APPLIED SYSTEMS

Product Catalogue 2018

| CHILLERS | HEAT PUMPS | FAN COILS | TERMINAL UNITS |
| SOLUTIONS TO CONTROL THE INTEGRATED SYSTEM |

RHOSS
CREATING YOUR COMFORT

RHOSS

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RHOSS R.&D.

CHILLERS - HEAT PUMPS

Air cooled - axial fans

PAGE 35

Inverter scroll compressors

4 kW — 58 kW — 510 kW

R410A

ELECTA
3,8÷12,6 kW
Web code: ELO01
PAGE 36

R410A

Compact-I
16,4÷27,6 kW
Web code: CYI01
PAGE 40

R410A

Compact-I MD
34,3÷58,3 kW
Web code: CYI11
PAGE 46

Hermetic scroll compressors

6 kW

R410A

Mini-Y NF
5,6÷11,3 kW
Web code: MYN01
PAGE 38

R410A

Compact-Y MD
32,3÷63,7 kW
Web code: CY011
PAGE 48

R410A

POKER
28,8÷115,2 kW
Web code: PK001
PAGE 50

R410A

Compact-Y NF
15,5÷26,6 kW
Web code: CYP01
PAGE 42

R410A

Compact-Y SM
15,7÷29,5 kW
Web code: CY001
PAGE 44

R410A

Y-Pack FREECOOLING
170÷361 kW
Web code: YKF11
PAGE 66

Semi-hermetic screw compressors

317 kW

R134a — A

FullPOWER HE-A
317÷1325 kW
Web code: FPE11
PAGE 80

R134a

FullPOWER SE
319÷1271 kW
Web code: FP011
PAGE 84

Oil-free centrifugal compressors

267 kW

Air-cooled Centrifugal fans

PAGE 103

Inverter scroll compressors

16 kW — 160 kW

R410A

Compact-ID
16,4÷27,5 kW
Web code: CID01
PAGE 104

new

Hermetic scroll compressors

R410A — A

Y-Pack C-PF
32,3÷160,2 kW
Web code: YKC01
PAGE 106

Water cooled - Condenserless units

PAGE 111

Water cooled Hermetic scroll compressors

5 kW

R410A

Comby-Flow
5,3÷11,9 kW
Web code: CF001
PAGE 112

R410A

Y-Flow
15,5÷41,7 kW
Web code: YF011
PAGE 114

R410A

Y-Flow
41,2÷448,8 kW
Web code 245÷2185: YF021 - Web code 4180÷4450: YF031
PAGE 116

Condenserless units Hermetic scroll compressors

13 kW

R410A

Y-Flow E
13,7÷36,9 kW
Web code: YFC11
PAGE 124

R410A

Y-Flow E
39,8÷320,9 kW
Web code 245÷2185: YFC21 - Web code 4180÷4360: YFC31
PAGE 126

Inverter screw compressors

FullPOWER VFD (1+i)
518÷1307,4 kW
Web code: FPV21
PAGE 88

FullPOWER VFD
510÷1001,5 kW
Web code: FPV11
PAGE 90

EasyPACK
63,7÷144,4 kW
Web code: EAS01
PAGE 52

WinPACK HE-A
91,6÷345 kW
Web code: WKE11
PAGE 56

WinPACK SE
97,6÷328,6 kW
Web code: WK011
PAGE 60

WinPOWER HE-A
337,3÷916,8 kW
Web code: WPE11
PAGE 68

WinPOWER SE
335÷861,8 kW
Web code: WP011
PAGE 74

Z-Power SE
1404,4÷1.609,7 kW
Web code: ZP001
PAGE 92

Z-Power FREECOOLING
469÷1.216 kW
Web code: ZPF01
PAGE 94

TurboPOWER
267,0÷1101 kW
Web code: TP011
PAGE 98

TurboPOWER ECO
323,2÷948,6 kW
Web code: TP014
PAGE 100

Semi-hermetic screw compressors

Z-Flow HE
203,3÷1.627,6 kW
Web code: ZFE01
PAGE 120

Condenserless units
Semi-hermetic screw compressors

Z-Flow E
171,9÷1.424,8 kW
Web code: ZFC01
PAGE 128

ONLY COOLING HEAT PUMP POLYVALENT SYSTEMS

EXP - Polyvalent systems

PAGE 131

Air cooled - Axial fans

Hermetic scroll compressors — 18 kW

R410A

Compact-Y EXP SM
17,7÷29,1 kW
Web code: CYX11
PAGE 132

R410A

Compact-Y EXP MD
33,8÷61,6 kW
Web code: CYX21
PAGE 134

R410A

Y-Pack EXP
80,7÷332,9 kW
Web code: YKX11
PAGE 136

Semi-hermetic screw compressors — 530 kW

R134a

Z-Power EXP
530,3÷695,1 kW
Web code: ZPX01
PAGE 140

Water cooled

Hermetic scroll compressors — 5 kW — 438 kW

R410A

Comby-Flow EXP
5,5÷12,2 kW
Web code: CFX01
PAGE 142

R410A

Y-Flow EXP
44,2÷437,8 kW
Web code 245÷2185: YFX21 - Web code 4180÷4450: YFX31
PAGE 144

Semi-hermetic screw compressors — 407 kW

R134a

Z-Flow EXP
407÷735,6 kW
Web code: ZFX01
PAGE 148

Condensing units

PAGE 151

16 kW — 163 kW

R410A

16,4÷31,5 kW
Web code: CUY01
PAGE 152

R410A

34,5÷162,6 kW
Web code: CUY11
PAGE 153

FAN COILS

PAGE 171 - CONTROLS PAGE 196

	WALL MOUNTING INSTALLATION	FLOOR, CEILING, RECESSED WALL OR FALSE CEILING INSTALLATION
Inverter Brushless motor	**IDROWALL-I** 2,0÷3,5 kW Web code: IDR01 PAGE 172  	new **BRIO-I SLIM** 1,0÷4,0 kW Web code: BRIS1 PAGE 174  **YARDY-I EV3** 1,9÷8,6 kW Web code: YARI3 PAGE 178 
Standard motor		 **YARDY EV3** 1,1÷8,5 kW Web code: YARV3 PAGE 180 

System accessories

Remote condensers

Pumping units and water tanks

PAGE 155

648 kW

R410A

WinPOWER EXP
361,2÷648,1 kW
Web code: WPX01
PAGE 138

695 kW

736 kW

R410A

23÷218 kW
Web code Mod. 115÷240: CRYA1
Mod. 245÷2185: CRYA2
PAGE 156

300÷2500 l
Web code: GPA01
PAGE 160

DUCTED INSTALLATION

YARDY-ID2
2,4÷6,4 kW
Web code: YAID2
PAGE 184

YARDY-DUCT2
2,0÷5,8 kW
Web code: YADC2
PAGE 186

YARDY-HP
7,2÷20,5 kW
Web code: YAHP1
PAGE 188

FALSE CEILING CASSETTE

DIVA-I
2,8÷10,8 kW
Web code: DIVI1
PAGE 190

DIVA
2,0÷11,1 kW
Web code: DIVA1
PAGE 192

VTNC
2,9÷7,8 kW
Web code: VTNC1
PAGE 194

ONLY COOLING HEAT PUMP POLYVALENT SYSTEMSI

REMOTE MONITORING

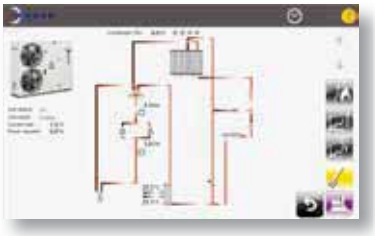
PAGE 164

RHOSS MONITORING:
Mobile - Cloud - Real time

CONTROL AND MONITORING VIA ETHERNET

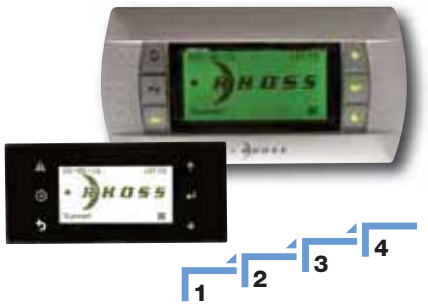
PAGE 166

RHOSS WEB SERVER

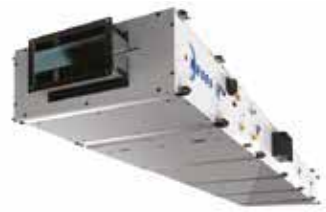


CHILLER MANAGEMENT SOFTWARE

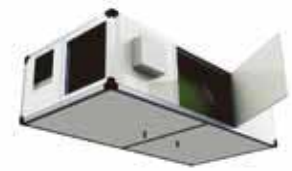
SIR - RHOSS INTEGRATED SEQUENCER - PAGE 168



RHOSS SEQUENCER - PAGE 169



Terminal unit
UTNA Platinum
6,4÷70 kW
Web code: UTAP1
PAGE 200



Heat recovery unit
UTNR-A Platinum
Counterflow heat recovery
400÷4.050 m³/h
Web code: UTNR3
PAGE 204

Heat recovery unit
UTNR-HE Platinum
Rotative heat recovery
310÷4.250 m³/h
Web code: UTHE3
PAGE 208

Heat recovery unit
UTNR-HP
Thermodynamic heat recovery
350÷4.500 m³/h
Web code: UTHP1
PAGE 216

Heat recovery unit
VMC-E
Counterflow heat recovery
250÷1.000 m³/h
Web code: VMC01
PAGE 218

➦ **May 2018**

COMING SOON

EasyPACK Inverter

Technology and efficiency in continuous evolution

Unique solutions

- Precise and efficient load modulation
- Reduced refrigerant load in chillers
- Multi-purpose units
- SEER/SCOP high energy efficiency
- LEED conforming unit

Guaranteed performance

- Eurovent Certification
- Validation test in the R&D laboratory of Rhoss
- Thorough operation
- Advanced control logic

Full optional range

- Pumping units and functions for plug&play solutions
- Accessories for the intelligent management with energy saving logic

CLASS A Energy Efficiency

VPF VARIABLE PRIMARY FLOW

BRUSHLESS EC

INVERTER

Chillers and heat pumps

Super high efficiency units (up to class A Eurovent) designed to produce cold and/or hot water, with inverter compressors coupled with traditional scroll compressors.
The MCHX Micro-channel coils optimise the heat exchange and make the chiller lighter with a further reduction of up to 30% of the refrigerant gas content.
The range up to 130 kW is divided into two versions: T (high efficiency) and Q (super-silenced) – excellent solutions in modern HVAC applications. A peculiar characteristic of this range is also the possibility of achieving top notch SEER/SCOP values.

Units designed for the customer

In a market where electric heat pumps will increasingly become more widely distributed as the only electric generator with low environmental impact, Rhoss has developed the new range of EasyPACK-I reversible heat pumps.
Together with the countless functions and options with which it can be equipped, EasyPACK-I is the right solution for systems that require Plug&Play solutions.
The requirements of pumping units, including inverter controlled ones, are combined with precise, efficient and silent modulation requirements with Brushless EC fans.
In case of special needs, many options are available: partial recovery of the condensation heat, coil treatment, grilles or filter. Particular attention is given to the aspects of further noise reduction or limitation of power consumption, rather than monitoring, connection and supervision of the chiller with BMS systems.

EXP

Excellence in polyvalent technology
Today, the multi-purpose EXP units represent the best way to satisfy opposing loads in a simultaneously or independently.
The new EasyPACK-I EXP units allow the load to be satisfied in a timely manner thanks to the latest generation inverter compressors.
The management software of the unit, designed and engineered by technical experts, enables precise and accurate control of the temperature of the water produced to guarantee better plant service with the possibility of connecting several units in parallel.

Rhoss presents EasyPACK INVERTER, the new generation of chillers, heat pumps and multi-purpose EXP air-cooled systems with scroll hermetic inverter compressors. The product ranges represent the state of the art in terms of punctual load management, technical solutions and energy efficiency and have been developed to offer efficient, versatile and technologically advanced solutions in line with the demand of modern HVAC systems (Heating Ventilation and Air Conditioning).
The entire offer is available in different versions and conforms to the most stringent environmental standards in terms of energy efficiency and limited gas content, offering Plug&Play solutions.

➦ **May 2018**

Fan coils with cabinet,
to be recessed or ducted.

YARDY
A renewed product range

New colour

The cabinet version of YARDY fan coil comes in a new colour: **white RAL 9003 with matt finish**, a colour-non-colour, elegant and essential, which diffuses the light and widens indoor spaces, in line with modern design needs.

New Air'Suite® filters

The Air'Suite ® biocide filter is a new exclusive wide-spectrum filtration system capable of breaking down microbiological contamination, without installing additional components.
Air'Suite® filters the ambient air, making it healthy and clean, and breaks down microbiological agents, such as bacteria, mould and viruses, reaching a new IAQ standard (Indoor Air Quality) for indoor comfort.

New 2x4 adjustment valves

Using 2x4 valves in 4-pipe systems allows a fan coil with a single coil to be used, powered by separate cold and hot circuits, in summer and winter mode. The winter mode solution allows larger exchange surfaces and lower water temperatures to be used, favouring the natural combination with the multi-purpose Rhoss systems, as generators side.

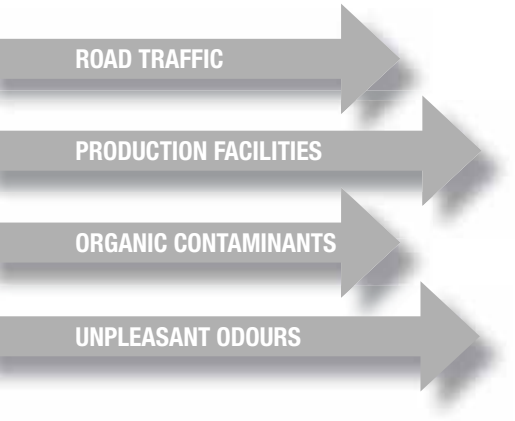
YARDY | New colour for cabinet versions

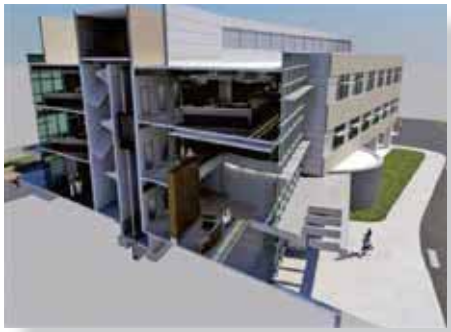
YARDY COVER | Installation solutions with formwork and wall or ceiling covering panels.

YARDY COVER allows for the recessed installation of the YARDY and YARDY-I fan coils and the covering with aesthetic finishing panels, **in matt white RAL 9003**.
The wall solution includes a wall-mounted formwork and a covering panel consisting of a frame, a grille with fixed inlet fins and an air delivery opening with an adjustable 180° flap.
The formwork is designed considering the necessary technical space for the easy installation of the fan coil and is complete with an internal grille, which prevents access to the technical compartment, for total safety of use.
YARDY COVER is available in 3 sizes:
WxHxD 920x790x225 mm | 1125x790x225 mm | 1325x790x225 mm
for Yardy-I EV3 fan coils models 20, 24, 30, 34, 45, 48 | Yardy EV3 models 20, 24, 25, 30, 34, 40, 45, 48 | Yardy-ID2 and Yardy-DUCT2 models 40, 48

Air'Suite® filters

Living in a clean environment is a concept closely linked to breathing "clean air". It has been established that the concept of clean air, i.e. free from any additional factors, such as odours or pathogens, which can directly or indirectly affect or alter a person's physical or mental state, must be related to high standards of Indoor Air Quality.
It is no longer possible to believe that outdoor air is clean: the increase in production facilities, with variably controlled emissions in the atmosphere and vehicular traffic make it actually impossible to use outdoor air to dilute indoor contaminants without proper handling.
Rhoss sets new indoor comfort standards by improving the hedonistic aspect of the air intake in the rooms through broad spectrum "biocide filtration". This is the result of the studies, expertise and know-how gained over the years by Rhoss Spa and Labiotest srl, in their respective professional fields and underlined by an agreement entered into by the two companies for the exclusive distribution of the new Air'Suite® filters for HVAC applications.
A new way to treat the air that we breathe every day in indoor environments. It involves systems for olfactometric conditioning and the filter range, i.e. the line of filters that can be used in any ventilation and air conditioning application.
A new concept of biocidal filtration that assures the removal of microbiological contamination without requiring additional solutions to be installed or existing systems to be modified.




External sources of pollution


Internal sources of pollution

Indoor filtering systems

Download the complete document:
http://www.rhoss.com/download

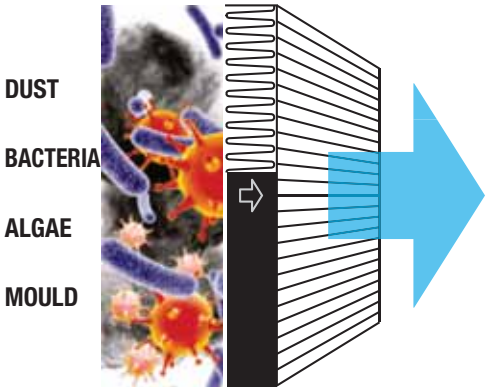
air'suite® by Labiotest

COMING SOON

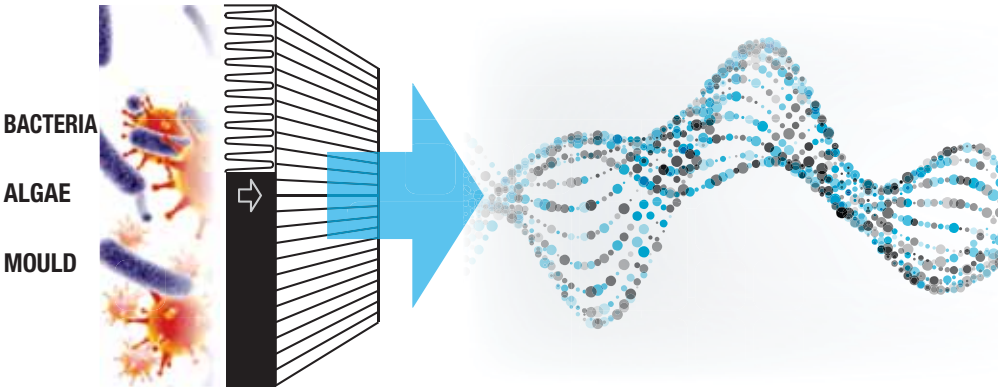
➦ **May 2018**

Air'Suite® filters for YARDY EV3 fan coils
YARDY-I EV3 | YARDY-ID2 | YARDY-DUCT | YARDY-HP

The term biocidal filtration refers to the combination of granular filtration (classical) and the deactivation of the biological load (innovative) on the same amount of air which passes through the same means of filtration. This process has been achieved by using a new, appropriately functionalised bio-polymer, characterised by: wide availability in nature, biocompatibility, non-toxicity and intrinsic infection preventing properties.
The Air'Suite® filters were tested with new, state-of-the-art techniques that measure the actual biocidal ability on the filter surface and that do not make use of cultures but count each organism/cell and its integrity or ability to reproduce.
The bacteria removal efficiency was measured through a study protocol with IRSA-CNR certified flow cytometry techniques.
The resulting efficiencies are higher than 50% of "instant" removal and 100% within 30 hours after contamination.



FIRST STEP - Mechanical filtration



SECOND STEP - Biocidal filtration

➦ **May 2018**

Electronic controls
for fan coils and cases

LIT-Touch Controls
New
user experience

LIT Touch is the new Rhoss control platform for fan coils and cassette, completely renewed and created with the aim of improving the user experience.

Touch interface

The true core of the platform is the new LIT-Touch panel for wall-mounted installation, with capacitive touch technology and LED display.
This panel is compact and thin, has a very intuitive user interface it is suitable for any furnishing requirement thanks to the two colours available: glossy black or pearl white, with a unique and innovative design.
The platform also includes the IR receiver with a room temperature probe for wall mounting and remote control, for ceiling or false ceiling units.

Intuitive control

The control allows the desired temperature in the room to be managed together with the fan speed, the winter summer changeover or automatic season setting, the display of the room temperature in 2-pipe systems, 2-pipe systems with electrical heater and 4-pipe systems.
A number of integrated functions are provided for the room control - such as the master control of multiple slave units - digital inputs and outputs such as window contact, hot/cold demand, alarm signal and optional serial interface.

LIT-Touch Controls are available to control the fan coils with cabinet, recessed or ducted and cassette-type units, with standard or Inverter motor.

YARDY-I | YARDY	YARDY-ID | YARDY-DUCT YARDY-HP	DIVA-I | DIVA
	 INVERTER	 INVERTER

The new platform offers different types of interfaces:

- KPLTb/w - Lit Touch wall panel in glossy black or pearl white
- KRLT - Wall-mounted probe holder receiver
- KTLT - Remote control
- KCF/B - Panel with electronic control board to be installed on the fan coil.

➦ **May 2018**

COMING SOON

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

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, as required in the tertiary, commercial and services installations, such as offices, hotels, shops and multi-purpose centres.

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, for example, the management of time bands that allows 10 summer/winter bands to be programmed at 2 temperature levels.
Both local network management and web-connected remote monitoring are possible.

System Touch Manager allows for integrated management of the following components in 2-pipe systems and 2-pipe systems with domestic hot water production:

Generators
- Heat pump/chiller or Rhoss polyvalent systems
- Inertial buffer tank temperature probes on the plant side
- Technical tank temperature probes for DHW production
- Integrative heat source (electrical heater) or auxiliary (boiler).
- Outdoor air temperature probe for climatic compensation or seasonal changeover

Distribution network
- Zone circulation pumps, for primary or primary/secondary circuits, direct or mixed, at low temperature

Terminal units
- Control up to 64 fan coils or terminals with on-board regulation in serial connection, with the possibility to activate other devices in parallel with the fan coil (radiant panels or radiators)
- Fresh air output, for VMC, heat recovery units and small AHUs

System Touch Manager in 4-pipe systems allows the plant terminals and zone pumps to be managed.

The Web App completes and enhances the solution with the possibility of remote viewing and monitoring.

The system consists of a regulator to control terminals serially connected and the management of other devices (through digital inputs and outputs) and combines with different types of user interfaces.
The most simple interface, on board the controller, consists of an integrated semi-graphical LCD to which a remote keypad with a backlit semi-graphic LCD display can be added.
The top of the range spot is held by 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 connection and USB port.
The Touch Panel is available with the Web APP option for remote control and monitoring through any Web browser that supports HTML5.

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

Compatible fan coils: Idrowall (with dedicated serial cable), Brio-I Slim with advanced SLIM Touch control, Yardy and Diva with advanced LIT-Touch control. VMC units, heat recovery units and AHU with digital output or with KRCA1 control, Next AIR and ADV systems (and serial interface RS485 ModBus RTU).

RHOSS has been active in the residential and industrial air conditioning sector since 1968.
RHOSS is a breath of fresh air around the body and mind, thanks to products and systems able to innovate air conditioning.

IRSAP, since 1963 leader in the production of tubular steel radiators. IRSAP is the Group's beating heart: it brings the warmth of fire and the passion for comfort.

CREATING YOUR COMFORT

"Being a united industrial group of companies operating in an international market in strong partnership with its customers. With a team of motivated people, we research and implement the "solution" for every need for heating and air conditioning through innovative integrated systems. Our goal is to create ideal comfort while ensuring the well-being of the person in their own habitat and respecting the environment".

Our mission is to assert ourselves as one of the most appreciated groups in the sector, acquire a strong and recognisable image of technological leadership, while continuing to invest in research and development and adopting the most innovative technological solutions.

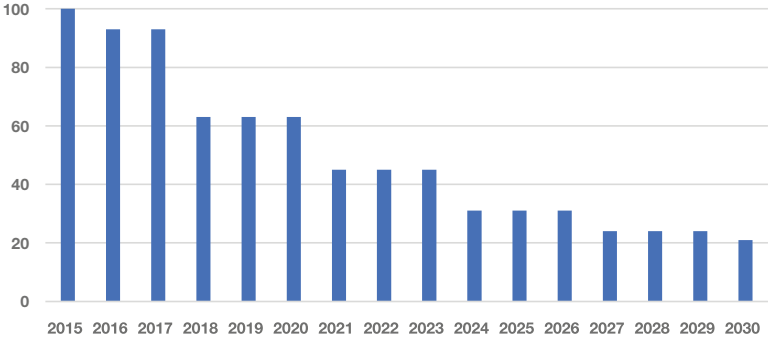
Our strategy lies in creating value through growth and expansion at international level, especially in emerging markets, diversifying and specialising the offer also by acquiring new skills and external production.

Our goal lies in responding in a dynamic and flexible way to the new market needs, orienting the range towards products, integrated systems and evolved and competitive services with higher efficiency and low environmental impact, thus pursuing an optimal relationship between macroclimate and microclimate.

RHOSS: the conscious choice for an ecological future

EFFICIENCY, TECHNOLOGY and ECOLOGY: the three key words for a sustainable future.

Rhoss has always been careful to create comfort, and invests and researches new solutions to be applied to equipment dedicated to the HVAC world: efficiency and technology are firm points in the development of new products in order to make them more and more compatible with the environment which we live in.
The progressive elimination of fluorinated refrigerants (HFCs), established by the new EU regulation, provides for a gradual reduction of the quantities placed on the market, expressed as the equivalent in tons of CO2. This should lead to a reduction of HFC consumption of 79% by 2030.



Reference volume (100%) corresponding to the annual average of the total amount of CO_2 equivalent introduced into the EU from 2009 to 2012.

The application of this legislation will lead to the introduction and increasingly massive use of new low-GWP (Global Warming Potential) gases, consistent with the evolution of technology.
In fact, in the world market of refrigerants, depending on the technology used, there are many solutions that allow for a reduction in GWP, with respect to the gas traditionally used in the HVAC sector.

The following table indicates some examples of refrigerant gases and related GWP.

Refrigerant	GWP (UNI EN 378-1 2017)
R407C	1774
R134a	1450
R410A	2088
R513A	631
R1233zd	4.5
R1234ze	7
R32/R452 B	675
R454 B	466

Rhoss has long started this process of harmonisation with the new "green" gases, testing and experimenting with new solutions, without precluding any possibility.
In this sense, TurboPOWER ECO was created – the new range with a centrifugal compressor and R1234ze gas that has zero impact on the ozone layer destruction potential and extremely low on global warming.
Furthermore, all the ranges in the catalogue for which Rhoss provides solutions with low GWP refrigerant are distinguished by a specific mark.
The gradual phase-down of high GWP refrigerants is also accompanied by the demand for increasingly efficient and low-consumption products as required by the European Ecodesign Directive. This provides the specifications for an environmentally friendly design of all energy-using products and through Regulations 813/2013 and 2016/2281 imposed minimum seasonal winter (SCOP) and summer (SEER) efficiency requirements for the introduction of chillers and heat pumps in the European market.
The product performance tables, therefore, indicate the SEER and SCOP indexes, in line with the requirements of the directive.

