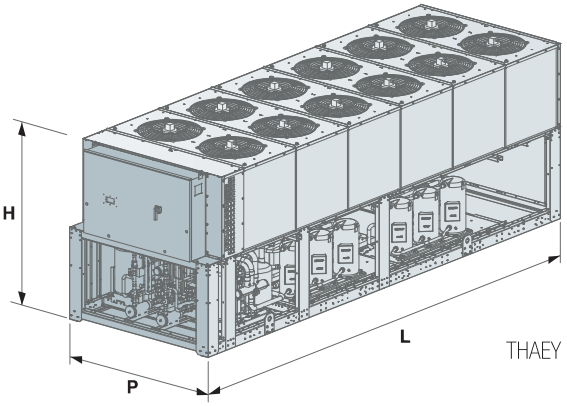
❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAEQY super-silenced versions.



THAEY

	SEASONAL ENERGY PERFORMANCE		6665	6700	7760	8820	8870	8920
	TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	665,2	695,1	758,3	819,9	870	916,7
①	SEER (EN 14825)		4,4	4,31	4,51	4,51	4,48	4,42
②	$\eta_{s,c}$	%	173	169	178	178	176	174
	TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	604,6	632,5	694,6	753,3	791,4	827,3
①	SEER (EN 14825)		4,23	4,22	4,26	4,24	4,2	4,15
②	$\eta_{s,c}$	%	166	166	167	167	165	163
	THAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	633,4	660,2	-	-	-	-
①	SEER (EN 14825)		4,19	4,16	-	-	-	-
②	$\eta_{s,c}$	%	165	163	-	-	-	-
	THAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	578,7	601,6	-	-	-	-
①	SEER (EN 14825)		4,16	4,2	-	-	-	-
②	$\eta_{s,c}$	%	163	165	-	-	-	-

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)

Web code: **WP011**

WinPOWER SE

TCAEY 4360-8860 / THAEY 4360-6670

Cooling capacity: 335÷861.8 kW - Heating capacity: 358.1÷671.5 kW

THAESY 6590
with BFI accessory

- **Version B compact and high-performance for replacement markets**
- **Up to 6 capacity steps**
- **Simplified installation thanks to pumping unit accessories**
- **Multi-purpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

* Refer to the Rhoss website to learn which heat pump models can avail of the incentives.

Air cooled water chillers and reversible 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.
- 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 (TCAEY) or finned coil with copper pipes and aluminium fins (THAEY).
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- 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,
  - display of cooling circuit high and low pressure,
  - electronic expansion valve.
  - clock board.
  - Master/Slave control up to 4 units in parallel

Versions

- B -Standard version (TCAEBY-THAEBY).
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TCAESY - THAESY).

Models

- TCAEBY: unit intended for cooling only.
- TCAESY: silenced unit designed for cooling only.
- THAEBY: heat pump unit.
- THAESY: silenced heat pump unit.

TCAESY 8860

THAESY 6590
with BFI accessory

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.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- -10°C condensing control (standard with S versions)
- –15°C 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 Compressor box and soundproofed cooling circuit (THAEY).
- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters (THAEY) or coil protection nets.
- Micro-channel coils with E-coating treatment (for TCAEY).
- Copper/copper or copper/pre-painted aluminium coils (for THAEY).
- 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.
- 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.

WinPOWER SE

TCAEY 4360-8860 / THAEY 4360-6670

	TCAEBY-TCAESY MODEL		4360	4390	4435	5500	6540	6590
❶	Nominal cooling capacity	kW	359,8	389,6	434,6	496,3	538,9	587,9
❶	Nominal cooling capacity	kW	350,9	374,7	416,7	478,4	517,1	560,1
❶	E.E.R.		2,9	2,84	2,81	2,96	2,9	2,77
❶	E.E.R.		2,76	2,62	2,6	2,77	2,68	2,52
❶	Absorbed power	kW	124,1	137,2	154,7	167,7	185,9	212,3
❶	Absorbed power	kW	127,2	143,1	160,3	172,8	193	222,3
	TCAEBY-TCAESY MODEL		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
❸	Sound pressure	dB(A)	62	63	64	64	64	64
❸	Sound pressure	dB(A)	57	58	59	59	59	59
❹	Sound power	dB(A)	94	95	96	96	96	96
❹	Sound power	dB(A)	89	90	91	91	91	91
	Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
	L - Width	mm	3740	3740	3740	4840	4840	4840
	H - Height	mm	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260
❺	TCAEBY weight	kg	2130	2140	2200	2670	2860	2890
❺	TCAESY weight	kg	2360	2370	2430	2940	3165	3195

	THAEBY-THAESY MODEL		4360	4390	4435	5500	6540	6590
❷	Nominal heating capacity	kW	374,2	398,4	437,4	487,7	530	592,1
❷	Nominal heating capacity	kW	358,1	386,3	424,3	473,6	518,9	575
❷	C.O.P.		3,01	2,94	3,03	2,98	2,93	2,97
❷	C.O.P.		3,01	2,94	3,02	2,99	2,95	2,96
❶	Nominal cooling capacity	kW	346,9	368,7	410,7	465,4	509,1	553,2
❶	Nominal cooling capacity	kW	335	355,9	389,9	444,6	486,4	532,4
❶	E.E.R.		2,8	2,67	2,64	2,78	2,71	2,6
❶	E.E.R.		2,64	2,49	2,42	2,55	2,51	2,41
❷	Absorbed power	kW	124,4	135,6	144,4	163,7	180,9	199,4
❷	Absorbed power	kW	119	131,4	140,5	158,4	175,9	194,3
	THAEBY-THAESY MODEL		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
❸	Sound pressure	dB(A)	62	63	64	64	64	64
❸	Sound pressure	dB(A)	57	58	59	59	59	59
❹	Sound power	dB(A)	94	95	96	96	96	96
❹	Sound power	dB(A)	89	90	91	91	91	91
	Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
	L - Width	mm	3740	3740	3740	4840	4840	4840
	H - Height	mm	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260
❺	THAEBY weight	kg	2700	2710	2780	3400	3580	3640
❺	THAESY weight	kg	2900	2910	2980	3710	3910	3970

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

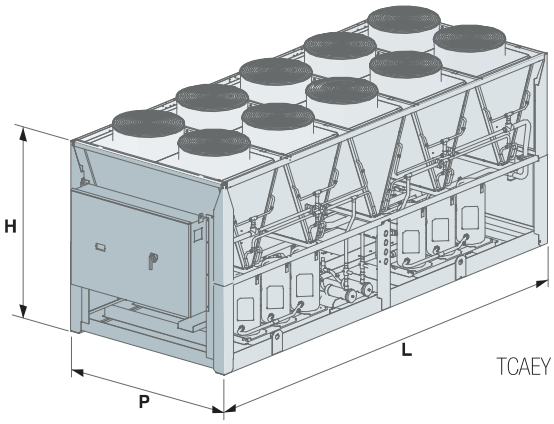
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY - THAESY silenced versions

Performance according to EN 14511.



TCAEY

	SEASONAL ENERGY PERFORMANCE		4360	4390	4435	5500	6540	6590
	TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	359,7	389,5	434,4	496,1	538,7	587,7
①	SEER (EN 14825)		4,18	4,17	4,21	4,25	4,2	4,18
②	$\eta_{s,c}$	%	164	164	165	167	165	164
	TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	350,8	374,6	416,6	478,2	517	560
①	SEER (EN 14825)		4,27	4,16	4,16	4,37	4,27	4,19
②	$\eta_{s,c}$	%	168	163	164	172	168	165
	THAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	-	-	410,6	465,3	509	553
①	SEER (EN 14825)		-	-	4,21	4,12	4,13	4,17
②	$\eta_{s,c}$	%	-	-	166	162	162	164
	THAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	-	-	-	444,4	486,2	532,2
①	SEER (EN 14825)		-	-	-	4,12	4,11	4,17
②	$\eta_{s,c}$	%	-	-	-	162	161	164
	THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	343	367	-	-	-	-
③	SCOP (EN 14825)		3,44	3,38	-	-	-	-
④	η_{s}	%	135	132	-	-	-	-
	THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	328	355	391	-	-	-
③	SCOP (EN 14825)		3,45	3,39	3,46	-	-	-
④	η_{s}	%	135	132	136	-	-	-

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)

WinPOWER SE

TCAEY 4360-8860 / THAEY 4360-6670

	TCAEBY-TCAESY MODEL		6635	6670	7730	8790	8830	8860
❶	Nominal cooling capacity	kW	637,7	666,5	732,4	784	827,1	861,8
❶	Nominal cooling capacity	kW	611,9	637,8	705,6	752,3	790,4	825,1
❶	E.E.R.		2,93	2,9	2,93	2,84	2,81	2,8
❶	E.E.R.		2,74	2,72	2,76	2,63	2,61	2,6
❶	Absorbed power	kW	217,7	229,9	250	276,1	294,4	307,8
❶	Absorbed power	kW	223,4	234,5	255,7	286,1	302,9	317,4
	TCAEBY-TCAESY MODEL		**6635**	**6670**	**7730**	**8790**	**8830**	**8860**
❸	Sound pressure	dB(A)	64,5	64,5	64,5	64,5	65	66
❸	Sound pressure	dB(A)	59,5	60	60	60	60,5	61,5
❹	Sound power	dB(A)	97	97	97	97	98	99
❹	Sound power	dB(A)	92	92,5	92,5	92,5	93	94
	Scroll/step compressor	no.	6/6	6/6	7/6	8/6	8/6	8/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**6635**	**6670**	**7730**	**8790**	**8830**	**8860**
	L - Width	mm	5940	5940	7150	7150	7150	7150
	H - Height	mm	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260
❺	TCAEBY weight	kg	3205	3230	3870	4020	4100	4120
❺	TCAESY weight	kg	3510	3535	4210	4410	4490	4510

	THAEBY-THAESY MODEL		6635	6670
❷	Nominal heating capacity	kW	638,3	671,5
❷	Nominal heating capacity	kW	616,1	648,4
❷	C.O.P.		3,04	3
❷	C.O.P.		3,03	3
❶	Nominal cooling capacity	kW	600,9	631,7
❶	Nominal cooling capacity	kW	576,1	603,9
❶	E.E.R.		2,76	2,75
❶	E.E.R.		2,6	2,58
❷	Absorbed power	kW	210	223,9
❷	Absorbed power	kW	203,4	216,2
	THAEBY-THAESY MODEL		**6635**	**6670**
❸	Sound pressure	dB(A)	64,5	64,5
❸	Sound pressure	dB(A)	59,5	60
❹	Sound power	dB(A)	97	97
❹	Sound power	dB(A)	92	92,5
	Scroll/step compressor	no.	6/6	6/6
	Circuits	no.	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50
	DIMENSIONS AND WEIGHT		**6635**	**6670**
	L - Width	mm	5940	5940
	H - Height	mm	2450	2450
	P - Depth	mm	2260	2260
❺	THAEBY weight	kg	4080	4120
❺	THAESY weight	kg	4490	4530

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

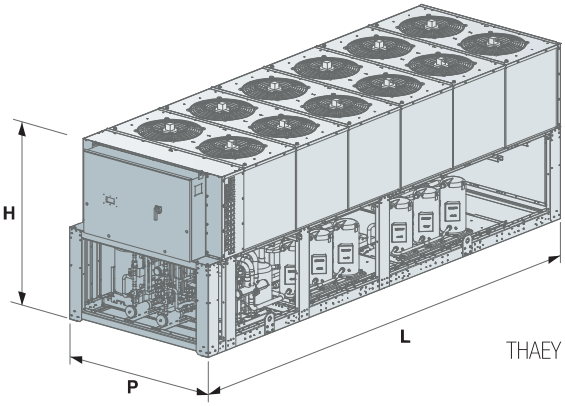
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY - THAESY silenced versions

Performance according to EN 14511.



THAEY

	SEASONAL ENERGY PERFORMANCE		6635	6670	7730	8790	8830	8860
	TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	637,5	666,3	732,3	783,9	827	861,7
①	SEER (EN 14825)		4,23	4,19	4,26	4,17	4,15	4,11
②	$\eta_{s,c}$	%	166	164	167	164	163	162
	TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	611,7	637,6	705,6	752,2	790,4	825,1
①	SEER (EN 14825)		4,33	4,2	4,23	4,15	4,12	4,12
②	$\eta_{s,c}$	%	170	165	166	163	162	162
	THAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	600,7	631,5	-	-	-	-
①	SEER (EN 14825)		4,19	4,17	-	-	-	-
②	$\eta_{s,c}$	%	165	164	-	-	-	-
	THAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	575,9	603,7	-	-	-	-
①	SEER (EN 14825)		4,17	4,18	-	-	-	-
②	$\eta_{s,c}$	%	164	164	-	-	-	-

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)

FullPOWER VFD

TCAITZ-TCAIQZ 2565-21005

Cooling capacity: 510÷1001.5 kW

INVERTER

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- Variable Vi screw compressor suitable for all applications
- Continuous power regulation from 12.5 to 100%
- High efficiency levels
- Wide range of accessories
- Integrated MASTER/SLAVE control

TCAITZ 2565
with BCI60 accessory

Packaged air-cooled water chillers with axial fans.
Range with semi-hermetic screw compressors with variable Vi, inverter regulation and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with variable Vi intrinsic compression ratio, star-delta limited start, inverter rotation regulation, complete with integral protection, casing heater, oil level sensor 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 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, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- VPF control.
- Inverter pump control for unit start-up.
- 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.
- 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.