RHOSS: a range of products able to meet LEED® credits

The **LEED®** standard was developed in the USA in 1998 by the U.S. Green Building Council (USGBC), which is a non-profit organisation that promotes and offers a global approach towards sustainability, recognising virtuous performance in key areas of health regarding mankind and the environment.

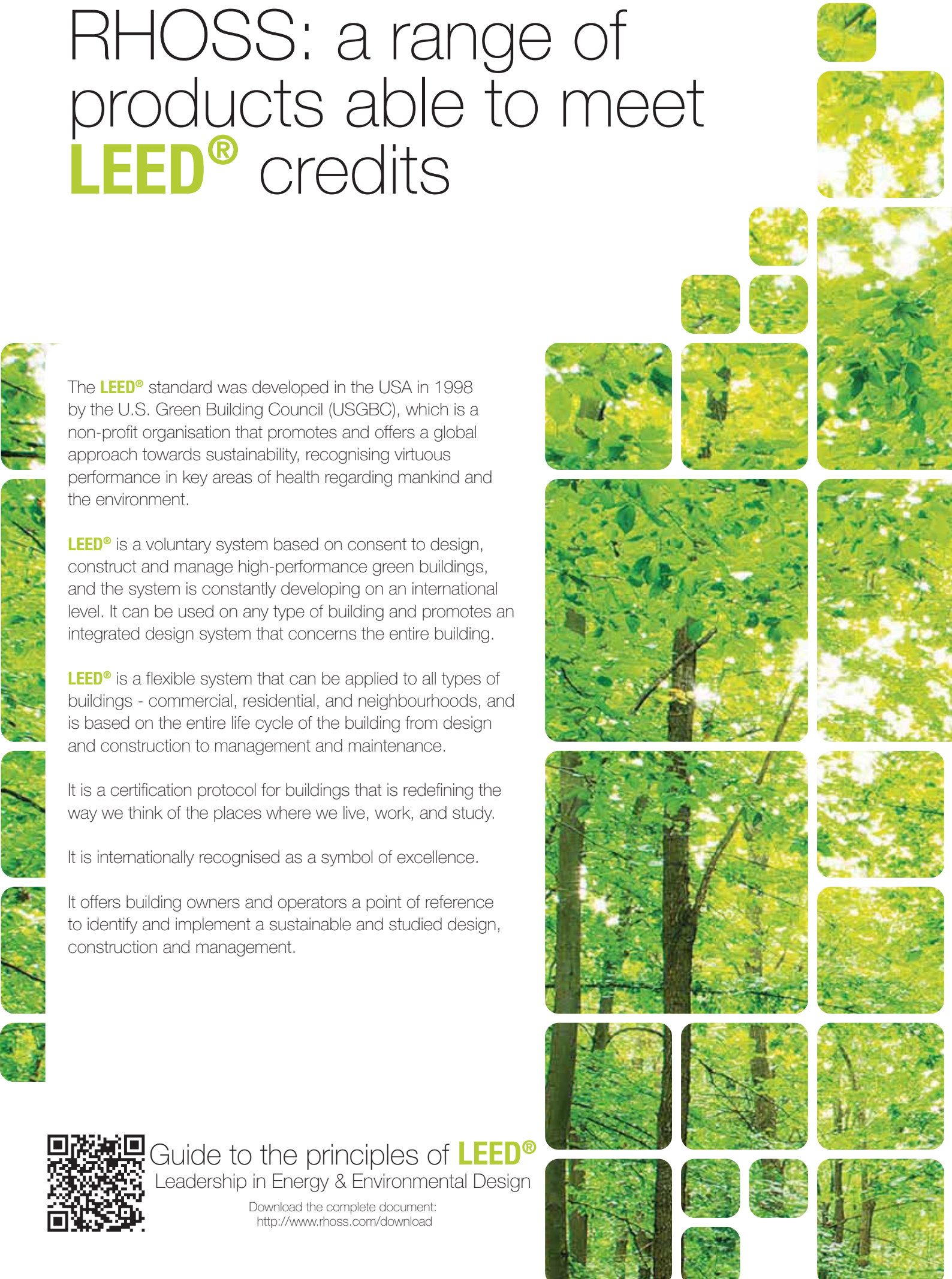
LEED® is a voluntary system based on consent to design, construct and manage high-performance green buildings, and the system is constantly developing on an international level. It can be used on any type of building and promotes an integrated design system that concerns the entire building.

LEED® is a flexible system that can be applied to all types of buildings - commercial, residential, and neighbourhoods, and is based on the entire life cycle of the building from design and construction to management and maintenance.

It is a certification protocol for buildings that is redefining the way we think of the places where we live, work, and study.

It is internationally recognised as a symbol of excellence.

It offers building owners and operators a point of reference to identify and implement a sustainable and studied design, construction and management.



Guide to the principles of **LEED®**
Leadership in Energy & Environmental Design

Download the complete document:
http://www.rhoss.com/download

Rhoss has studied the aspects of the **LEED®** standard and assessed the requirements of the credits, comparing them with the characteristics of its product ranges and identifying those that can meet the requirements of the **LEED®** credits and how.

Rhoss participates in the **LEED®** building certification protocol. The international system is based on the whole building's life cycle from design and construction, to management and maintenance.

Rhoss: certified quality.

- Rhoss participates in Eurovent certification programs for chillers, heat pumps and fan coils, according to the regulations: EN 14511 - EN 9614 - EN 1397.
- Rhoss participates in the Eurovent certification program for Air handling units with the ADV range according to EN 13053 and EN1886.
- Rhoss participates in the Casa Clima program. A protocol that guarantees buildings with high living comfort against reduced energy and management costs, thereby contributing significantly to environmental protection.
- Rhoss offers solutions that promote sustainable construction in terms of energy efficiency, in line with the requirements of the most important certifications in Green-Building, specifically the LEED certification. In fact, these products or systems are designed with a technology that is concretely conducive to reducing the HVAC system's energy requirements. Rhoss solutions that excel in sustainability are easily recognisable by the Green Line mark, which represents Rhoss calling to environmental friendliness.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

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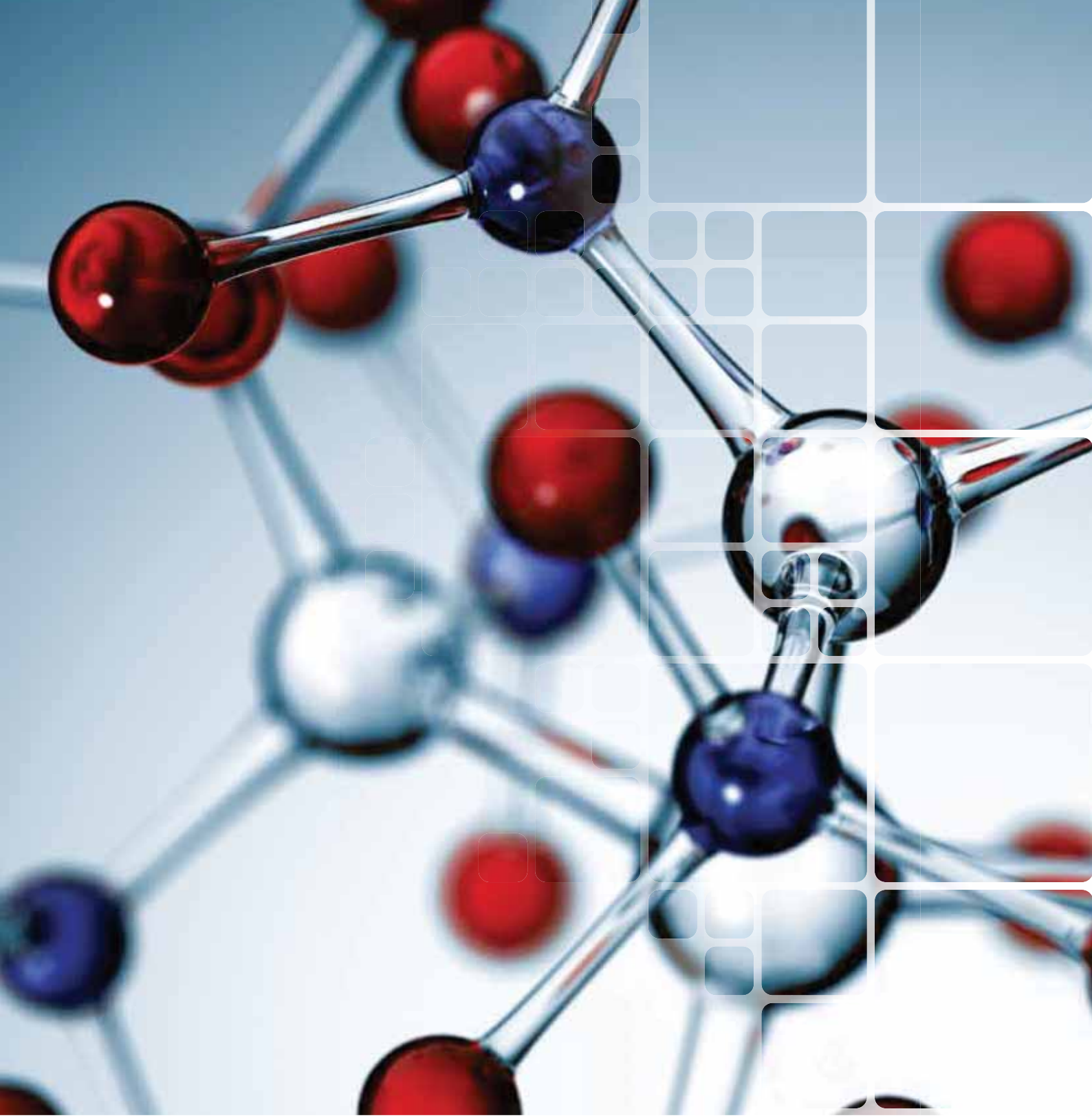
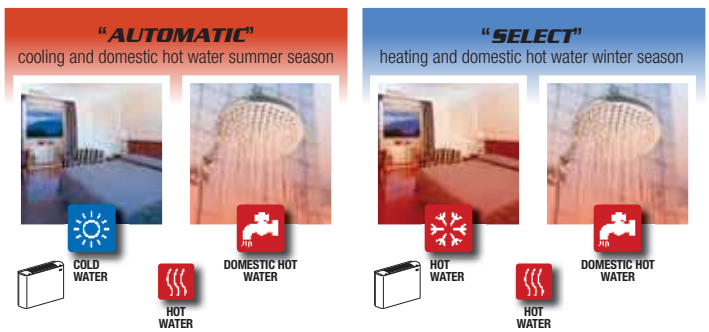
Partner KlimaHaus CasaClima®

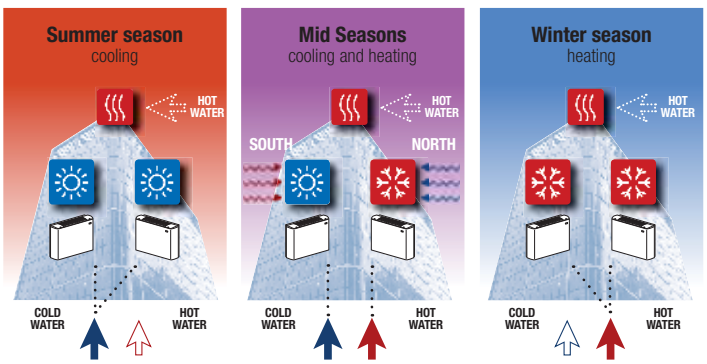
GREEN LINE

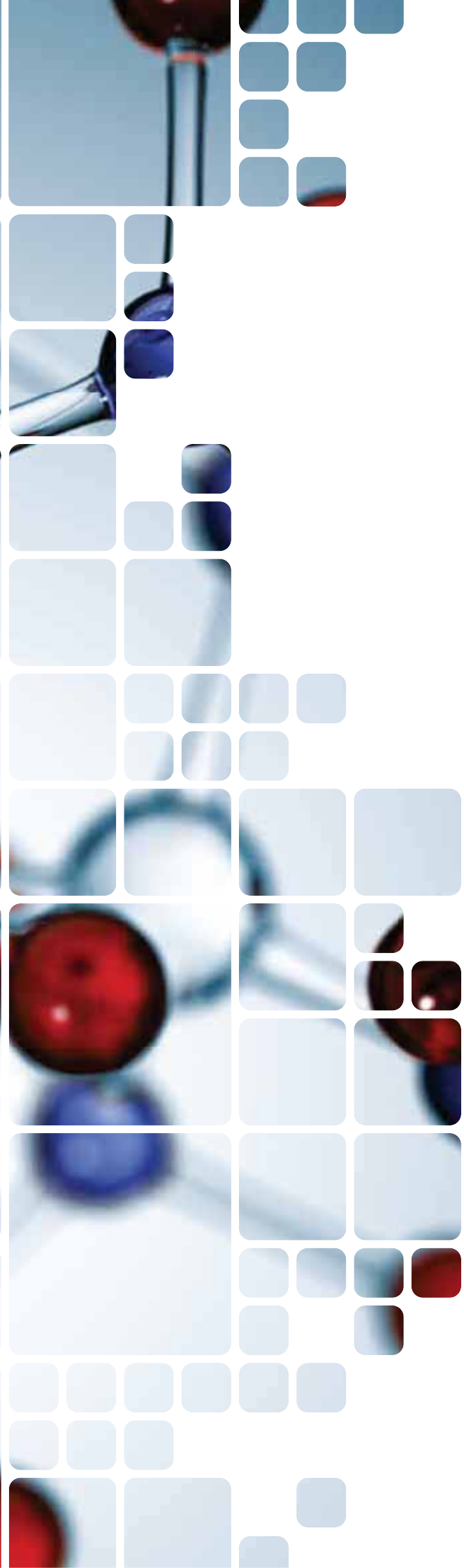


2 2-pipe systems *AUTOMATIC* or *SELECT* mode



4 4 or 6-pipe systems ** *AUTOMATIC* mode throughout the year 6





Innovation is in our DNA

EXP SYSTEMS
EXcellence in Polyvalent Technology

The assurance of a quality product is obtained by means of thorough tests in the R&D Lab, one of the largest testing labs in Europe.

Every Rhoss unit is subjected to rigorous operating tests before being launched on the market, simulating the most extreme operating conditions.

EXP Systems is the multi-purpose ecological system designed by RHOSS to satisfy cold and hot water demands simultaneously or independently with a single unit. It is designed for use in 2, 4 and 6-pipe systems, at any time of year.
This flexibility allows it to be used in several types of construction, thereby allowing any subsequent change in the intended use.

An entire range with air and water cooled from 5 to 800 kW with TER* index up to 8.33.

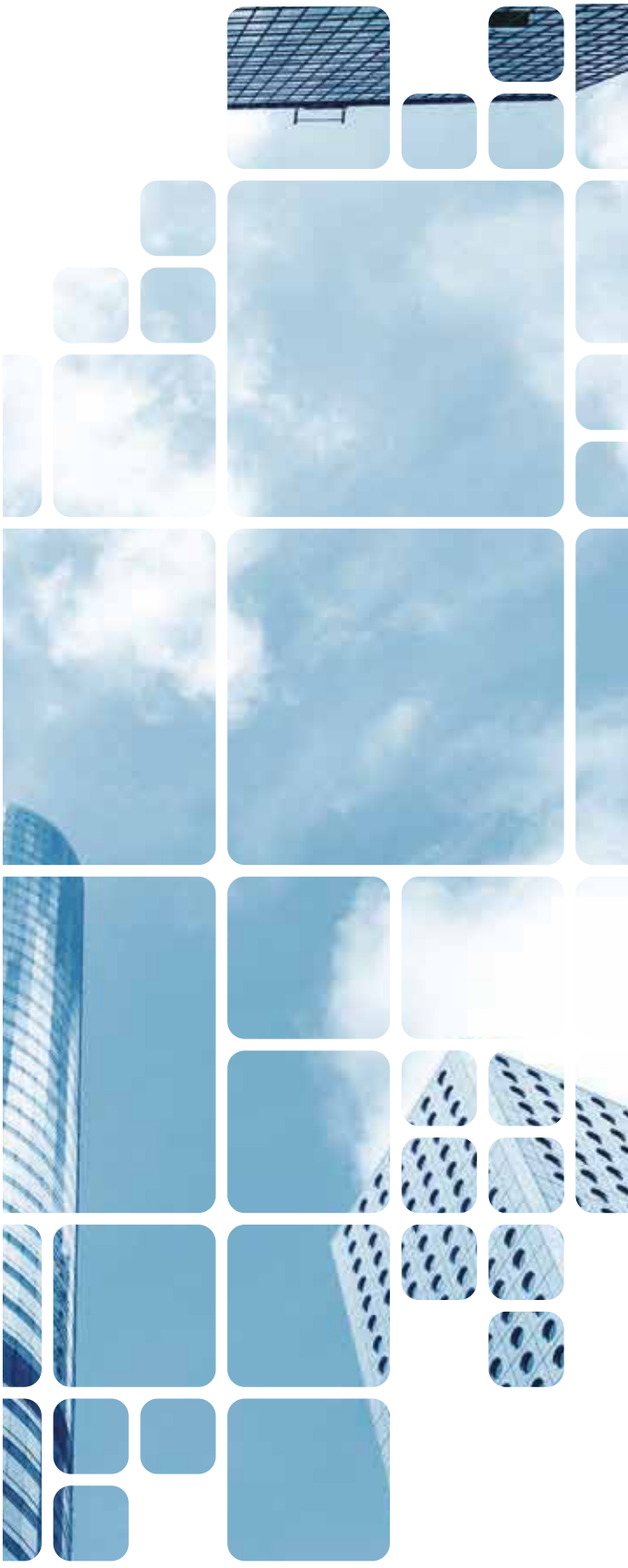
The offer includes new Class A models with high ESEER efficiency with partial loads.

* TER Total Efficiency Ratio in total heat recovery mode AUTOMATIC 2.
** 6-pipe systems achievable with the WinPOWER EXP range.

Polyvalent systems
the evolution of energy savings

Download the complete document:
http://www.rhoss.com/download

VPF solution by RHOSS: the breakthrough



Cooling systems with VPF (Variable Primary Flow Variable Primary Flow), ideal for medium to large cooling capacities, represent an interesting alternative to the more traditional systems with a constant flow.
The solutions designed by Rhoss, in fact offer benefits, such as reduced energy consumption of the pumping units with a consequent saving in costs, combined with reliability and simplified control of the system.
Using these systems contributes significantly to achieving greater credits in the LEED certification of buildings.

Variable flow systems

The Rhoss VPF solution can be summarised as follows:
The primary/secondary variable system is introduced. The pump or double pump of the primary circuit is inverter-controlled for the flow to be adjusted and thereby reduce the pumping power [P= f (Q3)].
The inverter pump/pumps to control the secondary one are provided by the customer. In this case, RHOSS can control them therefore, there will be no limitations in their use.
The tests of the VPF solution in the Rhoss Research & Development R&D Lab, whichever the solution may be, have proven that the amount of water is important in order to stabilise the operation and reduce the ON/OFF functions of the cooling unit.
A primary side external tank (TANK) is recommended, connected to the unit, with a minimum volume of 5 l/kW or less if the Tank&Pump inside the unit is used.
The probe for measuring the ΔP (information required to adjust the inverter pumps) is provided and positioned by the user in the hydraulic circuit.
It is recommended to use 2-way "V2" valves for the terminals and a minimum number of 3-way "V3" valves to guarantee a 20% minimum flow when the terminals are closed.

VPF solution by RHOSS
the new plant engineering breakthrough

Download the complete document:
http://www.rhoss.com/download

Download the video:
http://www.rhoss.com/it/download/multimedia

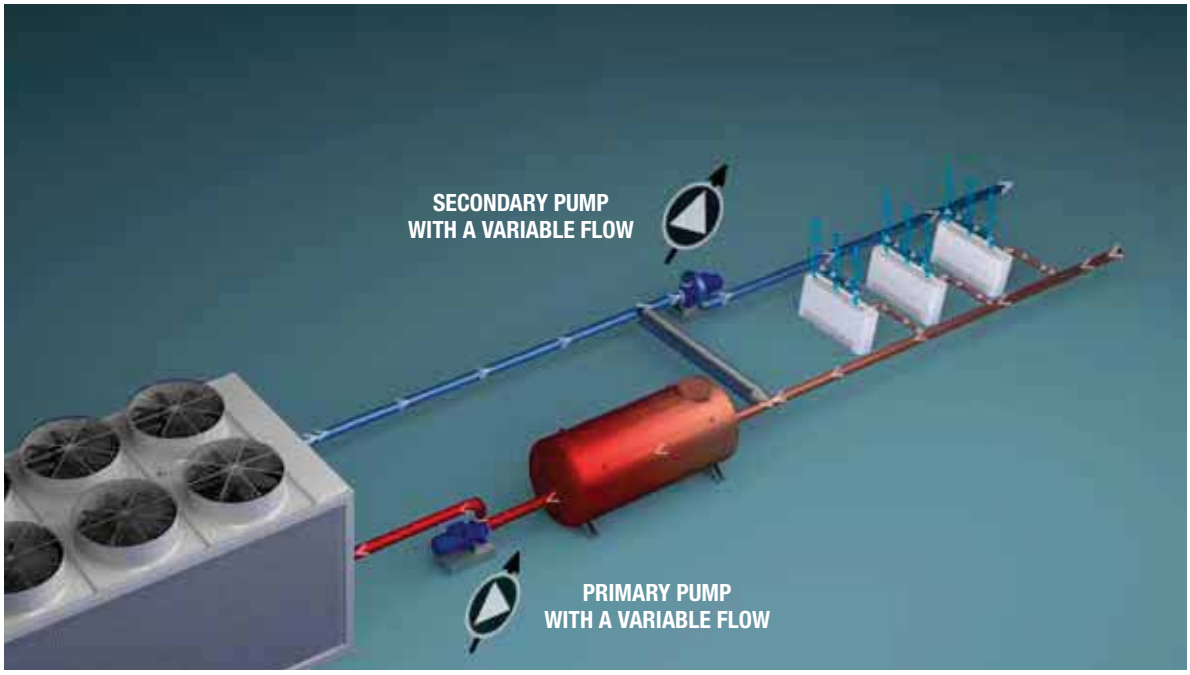
Advantages of the RHOSS VPF solution:

1 A stable and functional solution to adjust the system

2 Energetically convenient solution with actual pumping energy savings

new plant engineering

Rhoss VPF Solution (Variable Primary Flow)

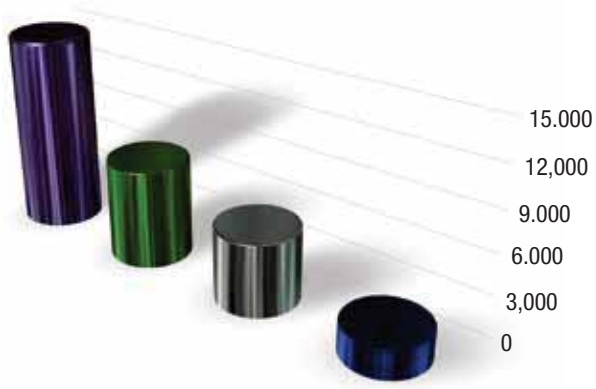


VPF RHOSS - The most efficient solution for variable flow systems

Comparison of the Rhoss VPF system and other pumping systems, when the load required changes.
The annual savings are very high both in terms of energy and in economic terms, both in the Mediterranean area and in the cities of central Europe.
The table indicates another important fact: the equivalent area of the photovoltaic system required to produce the electrical kW/h saved by the Rhoss system. This index shows how effective the proposed solution is.

	Annual energy consumed for pumping	Rhoss system savings	Surface area of photovoltaic system required to achieve the same savings by the Rhoss system
	[kW/h]	[kW/h]	[m²]
Primary constant flow and constant secondary	14.903	86%	81
Primary constant flow and variable secondary	7.472	71%	34
Traditional VPF system	5.442	60%	21
Rhoss VPF system	2.166		

* Example of comparative results for 100 kW cooling unit installed in the plant with a variable load operating 24 hours a day (hospitals, hotels, etc.) in a climatic zone of North Italy and central Europe.



3 Safe solution for the chiller

4 Validated solution even with multiple chillers connected in parallel

RHOSS: worldwide solutions for energy efficiency

DYNAMIC ENERGY ANALYSIS

In commercial and residential buildings, often, the predominant part of consumption is represented by the energy required for summer and winter air conditioning and for the necessary air renewal and treatment and for domestic hot water.
The designer's role is all the more crucial when facing the energy challenges of the coming years and the results presented are primarily an incentive to a systemic and comprehensive approach to the design of HVAC systems (Heating Ventilation and Air Conditioning).

The efficiency route

But how can the maximum possible reduction in fuel consumption and emissions, already in the design phase, be assessed?
A large building is a complex "body" consisting of a large number of elements and subsystems that interact with each other and with the external environment and that influence each other's performance. Using simplified simulation models that neglect these dynamic interactions are likely to lead to assessments that are often far from the actual energy performance.
DYNAMIC ENERGY ANALYSIS allows for the selection, in a simple and intuitive way, of HVAC system solutions at the highest levels, aimed at obtaining the best energy performance in buildings.
RHOSS, in collaboration with researchers of the "**Energy Department of the POLYTECHNIC OF TURIN**" and with the invaluable advice of Engineer Michele Vio (AiCARR past-president) has allows for the creation of this useful and increasingly fundamental tool to win the energy challenges of the coming years.


MILAN


LONDON

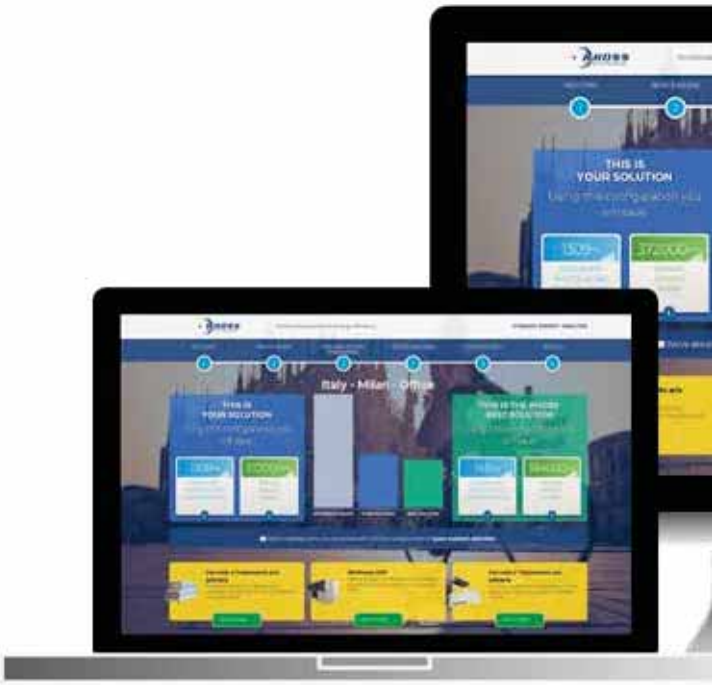

DUBAI


BARCELONA


MOSCOW


BERLIN


PARIS



Compared plant solutions

DYNAMIC ENERGY ANALYSIS allows for the energy simulation in buildings for offices and hotels in the climatic conditions of Milan, Rome, Bari, London, Barcelona, Paris, Berlin, Moscow and Dubai.
The comparison and selection parameters for buildings are the different levels of insulation as well as the percentage of glass surface (BUILDING&PLANT PARAMETERS – Step 3).
The different system solutions combine different generators, compressor technologies, pumping systems, exhaust heat exchangers and control systems.
This combination matrix makes it possible to identify the best energy solution in every city and for each building, from an energy perspective (RHOSS SOLUTION – Step 4) and to compare the energy savings obtained with other customised configurations according to the choices made (YOUR SOLUTION – Step 5).
The obtainable energy savings, in terms of primary energy, with respect to the standard system configuration of reference in the market are indicated for each system solution.
To better exemplify the energy savings, the new percentage index PROXIMITY TO ZERO has been defined in collaboration with the University of Turin.
The index expresses how much is required for the full coverage of the building's energy demand, depending on the photovoltaic surface installed to service the building.

Step1

Step2

Step3

Step4

Step5

Step6
Solution

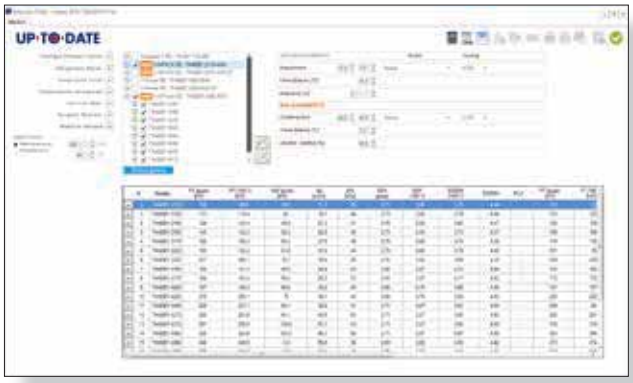
UP·TO·DATE

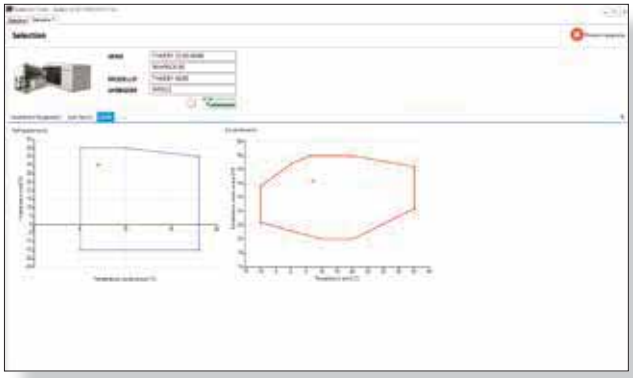
Readily available Rhoss solutions

UpToDate is the ideal tool for selecting the Rhoss product range and verify the technical data of each model. The integrated calculation engine requires the verification of feasibility of the proposed solution, the selection and technical dimensioning of the catalogue models.
A unique and fast way to always find the ideal solution for any application together with the high technology proposed by Rhoss products.

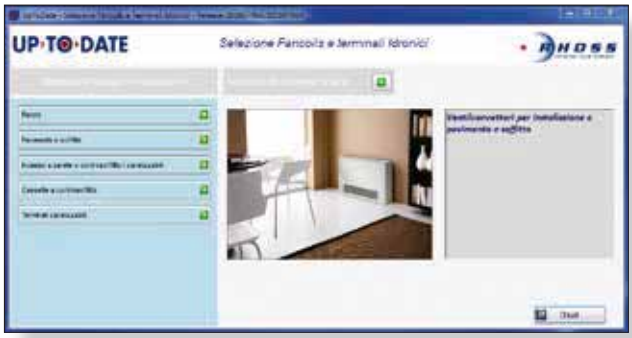
- Comprehensive instruments for choosing Rhoss products suitable for your needs.
- Fast search of Rhoss products.
- Always updated on the latest news.
- Detailed technical reports in 7 languages.
- **Chiller sorter also available on tablets and smartphones as a WEB application.**

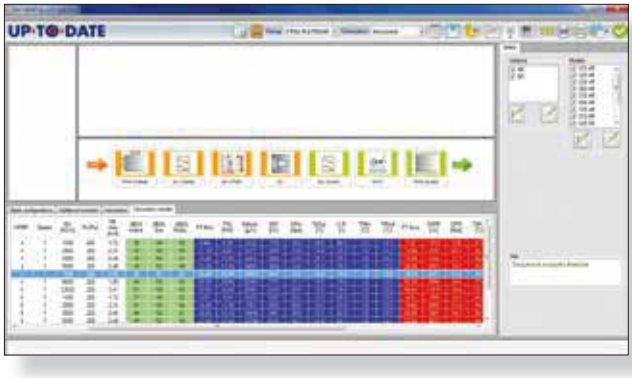
CHILLER selection





Fan-coil and hydronic terminal selection



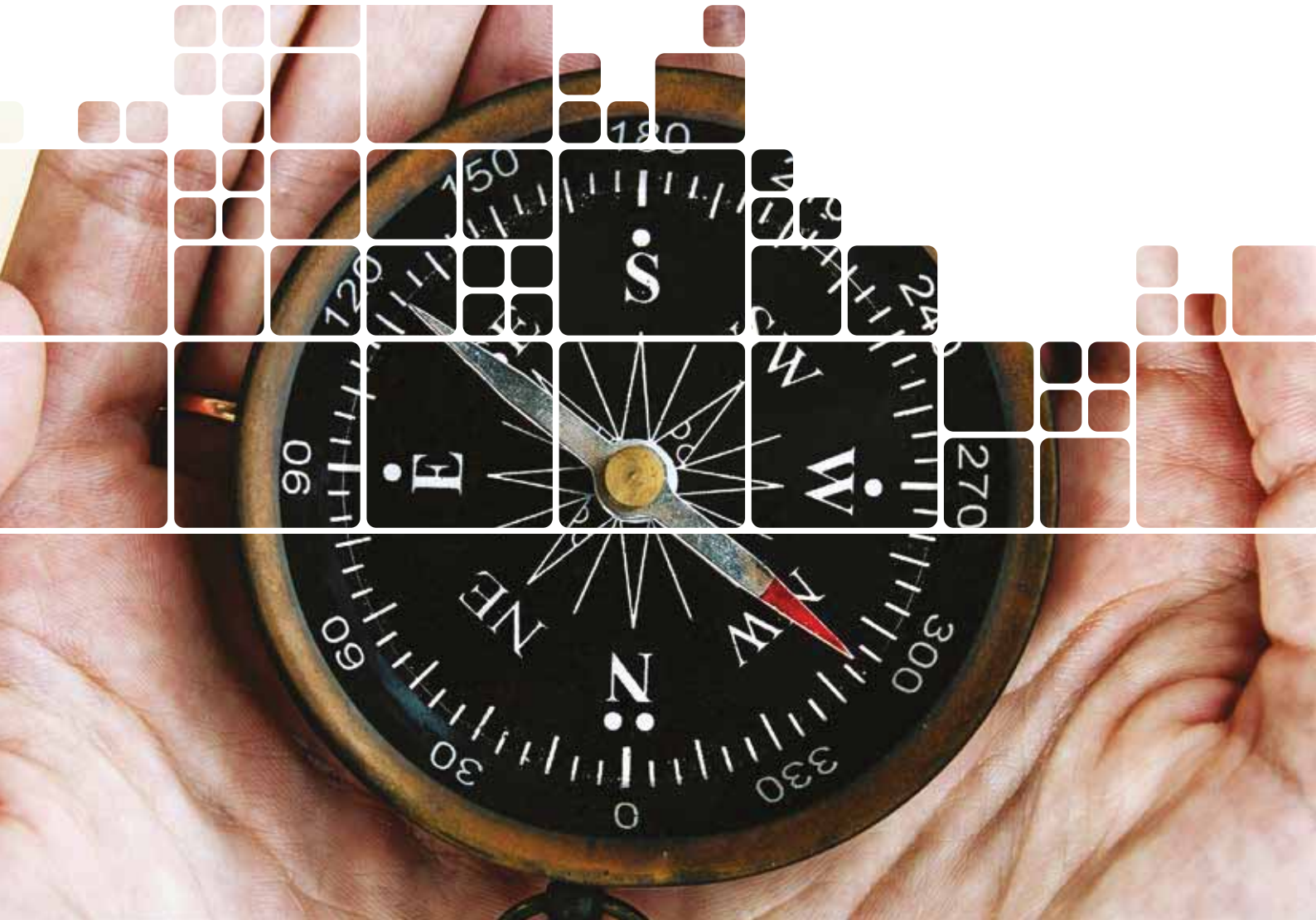



UP TO DATE
Dati Calcolati
Dettagli
Stampa
Salva la selezione tecnica
Chiudi

Rhoss services: customised solutions for your business.

"RHOSS SERVICE" is the service par excellence that Rhoss offers its clients in order to add value to the HVAC systems
Rhoss can create service programmes and instruments that makes it possible for us to always serve you better.
What are the most significant added value aspects for a HVAC system user?

1. obtaining constant performance without problems or concerns
2. optimising equipment operation
3. minimising energy consumption
4. keeping maintenance costs low
5. eliminating operational losses
6. limiting downtimes
7. foreseeable cost management
8. compliance with local governmental and environmental regulations



CONTRACTS - WARRANTY EXTENSION

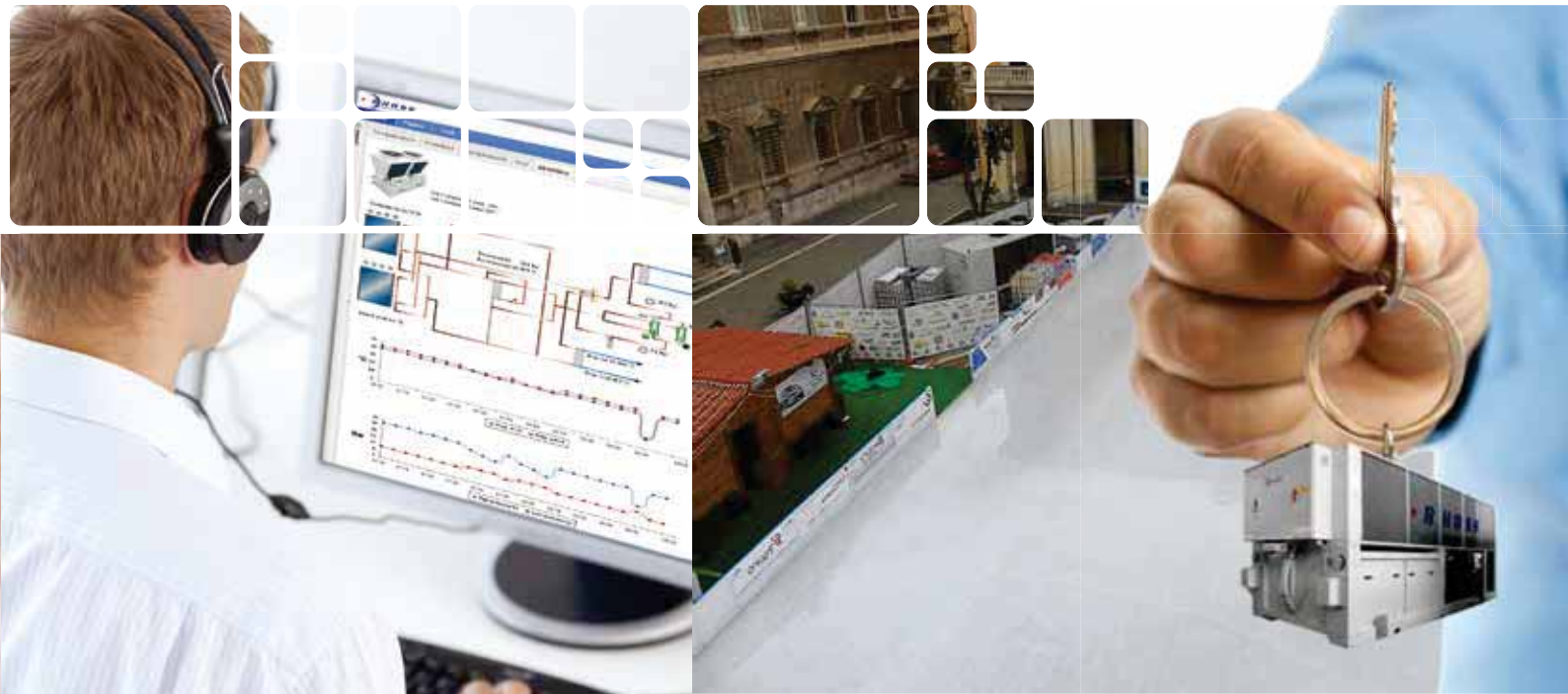
- Extended warranties are possible for all Rhoss units, which include labour and replacement of parts that are defective during the preselected extension period.
- The scheduled maintenance contracts (Basic, Program, Full Service and Global) are designed to offer operative efficiency, extend the useful life of your system and help reduce operational costs.

MACHINE FOR TEMPORARY USE - RENTING

- Rhoss Service also means medium and long term renting of air conditioning and heating equipment.
- Rhoss Service offers a wide range of versatile machines that can satisfy all cooling needs with an “all inclusive” formula. The supply foresees a turn-key rental, quick and timely coverage of any risk connected to maintenance and operating costs.
- The main field of use are ice rinks (specific machines for working at low temperatures) and machines for the wine sector.

EXTRAORDINARY MAINTENANCE - UNIT RE-ASSEMBLY

- Increasingly often, architectural barriers and structural constraints make it impossible to replace units in areas that are difficult to reach due to weights and dimensions that do not conform with the available spaces. Rhoss Service has a team of specialised technicians who are able to perform on site disassembly and reassembly operations for the machine to be positioned.
- The Rhoss Service team can take on any request for assistance and organise the following rapidly: technical inspection, drafting of a estimate for the repairs, decisive action following approval, a warranty of 12 months on the intervention performed and the comprehensive warranty restarting for a further 6 months from when the intervention is completed.



ELECTA - THAITY 105÷116

Low consumption Mini-Y NF - THAEY 105÷111 NF

Low consumption compact-I - TCAITY-THAITY 117÷128

Low consumption Compact-Y NF Plus - THAETY 115÷127 NF

Low consumption Compact-Y SM - THAEY 122÷130

Low consumption Compact-I MD - TCAITY-THAITY 236÷260

Low consumption Compact-Y MD - TCAEY-THAEY 233÷265

Low consumption POKER - THAETY 234 H.T.

Low consumption EasyPACK - TCAEY-THAEY 269÷2146

Low consumption WinPACK HE-A - TCAEY-THAEY 2110÷4340

Low consumption WinPACK SE - TCAEY-THAEY 2110÷4340

Y-Pack FREECOOLING - TFAEY-TGAEY 4160÷4320

Low consumption WinPOWER HE-A - TCAEY 4385÷8920 / THAEY 4385÷6700

Low consumption WinPOWER SE - TCAEY 4360÷8860 / THAEY 4360÷6670

FullPOWER HE-A - TCAVTZ-TCAVQZ 2345÷21335

FullPOWER SE - TCAVBZ-TCAVSZ 2335÷21275

FullPOWER VFD (1+i) - TCAITZ-TCAIQZ 2560÷21310

FullPOWER VFD - TCAITZ-TCAIQZ 2565÷21005

Z-Power SE - TCAVZ 21400÷21600

Z-Power FREECOOLING - TFAVBZ - TFAVIZ - TFAVSZ 2420÷21100

TurboPOWER - TCATBZ-TCATTZ-TCATQZ 1300÷31100

TurboPOWER ECO - TCATTE-TCATQE 1330÷3950

CHILLERS - HEAT PUMPS

Air cooled - Axial fans

Web code: **EL001**

ELECTA

THAITY 105÷116

Cooling capacity: 3.8÷12.6 kW - Heating capacity: 6.2÷15.2 kW

INVERTER

- **Operation up to –20°C outdoor air**
- **Temperature of the produced water up to 60°C**
- **COP > 4.2**
- **Plant control system integrated in the heat pump**

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

Construction features

- Compressor: hermetic, rotary brushless DC compressor, complete with thermal protection and Inverter-actuated.
- Expansion valve: electronic.
- Water side heat exchanger: Adequately insulated, stainless steel plates.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- 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.
- Control: microprocessor electronic control. Enables integrated control of the heat pump and the heating system, according to the various requirements of use of the energy sources and terminal units.
- RS485 interface for serial communication with other devices (Modbus RTU protocol).
- Outdoor temperature probe for set-point compensation.
- Structure: made of galvanised and painted steel plate complete with condensate drain pan and unit base antifreeze heater.

Models

- THAITY: heat pump unit.

PUMP set up

- Pump unit complete with: EC circulator, manual air vent valve, safety valve and pressure gauge.

Separately supplied accessories

- 3-way valve for the production of domestic hot water, managed by regulation.
- Rubber anti-vibration mounts.
- Water filter.
- Outdoor air probe with remote control option.
- Chronothermostat and user terminal (KCTR accessory).
- Rhoss supervisors for unit monitoring and remote management.

KCTR Accessory - Chronothermostat to be installed inside the home to manage operating temperatures and hours, to ensure maximum comfort and minimum power consumption. It also activates the main statuses and operating modes of the heat pump and shows the main machine control messages.

	THAITY MODEL		105	110	116
❶	MIN/NOM/MAX heating capacity	kW	1,8/6,2/6,4	1,9/9,8/9,8	8,8/15,2/16,7
❶	NOM absorbed power	kW	1,98	2,83	4,47
❶	C.O.P. NOM		3,12	3,44	3,4
❷	MIN/NOM/MAX heating capacity	kW	2,0/6,5/7,1	1,7/9,9/9,9	9,4/16,0/18,5
❷	NOM absorbed power	kW	1,49	2,15	3,81
❷	C.O.P. NOM		4,34	4,58	4,2
❸	MIN/NOM/MAX heating capacity	kW	2,4/4,7/5,3	5,1/6,5/9,0	6,5/10,6/12,8
❸	NOM absorbed power	kW	1,72	2,41	3,8
❸	C.O.P. NOM		2,7	2,7	2,8
❹	MIN/NOM/MAX cooling capacity	kW	1,6/3,8/3,8	2,4/5,5/7,7	2,1/12,6/12,9
❹	E.E.R. NOM		2,98	2,91	3
❺	Sound power	dB(A)	60	62	63
❻	Sound pressure	dB(A)	35	37	38
❹	Available circulator head	kPa	85	55	90
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50
	DIMENSIONS AND WEIGHTS		**105**	**110**	**116**
	L - Width	mm	898	850	1000
	H - Height	mm	675	882	1418
	P - Depth	mm	300	330	330
❼	Weight	kg	52	77	118

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 Sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN ISO 9614

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

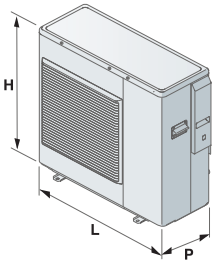
❼ Weight refers to most complete set up.

Performance according to EN 14511:2013

	SEASONAL ENERGY PERFORMANCE		105	110	116
	THAITY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	Pdesignh (EN 14825)	kW	8	11	17
③	SCOP (EN 14825)		3,99	4,20	4,03
④	η_s	%	157	165	158
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.811/213 and No.813/2013)



Web code: **MYN01**

Low consumption 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**
- **Operation up to -15°C outdoor air**

Packaged reversible air-cooled heat pumps with axial fans.
Range with scroll hermetic 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 WEIGHTS		**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.

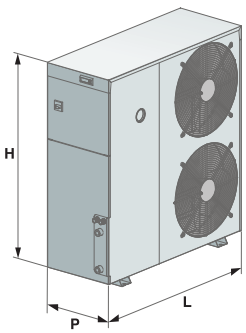
❻ Weight refers to most complete set up.

Performance according to EN 14511:2013

	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.811/213 and No.813/2013)



Web code: **CYI01**

Low consumption compact-I

TCAITY-THAITY 117÷128

Cooling capacity: 16.4÷27.6 kW - Heating capacity: 17.7÷28.5 kW

INVERTER

- **Operation up to -20°C outdoor air.**
- **Hot water production up to 60°C**
- **Excellent energy efficiency values**
- **Integrated MASTER/ SLAVE control**
- **Inertial buffer tank**

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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).
- -15°C condensing control with fans with EC motor.
- Silenced set up.
- Antifreeze heater on the tank.
- Circulator/electric pump antifreeze heater.
- Copper/pre-painted aluminium 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		117	124	128
❶	MIN/NOM/MAX cooling capacity	kW	8,7/16,4/17,3	12,6/24,3/25,9	13,4/27,6/28,7
❶	NOM absorbed power		5,22	8,15	8,85
❶	E.E.R. NOM		3,14	2,98	3,12
	THAITY MODEL		**117**	**124**	**128**
❷	MIN/NOM/MAX heating capacity	kW	6,6/17,7/18,8	9,7/24,3/26,7	10,4/28,5/30,6
❷	NOM absorbed power	kW	5,33	7,45	8,68
❷	C.O.P. NOM		3,32	3,26	3,28
❸	MIN/NOM/MAX heating capacity	kW	7,2/18,8/19,8	10,4/25,0/27,4	11,0/29,1/31,1
❸	NOM absorbed power	kW	4,59	6,09	7,09
❸	C.O.P. NOM		4,1	4,1	4,1
❹	MIN/NOM/MAX heating capacity	kW	4,2/12,3/13,8	8,1/18,1/23,1	8,1/22,9/24,8
❹	NOM absorbed power	kW	4,11	6,63	7,26
❹	C.O.P. NOM		2,99	2,73	3,15
❶	NOM cooling capacity	kW	16,2	23,8	27
❶	E.E.R. NOM		2,98	2,84	2,97
	TCAITY-THAITY MODEL		**117**	**124**	**128**
❺	Sound pressure	dB(A)	46	48	49
❺	Silenced set up sound pressure	dB(A)	44	46	47
❶	PO 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 WEIGHTS		**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	600	600	600
	P - TANK&PUMP Depth	mm	600	600	600
❻	PUMP Weight	kg	245	255	265
❻	TANK&PUMP Weight	kg	431	441	451

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 most complete set up.

Performance according to EN 14511:2013. P0/PI0 set up.

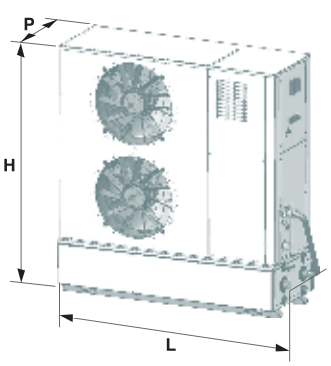
	SEASONAL ENERGY PERFORMANCE		117	124	128
	TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	16,4	24,3	27,6
①	SEER (EN 14825)		4,2	4,22	4,19
②	$\eta_{s,c}$	%	165	166	165
	THAITY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	Pdesignh (EN 14825)	kW	19	28	35
③	SCOP (EN 14825)		4,17	3,54	3,86
④	η_s	%	164	139	151
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.811/213 and No.813/2013)



TANK&PUMP

Web code: **CYP01**

Low consumption Compact-Y NF Plus

THAETY 115÷127 NF

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

- **Operation 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 scroll hermetic 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 set up 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 WEIGHTS		**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 most complete set up.

Performance according to EN 14511:2013. Set up with circulator.

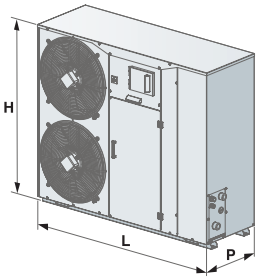
Important note:

- With circulator (P0/ASP0 set up) 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.811/213 and No.813/2013)



Web code: **CY001**

Low consumption Compact-Y SM

THAEY 122÷130

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

Packaged reversible air-cooled heat pumps
with axial fans. Range with scroll hermetic 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.
- Copper/pre-painted aluminium 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 set up 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 WEIGHTS		**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.

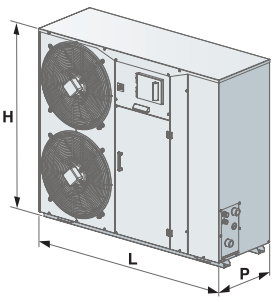
❺ Weight refers to most complete set up.

Performance according to EN 14511:2013. Set up 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	3,19
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.811/213 and No.813/2013)



Web code: **CYI11**

Low consumption Compact-I MD

TCAITY-THAITY 236÷260

Cooling capacity: 34.3÷58.3 kW - Heating capacity: 39.9÷68.9 kW

INVERTER

- **Operation up to -15°C outdoor air**
- **Hot water production up to 60°C**
- **Plug&Play unit with integrated hydraulic module**
- **Optional EC fans and inverter-based circulation pump**
- **Multipurpose 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

- Copper/pre-painted 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.
- -15°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		236	245	250	260
❶	MIN/NOM/MAX cooling capacity	kW	11/34,3/35,2	14,7/45,7/46,9	16/50/51,3	18,2/58,3/59,9
❶	NOM absorbed power		13,4	15,44	16,89	21,51
❶	E.E.R. NOM		2,56	2,96	2,96	2,71
	THAITY MODEL		**236**	**245**	**250**	**260**
❷	MIN/NOM/MAX heating capacity	kW	8,9/39,9/41,2	10,4/50,5/52,3	13/56,5/58,2	14,1/68,9/71,3
❷	NOM absorbed power	kW	12,4	15,3	17,5	21,5
❷	C.O.P. NOM		3,22	3,3	3,23	3,2
❸	MIN/NOM/MAX heating capacity	kW	9,7/39,3/40,5	12/51,3/53	13,9/54,7/56,4	16,3/70,3/72,6
❸	NOM absorbed power	kW	10,4	13,3	14,1	18,3
❸	C.O.P. NOM		3,77	3,85	3,89	3,84
❹	MIN/NOM/MAX heating capacity	kW	8,3/28,6/29,2	10,9/38,6/39,4	11,4/39/39,7	14,9/53/54,1
❹	NOM absorbed power	kW	11,7	15,1	14,9	20,7
❹	C.O.P. NOM		2,45	2,56	2,61	2,56
❶	MIN/NOM/MAX cooling capacity	kW	11/34,3/35,2	14,7/45,7/46,9	16/50/51,3	18,2/58,3/59,9
❶	E.E.R. NOM		2,56	2,96	2,96	2,71
	TCAITY-THAITY MODEL		**236**	**245**	**250**	**260**
❺	Sound pressure	dB(A)	54	56	56	57
❺	Silenced set up sound pressure	dB(A)	51	53	53	54
	Scroll inverter compressor	no.	1+i	1+i	1+i	1+i
	Circuits	no.	1	1	1	1
	Buffer tank water content (TANK&PUMP)	l	80	150	150	150
❶	Basic head pump nominal available head	kPa	129	101	114	111
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**236**	**245**	**250**	**260**
	L - Width	mm	1660	2660	2660	2660
	H - Height	mm	1570	1570	1570	1570
	P - Depth	mm	1000	1000	1000	1000
❻	TCAITY weight	kg	497	697	712	740
❻	THAITY weight	kg	507	717	732	760

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 most complete set up.