	TCAITZ-TCAIQZ MODEL		2565	2615	2685	2775	2845	2945	21005
❶	Nominal cooling capacity	kW	562,4	610,9	680,5	772,5	844,9	943	1001,5
❶	Nominal cooling capacity	kW	510	555,4	633	717,9	791,5	859,7	934,2
❶	E.E.R.		3,11	3,15	3,13	3,13	3,11	3,13	3,11
❶	E.E.R.		2,77	2,85	2,79	2,86	2,78	2,83	2,79
❶	Absorbed power	kW	180,8	193,9	217,4	246,8	271,7	301,3	322
❶	Absorbed power	kW	184,1	194,9	226,9	251	284,7	303,8	334,8
	TCAITZ-TCAIQZ MODEL		**2565**	**2615**	**2685**	**2775**	**2845**	**2945**	**21005**
❷	Sound pressure	dB(A)	69,5	70	70	71	71	72	72
❷	Sound pressure	dB(A)	59,5	60	60	61	62	62	63
❸	Sound power	dB(A)	102	103	103	104	104	105	105
❸	Sound power	dB(A)	92	93	93	94	95	95	96
	Screw/step compressor	no.	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**2565**	**2615**	**2685**	**2775**	**2845**	**2945**	**21005**
	L - Width	mm	6090	7250	7250	8350	8350	10550	10550
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260
❹	TCAITZ weight	kg	4220	4650	4750	5070	5190	5850	5960
❹	TCAIQZ weight	kg	4600	5050	5150	5470	5590	6250	6360

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.

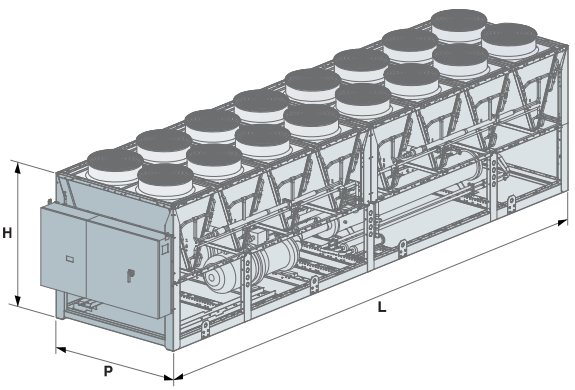
TCAIQZ super-silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		2565	2615	2685	2775	2845	2945	21005
	TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	562,4	610,9	680,5	772,5	844,9	943	1001,5
①	SEER (EN 14825)		5,1	5,12	5	5,08	4,98	5,12	5,02
②	$\eta_{s,c}$	%	201	202	197	200	196	202	198
	TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	510	555,4	633	717,9	791,5	859,7	934,2
①	SEER (EN 14825)		4,73	4,92	4,88	4,89	4,85	4,93	4,9
②	$\eta_{s,c}$	%	186	194	192	192	191	194	193

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



FullPOWER VFD (1+i)

TCAITZ-TCAIQZ 2560-21310

Cooling capacity: 518÷1307.4 kW

INVERTER

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- **Continuous power regulation from 12.5 to 100%**
- **High efficiency levels**
- **Wide range of accessories**
- **Integrated MASTER/ SLAVE control**

TCAITZ 2560
with BCI60 accessory

Air cooled water chillers with axial fans. Range with stepless semi-hermetic screw compressors and 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 inrush 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, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- VPF control.
- Inverter pump control for unit start-up.
- 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.

	TCAITZ-TCAIQZ MODEL		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310
❶	Nominal cooling capacity	kW	561,4	602,2	671,6	712,3	766,5	861,7	933,1	978,8	1079,8	1156,8	1307,4
❶	Nominal cooling capacity	kW	517,9	553,5	633,9	670,7	707	804,2	869,5	909,4	1009,5	1067,6	1192,4
❶	E.E.R.		3,11	3,17	3,15	3,13	3,19	3,15	3,23	3,20	3,16	3,16	3,17
❶	E.E.R.		2,74	2,86	2,79	2,76	2,85	2,80	2,84	2,83	2,82	2,81	2,81
❶	Absorbed power	kW	180,5	189,9	213,2	227,6	240,3	273,6	288,9	305,9	341,7	366,1	412,4
❶	Absorbed power	kW	189,0	193,5	227,2	243,0	248,1	287,2	306,2	321,3	357,9	379,9	424,3
	TCAITZ-TCAIQZ MODEL		**2560**	**2600**	**2670**	**2710**	**2770**	**2860**	**2930**	**2980**	**21080**	**21160**	**21310**
❷	Sound pressure	dB(A)	68,5	69	69	69	70	70	71	71	71	71	72
❷	Sound pressure	dB(A)	58,5	59	59	59	60	61	61	61	62	62	63
❸	Sound power	dB(A)	101	102	102	102	103	103	104	104	104	104	105
❸	Sound power	dB(A)	91	92	92	92	93	94	94	94	95	95	96
	Screw/step compressor	no.	1+i / CONTINUOUS REGULATION										
	Circuits	no.	2	2	2	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	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHT		**2560**	**2600**	**2670**	**2710**	**2770**	**2860**	**2930**	**2980**	**21080**	**21160**	**21310**
	L - Width	mm	6090	7250	7250	7250	8350	8350	9400	10550	10550	10550	11750
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
❹	TCAITZ weight	kg	4390	4770	4840	4850	5690	5790	6250	6500	6610	6970	7330
❹	TCAIQZ weight	kg	4770	5170	5240	5250	6090	6190	6650	6900	7010	7370	7730

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.

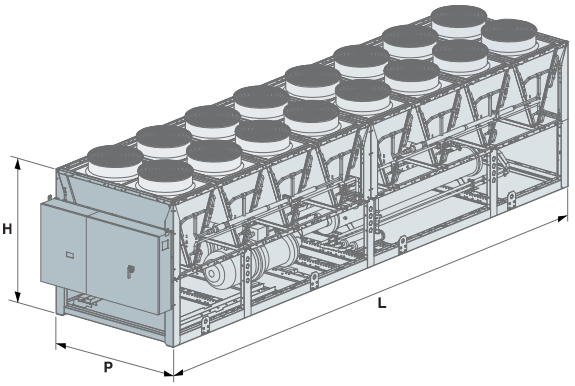
TCAIQZ super-silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310
	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	1079,8	1156,8	1307,4
①	SEER (EN 14825)		4,81	4,84	4,81	4,8	4,82	4,8	4,84	4,85	4,84	4,8	4,81
②	$\eta_{s,c}$	%	189	191	189	189	190	189	190	191	191	189	189
	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	1009,5	1067,6	1192,4
①	SEER (EN 14825)		4,68	4,74	4,73	4,72	4,74	4,72	4,71	4,76	4,74	4,72	4,74
②	$\eta_{s,c}$	%	184	187	186	186	187	186	186	187	187	186	187

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Web code: **FPE11**

FullPOWER HE-A

TCAVTZ-TCAVQZ 2345-21335

Cooling capacity: 317÷1325 kW

TCAVQZ 2715

TCAVTZ 2425
with FIAP and BCI accessory

- **High energy efficiency chillers**
- **Extended operating limits**
- **Linear capacity control (25-100%)**
- **Wide range of accessories**
- **Integrated MASTER/ SLAVE control**

Air cooled water chillers with axial fans.
Range with semi-hermetic screw compressors and R134a refrigerant gas.

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, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- –10°C condensing control.
- –15°C condensing control with fans with EC motor (standard in 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.

TCAVTZ 2585
with BCI accessory and P1 pump unit

- 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.
- 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.

FullPOWER HE-A

TCAVTZ-TCAVQZ 2345-21335

	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	452,4	481,2	525,9	601,2	659,6
❶	E.E.R.		3,24	3,23	3,2	3,23	3,2	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	181,5	203	221,9
❶	Absorbed power	kW	105	119,2	135,1	152,3	167,7	191,2	214	239
	TCAVTZ-TCAVQZ MODEL		**2345**	**2385**	**2425**	**2475**	**2525**	**2585**	**2655**	**2715**
❷	Sound pressure	dB(A)	65,5	65,5	65,5	65,5	65,5	66,5	66,5	66,5
❷	Sound pressure	dB(A)	55,5	55,5	55,5	55,5	55,5	56,5	56,5	56,5
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 WEIGHT		**2345**	**2385**	**2425**	**2475**	**2525**	**2585**	**2655**	**2715**
	L - Width	mm	4840	4840	4840	5990	5990	5990	7150	7150
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260
❹	TCAVTZ weight	kg	3040	3045	3070	3415	4170	4200	4690	4720
❹	TCAVQZ weight	kg	3315	3320	3345	3690	4550	4580	5090	5120

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.

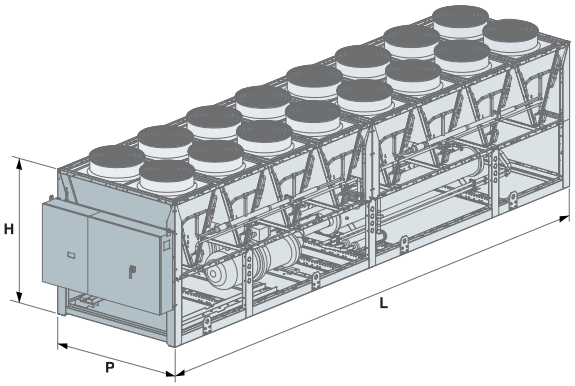
TCAVQZ super-silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		2345	2385	2425	2475	2525	2585	2655	2715
	TCAVTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	339,8	379,4	423,6	474,1	524,7	577,2	655,6	712
①	SEER (EN 14825)		4,38	4,36	4,36	4,34	4,37	4,36	4,39	4,41
②	$\eta_{s,c}$	%	172	171	171	170	172	171	173	173
	TCAVQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	317	352,7	388,9	452,3	481	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	$\eta_{s,c}$	%	169	167	167	167	167	166	167	164

① Low temperature application (7°C)

② 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	1020,5	1100,8	1167,3	1324,6
❶	Nominal cooling capacity	kW	711,2	749,9	795,4	868,6	924,3	1000,7	1055,4	1229,7
❶	E.E.R.		3,19	3,24	3,19	3,27	3,22	3,2	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	275,8	292,3	316,9	344	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 WEIGHT		**2765**	**2815**	**2885**	**2955**	**21025**	**21105**	**21175**	**21335**
	L - Width	mm	7150	8250	8250	9350	9350	10450	10450	11550
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260
❹	TCAVTZ weight	kg	4740	5565	5995	6520	6585	6950	6970	7355
❹	TCAVQZ weight	kg	5140	5965	6395	6920	6985	7350	7370	7755

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.

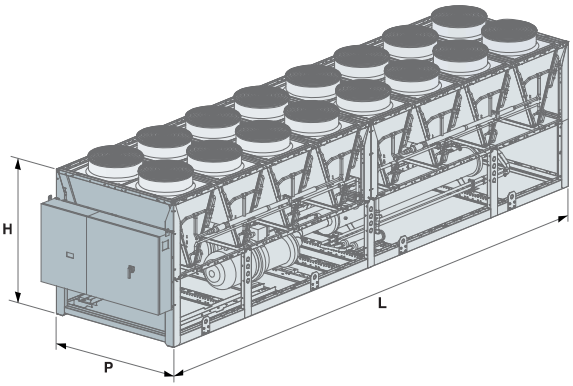
TCAVQZ super-silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		2765	2815	2885	2955	21025	21105	21175	21335
	TCAVTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	760,6	813,1	879,4	955,6	1020,2	1100,4	1167,1	1324,3
①	SEER (EN 14825)		4,37	4,41	4,33	4,43	4,41	4,43	4,42	4,37
②	$\eta_{s,c}$	%	172	173	170	174	173	174	174	172
	TCAVQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	711	749,6	795,2	868,3	924	1000,4	1055	1229,4
①	SEER (EN 14825)		4,19	4,25	4,27	4,27	4,21	4,19	4,17	4,16
②	$\eta_{s,c}$	%	164	167	168	168	165	165	164	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Web code: **FP011**

FullPOWER SE

TCAVBZ-TCAVSZ 2335-21275

Cooling capacity: 319÷1271 kW

TCAVSZ 2865

TCAVBZ 2515
with FIAP and BCI accessory

- **Efficient range in R134a**
- **Operation up to 50°C outdoor air**
- **Linear capacity control (25-100%)**
- **Wide range of accessories**
- **Integrated MASTER/ SLAVE control**

Air cooled water chillers with axial fans.
Range with semi-hermetic screw compressors and R134a refrigerant gas.

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

- B - Standard version (TCAVBZ).
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TCAVSZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit intended for cooling only.

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.
- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- –10°C condensing control (standard in S versions).
- –15°C condensing control with fans with EC motor.
- 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.

TCAVBZ 21275
with MCHXE accessory

- 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.
- 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.

FullPOWER SE

TCAVBZ-TCAVSZ 2335-21275

	TCAVBZ-TCAVSZ MODEL		2335	2365	2405	2465	2515	2565	2645	2705
❶	Nominal cooling capacity	kW	328,8	364,5	400,4	460	512,8	559,6	641,3	701,6
❶	Nominal cooling capacity	kW	318,9	353,6	388,5	450,1	494	536,8	618,5	679,7
❶	E.E.R.		3,01	2,9	2,85	3,01	2,91	2,85	2,94	2,91
❶	E.E.R.		2,92	2,8	2,77	2,91	2,76	2,72	2,8	2,74
❶	Absorbed power	kW	109,2	125,7	140,5	152,8	176,2	196,4	218,1	241,1
❶	Absorbed power	kW	109,2	126,3	140,3	154,7	179	197,4	220,9	248,1
	TCAVBZ-TCAVSZ MODEL		**2335**	**2365**	**2405**	**2465**	**2515**	**2565**	**2645**	**2705**
❷	Sound pressure	dB(A)	65	65	66	66	66	66	66,5	66,5
❷	Sound pressure	dB(A)	59	59	60	60	60	60	60,5	60,5
❸	Sound power	dB(A)	97	97	98	98	98	98	99	99
❸	Sound power	dB(A)	91	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 WEIGHT		**2335**	**2365**	**2405**	**2465**	**2515**	**2565**	**2645**	**2705**
	L - Width	mm	3740	3740	3740	4840	4840	4840	5990	5990
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260
❹	TCAVBZ weight	kg	2700	2710	2730	3140	3700	3910	4230	4260
❹	TCAVSZ weight	kg	2930	2940	2960	3370	4010	4220	4540	4570

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.