Performance according to EN 14511:2013.

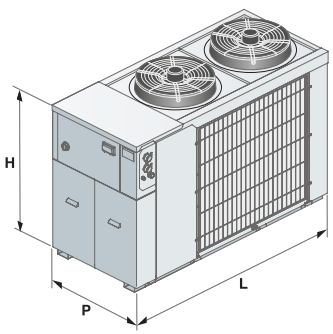
	SEASONAL ENERGY PERFORMANCE		236	245	250	260
	TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE					
①	Pdesignc (EN 14825)	kW	34,3	45,7	50	58,3
①	SEER (EN 14825)		4,41	4,36	4,31	4,22
②	$\eta_{s,c}$	%	173	171	169	166
	THAITY MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③	Pdesignh (EN 14825)	kW	33	44	45	60
③	SCOP (EN 14825)		4,23	4,06	4,36	4,24
④	η_s	%	166	159	171	167
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.811/213 and No.813/2013)



Web code: **CY011**

Low consumption 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 (°)**

Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic 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 axial 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.
- Copper/pre-painted aluminium 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 set up 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 WEIGHTS		**233**	**238**	**245**	**250**	**260**	**265**
	L - Width	mm	1660	2260	2260	2260	2260	2260
	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 most complete set up.

Performance according to EN 14511:2013

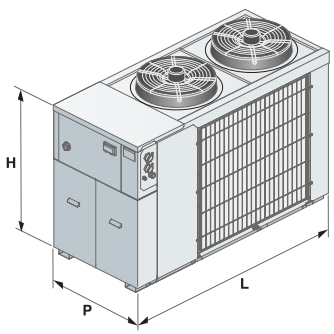
	SEASONAL ENERGY PERFORMANCE		233	238	245	250	260	265
	TCAEY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	32,3	38,5	43,9	51	58,8	63,7
①	SEER (EN 14825)		3,9	3,96	4	4,09	4,06	4,04
②	$\eta_{s,c}$	%	153	155	157	160	159	159
	THAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
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.811/213 and No.813/2013)



Web code: **PK001**

Low consumption 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 scroll hermetic 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 axial 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 set up 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 WEIGHTS		**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.

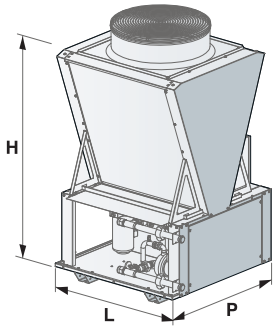
❻ Weight refers to P1 DS set up.

Performance according to EN 14511:2013

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.811/213 and No.813/2013)



Low consumption 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**
- **Multipurpose for systems with 2 pipes+DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**
- **HT65 version for 65°C water production (°)**

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 finned coil with copper pipes and aluminium fins
- 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 coated with polyester powders.
- The unit is also complete with:
  - compressor and fan 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, including an automatic pump in standby. The 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.
- 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 delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or Coil protection grilles.
- Copper/copper or copper/pre-painted aluminium coils.

TCAEBY 269

- 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.

Low consumption EasyPACK

TCAEY-THAEY 269÷2146

			269	279	289	296	2112	2125	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 WEIGHTS		**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 on the coil side.

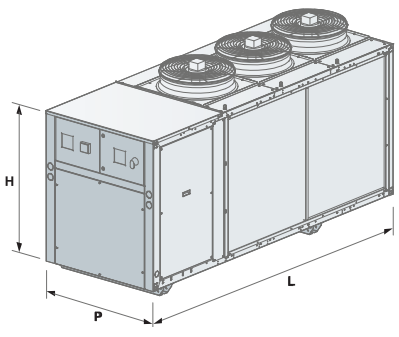
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

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

TCAESY-THAESY silenced versions.

TCAEQY-THAEQY super-silenced versions.

Performance according to EN 14511:2013.



	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.811/213 and No.813/2013)

Web code: WKE11

Low consumption 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

- **Class A chillers and heat pumps**
- **Standard electronic expansion valve**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

WinPACK-R COMING SOON

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 coated with polyester powders.
- The unit is also complete with:
  - compressor and fan 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, including an automatic pump in standby. The 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.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- 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 delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or Coil protection grilles.

TCAEQY 2150
with Tank&Pump

- 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.

Low consumption 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 WEIGHTS		**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.

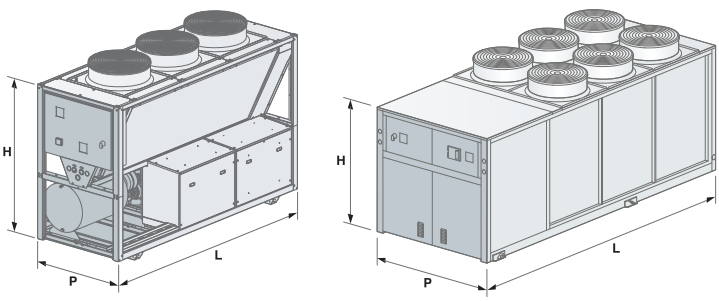
❸ In open field (Q = 2) at 10 m from the unit.

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 14511:2013.



	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.811/213 and No.813/2013)

Web code: **WK011**

Low consumption 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**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

WinPACK-R COMING SOON

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 coated with polyester powders.
- The unit is also complete with:
  - compressor and fan 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, including an automatic pump in standby. The 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.
- 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 ($\cos\phi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.

THAEBY 4310 with coil protection nets accessory

- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box or technical compartment soundproofing.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or Coil protection grilles.
- 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.

Low consumption 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 WEIGHTS		**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.

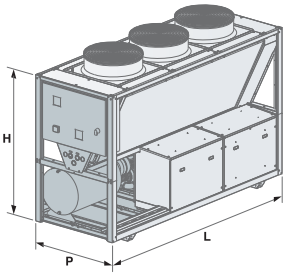
❸ In open field (Q = 2) at 10 m from the unit.

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 14511:2013.



	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.811/213 and No.813/2013)

Low consumption WinPACK SE

TCAEY-THAEY 2110÷4340

			4150	4170	4200	4220	4240	4270	4310	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 WEIGHTS		**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.

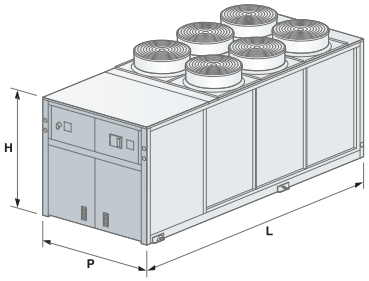
❸ In open field (Q = 2) at 10 m from the unit.

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 14511:2013.



	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.811/213 and No.813/2013)

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**

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 coated with polyester powders.
- The unit is also complete with:
  - compressor and fan 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 Freecooling NO-GLYCOL mode.
- TGAESY: silenced unit in Freecooling NO-GLYCOL mode.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic actuation pump in standby complete with safety valve. The 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 grilles.
- 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 WEIGHTS		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
L - Width	mm	4800	4800	4800	4800	5300	5300	5300
H - Height	mm	2030	2030	2030	2030	2030	2030	2030
P - Depth	mm	2090	2090	2090	2090	2090	2090	2090
❺ TFAETY-TFAESY Weight	kg	2370	2820	2920	3020	3230	3380	3430
❺ TGAETY-TGAESY Weight	kg	2470	2970	3070	3170	3280	3430	3480

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)

Web code: **WPE11**

Low consumption 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

- **CLASS A chillers**
- **Extended operating limits**
- **Up to 6 capacity steps**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

Reversible air cooled heat pumps and 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.
- 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 coated with polyester powders.
- 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, including an automatic pump in standby. The 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.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- 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 delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves
- Metal filters (THAEY) or Coil protection grilles.
- 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.

Low consumption 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 WEIGHTS		**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 WEIGHTS		**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.

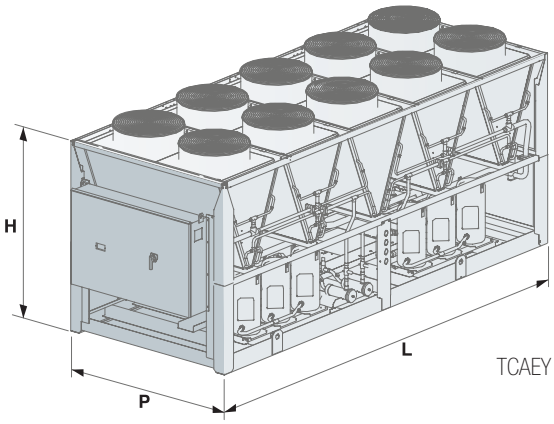
❸ In open field (Q = 2) at 10 m from the unit.

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 14511:2013.



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.811/213 and No.813/2013)

Low consumption 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 WEIGHTS		**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 WEIGHTS		**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.

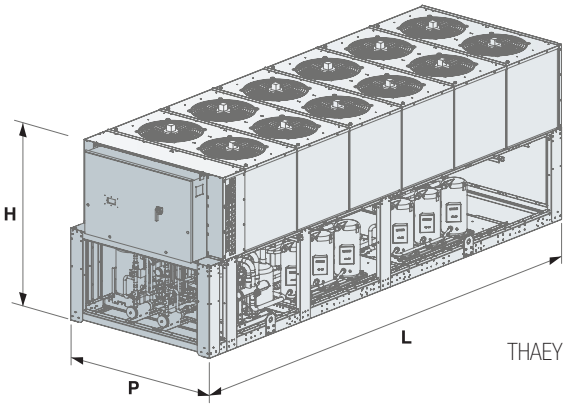
❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

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.811/213 and No.813/2013)

Web code: **WP011**

Low consumption 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 pump unit accessories**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/ SLAVE control**

Reversible air cooled heat pumps and 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.
- 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 coated with polyester powders.
- 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, including an automatic pump in standby. The 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.
- 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 delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters (THAEY) or Coil protection grilles.
- 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.

Low consumption 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 WEIGHTS		**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 WEIGHTS		**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.

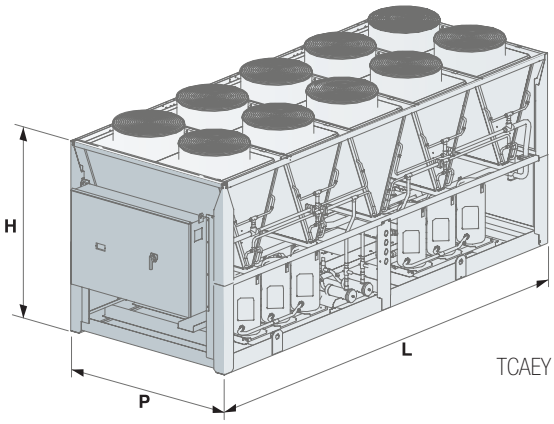
❸ In open field (Q = 2) at 10 m from the unit.

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 14511:2013.



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.811/213 and No.813/2013)

Low consumption 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 WEIGHTS		**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 WEIGHTS		**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.

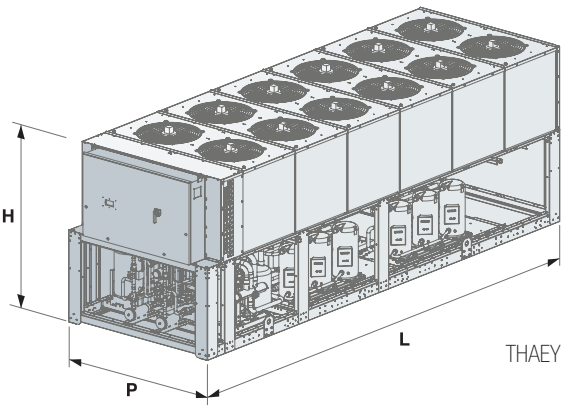
❸ In open field (Q = 2) at 10 m from the unit.

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 14511:2013.



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.811/213 and No.813/2013)

Web code: **FPE11**

FullPOWER HE-A

TCAVTZ-TCAVQZ 2345÷21335

Cooling capacity: 317÷1325 kW

new

TCAVQZ 2715

TCAVTZ 2425
with FIAP accessory and BCI

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

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

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with linear capacity control (25-100%). Star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High efficiency version with oversized condensing section (TCAVTZ).
- Q - Super-silenced version complete with soundproof compressor technical compartment, super-reduced speed fans and oversized condensing section (TCAVQZ).

Models

- TCAVTZ: high efficiency unit designed for cooling only.
- TCAVQZ: super silenced unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Oil level sensor.
- Forced limit of power consumption.

TCAVTZ 2585
with BCI accessory and P1 pump unit

- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- 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 WEIGHTS		**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.

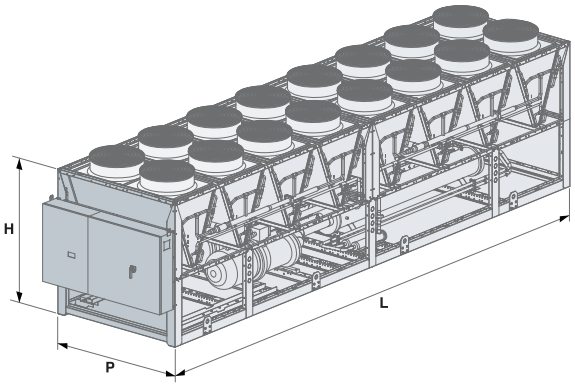
TCAVQZ super-silenced versions.

Performance according to EN 14511:2013.

	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 WEIGHTS		**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.

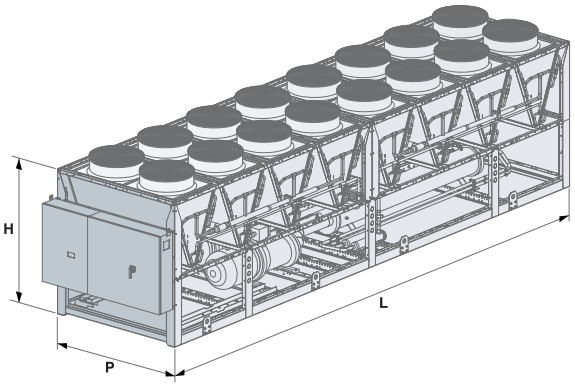
TCAVQZ super-silenced versions.

Performance according to EN 14511:2013.

	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

new

TCAVSZ 2865

TCAVTZ 2515 with FIAP accessory and BCI

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

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

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with linear capacity control (25-100%). Star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- 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, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control (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.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.

TCAVBZ 21275
with MCHXE accessory

- 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 WEIGHTS		**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.

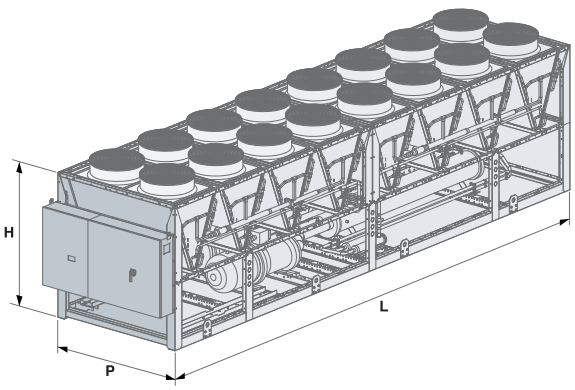
TCAVSZ silenced versions

Performance according to EN 14511:2013.

	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 WEIGHTS		**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.

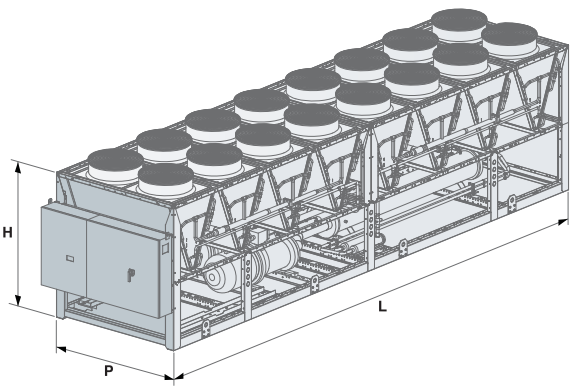
TCAVSZ silenced versions

Performance according to EN 14511:2013.

	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: **FPV21**

FullPOWER VFD (1+i)

TCAITZ-TCAIQZ 2560÷21310

Cooling capacity: 518÷1307.4 kW

INVERTER

new

TCAITZ 24560 with BCI60 accessory

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

Packaged air-cooled water chillers with axial fans. Range with stepless semi-hermetic screw compressors and with 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 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, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- 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.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- 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 WEIGHTS		**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.

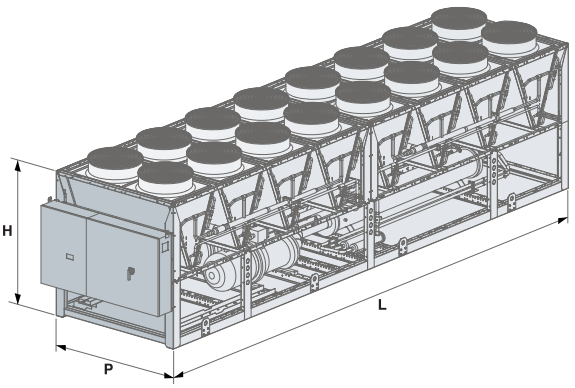
TCAIQZ super-silenced versions.

Performance according to EN 14511:2013.

	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: **FPV11**

FullPOWER VFD

TCAITZ-TCAIQZ 2565÷21005

Cooling capacity: 510÷1001.5 kW

INVERTER

new

TCAITZ 2565 with BCI60 accessory

- **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**

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, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- 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.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- 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 WEIGHTS		**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.

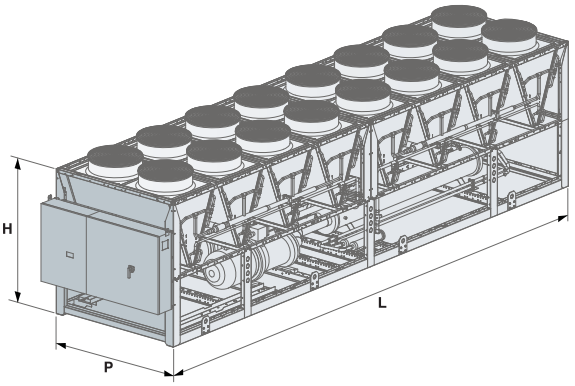
TCAIQZ super-silenced versions.

Performance according to EN 14511:2013.

	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)



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

- **Efficient range in R134a**
- **Installation flexibility up to 1,600 kW**
- **Standard electronic expansion valve**
- **Integrated MASTER/ SLAVE control**

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

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with 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 compressor lining (TCAVSZ).
- I - Soundproofed version with soundproofing compressor lining (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.
- 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 grilles.
- 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.
- Copper/pre-painted 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 WEIGHTS		**21400**	**21500**	**21600**
	L - Width	mm	10980	12980	12980
	H - Height	mm	2430	2430	2430
	P - Depth	mm	2260	2260	2260
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.

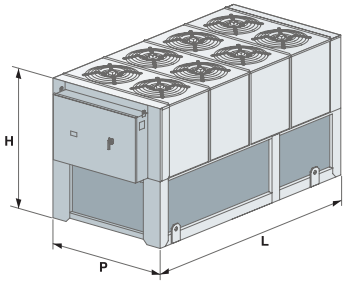
TCAVSZ silenced versions.

Performance according to EN 14511:2013.

	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)



Web code: **ZPF01**

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 and R134a refrigerant gas compressors.

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 coated with polyester powders.
  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 grilles.
- 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.
- Copper/pre-painted 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.

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 WEIGHTS		**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 WEIGHTS		**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)

Web code: **TP011**

TurboPOWER

TCATBZ-TCATTZ-TCATQZ 1300÷31100

Cooling capacity: 267.0÷1101 kW

new

TCATTZ 31100 with FIAP accessory

TCATBZ 1400 with PTL-RPE-FIAP accessories

- **Efficient, quiet and low start-up current oil-free compressor**
- **Efficiency above Class A, with SEER up to 5.86**
- **Wide range of accessories**
- **Integrated MASTER/ SLAVE control**

Packaged 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-up, equipped with magnetic levitation bearings and complete with integral protection and suction 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, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- -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 grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps, 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 WEIGHTS		**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.

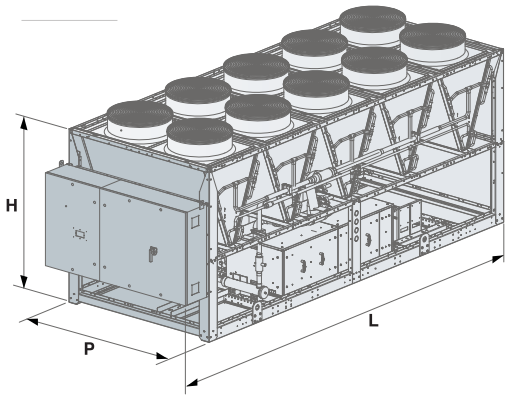
TCATQZ super silenced versions

Performance according to EN 14511:2013.

	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)



Web code: **TP014**

TurboPOWER ECO

TCATTE-TCATQE 1330÷3950

Cooling capacity: 323.2÷948.6 kW

HFO 1234ze

new

TCATTE 3950 with FIAP accessory

TCATTE 1330 with PTL-RPE-FIAP accessories

- **Efficiency above Class A, with SEER up to 5.85**
- **Efficient, quiet and low start-up current oil-free compressor**
- **HFO R1234ze ecological gas**
- **Integrated MASTER/ SLAVE control**

Packaged 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-up, equipped with magnetic levitation bearings and complete with integral protection and suction 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 axial 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, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- 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 grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps, 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 WEIGHTS		**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.

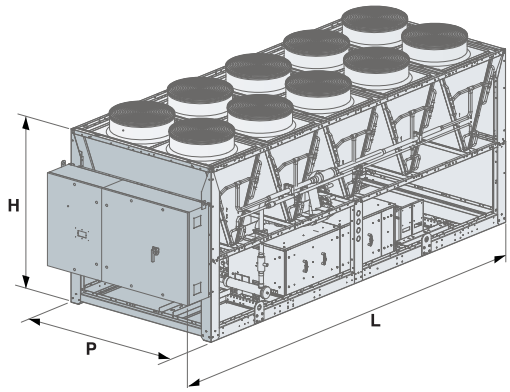
TCATQE super silenced versions

Performance according to EN 14511:2013.

	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

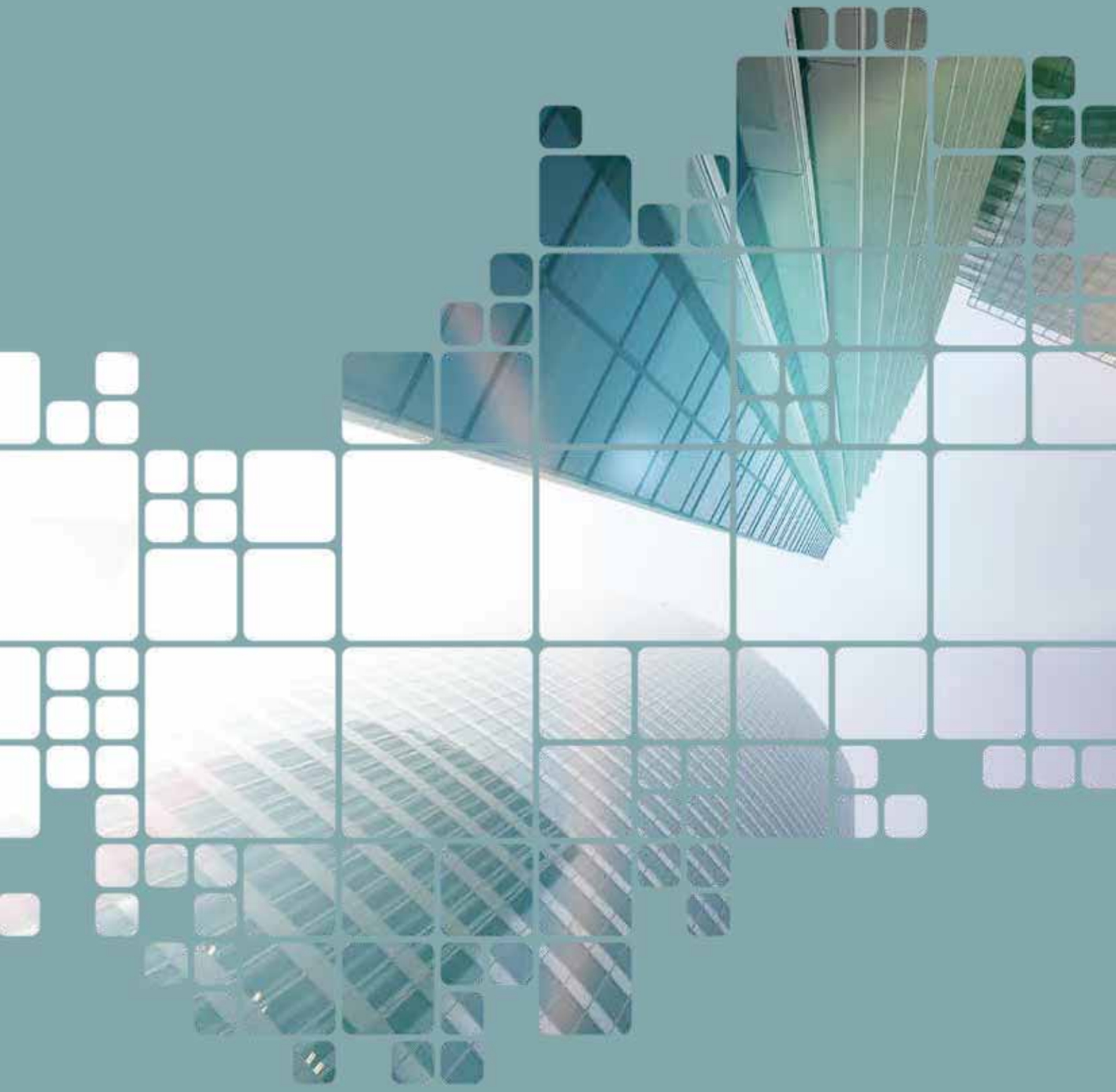
① Low temperature application (7°C)

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



Low consumption compact-ID - TCCITY-THCITY 117÷128

Low consumption Y-Pack C-PF - TCCETY-THCETY 233÷2160



CHILLERS - HEAT PUMPS

Air cooled - Centrifugal fans

Web code: **CID01**

Low consumption compact-ID

TCCITY-THCITY 117÷128

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

INVERTER

new

- **PLENUM-FANS with low consumption EC motor**
- **Vertically or horizontally ducted delivery.**
- **Winter operation up to -20°C outdoor air**
- **Hot water production 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.
- Copper/pre-painted aluminium 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	8,7/16,4/17,3	12,6/24,3/25,9	13,4/27,5/28,7
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	6,6/17,7/18,8	9,7/24,3/26,7	10,4/28,5/30,6
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	7,2/18,8/19,8	10,4/25,0/27,4	11,0/29,1/31,1
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 WEIGHTS		**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 most complete set up.

Performance according to EN 14511:2013. P0/P10 set up.

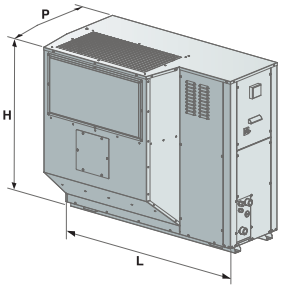
	SEASONAL ENERGY PERFORMANCE		117	124	128
	TCCITY MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	16,4	24,3	27,5
①	SEER (EN 14825)		4,54	4,52	4,59
②	$\eta_{s,c}$	%	179	178	181
	THCITY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	Pdesignh (EN 14825)	kW	19	28	35
③	SCOP (EN 14825)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

① Low temperature application (7°C)

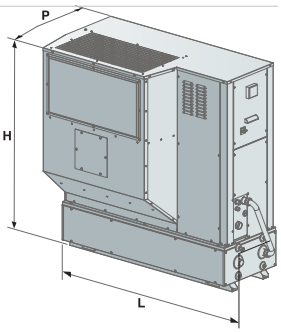
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



PUMP



TANK&PUMP

Web code: **YKC01**

Low consumption Y-Pack C-PF

TCCETY-THCETY 233÷2160

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

TCCETY 2130

THCETY 2270

- **High energy efficiency range**
- **“Plug-Fan” type centrifugal fans with EC motor (brushless)**
- **3 capacity steps**

Water chillers and high efficiency packaged reversible heat pumps with air cooled and 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

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 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 pressure gauge.
- Desuperheater.
- 100% heat recovery unit
- Electronic expansion valve.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft starter.
- Compressor soundproofing.
- Cooling circuit high and low pressure gauges.
- 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, 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.
- Clock board.
- 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	2,62	2,83
❶	Absorbed power	kW	12,38	13,9	16,26	18,55	21,98	24,31	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) on the basis of measurements taken in accordance with RS S/C/005-2009 and UNI EN-ISO 9614.

Performance according to EN 14511:2013.

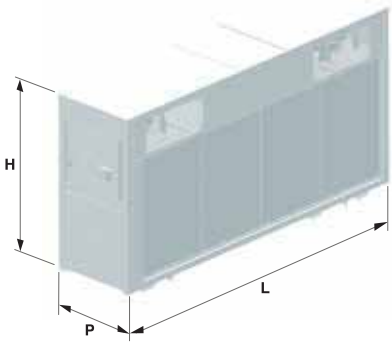
	SEASONAL ENERGY PERFORMANCE		233	238	245	250	260	265	270
	TCCETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	32,3	38,5	43,9	51	58,8	63,7	69,9
①	SEER (EN 14825)		4,41	4,39	4,36	4,4	4,41	4,41	4,42
②	$\eta_{s,c}$	%	173	172	172	173	173	173	174
	THCETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	31	35	42	48	53	60	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	135	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.811/213 and No.813/2013)



Low consumption 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.		2,9	2,81	2,71	2,93	2,89	2,86	2,86
❶	Absorbed power	kW	27.28	31,03	36,72	38,87	43,36	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	3,2	3,16	3,21	3,33	3,21	3,20
❷	Absorbed power in winter mode	kW	25,53	30,13	34,95	37,69	41,92	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) on the basis of measurements taken in accordance with RS S/C/005-2009 and UNI EN-ISO 9614.

Performance according to EN 14511:2013.

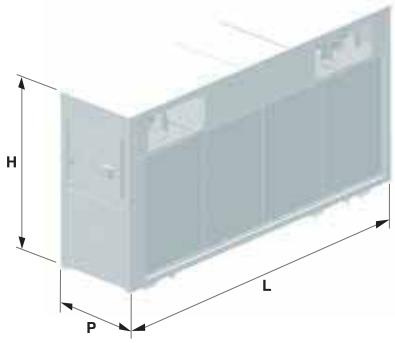
	SEASONAL ENERGY PERFORMANCE		280	290	2100	2115	2130	2145	2160
	TCCETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	79,1	87,5	100,6	113,9	125,3	142,2	160,1
①	SEER (EN 14825)		4,4	4,38	4,37	4,41	4,35	4,39	4,34
②	$\eta_{s,c}$	%	173	172	172	173	171	173	171
	THCETY MODEL SEASONAL 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		-	-	-	-	-	-	-

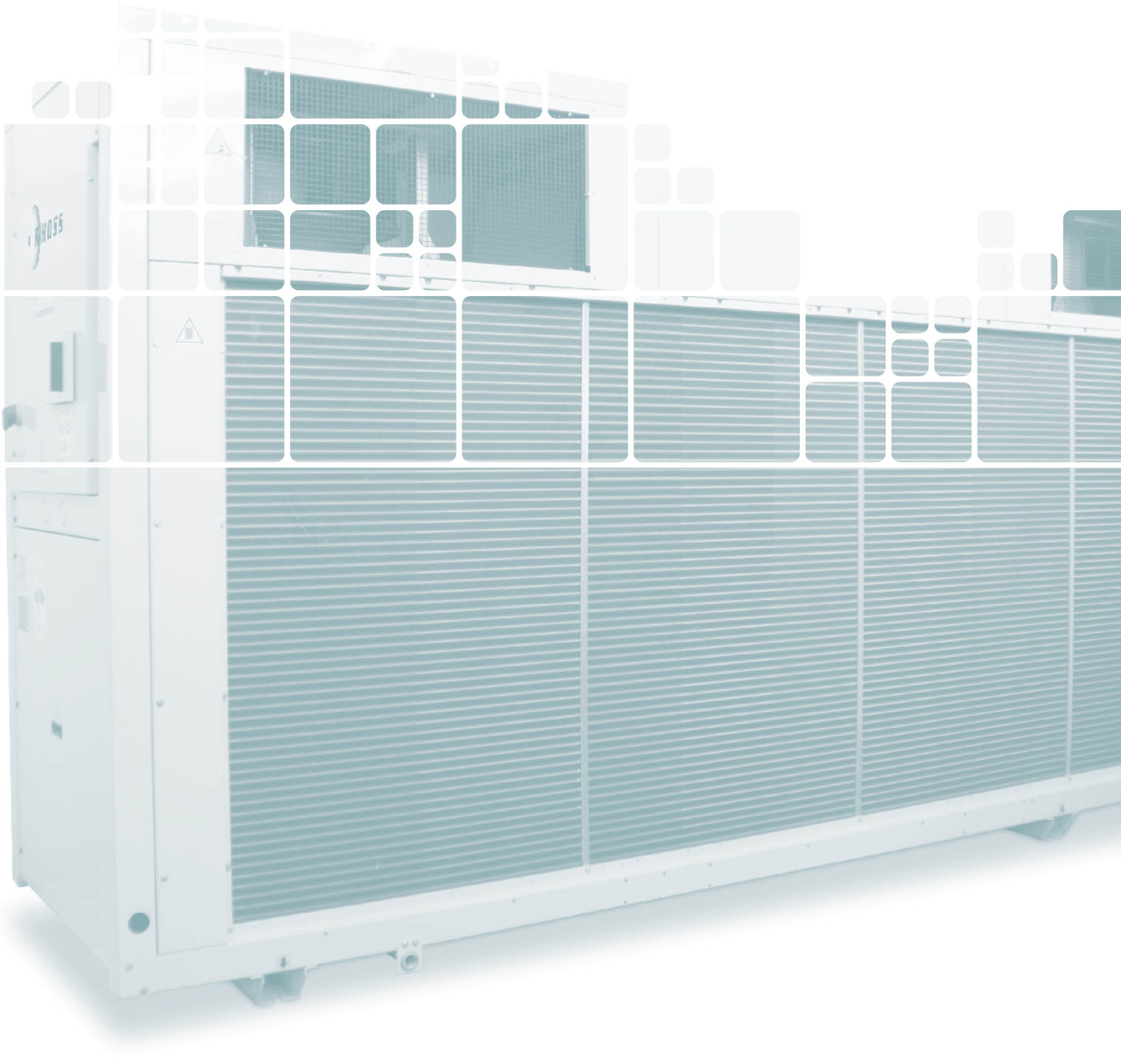
① Low temperature application (7°C)

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.811/213 and No.813/2013)





Low consumption Comby-Flow - THHEY 105÷112

Low consumption Y-Flow - TCHEY-THHEY 115÷240

Low consumption Y-Flow - TCHEY-THHEY 245÷4450

Z-Flow HE - TCHVZ 1201÷31631

Low consumption Y-Flow E - TCEEY 115÷240

Low consumption Y-Flow E - TCEEBY 245÷4360

Z-Flow E - TCEVZ 1200÷31630

CHILLERS - HEAT PUMPS

Water cooled - Condenserless

Web code: **CF001**

Low consumption Comby-Flow

THHEY 105÷112

Cooling capacity: 5.3÷11.9 kW - Heating capacity: 6.6÷13.7 kW

- **Extremely compact and silent units**

Water cooled, reversible, packaged heat pumps on cooling circuit. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll type, complete with thermal protection.
- Primary side (user) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Well or mains side (disposal) heat exchanger: with suitably insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating, complete with soundproofed compressor.

Models

- THHEY: heat pump unit.

STANDARD set up

- Without electric circulation pump.
  Primary side (user): membrane expansion tank, safety valve, water drain valve, manual air vent valve, and pressure gauge.

PUMP set up

- With electric circulation pump.
  Primary side (user): pump unit complete with electric circulation pump, membrane expansion tank, safety valve, water drain valve, manual air vent valve and pressure gauge.

Factory fitted accessories

- Pressure switch valve and bypass solenoid valve (only THHEY).
- Digital input for double set-point
- 4-20mA analogue signal for shifting set-point.

Separately supplied accessories

- Buffer tank.
- Buffer tank connection pipes.
- Water filter.
- Rubber anti-vibration mounts.
- Antifreeze heater on the buffer tank.
- Low pressure switch.
- 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.

	THHEY MODEL		105	107	109	112
❶	Heating capacity	kW	6,58	8,1	10,9	14
❶	Absorbed power	kW	2,08	2,8	3,35	4,5
❶	C.O.P.		3,16	2,89	3,03	3,1
❷	Heating capacity	kW	7,5	9,7	12,7	15
❷	Absorbed power	kW	1,6	2,1	2,72	3,33
❷	C.O.P.		4,68	4,61	4,67	4,51
❸	Heating capacity (geothermal)	kW	5,4	7,3	9,4	11,3
❸	Absorbed power (geothermal)	kW	1,5	2,15	2,78	3,34
❸	C.O.P. (geothermal)		3,62	3,39	3,38	3,39
❹	Cooling capacity	kW	5,3	6,8	9,2	11,9
❹	Absorbed power	kW	1,60	2,19	2,79	3,67
❹	E.E.R.		3,31	3,11	3,3	3,24
❺	Sound pressure	dB(A)	49	51	51	53
	Scroll/step compressor	no.	1/1	1/1	1/1	1/1
	KA buffer tank water content	l	20	20	30	30
❹	Available circulator head	kPa	47	55	82	77
	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 WEIGHTS		**105**	**107**	**109**	**112**
	L - Width	mm	585	585	660	660
	H - STANDARD height - PUMP	mm	535	535	535	535
	H - STANDARD height - PUMP + KA	mm	855	855	855	855
	P - Depth	mm	386	386	420	420
❻	Weight	kg	78	83	94	97
	KA Weight	kg	28	28	33	33

Data at the following conditions:

❶ Hot water: 40/45°C - Evaporator water: 10/7°C.

❷ Hot water: 30/35°C - Evaporator water: 10/7°C.

❸ Hot water: 30/35°C - Evaporator water: 0/–3°C, 30% glycol.

❹ Chilled water: 12/7°C - Condenser water: 30/35°C.

❺ In open field (Q = 2) at 1 m from the unit.

❻ Weight refers to most complete set up.

Performance according to EN 14511:2013. Standard Set up

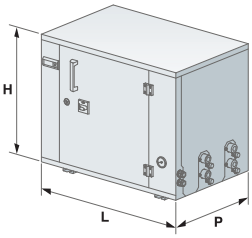
KA = buffer tank.

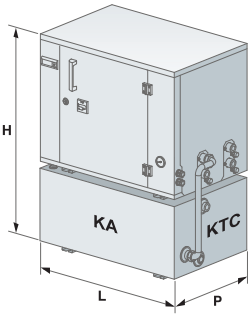
KTC = connecting pipe.

	SEASONAL ENERGY PERFORMANCE		105	107	109	112
	THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③	Pdesignh (EN 14825)	kW	9	12	16	19
③	SCOP (EN 14825)		5,37	5,55	5,53	5,17
④	η_s	%	207	214	213	199
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.811/213 and No.813/2013)





Web code: **YF011**

Low consumption Y-Flow

TCHEY-THHEY 115÷240

Cooling capacity: 15.5÷41.7 kW - Heating capacity: 17.4÷45.1 kW

- **Applications with well water, water mains or geothermal probes**
- **Plug&Play Unit with upward hydraulic connections**

Reversible packaged heat pumps and water chillers on the cooling circuit
with water-cooling. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll complete with thermal protection and casing heater.
- Primary side (user) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Disposal unit side (well/mains/geothermal probes) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch (for THHEY).
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating, internally covered with soundproof panelling.

Models

- TCHEY: unit designed for cooling only.
- THHEY: heat pump unit.

Factory fitted accessories

- PUMP:
  - Primary side (user): pump unit complete with electric circulation pump with standard or oversized head, membrane expansion tank, safety valve, water fill/drain valve, manual air vent valve and pressure gauge.
  - Disposal side (geothermal probes/dry cooler): pump unit complete with phase cutting electric pump, water fill/drain valve and manual air vent valve.
- Silenced set up.
- Pressure switch valve with water flow lock solenoid.
- Pressure switch valve with water flow lock solenoid and bypass solenoid valve.
- Water circuit heat pump (for TCHEY only).
- Soft-start device.
- Low water set-point temperature.
- Digital input for double set-point.
- 4-20mA analogue signal for shifting set-point.

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.
- Free-cooling kit.
- Water filter.
- Rubber anti-vibration mounts.
- 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.

	TCHEY MODEL		115	118	122	125	230	240
❶	Cooling capacity	kW	15,5	18,4	22,7	26,3	30,5	41,7
❶	Absorbed power	kW	3,27	3,49	4,5	5,01	6,64	8,07
❶	E.E.R.		4,74	5,27	5,04	5,25	4,59	5,17
	THHEY MODEL		**115**	**118**	**122**	**125**	**230**	**240**
❷	Heating capacity	kW	17,4	20,2	25,1	28,9	35,9	45,1
❷	Absorbed power	kW	3,95	4,41	5,59	6,3	8,05	10,11
❷	C.O.P.		4,4	4,58	4,49	4,59	4,46	4,46
❸	Heating capacity	kW	18,6	21,5	26,6	30,7	38,5	47,9
❸	Absorbed power	kW	3,29	3,55	4,45	5,04	6,63	8,09
❸	C.O.P.		5,66	6,05	5,97	6,09	5,81	5,92
❹	Heating capacity (geothermal)	kW	13,4	15,3	18,6	21,7	27,7	33,8
❹	C.O.P. (geothermal)		4,12	4,21	4,37	4,49	4,23	4,3
❶	Cooling capacity	kW	13,9	16,3	20	23,1	27,3	35,9
❶	E.E.R.		3,81	4,13	4,15	4,19	3,79	4,09
	TCHEY - THHEY MODEL		**115**	**118**	**122**	**125**	**230**	**240**
❺	Sound pressure	dB(A)	42	42	46	47	48	52
	Scroll/step compressor	no.	1/1	1/1	1/1	1/1	2/2	2/2
	Circuits	no.	1	1	1	1	1	1
❶	Std system side electric pump available head	kPa	88	81	73	113	105	115
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**115**	**118**	**122**	**125**	**230**	**240**
	L - Width	mm	700	700	700	700	700	700
	H - STANDARD height - PUMP	mm	1140	1140	1140	1140	1140	1140
	P - Depth	mm	560	560	780	780	780	780
❻	Weight	kg	193	193	230	254	278	298

Data at the following conditions:

❶ Chilled water: 12/7°C - Condenser water: 30/35°C.

❷ Hot water: 40/45°C - Evaporator water: 10/7°C.

❸ Hot water: 30/35°C - Evaporator water: 10/7°C.

❹ Hot water: 30/35°C - Evaporator water: 0/–3°C, 30% glycol.

❺ In open field (Q = 2) at 1 m from the unit, with silenced set up.

❻ Weight refers to most complete set up.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		115	118	122	125	230	240
	TCHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	15,5	18,4	22,7	26,3	30,5	41,7
①	SEER (EN 14825)		5,35	5,58	5,57	5,72	6,08	5,82
②	$\eta_{s,c}$	%	206	215	215	221	235	225
	THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③	Pdesignh (EN 14825)	kW	23	27	33	38	48	59
③	SCOP (EN 14825)		6,09	6,42	6,43	6,53	6,58	6,72
④	η_s	%	236	249	249	253	255	261
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.811/213 and No.813/2013)

Web code 245÷2185: **YF021**
Web code 4180÷4450: **YF031**

Low consumption Y-Flow

TCHEY-THHEY 245÷4450

Cooling capacity: 41.2÷448.8 kW - Heating capacity: 50.23÷515.49 kW

TCHEY 2100

- **Applications with well water, water mains or geothermal probes**
- **Integrated MASTER/ SLAVE control**
- **HT65 version for 65°C water production (°)**

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

➔ The units can be equipped with up to a maximum of 2 electric pumps in mod. 245÷2185 and 4 electric pumps in mod. 4180÷4450. The PUMP set up is not included when there is a recovery unit or desuperheater.

Reversible packaged heat pumps and water chillers on the cooling circuit
with water-cooling. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll complete with thermal protection and casing heater.
- Primary side (user) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Disposal unit side (well/mains/geothermal probes) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch (for THHEY).
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:

- compressor circuit breaker switches;
- display of cooling circuit high and low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board;
- 0-10V analogue signal for condensing/evaporating control performed by external device.

Versions

- LT - Hot water production up to 52°C.
- HT - Hot water production up to 55°C.

Models

- TCHEY: unit designed for cooling only.
- THHEY: heat pump unit.

Factory fitted accessories

- PUMP primary side (user): with single or double electric pump, including an automatic pump in standby, complete with expansion tank, safety valve, water fill/drain valve, air vent valve and pressure gauge. The electric pumps are available in the low or high pressure head versions. ➔
- PUMP disposal side (geothermal probes/dry cooler): with single or double electric pump regulated via inverter including an automatic actuation pump in standby. ➔
- Desuperheater. ➔
- 100% heat recovery unit (mod. 245÷4360). ➔
- Water circuit heat pump (for TCHEY only).
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft-starter.
- Energy parameter measuring device.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Forced limit of power consumption.
- Electronic expansion valve (standard for mod. 4410-4450).
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Silenced set up.
- Control of min/max power supply voltage.
- Low temperature water production.
- Digital input for double set-point.
- 4-20mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Rubber anti-vibration mounts.

THHEY 4260

Separately supplied accessories

- 3-way modulating condensing control valve.
- 2-way modulating condensing control valve.
- Outdoor air temperature probe for set-point compensation.
- Free-cooling kit (mod. 245÷2185).
- Water filter.
- Remote keypad with display.
- Thermostat with display.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of multiple chillers.

Low consumption Y-Flow

TCHEY-THHEY 245÷4450

	TCHEY MODEL		245	250	260	270	275	290	2100	2115	2130	2145	2165	2185
❶	Cooling capacity	kW	45	53	60,3	68,9	75,5	89,6	102,6	116,8	130,5	145,1	164,9	184
❶	Absorbed power	kW	9,85	11,42	13,19	15,01	16,52	19,27	22,55	25,55	29	31,82	37,06	42,01
❶	E.E.R.		4,57	4,64	4,57	4,59	4,57	4,65	4,55	4,56	4,5	4,56	4,45	4,38
	THHEY MODEL		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
❷	Heating capacity	kW	50,2	59,1	67,9	75,7	84,1	102,4	117	133,9	147,9	163,4	186,9	209,7
❷	Absorbed power	kW	12,24	14	15,98	17,73	19,93	24,04	27,86	31,58	35,47	39,56	45,92	52,29
❷	C.O.P.		4,1	4,22	4,25	4,27	4,22	4,26	4,2	4,24	4,17	4,13	4,07	4,01
❶	Cooling capacity	kW	41,2	48,5	55,2	63	69,1	81,9	95,7	109,1	120,7	134,3	152,2	169,9
❶	E.E.R.		4,32	4,38	4,36	4,31	4,31	4,31	4,35	4,35	4,3	4,29	4,08	4,02
	TCHEY - THHEY MODEL		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
❸	Sound power	dB(A)	67	67	68	68	69	70	71	72	73	74	74	75
	Scroll/step compressor	no.	2/2	2/2	2/2	2/2	2/3	2/2	2/3	2/3	2/3	2/2	2/3	2/2
	Circuits	no.	1	1	1	1	1	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	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
❹	L - Width	mm	1020	1020	1020	1020	1020	1020	1270	1270	1270	1270	1270	1270
❺	L - Width	mm	1250	1250	1250	1250	1250	1250	1500	1500	1500	1500	1500	1500
	H - Height	mm	1470	1470	1470	1470	1470	1470	1620	1620	1620	1620	1620	1620
	P - Depth	mm	870	870	870	870	870	870	870	870	870	870	870	870
❻	Weight TCHEY LT	kg	395	405	410	425	435	450	695	710	730	755	770	775
❻	Weight TCHEY HT	kg	425	430	440	460	470	480	740	770	800	825	850	855
❻	Weight THHEY LT	kg	405	415	425	440	450	460	700	720	750	755	790	800
❻	Weight THHEY HT	kg	435	445	455	470	480	495	755	790	820	845	870	880

Data at the following conditions:

❶ Chilled water: 12/7°C. - Condenser water: 30/35°C.

❷ Hot water: 40/45°C. - Evaporator water: 10/7°C.

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

❹ Width referring to the unit with standard set up or supplied with "recovery" or "desuperheater" accessories.

❺ Width referring to the PUMP set up, up to a maximum of 2 pumps in mod. 245÷2185 (2 user side or disposal unit side pumps or 1 user side pump + 1 disposal unit side pump) and up to a maximum of 4 pumps in mod. 4180÷4450 (2 pumps on user side and 2 pumps on disposal unit side).

❻ Empty weight

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		245	250	260	270	275	290	2100	2115	2130	2145	2165	2185
	TCHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE													
①	Pdesignc (EN 14825)	kW	45,1	53,1	60,4	69	75,6	89,8	102,7	117	130,7	145,3	165,1	184,1
①	SEER (EN 14825)		5,68	5,82	5,91	5,83	6	5,85	5,81	5,97	5,91	5,88	5,97	5,72
②	$\eta_{s,c}$	%	219	225	229	225	232	226	224	231	228	227	231	221
	THHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE													
①	Pdesignc (EN 14825)	kW	-	-	-	-	-	-	-	-	-	-	-	-
①	SEER (EN 14825)		-	-	-	-	-	-	-	-	-	-	-	-
②	$\eta_{s,c}$	%	-	-	-	-	-	-	-	-	-	-	-	-
	THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE													
③	Pdesignh (EN 14825)	kW	61	71	81	91	101	122	140	159	174	196	224	250
③	SCOP (EN 14825)		6,48	6,53	6,42	6,4	6,68	6,32	6,37	6,34	6,13	6,05	6,13	5,84
④	η_S	%	251	253	249	248	259	245	247	246	237	234	237	226
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.811/213 and No.813/2013)

	TCHEY MODEL		4180	4205	4235	4260	4290	4330	4360	4410	4450
❶	Cooling capacity	kW	180,6	206,5	232,2	259,8	287,2	325,6	362,8	407,1	448,8
❶	Absorbed power	kW	37,78	43,2	48,58	54,58	60,46	69,72	79,39	90,87	103,17
❶	E.E.R.		4,78	4,78	4,78	4,76	4,75	4,67	4,57	4,48	4,35
	THHEY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❷	Heating capacity	kW	202,2	231	259,2	292,3	323,9	369,3	414	464,4	515,5
❷	Absorbed power	kW	45,95	53,35	60,85	68,45	75,85	87,93	99,52	116,98	127,92
❷	C.O.P.		4,4	4,33	4,26	4,27	4,27	4,2	4,16	3,97	4,03
❶	Cooling capacity	kW	160,4	183,5	206,5	231,4	255,2	292,7	330,1	373,9	412,9
❶	E.E.R.		4,42	4,29	4,22	4,19	4,16	4,14	4,16	4,1	4,03
	TCHEY - THHEY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❸	Sound power	dB(A)	77	77	78	79	80	81	82	83	84
	Scroll/step compressor	no.	4/4	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	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
	DIMENSIONS AND WEIGHTS		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❹	L - Width	mm	2600	2600	2600	2600	2600	2600	2600	2600	2600
❺	L - Width	mm	3734	3734	3734	3734	3734	3734	3734	3734	3734
	H - Height	mm	1860	1860	1860	1860	1860	1860	1860	1860	1860
	P - Depth	mm	870	870	870	870	870	870	870	870	870
❻	Weight TCHEY LT	kg	1350	1410	1440	1460	1500	1530	1570	1720	1750
❻	Weight TCHEY HT	kg	1440	1470	1510	1540	1600	1650	1680	1750	1790
❻	Weight THHEY LT	kg	1380	1440	1470	1500	1530	1560	1600	1750	1780
❻	Weight THHEY HT	kg	1470	1500	1550	1570	1630	1680	1720	1790	1820

Data at the following conditions:

❶ Chilled water: 12/7°C. - Condenser water: 30/35°C.

❷ Hot water: 40/45°C. - Evaporator water: 10/7°C.

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

❹ Width referring to the unit with standard set up or supplied with "recovery" or "desuperheater" accessories.