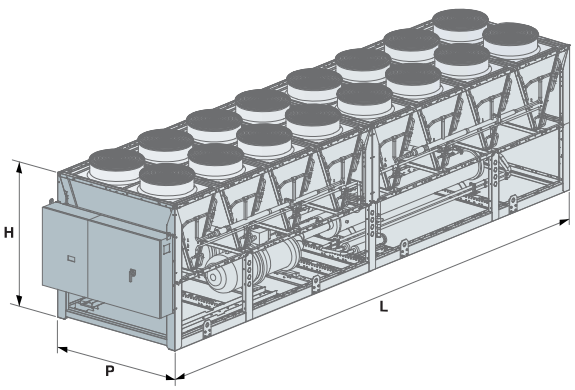
TCAVSZ silenced versions

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		2335	2365	2405	2465	2515	2565	2645	2705
	TCAVBZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	328,7	364,4	400,3	459,9	512,7	559,5	641,1	701,4
①	SEER (EN 14825)		4,23	4,2	4,18	4,23	4,25	4,18	4,25	4,27
②	$\eta_{s,c}$	%	166	165	164	166	167	164	167	168
	TCAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	318,8	353,5	388,4	450	493,9	536,7	618,4	679,5
①	SEER (EN 14825)		4,23	4,21	4,18	4,19	4,21	4,2	4,21	4,18
②	$\eta_{s,c}$	%	166	165	164	164	165	165	165	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



	TCAVBZ-TCAVSZ MODEL		2755	2805	2865	2935	2995	21075	21115	21275
❶	Nominal cooling capacity	kW	751,1	797,5	857,9	930,2	985,7	1072,1	1110,7	1271
❶	Nominal cooling capacity	kW	731,3	777,6	822,2	896,6	948	1033,4	1069,1	1236,4
❶	E.E.R.		2,89	3	2,9	2,98	2,92	3,06	2,94	3,06
❶	E.E.R.		2,71	2,9	2,73	2,85	2,76	2,94	2,78	2,9
❶	Absorbed power	kW	259,9	265,8	295,8	312,1	337,6	350,4	377,8	415,4
❶	Absorbed power	kW	269,9	268,1	301,2	314,6	343,5	351,5	384,6	426,3
	TCAVBZ-TCAVSZ MODEL		**2755**	**2805**	**2865**	**2935**	**2995**	**21075**	**21115**	**21275**
❷	Sound pressure	dB(A)	67,5	67,5	68	68	68	69	69	69
❷	Sound pressure	dB(A)	61,5	61,5	62	62	62	63	63	63
❸	Sound power	dB(A)	100	100	101	101	101	102	102	102
❸	Sound power	dB(A)	94	94	95	95	95	96	96	96
	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 WEIGHT		**2755**	**2805**	**2865**	**2935**	**2995**	**21075**	**21115**	**21275**
	L - Width	mm	5990	7150	7150	8250	8250	9350	9350	10450
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260
❹	TCAVBZ weight	kg	4290	5280	5700	6070	6130	6620	6640	7000
❹	TCAVSZ weight	kg	4600	5590	6010	6380	6440	6930	6950	7310

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.

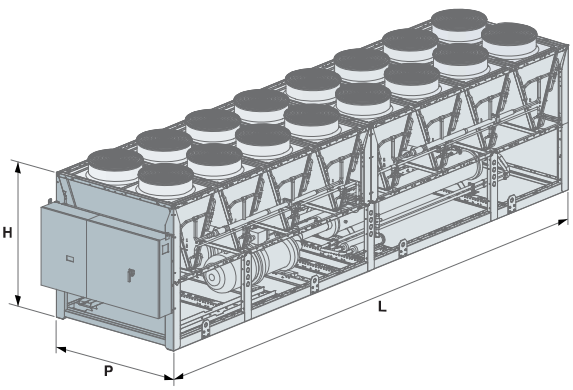
TCAVSZ silenced versions

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		2755	2805	2865	2935	2995	21075	21115	21275
	TCAVBZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	750,9	797,2	857,6	930	985,5	1071,8	1110,4	1270,7
①	SEER (EN 14825)		4,24	4,22	4,21	4,24	4,21	4,24	4,23	4,24
②	$\eta_{s,c}$	%	167	166	165	167	165	166	166	166
	TCAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	731,1	777,4	822	896,3	947,8	1033,1	1068,8	1236,1
①	SEER (EN 14825)		4,18	4,24	4,22	4,17	4,18	4,19	4,2	4,17
②	$\eta_{s,c}$	%	164	167	166	164	164	165	165	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Web code: **ZP001**

Z-Power SE

TCAVZ 21400-21600

Cooling capacity: 1404.4÷1,609.7 kW

TCAVSZ 21600 with DS accessory and pump unit

- **Installation flexibility up to 1,600 kW**
- **Standard electronic expansion valve**
- **Integrated MASTER/SLAVE control**

Air cooled water chillers with axial fans.
Range with semi-hermetic screw compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- 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: finned coil with copper pipes and aluminium fins.
- 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 (S version only).
- 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;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- B - Standard version (TCAVBZ).
- S - Silenced version with reduced speed fans and soundproofing lining of the compressors (TCAVSZ).
- I - Soundproofed version with soundproofing lining of the compressors (TCAVIZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit intended for cooling only.
- TCAVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- VPF control.
- Inverter pump control for unit start-up.
- Desuperheater.
- 100% heat recovery unit.
- Thermostat with display for heat recovery unit/ desuperheater.
- -10°C condensing control (standard with S version).
- –15°C condensing control with fans with EC motor.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection nets.
- Linear compressor capacity control (25-100 %).
- Evaporator antifreeze heater and heat recovery exchangers if applicable.
- Digital input for double set-point.
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Low temperature water production.
- Pre-painted copper/aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

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

	TCAVBZ-TCAVSZ-TCAVIZ MODEL		21400	21500	21600
❶	Nominal cooling capacity	kW	1404,4	1497,6	1609,7
❶	Nominal cooling capacity	kW	1347,9	1441,7	1542,3
❶	E.E.R.		3,1	3,1	3,1
❶	E.E.R.		2,87	2,84	2,76
❶	Absorbed power	kW	453,03	483,10	519,26
❶	Absorbed power	kW	469,65	507,64	558,80
	TCAVBZ-TCAVSZ MODEL		**21400**	**21500**	**21600**
❷	Sound pressure	dB(A)	70	71	71
❷	Sound pressure	dB(A)	64	65	65
❸	Sound power	dB(A)	103	104	104
❸	Sound power	dB(A)	97	98	98
	Screw/step compressor	no.	2/6	2/6	2/6
	Circuits	no.	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHT		**21400**	**21500**	**21600**
	L - Width	mm	10.980	12.980	12.980
	H - Height	mm	2.430	2.430	2.430
	P - Depth	mm	2.260	2.260	2.260
❹	TCAVBZ weight	kg	9310	10220	10460
❹	TCAVIZ-TCAVSZ Weight	kg	9660	10540	10780

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 without load refers to the unit accessorised with RPE - KRP.

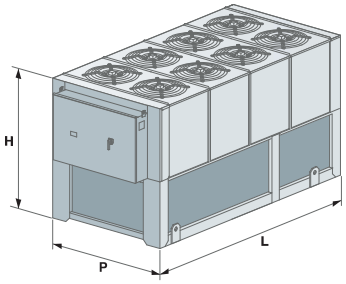
TCAVSZ silenced versions.

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		21400	21500	21600
	TCAVBZ-TCAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	1404,2	1497,2	1609,3
①	SEER (EN 14825)		4,11	4,16	4,15
②	$\eta_{s,c}$	%	161	163	163
	TCAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	1347,6	1441,3	1541,9
①	SEER (EN 14825)		4,12	4,15	4,12
②	$\eta_{s,c}$	%	162	163	162

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Z-Power FREECOOLING

TFAVBZ - TFAVIZ - TFAVSZ 2420-21100

Cooling capacity: 469÷1,216 kW

TFAVBZ 2500
with FMB accessory

- **High efficiency**
- **Standard electronic expansion valve**
- **Extended operation limits**

Air cooled water chillers in Freecooling mode with axial fans. Range with semi-hermetic screw compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- 2 circuits/ 6 capacity steps.
- Water side heat exchanger: counterflow dry expansion shell and tube type, complete with: differential pressure switch, air vent valve, water drain cock, closed cell polyurethane foam rubber insulation with protection film against UVA rays. Victaulic connections.
- Air side heat exchanger: consisting of coil made of copper pipes and aluminium fins divided into two sections: one dedicated to the condensation of the refrigerant gas and one dedicated to cooling the water in free-cooling mode.
- 3-way modulating valve to divert the water flow from the system towards the free-cooling coil or directly towards the evaporator.
- Fan: external rotor axial type electric fans, equipped with internal thermal protection, accident protection grilles and a proportional electronic device for pressurised and continuous fan rotation speed regulation up to an outdoor air temperature of -15°C.
- Control: electronic microprocessor control prepared for the connection with the main BMS available on the market (MODBUS RTU, LON, BacNet).
- Structure: load-bearing structure made of galvanised and painted steel plate with polyester powder coating. The unit is also complete with:
  - display of cooling circuit high and low pressure;
  - clock board

Versions

- B - High efficiency standard version (TFAVBZ).
- I -Soundproofed version with soundproofing lining on the compressor compartment (TFAVIZ).
- S - Silenced version with soundproofing lining on the compressor compartment and reduced speed fans (TFAVSZ).

Models

- TFAVBZ: high efficiency base unit in Freecooling mode.
- TFAVIZ: soundproofed unit in Freecooling mode.
- TFAVSZ: silenced unit in Freecooling mode.

Factory fitted accessories

- –20°C condensing control with fans with EC motor.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor and fan circuit breaker switches.
- Forced limit of power consumption.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection nets.
- Coil protection metal filter.
- Compressors with linear capacity control (25-100 %).
- Evaporator antifreeze heater.
- Digital input for double set-point.
- Low water temperature.
- Double high pressure safety valve with exchange valve.
- Stainless steel cooling circuit.
- Electrical panel heater.
- Soft starter.
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Pre-painted copper/coils or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Rhoss supervisors for unit monitoring and remote management.

	TFAVBZ - TFAVIZ - TFAVSZ MODEL		2420	2450	2500	2560	2660	2750
	FREE-COOLING OFF							
❶	Nominal cooling capacity	kW	481	512	574	636	756	825
❶	Nominal cooling capacity	kW	469	499	555	618	737	811
❶	E.E.R.		3,79	3,79	3,7	3,72	3,74	3,77
❶	E.E.R.		3,78	3,78	3,6	3,68	3,76	3,75
❶	Absorbed power	kW	127	135	155	171	202	219
❶	Absorbed power	kW	124	132	154	168	196	216
	FREE-COOLING ON 100%							
❷	Nominal cooling capacity	kW	481	512	574	636	756	825
❷	Nominal cooling capacity	kW	469	499	555	618	737	811
❷	E.E.R.		24,05	25,6	28,7	26,5	23,63	25,78
❷	E.E.R.		37,50	39,89	44,43	41,19	36,84	40,57
❷	Absorbed power	kW	20	20	20	24	32	32
❷	Absorbed power	kW	12,5	12,5	12,5	15	20	20
❷	Total Free-cooling Temperature	°C	2,4	1,8	1,1	1,8	2,3	1,9
❷	Total Free-cooling Temperature	°C	1,2	0,5	0	0,8	1,1	0,5
	TFAVBZ - TFAVSZ MODEL		**2420**	**2450**	**2500**	**2560**	**2660**	**2750**
❸	Sound pressure	dB(A)	65	65	65	66	68	68
❸	Sound pressure	dB(A)	60	60	60	60	62	62
❹	Sound power	dB(A)	98	98	98	99	101	101
❹	Sound power	dB(A)	92	92	92	93	95	95
	Scroll/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**2420**	**2450**	**2500**	**2560**	**2660**	**2750**
	L - Width	mm	6130	6130	6130	7160	10080	10080
	H - Height	mm	2580	2580	2580	2580	2580	2580
	P - Depth	mm	2260	2260	2260	2260	2260	2260

Data at the following conditions:

❶ Air: 30°C - Water: 15/10°C - Ethylene glycol 30%.

❷ Water: 15/10°C – Ethylene glycol 30%.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

TFAVSZ silenced version.