❺ Width referring to the PUMP set up, up to a maximum of 2 pumps in mod. 245÷2185 (2 user side or disposal unit side pumps or 1 user side pump + 1 disposal unit side pump) and up to a maximum of 4 pumps in mod. 4180÷4450 (2 pumps on user side and 2 pumps on disposal unit side).

❻ Empty weight

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		4180	4205	4235	4260	4290	4330	4360	4410	4450
	TCHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	180,8	206,8	232,5	260,1	287,4	325,9	363	407,3	449
①	SEER (EN 14825)		5,75	5,93	6,11	6,12	6,1	6,03	5,93	6,02	5,92
②	$\eta_{s,c}$	%	222	229	236	237	236	233	229	233	229
	THHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	-	-	-	-	255,3	293	330,4	374	413,1
①	SEER (EN 14825)		-	-	-	-	5,82	5,79	5,88	5,51	5,91
②	$\eta_{s,c}$	%	-	-	-	-	225	224	227	213	228
	THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE										
③	Pdesignh (EN 14825)	kW	262	302	340	383	-	-	-	-	-
③	SCOP (EN 14825)		6,87	6,63	6,49	6,47	-	-	-	-	-
④	η_s	%	267	257	251	251	-	-	-	-	-
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.811/213 and No.813/2013)

Web code: **ZFE01**

Z-Flow HE

TCHVZ 1201÷31631

Cooling capacity: 203.3÷1,627.6 kW

TCHVBZ 31631 HE

- **33 sizes up to more than 1,600 kW**
- **Wide range of standard equipment**
- **Integrated MASTER/ SLAVE control**

Water cooled packaged water chillers.
Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta or part winding limited start up (depending on models) 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 (evaporator): 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.
- Water side heat exchanger (condenser): tube and shell complete with safety valve, and service valve on the high-pressure refrigerant gas circuit.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - clock board;
  - display of cooling circuit high/low pressure;
  - Master/Slave control up to 4 units in parallel;
  - 0-10V analogue signal for condensing control from external device.

Versions

- B - Standard version (TCHVBZ).
- I - Soundproofed version with soundproofing compressor lining (TCHVIZ).

Models

- TCHVBZ: unit designed for cooling only.
- TCHVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- VPF control.
- Desuperheater.
- 100% heat recovery unit
- Thermostat with display for heat recovery unit/ desuperheater.
- Set up for heat pump operation.
- Condenser Victaulic fittings.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves
- Linear capacity control compressors (50-100 % for each compressor).
- Evaporator antifreeze heater.
- 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.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.
- Rubber 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.

	TCHVBZ-TCHVIZ MODEL		1201	1231	1281	1311	1351	1421	1481	1531	1611
❶	Nominal cooling capacity	kW	203.3	230.2	282.1	308.0	352.8	416.4	478.2	533.0	605.9
❶	E.E.R.		4.95	4.96	4.97	4.96	4.95	4.93	4.94	4.94	4.95
❶	Absorbed power	kW	41.07	46.41	56.76	62.1	71.27	84.46	96.8	107.89	122.4
❷	Sound power	dB(A)	94	94	97	97	97	97	97	98	98
❷	Sound power	dB(A)	92	92	95	95	95	95	95	96	96
	Screw/step compressor	no.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
	Circuits	no.	1	1	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	400-3-50	400-3-50
	TCHVBZ DIMENSIONS AND WEIGHTS		**1201**	**1231**	**1281**	**1311**	**1351**	**1421**	**1481**	**1531**	**1611**
	L - Width	mm	3460	3460	3460	3460	3460	3460	3460	3460	3460
	H - Height	mm	1580	1580	1580	1580	1660	1660	1660	1760	1760
	P - Depth	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
❸	TCHVBZ Weight	kg	1343	1369	1715	1733	1885	2374	2413	2652	2697
❸	TCHVIZ Weight	kg	1598	1624	1970	1988	2140	2629	2668	2917	2952

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

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

❸ Empty weight.

TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		1201	1231	1281	1311	1351	1421	1481	1531	1611
	TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	203,3	230,2	282,1	308	352,8	416,4	478,2	533	605,9
①	SEER (EN 14825)		5,83	5,71	5,75	5,69	5,85	6,05	5,92	5,89	5,9
②	$\eta_{s,c}$	%	225	220	222	220	226	234	229	227	228

① Low temperature application (7°C)

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

	TCHVBZ-TCHVIZ MODEL		2411	2431	2461	2511	2561	2601	2631	2681	2711
❶	Nominal cooling capacity	kW	405.5	433.6	460.4	512.7	563.3	596.9	626.6	674.8	712.5
❶	E.E.R.		4.95	4.96	4.95	4.97	4.97	4.96	4.95	4.98	4.94
❶	Absorbed power	kW	81.92	87.42	93.01	103.16	113.34	120.34	126.59	135.5	144.23
❷	Sound power	dB(A)	97	97	97	99	99	99	99	99	99
❷	Sound power	dB(A)	95	95	95	97	97	97	97	97	97
	Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
	Circuits	no.	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
	TCHVBZ DIMENSIONS AND WEIGHTS		**2411**	**2431**	**2461**	**2511**	**2561**	**2601**	**2631**	**2681**	**2711**
	L - Width	mm	3780	3860	3860	4040	4040	4040	4040	4040	4040
	H - Height	mm	1770	1770	1770	1960	1960	1960	1960	1960	1960
	P - Depth	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
❸	TCHVBZ Weight	kg	2386	2413	2458	2953	3297	3320	3337	3404	3447
❸	TCHVIZ Weight	kg	2816	2843	2888	3383	3727	3750	3767	3834	3877

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

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

❸ Empty weight.

TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2411	2431	2461	2511	2561	2601	2631	2681	2711
	TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	405,5	433,6	460,4	512,7	563,3	596,9	626,6	674,8	712,5
①	SEER (EN 14825)		6,03	6,03	6,03	6,13	5,89	6,01	5,96	6,01	5,95
②	$\eta_{s,c}$	%	233	233	233	237	228	233	230	233	230

① Low temperature application (7°C)

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

Z-Flow HE

TCHVZ 1201÷31631

	TCHVBZ-TCHVIZ MODEL		2781	2841	2901	2961	21031	21111	21181	21261
❶	Nominal cooling capacity	kW	774.9	835.2	898.0	954.5	1026.1	1105.5	1176.7	1253.1
❶	E.E.R.		4.94	4.92	4.95	4.94	4.98	5.06	5.08	5.08
❶	Absorbed power	kW	156.86	169.76	181.41	193.22	206.04	218.48	231.63	246.67
❷	Sound power	dB(A)	99	99	99	99	99	99	99	99
❷	Sound power	dB(A)	97	97	97	97	97	97	97	97
	Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
	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
	TCHVBZ DIMENSIONS AND WEIGHTS		**2781**	**2841**	**2901**	**2961**	**21031**	**21111**	**21181**	**21261**
	L - Width	mm	4120	4000	4000	4000	4000	4000	4000	4000
	H - Height	mm	1960	1830	1910	1910	1950	1950	1950	1950
	P - Depth	mm	1300	1300	1300	1300	1300	1300	1300	1300
❸	TCHVBZ Weight	kg	3920	4406	4636	4669	4779	4870	4908	4934
❸	TCHVIZ Weight	kg	4350	4836	5066	5099	5209	5300	5338	5364

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

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

❸ Empty weight.

TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2781	2841	2901	2961	21031	21111	21181	21261
	TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	774,9	835,2	898	954,5	1026,1	1105,5	1176,7	1253,1
①	SEER (EN 14825)		5,92	5,89	5,88	5,98	5,9	5,95	5,95	6,01
②	$\eta_{s,c}$	%	229	228	227	231	228	230	230	233

① Low temperature application (7°C)

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

	TCHVBZ-TCHVIZ MODEL		31301	31351	31401	31461	31521	31591	31631
❶	Nominal cooling capacity	kW	1303.6	1351.2	1400.8	1457.3	1517,8	1576,2	1627,6
❶	E.E.R.		5.09	5.04	5.0	4.98	4,98	4,99	4,97
❶	Absorbed power	kW	256.11	268.1	280.16	292.63	304,78	315,87	327,48
❷	Sound power	dB(A)	101	101	101	102	102	102	102
❷	Sound power	dB(A)	99	99	99	100	100	100	100
	Screw/step compressor	no.	3/9	3/9	3/9	3/9	3/9	3/9	3/9
	Circuits	no.	3	3	3	3	3	3	3
	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
	TCHVBZ DIMENSIONS AND WEIGHTS		**31301**	**31351**	**31401**	**31461**	**31521**	**31591**	**31631**
	L - Width	mm	4940	4940	4940	4940	4940	4940	4940
	H - Height	mm	2180	2180	2180	2180	2220	2220	2220
	P - Depth	mm	1790	1790	1790	1790	1790	1790	1790
❸	TCHVBZ Weight	kg	6795	6827	6852	6891	6980	7068	7157
❸	TCHVIZ Weight	kg	7395	7427	7452	7491	7580	7668	7757

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

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

❸ Empty weight.

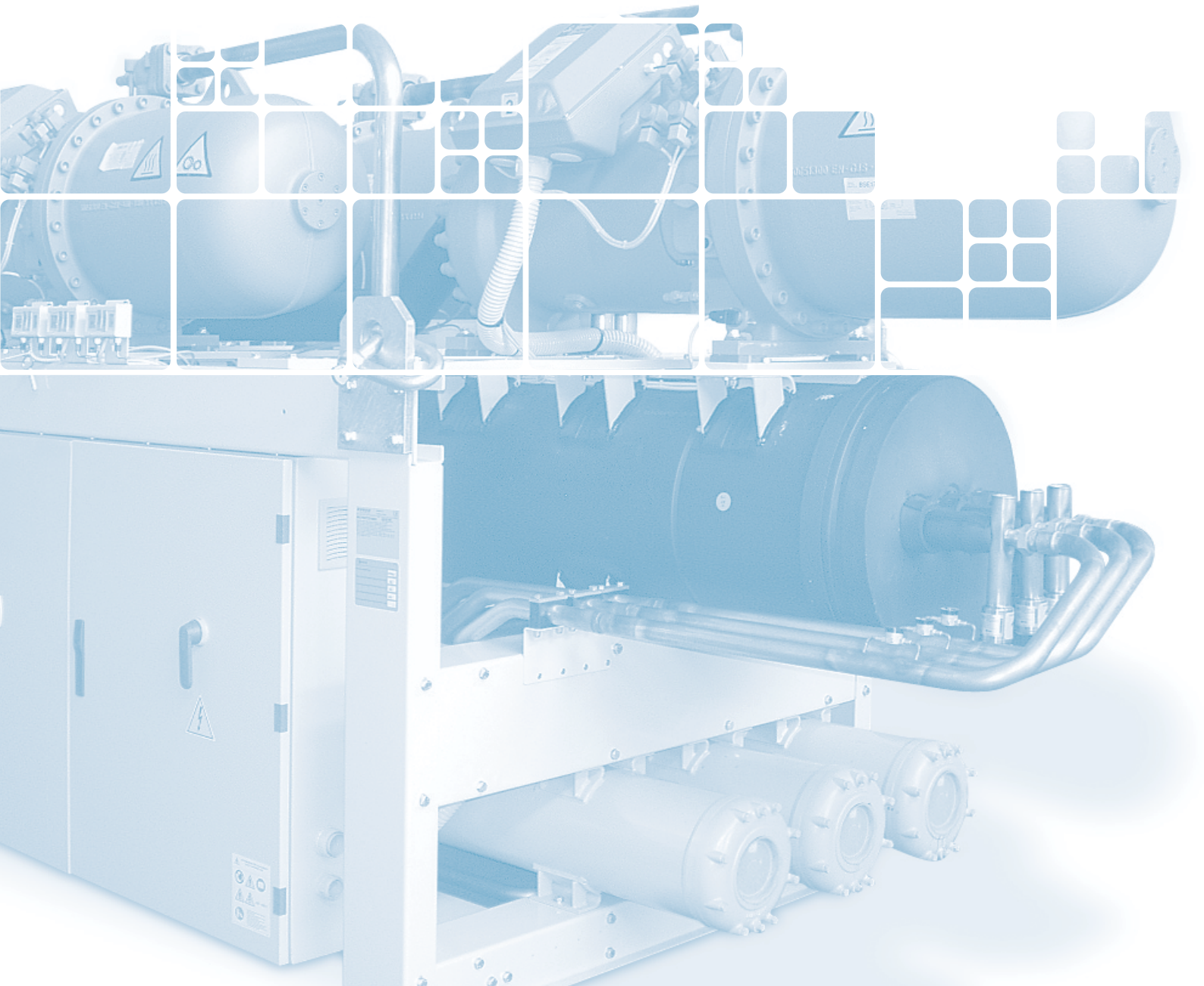
TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		31301	31351	31401	31461	31521	31591	31631
	TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	1303,6	1351,2	1400,8	1457,3	1517,8	1576,2	1627,6
①	SEER (EN 14825)		6,19	6,12	6,17	6,15	6,39	6,35	6,34
②	$\eta_{s,c}$	%	240	237	239	238	247	246	246

① Low temperature application (7°C)

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



Web code: **YFC11**

Low consumption Y-Flow E

TCEEY 115÷240

Cooling capacity: 13.7÷36.9 kW

- **Efficient condenserless unit in R410A**

Cooling only condenserless units to couple with CCAMY remote condensers.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll 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.
- Control: microprocessor electronic control, with Adaptive Function Plus logic.
- Structure: in galvanised and painted steel plate coated with polyester powder, internally lined with soundproof panelling.

Models

TCEEY: unit designed for cooling only.

Factory fitted accessories

- PUMP - Primary side (user): pump unit complete with electric circulation pump, membrane expansion tank, safety valve, water fill/drain valve, manual air vent valve, and pressure gauge.
  The electric pumps are available with low or high head.
- Soft start device.
- Silenced set up with double panelling in the compressor compartment.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.

Separately supplied accessories

- Outdoor air temperature probe for set-point compensation.
- Water filter.
- Rubber anti-vibration mounts.
- Remote keypad with LCD display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).

	TCEEY MODEL		115	118	122	125	230	240
❶	Nominal cooling capacity	kW	13,7	16,4	20,1	23,3	26,8	36,9
❶	EER		3,26	4,0	3,65	3,76	3,12	3,69
❶	Absorbed power (*)	kW	4,2	4,1	5,5	6,2	8,6	10
❶	Available head of standard electric pump	kPa	89	80	73	114	107	113
❶	Available head of high head pump	kPa	164	146	163	152	129	135
❷	Sound power	dB(A)	58	58	62	63	64	67
❷	Silenced set up sound power	dB(A)	53	53	57	58	59	62
	Scroll/ step compressors	no.	1 / 1	1 / 1	1 / 1	1 / 1	2 / 2	2 / 2
	Circuits	no.	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
	DIMENSIONS AND WEIGHTS		**115**	**118**	**122**	**125**	**230**	**240**
	L - Width	mm	700	700	700	700	700	700
	H - Height	mm	1140	1140	1140	1140	1140	1140
	P - Depth	mm	560	560	780	780	780	780
❸	Weight	kg	166	166	191	214	234	251

Data at the following conditions:

❶ Chilled water: 12/7°C - Condensing temperature: 50°C (dew point)

❷ Sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN ISO 9614

❸ Weight refers to the most complete set up

(*) Unit without electric pumps.

Web code 245÷2185: YFC21
Web code 4180÷4360: YFC31

Low consumption Y-Flow E

TCEEBY 245÷4360

Cooling capacity: 39.8÷320.9 kW

- **Integrated MASTER/ SLAVE control**

Cooling only condenserless units to couple with CCAMY remote condensers.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll 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.
- Control: microprocessor electronic control, with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:

- compressor circuit breaker switches;
- display of cooling circuit high and low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board;
- 0-10V analogue signal for condensing control from external device.

Models

- TCEEBY: unit designed for cooling only.

Factory fitted accessories

- PUMP primary side (user): pump unit complete with single or double electric circulation pump, membrane expansion tank, safety valve, water fill/drain valve, manual air vent valve and pressure gauge. The electric pumps are available with low or high head.
- Power factor correction capacitors ($\cos\phi > 0.94$)
- Cooling circuit high and low pressure gauges.
- Power factor correction capacitors.
- Soft start device.
- Forced limit of power consumption.
- Energy parameter measuring device.
- Control of min/max power supply voltage.
- Double safety valves.
- Silenced set up.
- Interfaces for serial communication with other devices.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Rubber anti-vibration mounts (or spring-operated for models 4180-4360) supplied unassembled.

Separately supplied accessories

- Outdoor air temperature probe for set-point compensation.
- Water filter.
- Rubber anti-vibration mounts.
- Clock board.
- Remote keypad with display.
- Serial converter (RS485/USB).

	TCEEBY MODEL		245	250	260	270	275	290	2100	2115	2130	2145	2165	2185
❶	Nominal cooling capacity	kW	39,8	47,3	53,6	61,3	67,9	80,6	91,7	103,4	115	128,2	145,7	162,3
❶	EER		3,29	3,38	3,3	3,76	3,39	3,49	3,38	3,34	3,29	3,34	3,26	3,19
❶	Absorbed power (*)	kW	12,1	14	16,2	18,2	20	23,1	27,1	31	35	38,4	44,7	50,8
❶	Available head of standard electric pump	kPa	116	108	134	94	84	86	117	119	133	117	119	106
❶	Available head of high head pump	kPa	182	187	171	185	177	180	169	178	190	176	177	172
❷	Sound power	dB(A)	67	67	68	68	69	70	71	72	73	74	74	75
❷	Silenced set up sound power	dB(A)	63	63	64	64	65	66	67	68	69	70	70	71
	Scroll/ step compressors	no.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
	Circuits	no.	1	1	1	1	1	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	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
	L - Width	mm	1020	1020	1020	1020	1020	1020	1270	1270	1270	1270	1270	1270
	W - Width (PUMP set up)	mm	1250	1250	1250	1250	1250	1250	1500	1500	1500	1500	1500	1500
	H - Height	mm	1470	1470	1470	1470	1470	1470	1620	1620	1620	1620	1620	1620
	P - Depth	mm	870	870	870	870	870	870	870	870	870	870	870	870

	TCEEBY MODEL		4180	4205	4235	4260	4290	4330	4360
❶	Nominal cooling capacity	kW	161,2	182,9	205	229,4	253,8	287,4	320,9
❶	EER		3,53	3,5	3,48	3,49	3,5	3,42	3,36
❶	Absorbed power (*)	kW	45,7	52,3	58,9	65,8	72,6	84	95,5
❶	Available head of standard electric pump	kPa	140	132	114	117	111	136	168
❶	Available head of high head pump	kPa	195	200	196	240	273	241	257
❷	Sound power	dB(A)	77	77	78	79	80	81	82
❷	Silenced set up sound power	dB(A)	75	75	76	77	78	79	80
	Scroll/ step compressors	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	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**
	L - Width	mm	2600	2600	2600	2600	2600	2600	2600
	W - Width (PUMP set up)	mm	3734	3734	3734	3734	3734	3734	3734
	H - Height	mm	1860	1860	1860	1860	1860	1860	1860
	P - Depth	mm	870	870	870	870	870	870	870

Data at the following conditions:

❶ Chilled water: 12/7°C - Condensing temperature: 50°C (dew point)

❷ Sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN ISO 9614

(*) Unit without electric pumps.

Recommended combinations with CCAMY condensers for TCEEBY models 4180÷4360

TCEEBY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**
CCAMY MODEL		**CCAMY 290**	**CCAMY 2110**	**CCAMY 2115**	**CCAMY 2130**	**CCAMY 2145**	**CCAMY 2165**	**CCAMY 2185**
		CCAMY 290	**CCAMY 2110**	**CCAMY 2115**	**CCAMY 2130**	**CCAMY 2145**	**CCAMY 2165**	**CCAMY 2185**

	SEASONAL ENERGY PERFORMANCE		4180	4205	4235	4260	4290	4330	4360
	TCEEBY + CCAMBY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	160,6	182,2	204,2	228,5	252,9	286,3	319,7
①	SEER (EN 14825)		4,19	4,22	4,24	4,25	4,26	4,27	4,22
②	$\eta_{s,c}$	%	165	166	167	167	167	168	166
	TCEEBY + CCAMSY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	160,6	182,2	204,2	228,5	252,9	286,3	319,7
①	SEER (EN 14825)		4,18	4,21	4,23	4,22	4,24	4,24	4,2
②	$\eta_{s,c}$	%	164	165	166	166	167	167	165
	TCEEBY + CCAMQY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	160,6	182,2	204,2	228,5	252,9	286,3	319,7
①	SEER (EN 14825)		4,14	4,18	4,19	4,2	4,23	4,22	4,19
②	$\eta_{s,c}$	%	163	164	165	165	166	166	165

① Low temperature application (7°C)

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

Web code: **ZFC01**

Z-Flow E

TCEVZ 1200÷31630

Cooling capacity: 171.9÷1,424.8 kW

TCEVBZ 2630

- **Efficient condenserless unit in R134a**
- **33 sizes in standard and soundproofed versions**
- **Wide range of standard equipment**
- **Integrated MASTER/ SLAVE control**

Cooling only condenserless units. Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta or part winding limited start up (depending on models) 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 (evaporator): 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.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - clock board;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel.

Versions

- B -Standard version (TCEVBZ).
- I -Soundproofed version with soundproofing compressor lining (TCEVIZ).

Models

- TCEVBZ: unit designed for cooling only.
- TCEVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- Power factor correction capacitors ($\cos\phi > 0.94$).
- Circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves
- Linear capacity control compressors (50-100 % for each compressor).
- Evaporator antifreeze heater.
- 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.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.
- Rubber 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.

	TCEVBZ-TCEVIZ MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
❶	Nominal cooling capacity	kW	171,9	190,8	238,1	260,4	300,6	346,2	399,7	446,4	508,9
❶	E.E.R.		3,4	3,28	3,3	3,3	3,41	3,3	3,3	3,3	3,4
❶	Absorbed power	kW	50,5	58,1	72,2	79,0	88,1	104,0	122,2	135,3	149,7
❷	Sound power	dB(A)	94	94	97	97	97	97	97	98	98
❷	Sound power	dB(A)	92	92	95	95	95	95	95	96	96
	Screw/step compressor	no.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
	Circuits	no.	1	1	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	400-3-50	400-3-50
	TCEVBZ DIMENSIONS AND WEIGHTS		**1200**	**130**	**1280**	**1310**	**1350**	**1410**	**1460**	**1530**	**1590**
	L - Width	mm	3460	3460	3460	3460	3460	3460	3460	3460	3460
	H - Height	mm	1580	1580	1580	1580	1660	1660	1660	1760	1760
	P - Depth	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
❸	TCEVBZ Weight	kg	1078	1093	1410	1414	1557	2032	2038	2252	2281
❸	TCEVIZ Weight	kg	1333	1348	1665	1669	1812	2287	2293	2507	2536

	TCEVBZ-TCEVIZ MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
❶	Nominal cooling capacity	kW	335,8	356,6	372,1	431,9	473,4	506,4	529,3	581,4	614,1
❶	E.E.R.		3,33	3,29	3,22	3,31	3,28	3,34	3,34	3,46	3,48
❶	Absorbed power	kW	100,7	108,3	115,7	130,6	144,4	151,5	158,4	168,0	176,6
❷	Sound power	dB(A)	97	97	97	99	99	99	99	99	99
❷	Sound power	dB(A)	95	95	95	97	97	97	97	97	97
	Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
	Circuits	no.	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
	TCEVBZ DIMENSIONS AND WEIGHTS		**2400**	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
	L - Width	mm	3780	3880	3880	4040	4040	4040	4040	4040	4040
	H - Height	mm	1420	1420	1420	1610	1610	1610	1610	1610	1610
	P - Depth	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
❸	TCEVBZ Weight	kg	1797	1811	1819	2311	2629	2637	2638	2698	2733
❸	TCEVIZ Weight	kg	2227	2241	2249	2741	3059	3067	3068	3128	3163

	TCEVBZ-TCEVIZ MODEL		2750	2790	2880	2930	21030	21110	21180	21260
❶	Nominal cooling capacity	kW	647,8	681,6	753,9	801,4	896,1	959,4	1.027,8	1.101,5
❶	E.E.R.		3,37	3,28	3,33	3,28	3,47	3,54	3,6	3,68
❶	Absorbed power	kW	192,1	207,6	226,5	244,4	257,9	271,0	285,5	299,4
❷	Sound power	dB(A)	99	99	99	99	99	99	99	99
❷	Sound power	dB(A)	97	97	97	97	97	97	97	97
	Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
	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
	TCEVBZ DIMENSIONS AND WEIGHTS		**2750**	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**	**21260**
	L - Width	mm	4120	4000	4000	4000	4000	4000	4000	4000
	H - Height	mm	1610	1480	1560	1560	1600	1600	1600	1600
	P - Depth	mm	1300	1300	1300	1300	1300	1300	1300	1300
❸	TCEVBZ Weight	kg	3176	3631	3844	3859	3936	3993	4024	4044
❸	TCEVIZ Weight	kg	3606	4061	4272	4289	4366	4423	4454	4474

	TCEVBZ-TCEVIZ MODEL		31300	31350	31390	31460	31520	31590	31630
❶	Nominal cooling capacity	kW	1.129,6	1.178,3	1.227,0	1.287,5	1.340,1	1.388,5	1.424,8
❶	E.E.R.		3,6	3,55	3,51	3,51	3,52	3,53	3,51
❶	Absorbed power	kW	314,1	331,8	349,5	367,1	380,4	393,4	406,4
❷	Sound power	dB(A)	101	101	101	102	102	102	102
❷	Sound power	dB(A)	99	99	99	100	100	100	100
	Screw/step compressor	no.	3/9	3/9	3/9	3/9	3/9	3/9	3/9
	Circuits	no.	3	3	3	3	3	3	3
	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
	TCEVBZ DIMENSIONS AND WEIGHTS		**31300**	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
	L - Width	mm	4940	4940	4940	4940	4940	4940	4940
	H - Height	mm	1580	1580	1580	1580	1620	1620	1620
	P - Depth	mm	2100	2100	2100	2100	2100	2100	2100
❸	TCEVBZ Weight	kg	5555	5570	5585	5600	5678	5710	5790
❸	TCEVIZ Weight	kg	6155	6170	6185	6200	6278	6310	6390

Data at the following conditions:

❶ Chilled water: 12/7°C - Condensing temperature: 50°C (dew point).

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

❸ Weight without load refers to fully accessorised unit.

TCEVIZ soundproofed version.