	SEASONAL ENERGY PERFORMANCE		2420	2450	2500	2560	2660	2750
	TFAVBZ - TFAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤	PdesignR	kW	419,8	447,6	501,5	554,3	658,9	745,2
⑤	SEPR		5,59	5,59	5,57	5,57	5,6	5,61
	TFAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤	PdesignR	kW	408,8	435,9	484,8	538,7	641,9	731,1
⑤	SEPR		5,64	5,64	5,62	5,65	5,63	5,63

⑤ Application for high temperature (7°C) process chiller (EU Regulation 2016/2281)

Z-Power FREECOOLING

TFAVBZ - TFAVIZ - TFAVSZ 2420-21100

	TFAVBZ - TFAVIZ - TFAVSZ MODEL		2800	2850	2920	2990	21050	21100
	FREE-COOLING OFF							
❶	Nominal cooling capacity	kW	885	944	1019	1093	1155	1216
❶	Nominal cooling capacity	kW	867	922	1000	1071	1129	1186
❶	E.E.R.		3,71	3,66	3,69	3,72	3,68	3,64
❶	E.E.R.		3,66	3,57	3,68	3,69	3,61	3,55
❶	Absorbed power	kW	238,5	258	276	294	314	334
❶	Absorbed power	kW	237	258	272	290	313	334
	FREE-COOLING ON 100%							
❷	Nominal cooling capacity	kW	885	944	1019	1093	1155	1216
❷	Nominal cooling capacity	kW	867	922	1000	1071	1129	1186
❷	E.E.R.		27,66	29,5	25,48	27,33	28,88	30,4
❷	E.E.R.		43,36	46,12	39,99	42,84	45,15	47,44
❷	Absorbed power	kW	32	32	40	40	40	40
❷	Absorbed power	kW	20	20	25	25	25	25
❷	Total Free-cooling Temperature	°C	1,2	0,6	1,1	1,6	1,1	0,5
❷	Total Free-cooling Temperature	°C	0	-0,7	0	0,3	-0,5	-1
	TFAVBZ - TFAVSZ MODEL		**2800**	**2850**	**2920**	**2990**	**21050**	**21100**
❸	Sound pressure	dB(A)	68	68	69	69	69	69
❸	Sound pressure	dB(A)	62	62	63	63	63	63
❹	Sound power	dB(A)	101	101	102	102	102	102
❹	Sound power	dB(A)	95	95	96	96	96	96
	Scroll/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
	Circuits	no.	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
	DIMENSIONS AND WEIGHT		**2800**	**2850**	**2920**	**2990**	**21050**	**21100**
	L - Width	mm	10080	10080	12080	12080	12080	12080
	H - Height	mm	2580	2580	2580	2580	2580	2580
	P - Depth	mm	2260	2260	2260	2260	2260	2260

Data at the following conditions:

❶ Air: 30°C - Water: 15/10°C - Ethylene glycol 30%.

❷ Water: 15/10°C – Ethylene glycol 30%.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

TFAVSZ silenced version.

	SEASONAL ENERGY PERFORMANCE		2800	2850	2920	2990	21050	21100
	TFAVBZ - TFAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤	PdesignR	kW	796,8	847	917,5	983,2	1038,8	1092,7
⑤	SEPR		5,56	5,54	5,6	5,61	5,61	5,58
	TFAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤	PdesignR	kW	779	825,5	898,2	961,1	1013,1	1063,4
⑤	SEPR		5,61	5,6	5,65	5,63	5,68	5,6

⑤ Application for high temperature (7°C) process chiller (EU Regulation 2016/2281)

TurboPOWER

TCATBZ-TCATTZ-TCATQZ 1300-31100

Cooling capacity: 267.0÷1101 kW

TCATTZ 31100 with FIAP accessory

TCATBZ 1400 with PTL-RPE-FIAP accessories

- **Efficient, quiet and low start-up current oil-free compressor**
- **High energy efficiency chillers.**
- **Wide range of accessories**
- **Integrated MASTER/SLAVE control**

Air cooled water chillers with axial fans.
Range with oil-free centrifugal compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency, oil free, centrifugal compressor with limited start, equipped with magnetic levitation bearings and complete with integral protection and intake and delivery shut-off valves.
- Water side heat exchanger: flooded type shell and tube, 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. Version B is equipped with a proportional electronic device for continuous fan rotation speed regulation, while versions T-Q are equipped with EC motor fans.
- 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;
  - Double safety valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- B - Basic version, efficiency class A, soundproofed technical compressor compartment (TCATBZ).
- T - High-efficiency version, above class A, soundproofed technical compressor compartment (TCATTZ).
- Q - Super silenced version, efficiency class A, super-soundproofed technical compartment, reduced speed fans (TCATQZ).

Models

- TCATBZ: standard unit designed for cooling only.
- TCATTZ: high efficiency unit designed for cooling only.
- TCATQZ: super silenced unit designed for cooling only.

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.
- VPF control.
- Inverter pump control for unit start-up.
- -15°C condensing control with fans with EC motor (standard in T-Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soundproofed compressor box.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- 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, if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

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

TCATBZ-TCATTZ-TCATQZ MODEL		1300	1400	2500	2590	2680	2760	2820	2880	3990	31100
❶ TCATBZ nominal cooling capacity	kW	284,9	376,6	489,2	577,8	675,1	749,2	808,9	874,4	982,2	1089,1
❶ TCATTZ nominal cooling capacity	kW	298,8	402,3	498,1	593,6	685	760	820,8	882,3	993,1	1101
❶ TCATQZ nominal cooling capacity	kW	267,1	369,7	463,4	541,2	639,5	721,5	792,1	871,6	970,4	ND
❶ E.E.R. TCATBZ		3,2	3,18	3,26	3,22	3,2	3,2	3,22	3,14	3,25	3,22
❶ E.E.R. TCATTZ		3,46	3,42	3,46	3,48	3,37	3,52	3,5	3,33	3,47	3,45
❶ E.E.R. TCATQZ		3,22	3,32	3,25	3,28	3,21	3,24	3,36	3,31	3,27	ND
❶ TCATBZ absorbed power	kW	89	118,4	150,1	179,4	211	234,1	251,2	278,5	302,2	338,2
❶ TCATTZ absorbed power	kW	86,4	117,6	144	170,6	203,3	215,9	234,5	265	286,2	319,1
❶ TCATQZ absorbed power	kW	83	111,4	142,6	165	199,2	222,7	235,7	263,3	296,8	ND
TCATBZ-TCATTZ-TCATQZ MODEL		**1300**	**1400**	**2500**	**2590**	**2680**	**2760**	**2820**	**2880**	**3990**	**31100**
❷ TCATBZ sound pressure	dB(A)	60	62	62,5	62,5	63	64	64	64	64	65
❷ TCATTZ sound pressure	dB(A)	60	62	62,5	62,5	63	64	64	64	64	65
❷ TCATQZ sound pressure	dB(A)	55	56	56,5	57	58	58	58	59	59	ND
❸ TCATBZ sound power	dB(A)	92	94	95	95	96	97	97	97	97	98
❸ TCATTZ sound power	dB(A)	92	94	95	95	96	97	97	97	97	98
❸ TCATQZ sound power	dB(A)	87	88	89	90	91	91	91	92	92	ND
Compressor/steps	no.	1/ CONTINUOUS REGULATION	1/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION
Circuits	no.	1	1	1	1	1	1	1	1	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	400-3-50	400-3-50
DIMENSIONS AND WEIGHT		**1300**	**1400**	**2500**	**2590**	**2680**	**2760**	**2820**	**2880**	**3990**	**31100**
W - Width of version B	mm	3840	4940	6090	7250	8350	9450	9450	10550	11650	12810
W - Width of version T	mm	3840	4940	6090	7250	8350	9450	10550	11650	11650	12810
W - Width of version Q	mm	3840	4940	6090	7250	8350	9450	10550	11650	12810	ND
H - Height	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
P - Depth	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
❹ TCATBZ weight	kg	2390	2740	3490	3950	4350	4800	4910	5210	6040	6560
❹ TCATTZ weight	kg	2410	2760	3470	3980	4320	4840	5140	5440	6000	6520
❹ TCATQZ weight	kg	2390	2730	3500	3960	4350	4800	5160	5460	6500	ND

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 on the coil side.

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.

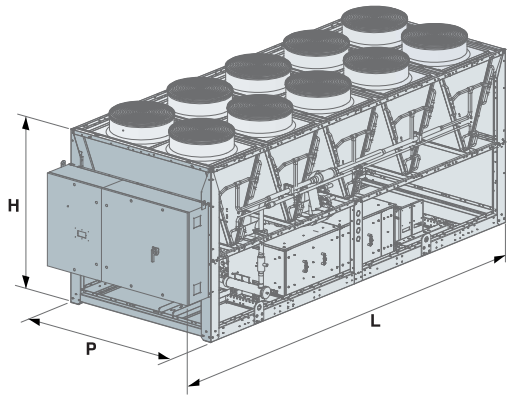
TCATQZ super silenced versions

Performance according to EN 14511.

SEASONAL ENERGY PERFORMANCE		1300	1400	2500	2590	2680	2760	2820	2880	3990	31100
TCATBZ MODEL SEASONAL PERFORMANCE IN COOLING MODE											
① Pdesignc (EN 14825)	kW	283,8	375,2	487,3	575,6	672,2	746,4	805,7	870,8	978,3	1085,1
① SEER (EN 14825)		5,14	5,02	5,16	5,13	5,13	5,2	5,13	5,07	5,21	5,19
② $\eta_{s,c}$	%	202	198	203	202	202	205	202	200	205	205
TCATTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE											
① Pdesignc (EN 14825)	kW	297,5	400,6	496,3	591,2	682,1	757,2	817,6	878,7	989,2	1097
① SEER (EN 14825)		5,46	5,56	5,64	5,68	5,66	5,76	5,8	5,77	5,82	5,78
② $\eta_{s,c}$	%	215	219	222	224	223	228	229	228	230	228
TCATQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE											
① Pdesignc (EN 14825)	kW	266,1	368,5	461,7	539,3	637	719	789,1	868,1	966,8	-
① SEER (EN 14825)		5,47	5,57	5,69	5,66	5,66	5,76	5,82	5,81	5,86	-
② $\eta_{s,c}$	%	216	220	224	224	223	227	230	229	231	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



TurboPOWER ECO

TCATTE-TCATQE 1330-3950

Cooling capacity: 323.2÷948.6 kW

HFO 1234ze

TCATTE 3950 with FIAP accessory

TCATTE 1330 with PTL-RPE-FIAP accessories

HIGH EFFICIENCY TURBOCOR COMPRESSORS

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- **High energy efficiency chillers**
- **Efficient, quiet and low start-up current oil-free compressor**
- **HFO R1234ze ecological gas**
- **Integrated MASTER/SLAVE control**

Air cooled water chillers with axial fans.
Range with oil-free centrifugal compressors and R1234ze refrigerant gas.

Construction features

- Compressor: high energy efficiency, oil free, centrifugal compressor with limited start, equipped with magnetic levitation bearings and complete with integral protection and intake and delivery shut-off valves. The compressor was specifically designed for R1234ze gas with zero environmental impact.
- Water side heat exchanger: spray flooded type shell and tube exchanger, 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 helical type EC motor electric fans with internal thermal protection and 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;
  - Double safety valve;
  - Leak detector;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High-efficiency version, above class A, soundproofed technical compressor compartment (TCATTE).
- Q - Super silenced version, efficiency class A, super-soundproofed technical compartment, reduced speed fans (TCATQE).

Models

- TCATTE: high efficiency unit designed for cooling only.
- TCATQE: super silenced unit designed for cooling only.

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.
- VPF control.
- Inverter pump control for unit start-up.
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soundproofed compressor box.
- Cooling circuit high and low pressure gauges.
- 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, if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

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

	TCATTE-TCATQE MODEL		1330	2400	2470	2550	2660	3790	3950
❶	Nominal cooling capacity	kW	334,2	399,1	470	548,9	660,5	792,1	948,6
❶	Nominal cooling capacity	kW	323,2	386,1	450,1	536,9	639,7	767,3	916,9
❶	E.E.R.		3,45	3,44	3,5	3,45	3,4	3,49	3,46
❶	E.E.R.		3,45	3,39	3,46	3,37	3,38	3,45	3,43
❶	Absorbed power	kW	96,9	116	134,3	159,1	194,3	227	274,2
❶	Absorbed power	kW	93,7	113,9	130,1	159,3	189,3	222,4	267,3
	TCATTE-TCATQE MODEL		**1330**	**2400**	**2470**	**2550**	**2660**	**3790**	**3950**
❸	TCATTE sound pressure	dB(A)	62	62,5	62,5	63	64	64	65
❸	TCATQE sound pressure	dB(A)	56	56,5	57	58	58	59	60
❹	TCATTE sound power	dB(A)	94	95	95	96	97	97	98
❹	TCATQE sound power	dB(A)	88	89	90	91	91	92	93
	Compressor/steps	no.	1/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION	CONTINUOUS REGULATION
	Circuits	no.	1	1	1	1	1	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
	DIMENSIONS AND WEIGHT		**1330**	**2400**	**2470**	**2550**	**2660**	**3790**	**3950**
	L - Width	mm	4940	6090	7250	8350	9450	11650	12810
	H - Height	mm	2450	2450	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260	2260	2260
❺	TCATTE weight	kg	2770	3410	3960	4270	4880	6280	6840
❺	TCATQE weight	kg	2790	3440	3990	4300	4910	6310	6880

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

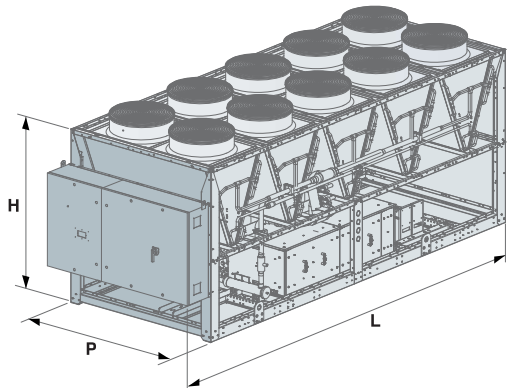
TCATQE super silenced versions

Performance according to EN 14511.