Compact-Y EXP SM - TXAEY 117÷130

Compact-Y EXP MD - TXAEY 133÷265

Low consumption Y-Pack EXP - TXAEY 280÷4320

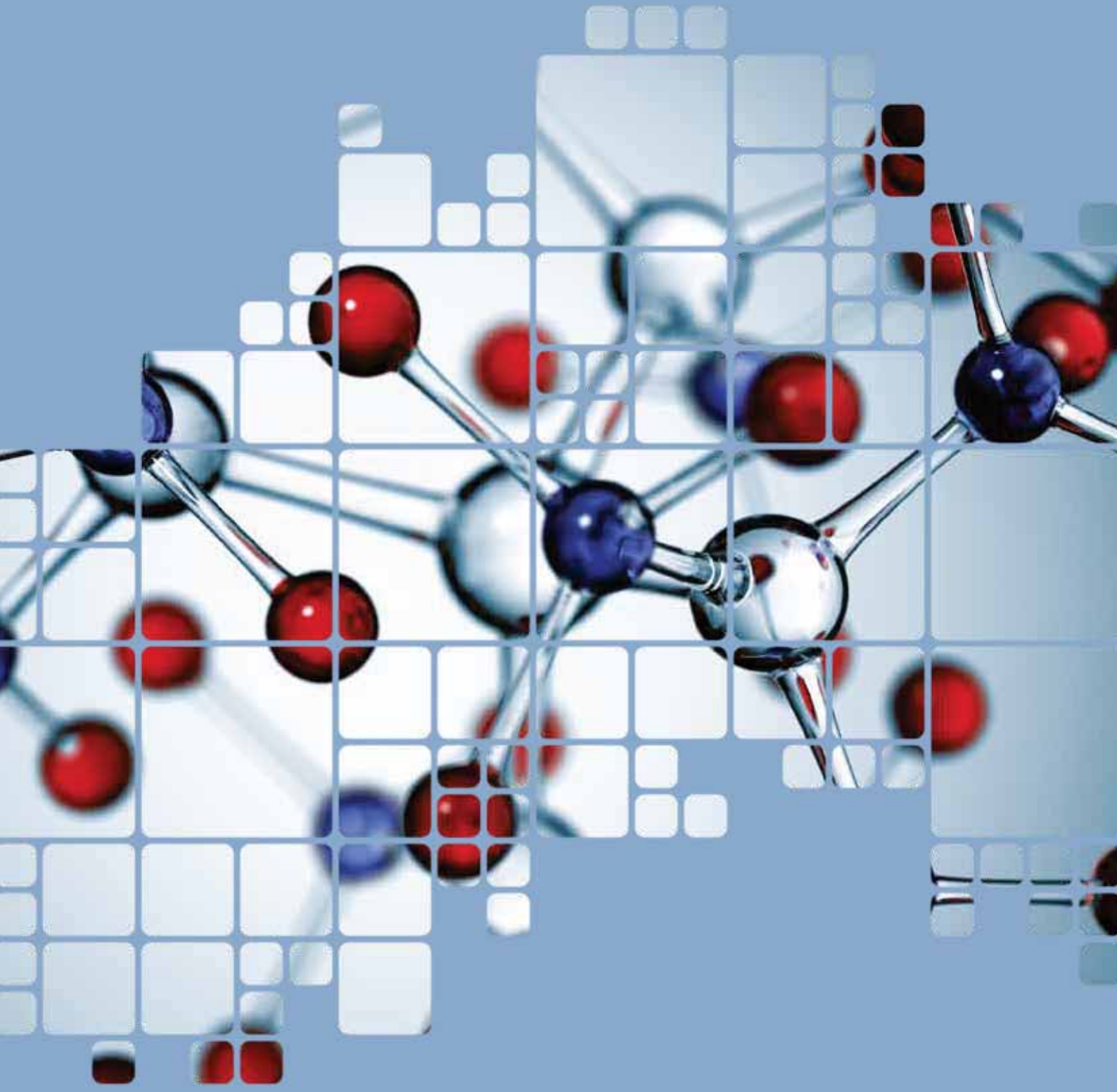
Low consumption WinPOWER EXP - TXAEY 4400÷6660

Z-Power EXP - TXAVZ 2550÷2700

Low consumption Comby-Flow EXP - TXHEY 105÷112

Low consumption Y-Flow EXP - TXHEY 245÷4450

Z-Flow EXP - TXHVZ 2410÷2740



EXP - POLYVALENT SYSTEMS

Compact-Y EXP SM

TXAEY 117÷130

Cooling capacity: 17.7÷29.1 kW - Heating capacity: 17.6÷34 kW

- **T.E.R. * up to 6.72**

EXPsystems - Air cooled multi-purpose ecological system with axial fans.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Main and secondary heat exchangers: suitably 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, 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 AdaptiveFunction logic.
- Structure: in galvanised and painted steel plate, complete with condensate drain pan.

Models

- TXAEY: EXPsystems unit.

PUMP set up

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

Factory fitted accessories

- Silenced set up.
- 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.
- Copper/pre-painted aluminium or copper/copper coils.

Separately supplied accessories

- 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.

* T.E.R. Total Efficiency Ratio in total heat recovery mode AUTOMATIC 2.

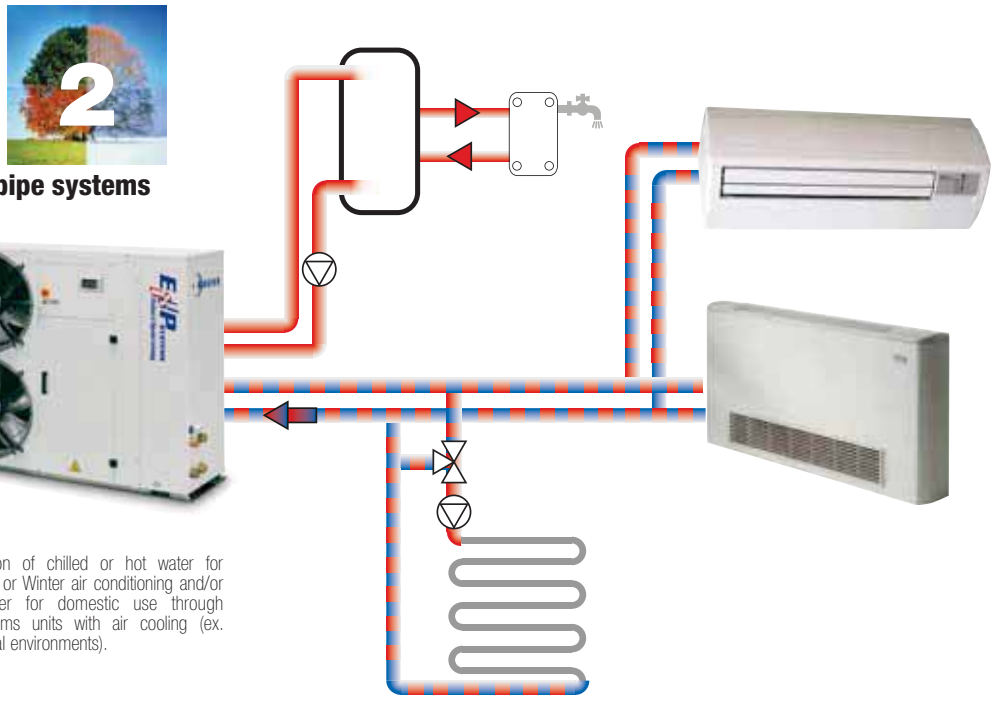
	TXAEY MODEL		117	124	130
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	17,7	24	29,1
❹	Recovery heating capacity (AUTOMATIC 2)	kW	20,8	30,4	37,2
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	17,6	25,7	34
❸	Heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	18,3	26,8	35,4
❶	Absorbed power (AUTOMATIC 1)	kW	6,6	9,4	11,8
❹	Absorbed power (*) (AUTOMATIC 2)	kW	4,9	7,4	9,8
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	6,2	9,1	11,3
❹	T.E.R. (AUTOMATIC 2)		6,62	6,72	6,13
❺	Sound pressure	dB(A)	50	52	53
❺	Silenced set up sound pressure	dB(A)	46	49	50
	Scroll/step compressor	no.	1/1	1/1	1/1
	Circuits	no.	1	1	1
❶	Available head of standard electric pump	kPa	130	131	112
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**117**	**124**	**130**
	L - Width	mm	1522	1522	1822
	H - Height	mm	1090	1280	1510
	P - Depth	mm	580	600	695
	TXAEY weight	kg	220	280	370

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 Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.
❹ Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate (Gross value).
❺ In open field (Q = 2) at 5 m from the unit.
(*) Unit without electric pump.
Performance according to EN 14511:2013. Set up with electric pump.
T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		117	124	130
	TXAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③	Pdesignh (EN 14825)	kW	19	27	36
③	SCOP (EN 14825)		3,23	3,24	3,28
④	η_S	%	126	127	128
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.811/213 and No.813/2013)



2-pipe systems

Production of chilled or hot water for Summer or Winter air conditioning and/or hot water for domestic use through EXPsystems units with air cooling (ex. residential environments).

Compact-Y EXP MD

TXAEY 133÷265

Cooling capacity: 33.8÷61.6 kW - Heating capacity: 39.4÷68.3 kW

• T.E.R. (°) up to 7.48

EXPsystems - Air cooled multi-purpose ecological system with axial fans.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Main and secondary heat exchangers: suitably 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, 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 AdaptiveFunction logic.
- Structure: made of galvanised and painted steel plate.
- The unit is also complete with:
  - display of cooling circuit high and low pressure;
  - clock board.

Models

- TXAEY: EXPsystems base unit.

Factory fitted accessories

- PUMP (only for main circuit) with single or double electric pump, including an automatic pump in standby (mod. 245÷265) 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 (only for main circuit) with inertial buffer tank and single or double electric pump, including an automatic pump in standby (mod. 245÷265), 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.
- Silenced set up.
- Cooling circuit high and low pressure gauges.
- Antifreeze heater for buffer tank and electric pumps.
- Digital input for double set-point
- 4-20mA analogue signal for shifting set-point.
- Copper/pre-painted aluminium or copper/copper coils.

Separately supplied accessories

- Rubber anti-vibration mounts.
- Water filter.
- Remote keypad with display.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Rhoss supervisors for unit monitoring and remote management.

(°) T.E.R. Total Efficiency Ratio in total heat recovery mode AUTOMATIC 2.

	TXAEY MODEL		133	245	250	260	265
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	33,8	42,4	50,3	57,9	61,6
❸	Recovery heating capacity (AUTOMATIC 2)	kW	44,2	54,4	65	71,8	81,1
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	39,4	48,1	56,2	62,5	68,3
❶	Absorbed power (AUTOMATIC 1)	kW	13,5	17	18,8	21,9	24,4
❸	Absorbed power (AUTOMATIC 2)	kW	11,5	13,6	15,5	17,1	19
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	13,6	16,8	18,9	20,9	23,7
❸	T.E.R. (AUTOMATIC 2)		6,25	6,94	7,3	7,32	7,48
❹	Sound pressure	dB(A)	54	56	56	57	57
❹	Silenced set up sound pressure	dB(A)	51	53	53	54	54
	Scroll/step compressor	no.	1/1	2/1	2/1	2/1	2/1
	Circuits	no.	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
	DIMENSIONS AND WEIGHTS		**133**	**245**	**250**	**260**	**265**
	L - Width	mm	1660	2260	2260	2260	2260
	H - Height	mm	1570	1570	1570	1570	1570
	P - Depth	mm	1000	1000	1000	1000	1000
	TXAEY weight	kg	470	735	775	795	825

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 Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate (Gross value).

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

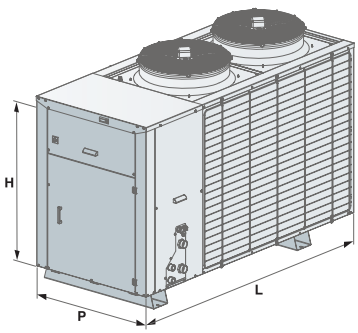
Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		133	245	250	260	265
	TXAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE						
③	Pdesignh (EN 14825)	kW	39	48	56	62	68
③	SCOP (EN 14825)		3,28	3,72	3,74	3,79	3,73
④	η_s	%	128	146	147	149	146
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.811/213 and No.813/2013)



Low consumption Y-Pack EXP

TXAEY 280÷4320

Cooling capacity: 80,7÷332,9 kW - Heating capacity: 84,3÷354,3 kW

TXAESY 4320 with coil protection nets accessory

• T.E.R. ** up to 8.18

EXPsystems - Air cooled multi-purpose ecological system with axial fans.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Main and secondary heat exchangers: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: electric axial fans with EC motor with continuous regulation of rotation speed, equipped with internal thermal protection and complete with accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - clock board;
  - electronic expansion valve;
  - display of cooling circuit high/low pressure.

Versions

- T - High efficiency version with fans with EC motor.
- S - Silenced version complete with compressor technical compartment soundproofing, reduced speed fans with EC motor.

Models

- TXAETY: EXPsystems unit.
- TXAESY: silenced EXPsystems unit.

Factory fitted accessories

- PUMP (for main and secondary circuit) with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP (for main circuit only) with integrated buffer tank and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft starter forced limit of power consumption.
- Cooling circuit high and low pressure gauges.
- Metal filters or Coil protection grilles.
- Copper/copper or copper/pre-painted aluminium coils.
- Digital input for double set-point
- 4-20 mA analogue signal for shifting set-point.
- Buffer tank antifreeze heaters and 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.

** T.E.R. Total Efficiency Ratio in total heat recovery mode AUTOMATIC 2.

	TXAETY MODEL		280	2100	2130	4160	4200	4260	4320
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	83,7	107,6	134,6	162,5	206,2	263,1	332,9
❸	Recovery heating capacity (AUTOMATIC 2)	kW	108	140	174	215	272	346	440
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	86,3	111,4	139,5	171,6	227,9	282	354,3
❶	Absorbed power (AUTOMATIC 1)	kW	27	35,2	43,8	56,6	72,6	93,9	118,5
❸	Absorbed power (AUTOMATIC 2)	kW	23,6	32,2	39,3	51,5	65,2	81,4	106,5
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	25,6	33,9	42,9	55,2	73,9	91,9	116,5
	E.E.R. (AUTOMATIC 1)		3,1	3,06	3,07	2,87	2,84	2,8	2,81
	T.E.R. (AUTOMATIC 2)		8,18	7,76	7,89	7,36	7,39	7,53	7,36
	C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,37	3,29	3,25	3,11	3,08	3,07	3,04
❹	Sound pressure	dB(A)	52	52	53	54	59	61	61
❺	Sound power	dB(A)	84	84	85	86	91	93	93
	TXAESY MODEL		**280**	**2100**	**2130**	**4160**	**4200**	**4260**	**4320**
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	80,7	103,7	129,6	156,5	199,3	254,1	316
❸	Recovery heating capacity (AUTOMATIC 2)	kW	108	140	174	215	272	346	440
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	84,3	108,4	136,4	167,6	221,8	275	345,2
❶	Absorbed power (AUTOMATIC 1)	kW	27,3	35,6	44,3	57,2	73,6	94,9	119,3
❸	Absorbed power (AUTOMATIC 2)	kW	23,6	32,2	39,3	51,5	65,2	81,4	106,5
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	24,6	32,5	41,1	52,9	71,1	88,5	111,8
	E.E.R. (AUTOMATIC 1)		2,96	2,92	2,93	2,74	2,71	2,68	2,65
	C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,43	3,34	3,32	3,17	3,12	3,11	3,09
❹	Sound pressure	dB(A)	49	49	50	51	54	57	57
❺	Sound power	dB(A)	81	81	82	83	86	89	89
	MODEL		**280**	**2100**	**2130**	**4160**	**4200**	**4260**	**4320**
	Scroll/step compressor	no.	2/2	2/2	2/2	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		**280**	**2100**	**2130**	**4160**	**4200**	**4260**	**4320**
	L - Width	mm	2600	2600	3700	3700	4800	4800	4800
	H - Height	mm	2000	2000	2000	2000	2030	2030	2030
	P - Depth	mm	2090	2090	2090	2090	2090	2090	2090

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 Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate. (Gross value)

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

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

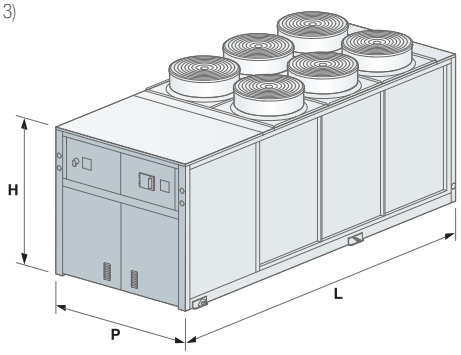
Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		280	2100	2130	4160	4200	4260	4320
	TXAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	77	98	124	153	201	252	314
③	SCOP (EN 14825)		3,99	3,85	3,81	3,46	3,41	3,37	3,36
④	η_s	%	157	151	149	136	133	132	131
	TXAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③	Pdesignh (EN 14825)	kW	75	95	121	148	196	246	305
③	SCOP (EN 14825)		4,1	3,92	3,91	3,52	3,48	3,44	3,43
④	η_s	%	161	154	153	138	136	135	134

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



Low consumption WinPOWER EXP

TXAEY 4400÷6660

Cooling capacity: 361,2÷648,1 kW - Heating capacity: 405÷706,2 kW

TXAESY 6580 with STE accessory and RPB coil protection nets accessory

- **Multi-purpose units in CLASS A with TER up to 7.9**
- **Extended operating limits**
- **Units for systems with 2, 4 and 6 pipes**

EXPsystems - Air cooled multi-purpose ecological system with axial fans.
Range with scroll hermetic compressors and R410A refrigerant gas.

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.
- Main and secondary heat exchangers: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- 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 a proportional electronic device for continuous fan rotation speed regulation (T version; fans with an EC motor are standard in the Q version)
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - fan and compressor circuit breaker switches, heat exchanger antifreeze heater;
  - display of cooling circuit high and low pressure;
  - electronic expansion valve;
  - clock board.

Versions

- T - High efficiency version.
- Q - Super silenced version complete with compressor technical compartment soundproofing, fans with EC motor at super reduced speed.

Models

- TXAETY: EXPsystems unit.
- TXAEQY: super silenced EXPsystems unit.

Factory fitted accessories

- Tube and shell main and secondary heat exchangers.
- PUMP with single or double electric pump, including an automatic pump in standby. The electric pumps are available in the main and secondary/recovery heat exchanger low or high head set-ups.
- 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.
- Desuperheater.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- 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.
- Compressor box and soundproofed cooling circuit.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection nets or metal filters.
- Bottom compartment protection nets.
- Copper/pre-painted aluminium or copper/copper coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Electrical panel antifreeze heater, buffer tank, electric pumps and desuperheater, if applicable.
- Interfaces for serial communication with other devices.
- Spring 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.

	TXAETY MODEL		4400	4440	6520	6580	6660
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	397	434,8	525,4	577,4	648,1
❸	Recovery heating capacity (AUTOMATIC 2)	kW	515	567	685	759	845
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	426,1	470,4	569,8	629,9	706,2
❶	Absorbed power (AUTOMATIC 1)	kW	131,9	145	176,4	198,5	218,3
❸	Absorbed power (AUTOMATIC 2)	kW	116,6	128,6	157	179	194,4
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	131,2	144,3	177	195,1	217,3
	E.E.R. (AUTOMATIC 1)		3,01	3	2,98	2,91	2,97
	T.E.R. (AUTOMATIC 2)		7,9	7,8	7,8	7,5	7,7
	C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,25	3,26	3,22	3,23	3,25
❹	Sound pressure	dB(A)	76	76,5	76,5	76,5	76,5
❺	Sound power	dB(A)	96	97	97	97	98
	TXAEQY MODEL		**4400**	**4440**	**6520**	**6580**	**6660**
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	361,2	390,1	474,8	515,8	580,5
❸	Recovery heating capacity (AUTOMATIC 2)	kW	515	567	685	759	845
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	405	445,2	547,6	598,7	669,9
❶	Absorbed power (AUTOMATIC 1)	kW	141,7	159,3	192,3	222,4	236
❸	Absorbed power (AUTOMATIC 2)	kW	116,6	128,6	157	179	194,4
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	125	137,5	168,5	184,8	206,2
	E.E.R. (AUTOMATIC 1)		2,55	2,45	2,47	2,32	2,46
	C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,24	3,24	3,25	3,24	3,25
❹	Sound pressure	dB(A)	53,5	54,5	54,5	54,5	56,5
❺	Sound power	dB(A)	86	87	87	87	89
	MODEL		**4400**	**4440**	**6520**	**6580**	**6660**
	Scroll/step compressor	no.	4/4	4/4	6/6	6/6	6/6
	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		**4400**	**4440**	**6520**	**6580**	**6660**
	L - Width	mm	4840	4840	5940	5940	6840
	H - Height	mm	2450	2450	2450	2450	2450
	P - Depth	mm	2260	2260	2260	2260	2260
❻	TXAETY weight	kg	3650	3760	4480	4580	5250
❻	TXAEQY weight	kg	4340	4360	5270	5370	6070

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 Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate. (Gross value)

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

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

❻ Weight refers to the unit without load.

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		4400	4440	6520	6580	6660
	TXAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	-	434,7	525,3	577,2	647,9
①	SEER (EN 14825)		-	4,13	4,25	4,23	4,26
②	$\eta_{s,c}$	%	-	162	167	166	167
	TXAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	-	-	474,7	515,7	580,4
①	SEER (EN 14825)		-	-	4,25	4,2	4,24
②	$\eta_{s,c}$	%	-	-	167	165	167
	TXAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE						
③	Pdesignh (EN 14825)	kW	361	-	-	-	-
③	SCOP (EN 14825)		3,63	-	-	-	-
④	η_s	%	142	-	-	-	-
	TXAEQY MODEL SEASONAL PERFORMANCE IN HEATING MODE						
③	Pdesignh (EN 14825)	kW	344	382	-	-	-
③	SCOP (EN 14825)		3,64	3,65	-	-	-
④	η_s	%	142	143	-	-	-

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.811/213 and No.813/2013)

Z-Power EXP

TXAVZ 2550÷2700

Cooling capacity: 530.3÷695.1 kW - Heating capacity: 548÷709.9 kW

TXAVSZ 2550

TXAVSZ 2700

- **T.E.R. * up to 8.33**

EXPsystems - Air cooled multi-purpose ecological system with axial fans.
Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater, refrigerant gas intake and delivery piping shut-off valve and compressor oil level sensor.
- Main and secondary heat exchangers: dry expansion shell and tube with counterflow heat exchange, complete with antifreeze heater, 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 a 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;
  - clock board;
  - electronic expansion valve.

Versions

- B - Standard version (TXAVBZ).
- S - Silenced version with reduced speed fans and soundproofing compressor lining (TXAVSZ).
- I -Soundproofed version with soundproofing compressor lining (TXAVSZ).

Models

- TXAVBZ: standard EXPsystems unit.
- TXAVSZ: silenced EXPsystems unit.
- TXAVIZ: soundproofed EXPsystems unit.

Factory fitted accessories

- -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.
- Coil protection grilles.
- Bottom compartment protection nets.
- Digital input for double set-point
- Low and high pressure gauges for each cooling circuit.
- Electrical panel heater.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Copper/pre-painted 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.

* T.E.R. Total Efficiency Ratio in total heat recovery mode AUTOMATIC 2.

	TXAVBZ MODEL		2550	2610	2700
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	552	615	695,1
❸	Recovery heating capacity (AUTOMATIC 2)	kW	709	786	888
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	571,2	627,1	709,9
❶	Absorbed power (AUTOMATIC 1)	kW	182,2	200,4	227,2
❸	Absorbed power (AUTOMATIC 2)	kW	155,8	170,7	190,9
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	180,8	196,6	224
	E.E.R. (AUTOMATIC 1)		3,03	3,07	3,06
	T.E.R. (AUTOMATIC 2)		8,13	8,24	8,33
	C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,16	3,19	3,17
❹	Sound pressure	dB(A)	65	66	67
❻	Sound power	dB(A)	98	99	99
	TXAVSZ MODEL		**2550**	**2610**	**2700**
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	530,3	590,1	667,4
❸	Recovery heating capacity (AUTOMATIC 2)	kW	709	786	888
❷	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	548	601,9	681,7
❶	Absorbed power (AUTOMATIC 1)	kW	181	199,4	225,5
❸	Absorbed power (AUTOMATIC 2)	kW	155,8	170,7	190,9
❷	Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	179,7	195,5	222,1
	E.E.R. (AUTOMATIC 1)		2,93	2,96	2,96
	C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,05	3,08	3,07
❹	Sound pressure	dB(A)	59	60	61
❺	Sound power	dB(A)	92	93	93
	MODEL		**2550**	**2610**	**2700**
	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
	TXAVBZ-TXAVSZ DIMENSIONS AND WEIGHT		**2550**	**2610**	**2700**
	L - Width	mm	6130	6980	7980
	H - Height	mm	2430	2430	2430
	P - Depth	mm	2260	2260	2260
❻	TXAVBZ weight	kg	6360	7460	8380

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 Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate. (Gross value)

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

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

❻ Empty weight.

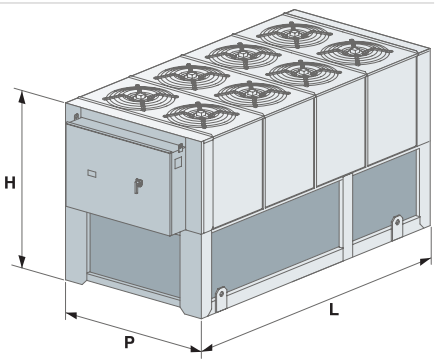
Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		2550	2610	2700
	TXAVBZ-TXAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	551,9	614,8	695
①	SEER (EN 14825)		4,2	4,23	4,15
②	$\eta_{s,c}$	%	165	166	163
	TXAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE				
①	Pdesignc (EN 14825)	kW	530,2	589,9	667,2
①	SEER (EN 14825)		4,13	4,14	4,13
②	$\eta_{s,c}$	%	162	163	162

① Low temperature application (7°C)

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



Low consumption Comby-Flow EXP

TXHEY 105÷112

Cooling capacity: 5.5÷12.2 kW - Heating capacity: 6.4÷13.7 kW

EXPsystems - Polyvalent ecological water-cooled system.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll type, complete with thermal protection.
- Primary side (user) and secondary side (recovery) heat exchanger and disposal unit: suitably insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Control: microprocessor electronic control, iDRHOSS compatible with AdaptiveFunction logic.
- Condensing control: pressure switch valve and bypass solenoid valve.
- Structure: made of galvanised and painted steel plate with polyester powder coating, complete with soundproofed compressor.

Models

- TXHEY: EXPsystems unit.