	SEASONAL ENERGY PERFORMANCE		1330	2400	2470	2550	2660	3790	3950
	TCATTE MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	333,3	398,1	468,9	547,7	658	789,2	945,2
①	SEER (EN 14825)		5,61	5,63	5,66	5,68	5,66	5,85	5,84
②	$\eta_{s,c}$	%	221	222	223	224	223	231	230
	TCATQE MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	322,5	385,2	449,1	535,8	637,4	764,6	913,7
①	SEER (EN 14825)		5,62	5,66	5,74	5,7	5,72	5,9	5,83
②	$\eta_{s,c}$	%	222	223	227	225	226	233	230

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Compact-ID - TCCITY-THCITY 117-128

Y-Pack C-PF - TCCETY-THCETY 233÷2160

CHILLERS - HEAT PUMPS

Air cooled - Centrifugal fans

Compact-ID

TCCITY-THCITY 117-128

Cooling capacity: 16.4÷27.5 kW - Heating capacity: 17.7-28.5 kW

INVERTER

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

- **PLENUM-FANS with low consumption EC motor**
- **Vertically or horizontally ducted delivery.**
- **Hot water up to –20°C outdoor air**
- **Temperature of the produced water up to 60°C**
- **Integrated MASTER/ SLAVE control**
- **Inertial buffer tank**

Water chillers and packaged reversible heat pumps with air cooled and Plenum-Fans with EC motor. Range with scroll hermetic compressors, DC Inverter and R410A refrigerant gas.

- Compressor: scroll type, rotary, hermetic with Inverter actuation, complete with thermal protection and casing heater.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: featuring a finned coil with copper pipes and aluminium fins for TCCITY and with hydrophilic treatment for THCITY, complete with protection grilles.
- Fan: Plenum electric fan with directly coupled, low consumption EC motor fitted with internal thermal protection and accident protection grilles. Removable fan unit section for on-site positioning.
- Vertical condensing air delivery, horizontal outlet easily transformed on-site.
- Proportional electronic device for continuous fan rotation speed regulation up to an outdoor air temperature of -15°C in chiller mode and up to an outdoor air temperature of 40°C in heat pump mode.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate, complete with condensate drain pan and unit base antifreeze heater for THCITY.
- The unit is also complete with:

- outdoor air temperature probe for set-point compensation;
- electronic expansion valve;
- display of cooling circuit high and low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board.

Version

T - High efficiency.

Models

TCCITY: unit designed for cooling only.
THCITY: heat pump unit.

PUMP set up

- Pump unit complete with: EC circulator with 3 speed selector or continuous speed regulation or electric pump, membrane expansion tank, manual air vent valve, safety valve and pressure gauge.

TANK&PUMP set up

- Pump unit complete with: inertial buffer tank, circulator or electric circulation pump, membrane expansion tank, manual air vent valve, safety valve, and pressure gauge.

Factory fitted accessories

- Forced Download. Compressor partialisation or switch-off to limit power and current consumption (digital input).
- Antifreeze heater on the tank.
- Circulator/electric pump antifreeze heater.
- Pre-painted copper/coils or copper/copper coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.

Separately supplied accessories

- 3-way valve for the production of domestic hot water, managed by regulation.
- Additional electrical resistance for heat pump, managed by regulation.
- Remotely controllable outdoor air temperature probe for set-point compensation.
- Delivery anti-vibration fitting.
- Suction duct fitting.
- Water filter.
- Rubber anti-vibration mounts.
- Remote keypad with display.
- Interfaces for serial communication with other devices.
- RS485/USB serial converter.
- Rhoss supervisors for unit monitoring and remote management.

	TCCITY MODEL		117	124	128
❶	MIN/NOM/MAX cooling capacity	kW	16,4	24,3	27,5
❶	NOM absorbed power	kW	5,24	8,15	9,01
❶	E.E.R. NOM		3,13	2,98	3,05
	THCITY MODEL		**117**	**124**	**128**
❷	MIN/NOM/MAX heating capacity	kW	17,7	24,3	28,5
❷	NOM absorbed power	kW	5,33	7,48	8,88
❷	C.O.P. NOM		3,32	3,25	3,21
❸	MIN/NOM/MAX heating capacity	kW	18,8	25,0	29,1
❸	NOM absorbed power	kW	4,59	6,1	7,28
❸	C.O.P. NOM		4,1	4,1	4
❹	MIN/NOM/MAX heating capacity	kW	12,3	18,1	22,9
❹	NOM absorbed power	kW	4,14	6,65	7,46
❹	C.O.P. NOM		2,97	2,72	3,07
❶	MIN/NOM/MAX cooling capacity		16,2	23,8	27
❶	E.E.R. NOM		2,98	2,84	2,91
	TCCITY - THCITY MODEL		**117**	**124**	**128**
❺	Fan delivery sound pressure	dB(A)	53	53	56
❺	Machine body sound pressure	dB(A)	42	42	45
	Fan nominal air flow	m3/h	7600	7600	8640
	Fan available static pressure	Pa	80	80	80
❶	P0 circulator available head	kPa	89	89	76
	Buffer tank water content	l	110	110	110
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHT		**117**	**124**	**128**
	L - PUMP width	mm	1522	1522	1522
	L - TANK&PUMP width	mm	1625	1625	1625
	H - PUMP height	mm	1280	1280	1280
	H - TANK&PUMP height	mm	1590	1590	1590
	P - PUMP Depth	mm	815	815	815
	P - TANK&PUMP Depth	mm	815	815	815
❻	PUMP Weight	kg	275	285	295
❻	TANK&PUMP Weight	kg	445	455	465

Data at the following conditions:

❶ Air: 35° D.B. - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❹ Air: -7°C D.B. - Water: 30/35°C.

❺ In open field (Q = 2) at 5 m from the unit and ducted fan.

❻ Weight refers to the most complete setup.

Performance according to EN 14511. P0/P10 setup.

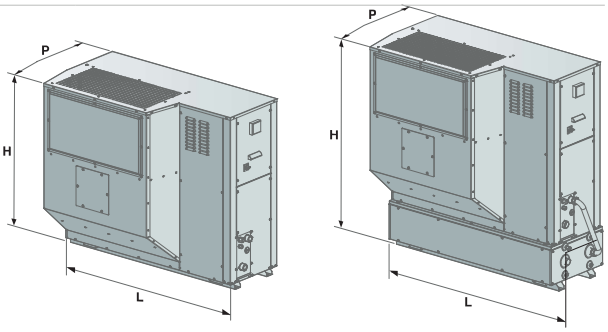
	SEASONAL ENERGY PERFORMANCE		117	124	128
	TCCITY MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	16,4	24,3	27,5
①	SEER (EN 14825)		4,54	4,52	4,59
②	$\eta_{s,c}$	%	179	178	181
	THCITY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	Pdesignh (EN 14825)	kW	19	28	35
③	SCOP (EN 14825)		4,14	3,53	3,69
④	η_s	%	162	138	145
④	Energy class		A++	A+	A+

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)



PUMP TANK&PUMP

Web code: YKC11

Y-Pack C-PF

TCCETY-THCETY 233÷2160

Cooling capacity: 32.3÷160.2 kW - Heating capacity: 37.7÷175.6 kW

- High energy efficiency range
- "Plug-Fan" type centrifugal fans with EC motor (brushless)
- 3 capacity steps
- Multi-purpose for systems with 2 pipes+DHW (with optional RC100)
- Integrated MASTER/SLAVE control

TCCETY 2130

THCETY 270

High efficiency air cooled water chillers and packaged reversible heat pumps with plug-fan type centrifugal fans with EC motors. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 2 or 3 capacity steps depending on the models, to obtain excellent load modulation along with high energy 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 finned coil with copper pipes and aluminium fins.
- Plug-Fan type centrifugal electric fans with EC motors, equipped with internal thermal protection arranged in single row with horizontal outlet. Horizontal outlet of the evaporation condensing air opposite side to finned coil or vertical outlet can be easily transformed on site.
- Proportional electronic device for continuous fan rotation speed regulation up to an outdoor air temperature of –15°C in chiller mode and up to an outdoor air temperature of 40°C in heat pump mode.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Load-bearing structure and panelling made of painted and galvanised sheet steel (RAL 9018); galvanised sheet steel base
- 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.

Versions

- T - High efficiency version (TCCETY-THCETY).

Models

- TCCETY: unit for cooling only.
- THCETY: reversible heat pump unit.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic actuation pump in standby, complete with expansion tank, safety valve and water side pressure gauge. The electric pumps are available in the low or high head versions.
- TANK&PUMP with integrated buffer tank and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit.
- Low temperature water production.
- Electronic expansion valve.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soft starter.
- Compressor soundproofing.
- Cooling circuit outlet and inlet valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Copper/copper or copper/pre-painted aluminium coils.
- 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, buffer tank, 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.

	TCCETY MODEL		233	238	245	250	260	265	270
❶	Nominal cooling capacity	kW	32,3	38,5	43,9	51,0	58,9	63,7	69,9
❶	E.E.R.		2,61	2,77	2,7	2,73	2,67	2,60	2,83
❶	Absorbed power	kW	12,38	13,9	16,26	18,55	21,98	24,5	24,53
	THCETY MODEL		**233**	**238**	**245**	**250**	**260**	**265**	**270**
❷	Nominal heating capacity	kW	37,7	42,1	48,1	56,2	62,5	68,3	79,4
❷	C.O.P.		3	3	3,01	2,96	2,97	2,86	3,23
❷	Absorbed power in winter mode	kW	12,57	14,03	15,98	18,8	20,9	23,72	24,36
❶	Nominal cooling capacity	kW	32,3	38,5	42,3	50,3	57,8	61,6	69,1
❸	Sound power	dB(A)	82	82	83	85	85	85	85
	Scroll/step compressor	no.	2/2	2/2	2/3	2/3	2/3	2/3	2/3
	Circuits	no.	1	1	1	1	1	1	1
	Fan nominal air flow	m³/h	13000	13000	13000	26000	26000	26000	26000
	Fan maximum available static pressure	Pa	250	250	250	250	250	250	250
	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	400-3+N-50
	DIMENSIONS		**233**	**238**	**245**	**250**	**260**	**265**	**270**
	L - Width	mm	2650	2650	2650	2650	2650	2650	3650
	H - Height	mm	1920	1920	1920	1920	1920	1920	1920
	P - Depth	mm	870	870	870	870	870	870	1100

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C and ESP: 250 Pa.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C and ESP: 250 Pa.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

Performance according to EN 14511.

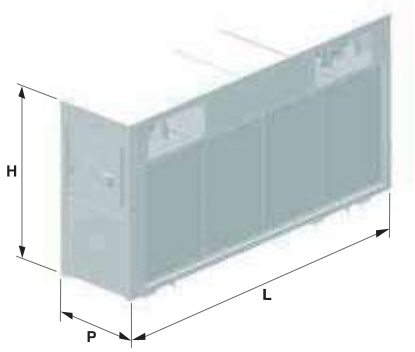
	SEASONAL ENERGY PERFORMANCE		233	238	245	250	260	265	270
	TCCETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	32,3	38,5	43,9	51	58,9	63,7	69,9
①	SEER (EN 14825)		4,43	4,36	4,4	4,35	4,37	4,42	4,42
②	$\eta_{s,c}$	%	174	171	173	171	172	174	174
	THCETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	31	35	41	48	52	59	66
③	SCOP (EN 14825)		3,52	3,27	3,86	3,52	3,46	3,57	3,7
④	η_s	%	138	128	151	138	136	140	145
④	Energy class		A+	A+	A++	A+	A+	A+	A+

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)



Y-Pack C-PF

TCCETY-THCETY 233÷2160

	TCCETY MODEL		280	290	2100	2115	2130	2145	2160
❶	Nominal cooling capacity	kW	79,1	87,5	100,6	113,9	125,3	142,3	160,2
❶	E.E.R.		2,89	2,81	2,71	2,90	2,87	2,86	2,86
❶	Absorbed power	kW	27.37	31,03	36,72	38,28	43,66	49,07	55,43
	THCETY MODEL		**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
❷	Nominal heating capacity	kW	86,3	96,4	111,5	122,5	139,6	157,6	175,6
❷	C.O.P.		3,36	3,18	3,16	3,21	3,30	3,21	3,20
❷	Absorbed power in winter mode	kW	25,53	30,31	34,95	37,69	42,3	48,49	54,2
❶	Nominal cooling capacity	kW	77,4	84,9	98,9	110,6	123,4	140,8	159,3
❸	Sound power	dB(A)	85	86	88	88	88	89	89
	Scroll/step compressor	no.	2/2	2/3	2/3	2/3	2/2	2/3	2/2
	Circuits	no.	1	1	1	1	1	1	1
	Fan nominal air flow	m³/h	26000	27000	39000	39000	39000	52000	52000
	Fan maximum available static pressure	Pa	250	250	250	250	250	250	250
	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	400-3+N-50
	DIMENSIONS		**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
	L - Width	mm	3650	3650	3650	4450	4450	4450	4450
	H - Height	mm	1920	1920	1920	2320	2320	2320	2320
	P - Depth	mm	1100	1100	1100	1100	1100	1100	1100

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C and ESP: 250 Pa.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C and ESP: 250 Pa.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

Performance according to EN 14511.

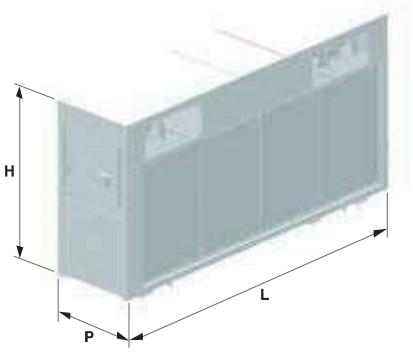
	SEASONAL ENERGY PERFORMANCE		280	290	2100	2115	2130	2145	2160
	TCCETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	79,1	87,5	100,6	113,9	125,3	142,3	160,2
①	SEER (EN 14825)		4,4	4,38	4,37	4,41	4,35	4,4	4,34
②	$\eta_{s,c}$	%	173	172	172	173	171	173	171
	THCETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	71	80	93	102	117	132	147
③	SCOP (EN 14825)		4,12	3,66	3,58	3,67	4,05	3,63	3,93
④	η_s	%	162	143	140	144	159	142	154
④	Energy class		-	-	-	-	-	-	-

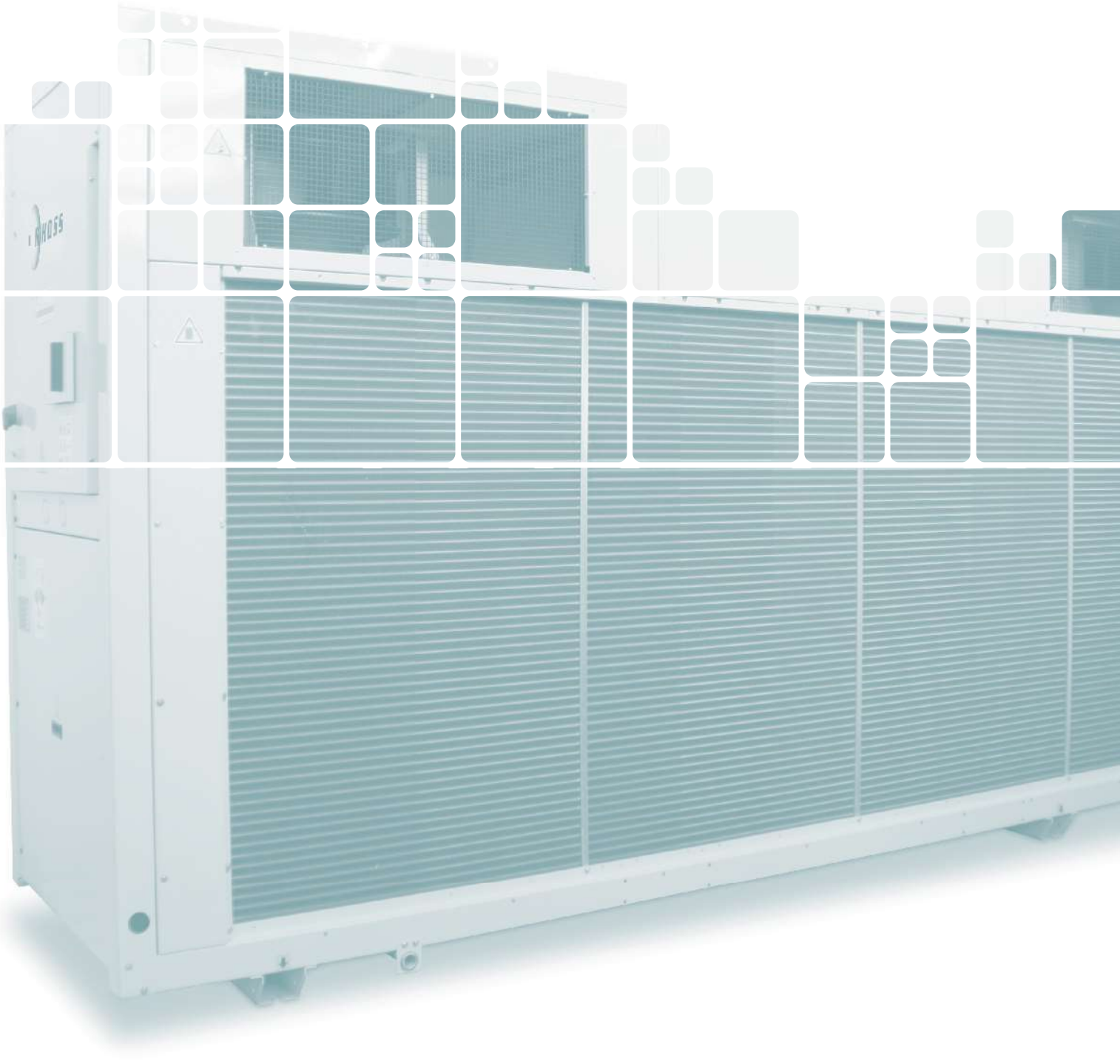
① Low temperature application (7°C)

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)

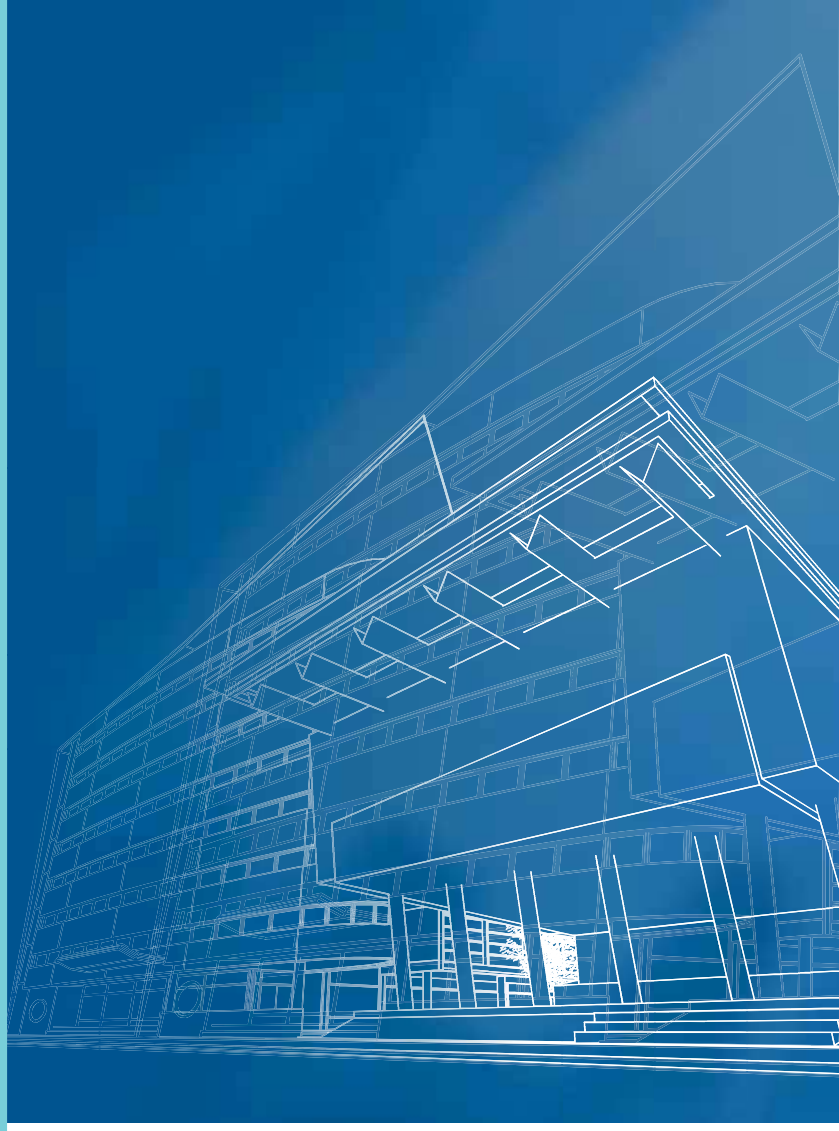




MANAGEMENT SYSTEMS, CONTROL AND MONITORING

Touch interface with Web APP for remote control and monitoring.

SYS-TO
System
Touch Manager & Web APP
The entire system at your fingertips



System Touch Manager offers a simple and effective interface to control and program the climate of the individual rooms of a building, manage the main system components and the environment terminals from a single point.

The system offers a series of energy saving functions for the management of generators, the production of domestic hot water, the distribution network and the terminal units such as, management with time bands that allows 10 summer/winter bands to be programmed at 2 temperature levels.
It is also possible to manage via the local network and remote monitoring via the web.

The solution
SYS-TO is an integrated management system that manages the system's main components via an electronic System Manager regulator.
User interaction with the management program is very easy; it can be managed with a simple and user-friendly touch screen display or interface.
SYS-TO enables centralised management of up to maximum 64 areas made up of fan coils with relative temperature control. It is also possible to manage a cooling unit-chiller, a RHOSS multi-purpose heat pump with integrated boiler- and up to 5 VMC units, heat recovery units or air handling units.

Solution for residential, small and medium tertiary, trade and services applications:

- Villas – residences
- Hotels – restaurants – B&B
- Offices – professional offices
- Medical offices – clinics
- Shops – gyms – multi-purpose centres

System Touch Manager & Web APP

[1] Free Cloud service upon activation
[2] Option of BMS, Modbus RTU, Modbus TCP/IP, Bacnet IP, Bacnet MS/TP supported protocols

Functions

System manager, which is available in a small or medium version, enables you to:

- control the temperature detected in the various areas
- adjust the area set-point and limit the change
- limit user interaction with the area control
- control the fan coil with time bands (stop or start with two comfort levels)
- adjust the temperature of the water sent to the radiant panels in heating mode, with a mixing valve and climate compensation
- adjust the water temperature in the system side tank with 2 levels, comfort and economy, with climate compensation
- adjust the water temperature in the DHW tank
- manage the DHW side diverter valve
- communicate the set-point to the primary generator
- select the summer/winter operating mode manually, by date, outdoor temperature or digital input
- select the most convenient heat generator between the heat pump and boiler
- manage an integrative heat source - electrical resistance - or auxiliary - boiler, system side or DHW side
- manage the DHW recirculation pump and anti-legionella sanitisation
- manage the area pumps, based on the start status or effective call in the single areas
- start the VMC/primary air units
- send an email alarm in real time

System management solutions for small and medium tertiary, trade and services applications.
Touch interface with Web APP for remote control and monitoring.

SYS-TO System Touch Manager & Web APP

The entire system at your fingertips

System management
SYS-TO allows for integrated management of the following components in 2-pipe systems and 2-pipe systems with domestic hot water (DHW) production:
Generators

- Rhoss heat pump/chiller or multi-purpose system
- Inertial buffer tank temperature probes on the system side
- Technical tank temperature probes for DHW production
- Integrative heat source - electrical resistance - or auxiliary - boiler.
- Diverter valve for DHW
- Outdoor air temperature probe for climatic compensation or seasonal switching

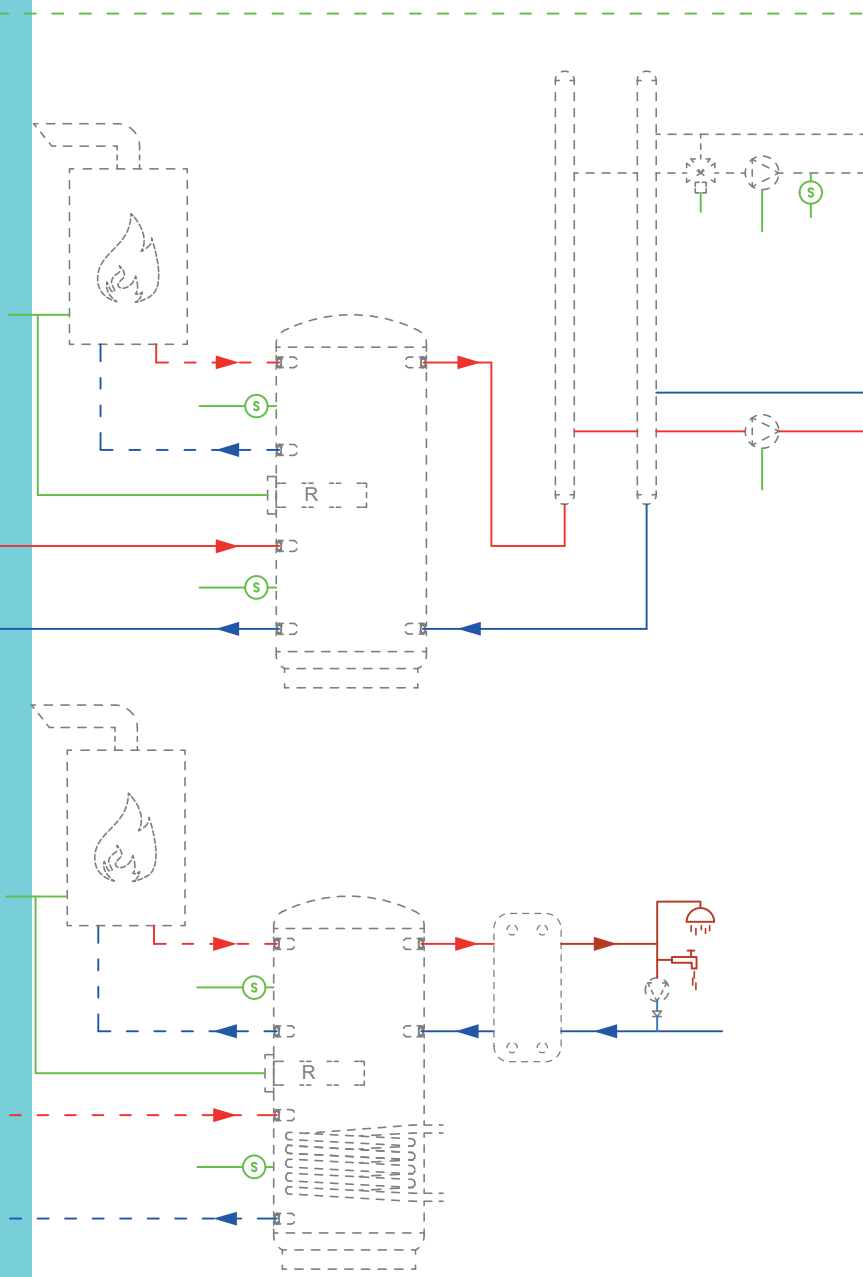
Distribution network

- Area circulation pumps, for primary or primary/secondary circuit, direct or mixed, at low temperature (up to 5)

System terminals

- Control up to 64 fan coils or terminals with on-board regulation in serial connection, possibility of activating other devices in parallel with the fan coil (radiant panels in heating mode or radiators)
- Fresh air consent for VMC, Heat recovery units and Air handling units (up to 5)

SYS-TO in 4-pipe systems allows system terminals and area pumps to be managed.



Compatible units
Fan coils: Idrowall (with dedicated serial cable), Brio-I Slim with advanced SLIM Touch regulation, Yardy and Diva via advanced LIT-Touch regulation, via bus.
Rhoss chillers, heat pumps and multi-purpose units, via bus.
VMC unit, heat recovery units with KRCA1 regulator, ADV Next Air and CTA ADVR air handling units via bus or digital input.

User interfaces and remote control via WEB

SYS-TO consists of a regulator (System Manager) to control room terminals (connected in serial mode) and to manage components in the field (through digital inputs and outputs) and from a user interface (HMI) available in various types.

The simplest interface consists of a semi-graphical LCD integrated in the regulator, to which a remote keypad with a backlit semi-graphical LCD display can be added.

The top of the range is the Touch Panel consisting of a resistive touch screen with a 7" TFT 16:9 -64 K colour recessed display installed on a support or wall-mounted, with a clean and innovative design and a lively and intuitive interface, complete with an Ethernet interface and USB port.

The Touch Panel is available with the Web APP option for remote control and monitoring through any Web browser with HTML5 support.

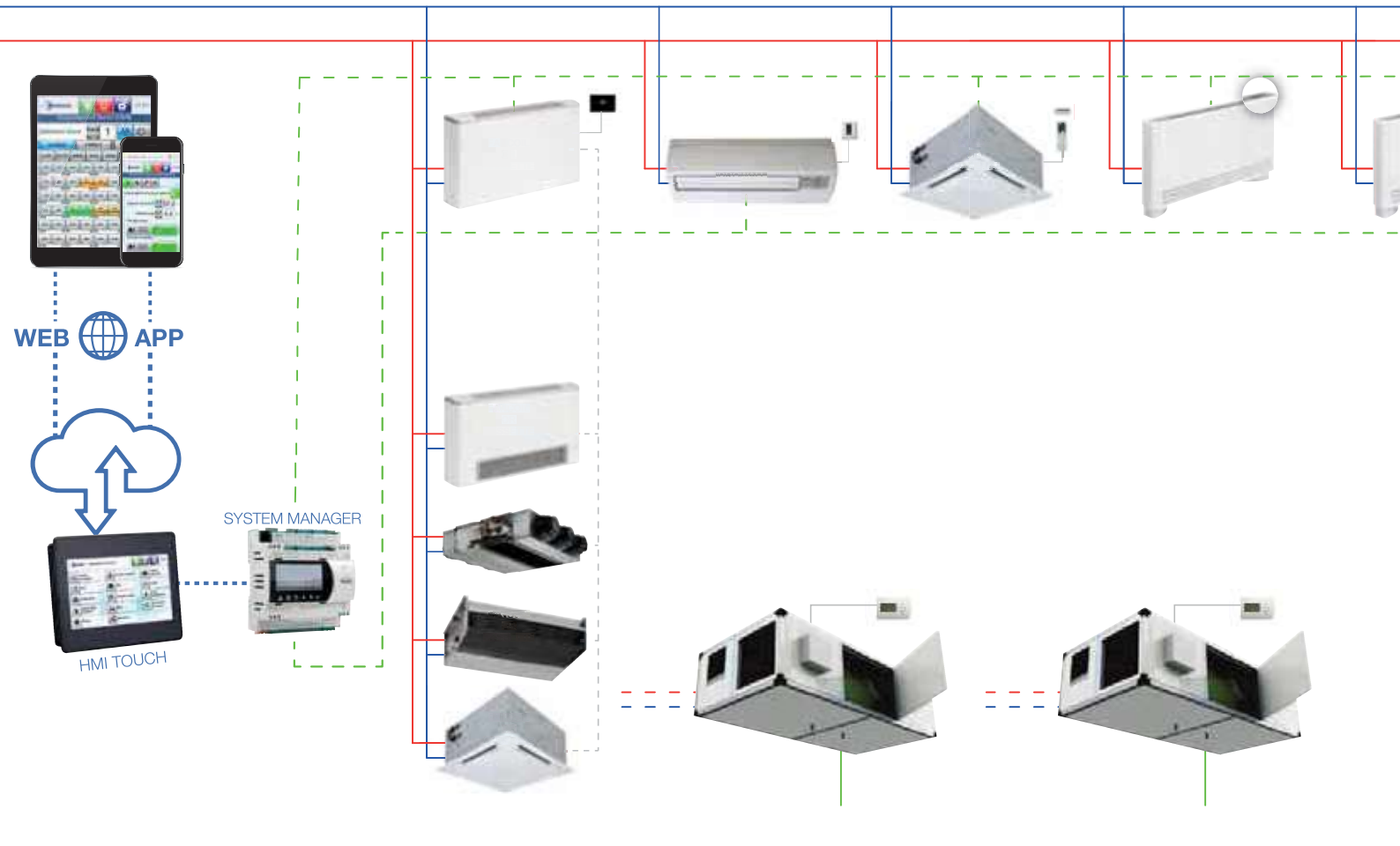
Solution with:	Integrated semi-graphical interface	Remotable semi-graphical interface	Touch colour interface	Touch colour interface and Web APP
Web APP				
HMI				
System Manager		 o 	 o 	 o 

Serial network with simplified routing

An RS485 ModBus RTU serial interface is required on each connected device for connection via bus. Configuring serial addresses is extremely easy; it does not require additional devices but can be made directly from the control keypad of each fan coil.

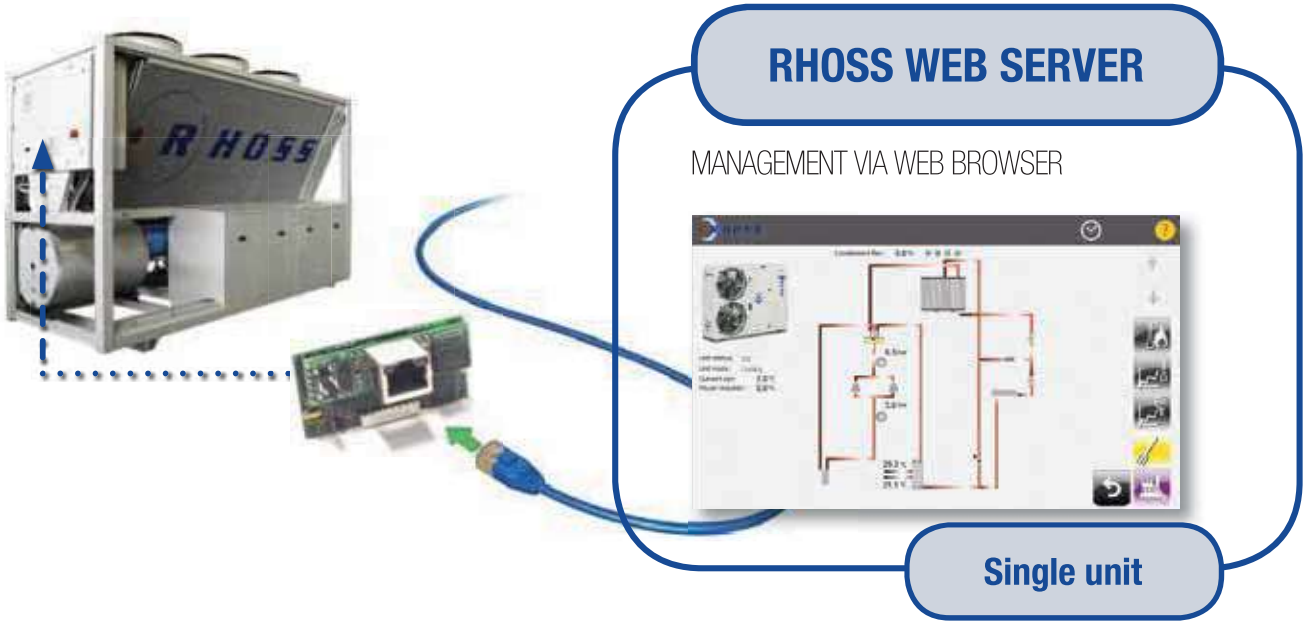
Master/slave management

It is possible to connect multiple slave units with the same ambient set-point for each Master fan coil equipped with a control or receiver.



Control and monitoring via ETHERNET

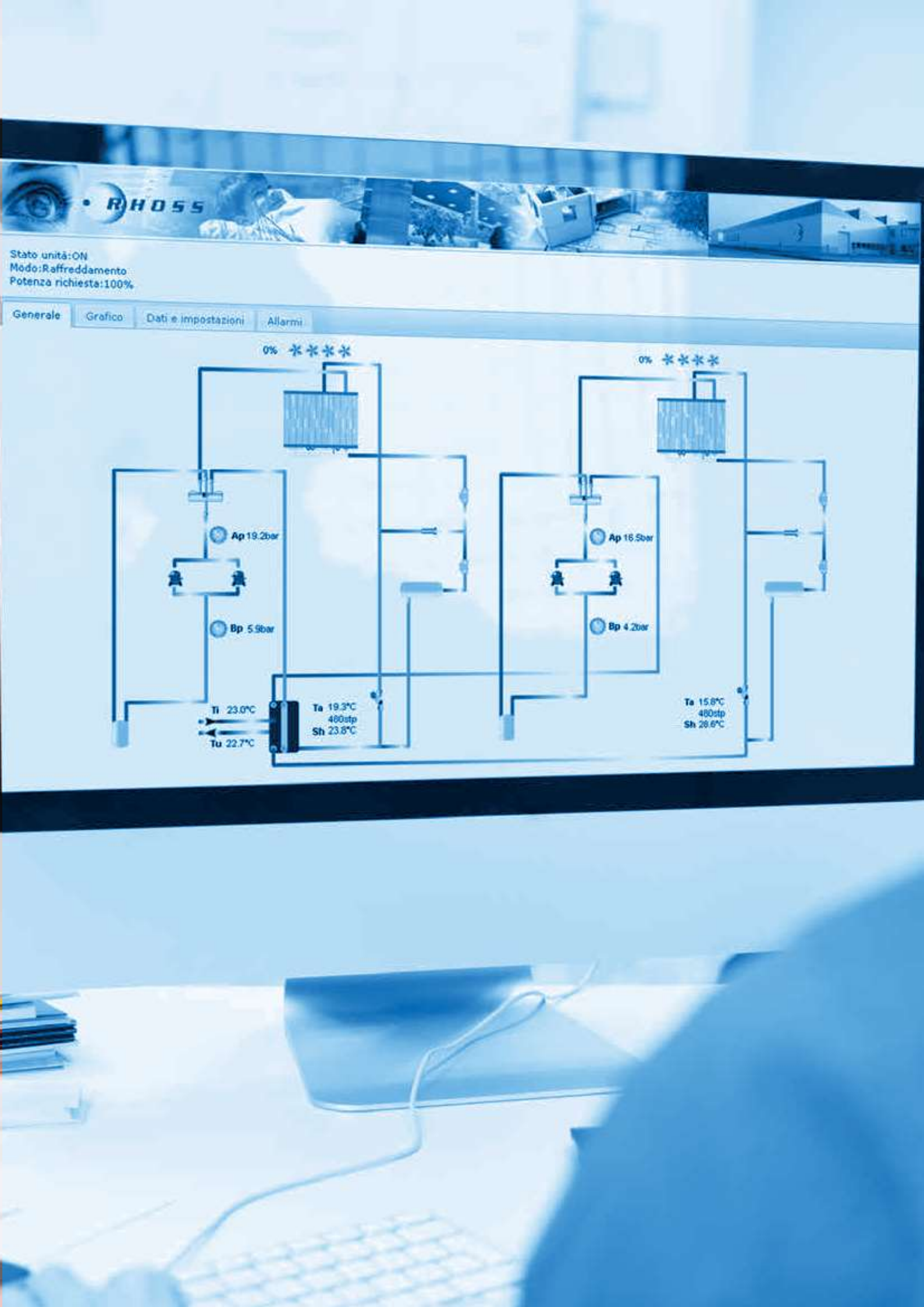
RHOSS WEB SERVER



- Managing a single cooling unit via ETHERNET
- Web page with unit status and detailed tabs with:
  - synoptic of the main components
  - graphic trend of the main variables
  - possibility of modifying the main parameters (on/off, mode, set-point)
  - status and alarms reset
- Installation of the ethernet interface inside the unit's electrical panel

WEB SERVER MAIN FEATURES	MAIN COMPONENTS
Web page with unit status and detailed tabs displaying: - synoptic diagram of the main components - main variable trend graph - option to edit main parameters (on/off, mode, set) - alarm status and reset	KWEBU1: Web Server board for Ethernet with user graphic interface

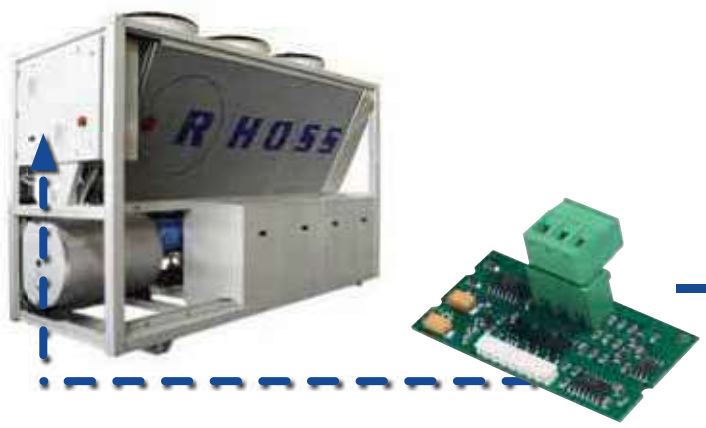
RHOSS COOLING UNIT + Web Server for Ethernet + User graphical interface


RHOSS
Stato unità:ON
Modo:Raffreddamento
Potenza richiesta:100%
Generale
Grafico
Dati e impostazioni
Allarmi
0%
Ap 19.2bar
Bp 5.9bar
Ti 23.0°C
Tu 22.7°C
Ta 19.3°C
460stp
Sh 23.6°C
0%
Ap 16.5bar
Bp 4.2bar
Ta 15.8°C
460stp
Sh 28.6°C

Remote monitoring

RHOSS MONITORING: Mobile - Cloud - Real time

- **Remote control of cooling units and air handling units**
- **3 different solutions for remote monitoring**
- **Connection via mobile phone or smartphone**
- **Web interface with Cloud service**
- **Status display in real time**
- **Data logger function**
- **Alarm and malfunctioning alerts**
- **Installation of the DIN bar on the device inside the unit's electrical panel**



RHOSS COOLING UNIT + SERIAL INTERFACE

MONITORING	MAIN FEATURES	CONTROL DEVICE	INTERNET CLOUD SERVICE	SIM CARD
MOBILE for residential and small-size service sector applications	**In**put/output management via mobile phone and editing by **SMS**. Alarm and malfunctioning alerts. Reading up to 8 values.	KMMC - Remote Mobile/Cloud control device with slot for SIM CARD	Not provided (only SMS management available)	Responsibility of the user or by subscription (not required if local Internet connection is used)
CLOUD for residential and service sector	**Management of the main parameters and editing via internet interface or via APPS IOS and ANDROID**. Alarm, malfunctioning display **with hourly frequency and** trend logs. Reading up to 8 values.		Internet Cloud service by subscription (minimum length 1 year) **Obligatory**	
REAL TIME for the service and industrial sector	**Management of the parameters and editing via internet interface or via APPS IOS and ANDROID.** Real time alarm, malfunctioning display **and** trend logs. Reading up to 100 values.	KMRT - Real Time control device with slot for SIM CARD		

CONTROL DEVICE + SIM card

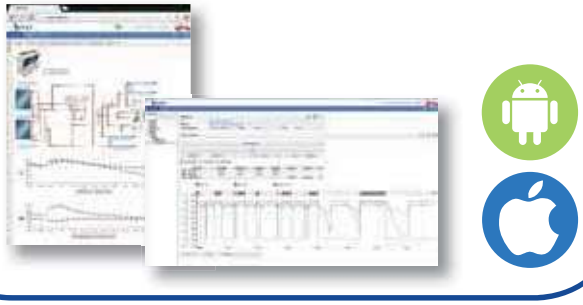
MOBILE

MANAGEMENT VIA SMS

CLOUD

REAL TIME

MANAGEMENT WITH INTERNET CLOUD SERVICE VIA WEB BROWSER OR WITH iOS AND ANDROID APPS

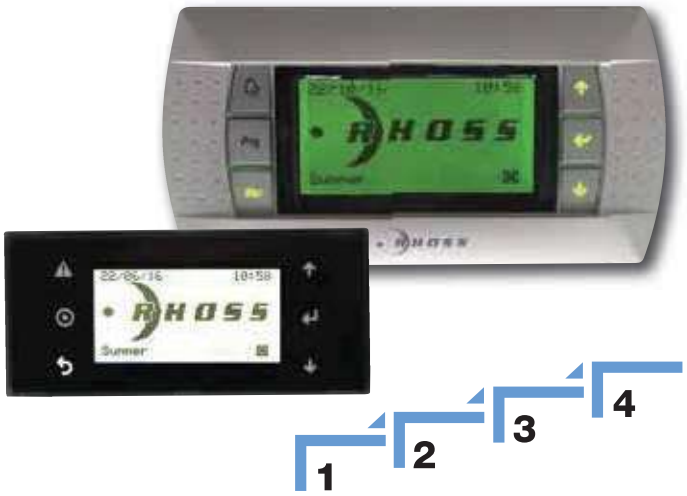


CONTROL DEVICE	Serial interface on Rhoss unit	Remotely manageable inputs/outputs	Monitorable Rhoss units		Readings
 KMMC - Remote control device for Rhoss Monitoring Mobile or Cloud, installation on DIN bar (4 modules) within the unit's electric panel, slot for SIM CARD, status and inputs/outputs signalling LED, antenna with 3m cable, protection degree IP40, GSM dual band module 900-1800 MHz, Buffer battery (1 hour approximately); serial ports; Power supply not included.	RS485 Serial interface (accessory KRS485 or SS)	• 2 relay outputs configurable and activated via SMS • 2 digital inputs for external alarms • 1 configurable analogue input (0-10 V, 0-20 mA, 4-20 mA)	1	• cooling unit • air handling units	up to 8 readings
 KMRT- Remote control device Rhoss Monitoring Real Time, installation on DIN bar (6 modules) within the unit's electric panel, slot for SIM CARD, 3 status signalling LEDs, antenna with 3m cable, protection degree IP40, GSM/GPRS Modem, serial ports; Watchdog hardware, Real Time Clock; Power supply not included. NOTE: the KMRT device is fitted with additional Ethernet interface for using local Internet connection (without SIM CARD).	• RS485 serial interface (accessory KRS485 or SS) • Ethernet Interface (accessory KBE) [only if Ethernet is available on site]	Not available	5	• cooling unit • air handling unit	up to a total of 100 readings

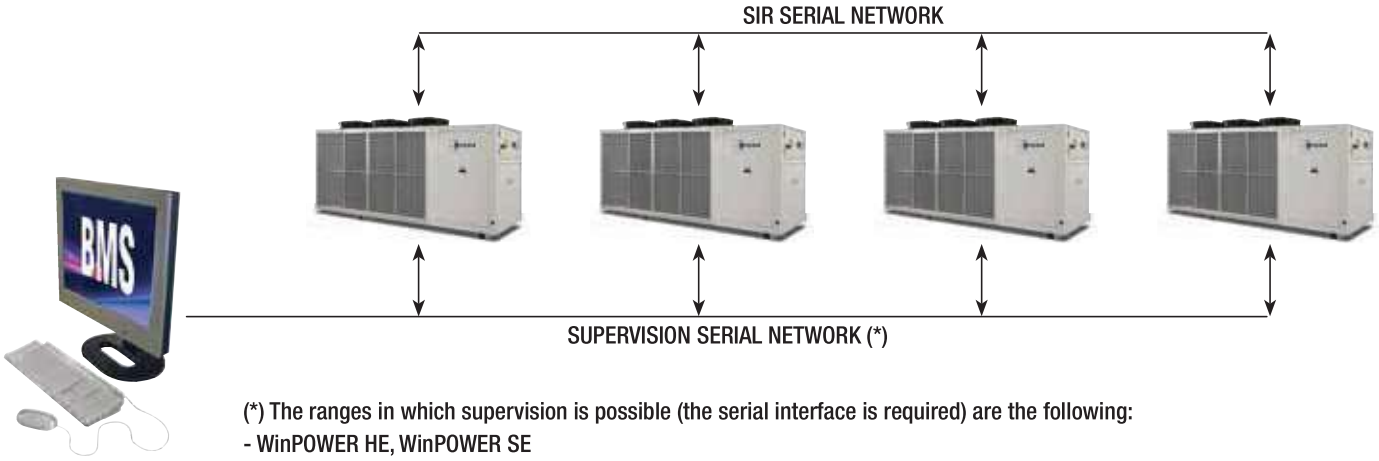
Chiller management software

SIR - RHOSS INTEGRATED SEQUENCER

- **MASTER/SLAVE management of up to 4 parallel plumbing chillers**
- **Summer/winter mode for heat pump units**
- **System set-point management**
- **Control of all operating parameters**



- The SIR integrated Sequencer makes it possible to manage up to 4 parallel plumbing chillers in medium/large HVAC systems.
- The optimisation of operating times and the insertion of the individual units is controlled by logics integrated in their management software, guaranteeing reliability over time.
- The software at the heart of the system was designed and tested by the Rhoss R&D structure and is able to acquire and manage the main variables of the connected water chillers.
- Depending on the product range, the units of the group can interface with the main BMS on the market, for them to be monitored, to guarantee full control of each type of system (verify the option in the product documentation).



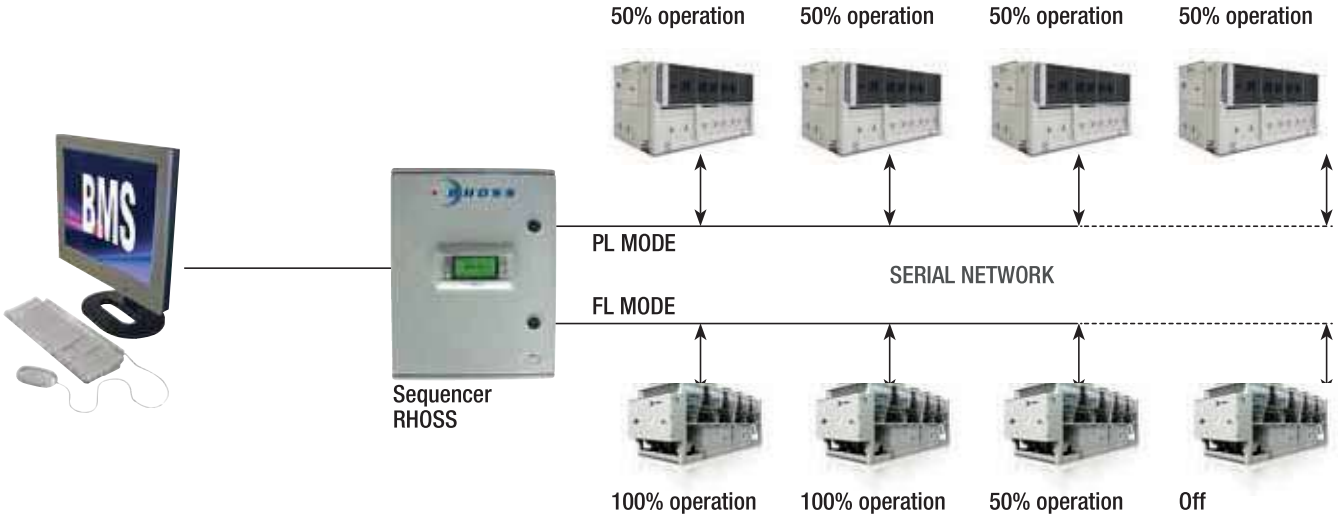
(*) The ranges in which supervision is possible (the serial interface is required) are the following:
- WinPOWER HE, WinPOWER SE
- Z-Power
- Z-Flow HE, Z-Flow E
- FullPOWER HE, FullPOWER SE, FullPOWER VFD, FullPOWER VFD (1+i)
- TurboPOWER

Water Chiller management software

RHOSS SEQUENCER

- **Control of up to 10 parallel plumbing chillers**
- **Summer/winter mode for heat pump units**
- **System set-point management**
- **Control of all operating parameters**
- **Alarm display**

- The Rhoss Multichiller Sequencer makes it possible to manage up to 10 parallel plumbing chillers in medium/ large HVAC systems.
- The optimisation of operating times and the insertion of the individual units is controlled by logics that focus on energy efficiency, guaranteeing reliability over time.
- The management mode of the units can be selected from between FL-Full Load Unit Manager (specific for screw compressor chillers) and PL-Part Load Unit Manager (specific for water chillers with scroll compressors).
- A dedicated sequencer is available for EXP multi-purpose units that can handle all the specific functions of the technology.
- The software at the heart of the system was designed and tested by the Rhoss R&D structure and is able to acquire and manage the main variables of the connected water chillers. The sequencer also interfaces with the main BMS available on the market, guaranteeing complete control in all system types. Integrated solutions for system management



NIBE GROUP MEMBER

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

Italy Sales Departments::
Codroipo (UD)
33033 Via Oltre Ferrovia, 32
tel. +39 0432 911611

Nova Milanese (MB)
20834 Via Venezia, 2 - p. 2
tel. +39 039 6898394

RHOSS France
Bat. Cap Ouest - 19 Chemin de la Plaine - 69390 Vourles - France
tél. +33 (0)4 81 65 14 06 - exportsales@rhoss.it
www.rhoss.com

RHOSS Deutschland GmbH
Hölzlestraße 23, D-72336 Balingen, OT Engstlatt - Germany
tel. +49 (0)7433 260270 - info@rhoss.de
www.rhoss.com

RHOSS Ibérica Climatización, S.L.
Frederic Mompou, 3 Pta. 6ª Dpcho. B 1 - 08960 Sant Just Desvern – Barcelona
tel. +34 691 498 827 - rhossiberica@rhossiberica.com
www.rhoss.com

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