PUMP set up

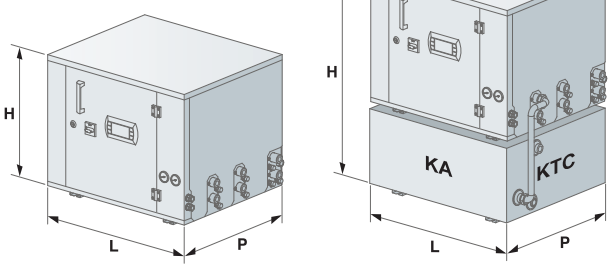
- Primary side (user): pump unit complete with electric circulation pump, membrane expansion tank, safety valve, water drain valve, manual air vent valve and pressure gauge.
- Well/tower side (disposal unit): drain valve and vent valve. Internal valve for primary side system supply (user) from external network (disposal unit side: well or tower).
- Secondary side (recovery): pump unit complete with electric circulation pump, membrane expansion tank, safety valve, water fill and drain valve, manual air vent valve and pressure gauge.

Factory fitted accessories

- Digital input for double set-point
- 4-20mA analogue signal for shifting set-point.

Separately supplied accessories

- Buffer tank.
- Buffer tank connection pipes.
- Water filter.
- Rubber anti-vibration mounts.
- Antifreeze heater on the buffer 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.



	TXHEY MODEL		105	107	109	112
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	5,5	6,9	9,5	12,2
❷	Recovery heating capacity (AUTOMATIC 2)	kW	6,7	8,7	11,3	14,5
❸	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	6,4	8,1	10,6	13,7
❶	Absorbed power (*) (AUTOMATIC 1)	kW	1,69	2,22	2,91	3,74
❷	Absorbed power (*) (AUTOMATIC 2)	kW	2	2,83	3,57	4,75
❸	Absorbed power (*) (SELECT 1-2 AUTOMATIC 3)	kW	1,93	2,8	3,33	4,21
❷	T.E.R. (AUTOMATIC 2)		5,72	5,14	5,42	5,67
❷	Recovery heating capacity (AUTOMATIC 2)	kW	8,7	10,7	14,7	18,8
❹	Heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	7,6	9,8	12,8	15,1
❺	Sound pressure	dB(A)	49	51	51	53
	Scroll/step compressor	no.	1/1	1/1	1/1	1/1
	Circuits	no.	1	1	1	1
	KA buffer tank water content	l	20	20	30	30
❶	Available nominal head of pump on main heat exchanger	kPa	47	54,7	82,2	78,2
❷	Available nominal head on secondary recovery heat exchanger	kPa	32,4	42,4	72,1	66,7
	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 WEIGHTS		**105**	**107**	**109**	**112**
	L - Width	mm	585	585	660	660
	H - TXHEY P height	mm	535	535	535	535
	H - TXHEY P + KA height	mm	855	855	855	855
	P - Depth	mm	520	520	560	560
	TXHEY Weight	kg	112	118	122	130
	KA Weight	kg	38	38	43	43

Data at the following conditions:

❶ Chilled water: 12/7°C - Condenser water: 30/35°C

❷ Chilled water: 12/7°C - Recovery water: 40/45°C (Gross value).

❸ Hot water: 40/45°C. Evaporator water: 10/7°C.

❹ Hot water: 30/35°C. Evaporator water: 10/7°C.

❺ In open field (Q = 2) at 1 m from the unit.

(*) Unit without electric pumps.

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

KA = buffer tank.

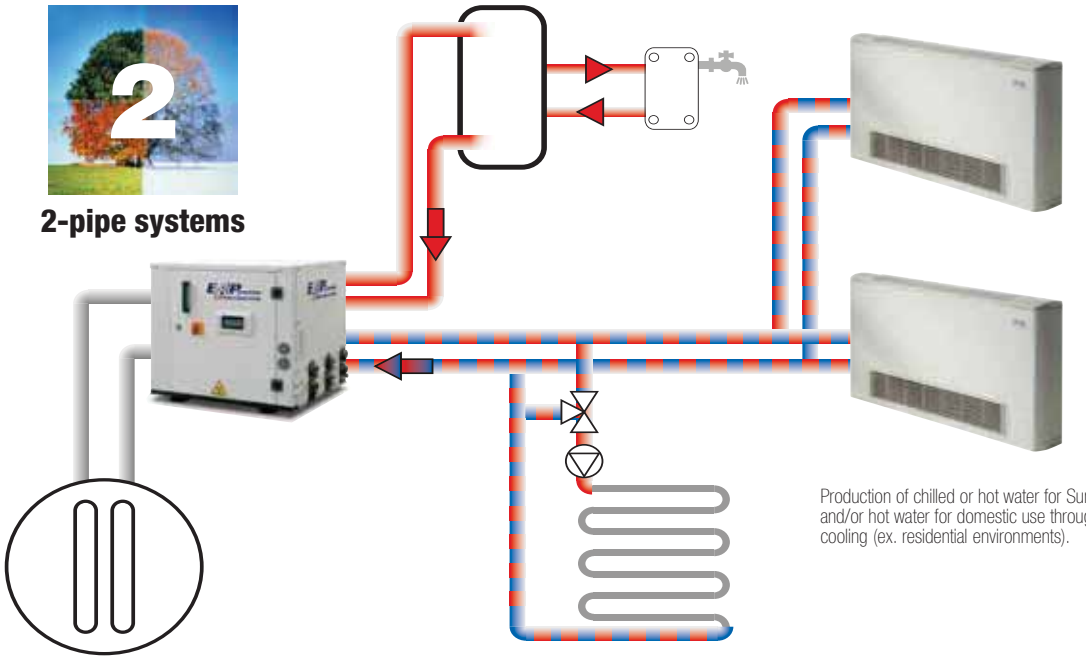
KTC = connecting pipe.

	SEASONAL ENERGY PERFORMANCE		105	107	109	112
	TXHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③	Pdesignh (EN 14825)	kW	9	12	15	18
③	SCOP (EN 14825)		4,55	5,07	4,96	4,76
④	η_s	%	174	195	190	182
	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.811/213 and No.813/2013)

2-pipe systems



Production of chilled or hot water for Summer or Winter air conditioning and/or hot water for domestic use through EXPsystems units with water cooling (ex. residential environments).

Web code 245÷2185:
YFX21
Web code 4180÷4450:
YFX31

Low consumption Y-Flow EXP

TXHEY 245÷4450

Cooling capacity: 44,2÷437.8 kW - Heating capacity: 50,7÷518.9 kW

EXPsystems - Polyvalent ecological water-cooled system.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Primary side (user), secondary side (recovery) heat exchangers and disposal unit: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - compressor circuit breaker switches,
  - electronic expansion valve,
  - display of cooling circuit high and low pressure,
  - clock board,
  - outdoor temperature probe for set-point compensation,
  - 0-10V analogue signal for condensing/evaporating control performed by external device.

Versions

- B - Standard version.

Models

- TXHEBY: EXPsystems unit.

Factory fitted accessories

- Cooling circuit high and low pressure gauges.
- Forced limit of power consumption.
- Soft starter.
- Silenced set up.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- 3-way modulating condensing control valve.
- 2-way modulating condensing control valve.
- Water filter.
- Remote keypad with display.
- Thermostat with display.
- Serial converter (RS485/USB).
- RHOSS supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of multiple chillers.

	TXHEBY MODEL		245	250	260	270	290	2115	2130	2145	2165	2185
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	47	55,6	62,7	71,8	92,8	123,8	137,5	153,9	173,3	193,2
❷	Nominal cooling capacity (AUTOMATIC 1)	kW	44,2	52	59,2	67,6	88	114,6	128	142,4	161,7	180,6
❸	Recovery heating capacity (AUTOMATIC 2)	kW	50,6	59,6	68,5	76,2	102,9	134,9	148,9	164,8	187,8	211,1
❹	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	50,7	59,8	68,7	76,4	103,3	135,2	149,2	165,2	188,2	211,7
❶	Total absorbed power (AUTOMATIC 1)	kW	8,5	9,8	11,3	13	16,9	21,5	24,7	26,7	31,8	36,3
❷	Total absorbed power (AUTOMATIC 1)	kW	9,9	11,4	13,1	14,9	19,1	25,5	28,8	31,7	36,8	41,9
❸	Total absorbed power (AUTOMATIC 2)	kW	12	13,7	15,7	17,4	23,4	31,1	34,9	38,9	45,3	51,4
❹	Total absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	12,2	14	16	17,7	23,8	31,4	35,2	39,3	45,7	52,1
❶	E.E.R. (AUTOMATIC 1)		5,51	5,69	5,55	5,51	5,48	5,75	5,57	5,76	5,44	5,32
❷	E.E.R. (AUTOMATIC 1)		4,49	4,57	4,52	4,54	4,61	4,5	4,45	4,5	4,4	4,32
❹	C.O.P. (SELECT 1-2 AUTOMATIC 3)		4,18	4,3	4,31	4,34	4,35	4,31	4,24	4,21	4,12	4,07
❸	T.E.R. (AUTOMATIC 2)		7,5	7,7	7,8	7,8	7,8	7,7	7,6	7,5	7,3	7,2
	TXHEBY MODEL		**245**	**250**	**260**	**270**	**290**	**2115**	**2130**	**2145**	**2165**	**2185**
❺	Sound power	dB(A)	67	67	68	68	70	72	73	74	74	75
	Scroll/step compressor	no.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
	Circuits	no.	1	1	1	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	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**245**	**250**	**260**	**270**	**290**	**2115**	**2130**	**2145**	**2165**	**2185**
	L - Width	mm	1020	1020	1020	1020	1020	1270	1270	1270	1270	1270
	H - Height	mm	1470	1470	1470	1470	1470	1620	1620	1620	1620	1620
	P - Depth	mm	870	870	870	870	870	870	870	870	870	870
❻	Weight	kg	510	525	540	565	595	920	960	995	1035	1045

Data at the following conditions:

❶ "Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 14/30°C. (Gross value)

❷ Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 30/35°C

❸ Chilled water (user): 12/7°C - Condenser water (recovery unit): 40/45°C. (Gross value)

❹ Evaporator water (source): 12/7°C - . Hot water (user): 40/45°C.

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

❻ Empty weight

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	TXHEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE											
③	Pdesignh (EN 14825)	kW	59	69	80	89	119	156	173	191	218	245
③	SCOP (EN 14825)		5,89	6,09	6,21	6,1	6	6,42	6,31	6,3	6,08	5,87
④	η_S	%	228	236	240	236	232	249	244	244	235	227
	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.811/213 and No.813/2013)

Low consumption Y-Flow EXP

TXHEY 245÷4450

	TXHEBY MODEL		4180	4205	4235	4260	4290	4330	4360	4410	4450
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	188,5	214,7	241,2	270,2	302,7	341,1	379,9	420,9	462,6
❷	Nominal cooling capacity (AUTOMATIC 1)	kW	176,4	201,7	226,7	253,6	280,2	317,9	354	397,1	437,8
❸	Recovery heating capacity (AUTOMATIC 2)	kW	202,4	231,2	259,5	292,5	325,2	370,2	416,1	466,3	516,4
❹	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	202,9	231,8	260,2	293,3	326,4	371,6	417,9	468,2	518,9
❶	Total absorbed power (AUTOMATIC 1)	kW	32,2	37,2	41,9	46,6	50,4	59,1	67,2	78,9	90,4
❷	Total absorbed power (AUTOMATIC 1)	kW	37,4	42,9	48,2	54,1	60,2	69,3	79,1	90,5	102,8
❸	Total absorbed power (AUTOMATIC 2)	kW	43,4	50,5	57,7	64,8	71,8	83,1	94,2	107,5	120,9
❹	Total absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	44	51,1	58,4	65,7	73,1	84,5	96,1	109,4	123,3
❶	E.E.R. (AUTOMATIC 1)		5,85	5,77	5,76	5,8	6,01	5,77	5,65	5,33	5,12
❷	E.E.R. (AUTOMATIC 1)		4,72	4,71	4,71	4,69	4,66	4,59	4,48	4,39	4,26
❹	C.O.P. (SELECT 1-2 AUTOMATIC 3)		4,62	4,54	4,46	4,47	4,47	4,4	4,35	4,28	4,21
❸	T.E.R. (AUTOMATIC 2)		8,4	8,2	8	8,1	8,1	7,9	7,9	7,7	7,6
	TXHEBY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❺	Sound power	dB(A)	77	77	78	79	80	81	82	83	84
	Scroll/step compressor	no.	4/4	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	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
	DIMENSIONS AND WEIGHTS		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
	L - Width	mm	2600	2600	2600	2600	2600	2600	2600	2600	2600
	H - Height	mm	1860	1860	1860	1860	1860	1860	1860	1860	1860
	P - Depth	mm	870	870	870	870	870	870	870	870	870
❻	Weight	kg	1690	1730	1780	1820	1890	1960	2000	2070	2100

Data at the following conditions:

❶ "Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 14/30°C. (Gross value)

❷ Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 30/35°C

❸ Chilled water (user): 12/7°C - Condenser water (recovery unit): 40/45°C. (Gross value)

❹ Evaporator water (source): 12/7°C - . Hot water (user): 40/45°C.

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

❻ Empty weight

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		4180	4205	4235	4260	4290	4330	4360	4410	4450
	TXHEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	-	-	-	-	-	317,9	353,9	397	437,8
①	SEER (EN 14825)		-	-	-	-	-	5,96	5,83	5,66	5,95
②	$\eta_{s,c}$	%	-	-	-	-	-	230	225	218	230
	TXHEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE										
③	Pdesignh (EN 14825)	kW	234	267	300	340	379	-	-	-	-
③	SCOP (EN 14825)		6,72	6,62	6,5	6,56	6,65	-	-	-	-
④	η_S	%	261	257	252	255	258	-	-	-	-

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.811/213 and No.813/2013)


RHOSS
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EXP SYSTEMS
Excellence in Polyvalent technology
EXP SYSTEMS
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Z-Flow EXP

TXHVZ 2410÷2740

Cooling capacity: 407÷735,6 kW - Heating capacity: 463,4÷841,3 kW

TXHVIZ 2740

EXPsystems - Polyvalent ecological water-cooled system.
Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater, refrigerant gas intake and delivery piping shut-off valve and compressor oil level sensor.
- Primary side (user), secondary side (recovery) heat exchanger and disposal unit: dry expansion shell and tube, complete with antifreeze heater, closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- 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 and low pressure;
  - clock board;
  - electronic expansion valve.

Versions

- B - Standard version (TXHVBZ).
- I - Soundproofed version with soundproofing compressor lining (TXHVIZ).

Models

- TXHVBZ: standard EXPsystems unit.
- TXHVIZ: soundproofed EXPsystems unit.

Factory fitted accessories

- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft starter
- Compressor circuit breaker switches.
- Forced limit of power consumption.
- Digital input for double set-point
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- 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.

	TXHVBZ - TXHVIZ MODEL		2410	2450	2500	2590	2660	2740
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	434	476	531	626	698	782
❷	Nominal cooling capacity (AUTOMATIC 1)	kW	407	448,8	499,6	590,2	658,1	735,6
❸	Recovery heating capacity (AUTOMATIC 2)	kW	462	512	563	663	738	838
❹	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	463,4	513,6	564,9	665,4	740,5	841,3
❶	Total absorbed power (AUTOMATIC 1)	kW	78,8	87,6	92,8	107,2	121,8	138,2
❷	Total absorbed power (AUTOMATIC 1)	kW	87,6	97,6	103,3	121,5	134,4	153,3
❸	Total absorbed power (AUTOMATIC 2)	kW	104,6	116,2	122,5	143,8	159,2	181,7
❹	Total absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	106,1	117,8	124,5	146,3	161,7	185
❶	E.E.R. (AUTOMATIC 1)		5,51	5,43	5,72	5,84	5,73	5,66
❷	E.E.R. (AUTOMATIC 1)		4,65	4,6	4,84	4,86	4,9	4,8
❸	T.E.R.		7,86	7,85	8,22	8,25	8,30	8,25
❹	C.O.P. (SELECT 1-2 AUTOMATIC 3)		4,37	4,36	4,54	4,55	4,58	4,55
	TXHVBZ MODEL		**2410**	**2450**	**2500**	**2590**	**2660**	**2740**
❺	Sound power	dB(A)	97	97	98	99	99	99
	Screw/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 WEIGHTS		**2410**	**2450**	**2500**	**2590**	**2660**	**2740**
	L - Width	mm	4480	4480	4480	4480	4480	4480
	H - Height	mm	2030	2030	2030	2030	2030	2030
	P - Depth	mm	1620	1620	1620	1620	1620	1620
	TXHVBZ Weight	kg	3900	4745	5330	5720	6000	6020
❻	TXHVIZ Weight	kg	4020	4865	5450	5840	6120	6140

Data at the following conditions:

❶ Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 14/30°C. (Gross value)

❷ Chilled water (user): 12/7°C - Condenser water: 30/35°C.

❸ Chilled water (user): 12/7°C - Condenser water (recovery unit): 40/45°C. (Gross value)

❹ Evaporator water (source): 12/7°C - . Hot water (user): 40/45°C.

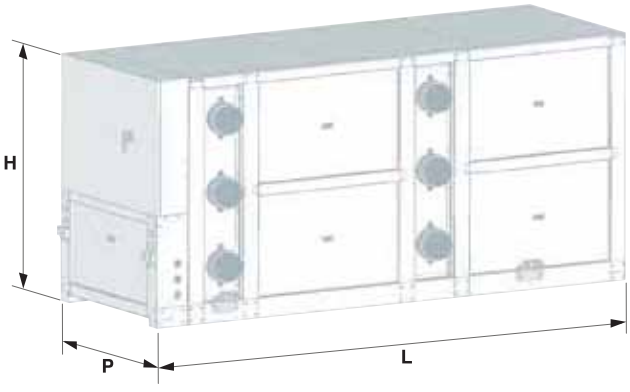
❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❻ Empty weight.

	SEASONAL ENERGY PERFORMANCE		2410	2450	2500	2590	2660	2740
	TXHVBZ - TXHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
①	Pdesignc (EN 14825)	kW	407	448,8	499,6	590,2	658,1	735,6
①	SEER (EN 14825)		5,89	5,9	5,94	5,9	5,92	5,93
②	$\eta_{s,c}$	%	228	228	230	228	229	229

① Low temperature application (7°C)

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



Condensing units - MCAEBY 115÷130

Condensing units - MCAEBY 233÷2160

CONDENSING UNITS

Web code: **CUY01**

Condensing units

MCAEBY 115÷130

Cooling capacity: 16.4÷31.5 kW

Air cooled condensing units with axial fans. Range with hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: Scroll hermetic complete with thermal protection and casing heater.
- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins, complete with protective mesh.
- Fan: external rotor axial type electric fans with internal thermal protection and accident protection grilles and proportional electronic device for pressurised and continuous fan rotation speed regulation up to an outdoor air temperature of –10°C.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate

Models

- MCAEBY: unit designed for cooling only.

Factory fitted accessories

- Silenced set up.

Separately supplied accessories

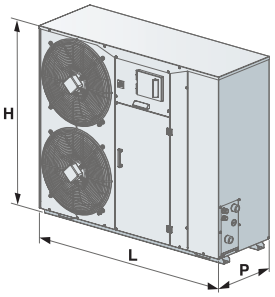
- Rubber anti-vibration mounts.
- RS485 Interface for serial communication with other devices.
- Serial converter (RS485/USB).

	MCAEBY MODEL		**115**	**117**	**122**	**124**	**127**	**130**
❶	Nominal cooling capacity	kW	16,4	18,5	24,7	26,5	29	31,5
❶	Absorbed power	kW	5,5	6,3	7,9	9	9,8	11
	MCAEBY MODEL		**115**	**117**	**122**	**124**	**127**	**130**
❸	Sound pressure	dB(A)	50	50	52	52	53	53
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**115**	**117**	**122**	**124**	**127**	**130**
	L - Width	mm	1230	1230	1230	1230	1535	1535
	H - Height	mm	1090	1090	1280	1280	1510	1510
	P - Depth	mm	580	580	600	600	695	695
	MCAEBY Weight	kg	140	150	200	225	270	300

Data at the following conditions:

❶ Air: 35°C - Saturated intake gas: 5°C.

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



Web code: **CUY11**

Condensing units

MCAEBY 233÷2160

Cooling capacity: 34.5÷162.6 kW

Air cooled condensing units with axial fans. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll type, complete with thermal protection and casing heater.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans, equipped with internal thermal protection, proportional electronic device for continuous fan rotation speed regulation and accident protection grilles.
- Control: microprocessor electronic control.
- Structure: in hot galvanised and painted sheet steel, with polyurethane powder coating.
- The unit is also complete with:
  - compressor and fan circuit breaker switches,
  - pre-loaded with R410A gas.

Models

- MCAEBY: unit designed for cooling only.

Factory fitted accessories

- Silenced set up
- Coil protection metal filters.
- Cooling circuit high and low pressure gauges.
- Liquid receiver.
- Copper/pre-painted aluminium or copper/copper coils.
- Rubber anti-vibration mounts.

Separately supplied accessories

- Thermostatic valve kit.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).

	MCAEBY MODEL		280	290	2100	2115	2130
❶	Nominal cooling capacity	kW	79,1	87,1	101	116,2	126,5
❶	Absorbed power	kW	28,4	32,9	36,2	41,2	46,2
	MCAEBY MODEL		**280**	**290**	**2100**	**2115**	**2130**
❸	Sound pressure	dB(A)	50	52	52	58	58
	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 WEIGHTS		**280**	**290**	**2100**	**2115**	**2130**
	L - Width	mm	2650	3150	3150	3150	3150
	H - Height	mm	1700	1700	1700	1730	1730
	P - Depth	mm	1210	1210	1210	1210	1210
	MCAEBY Weight	kg	880	935	950	998	998

	MCAEBY MODEL		233	238	245	250	260	265
❶	Nominal cooling capacity	kW	34,5	41,2	46,7	54,3	62,5	67,7
❶	Absorbed power	kW	12,5	14,7	17,6	19,9	22,4	24,3
	MCAEBY MODEL		**233**	**238**	**245**	**250**	**260**	**265**
❸	Sound pressure	dB(A)	46,5	47	48	48	49	49
	Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
	DIMENSIONS AND WEIGHTS		**233**	**238**	**245**	**250**	**260**	**265**
	L - Width	mm	1710	2315	2315	2315	2315	2315
	H - Height	mm	1570	1570	1570	1570	1570	1570
	P - Depth	mm	1000	1000	1000	1000	1000	1000
	MCAEBY Weight	kg	400	546	536	570	586	624

Data at the following conditions:

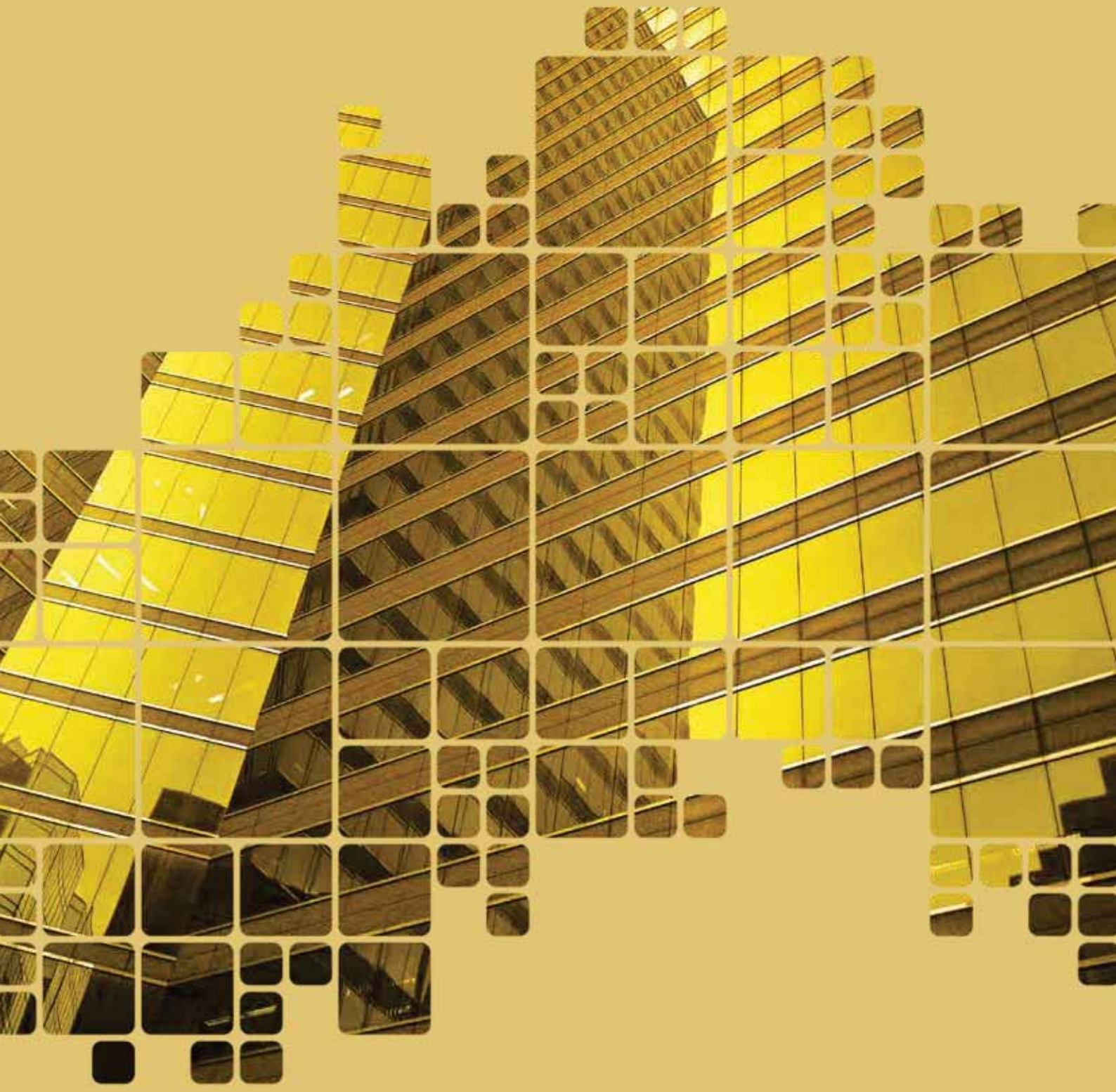
❶ Air: 35°C - Saturated intake gas: 5°C.

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

Remote condensers - CCAMY 115÷2185

Torri evaporative - CEHV CEHP 46÷2791

Pump units - AS 0300÷2500

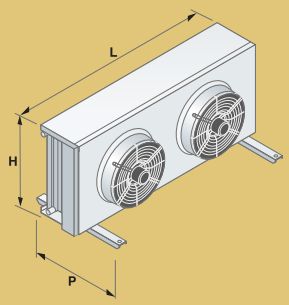


SYSTEM ACCESSORIES

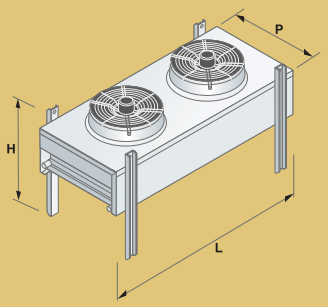
Web code Mod. 115÷240: **CRYA1**
Mod. 245÷2185: **CRYA2**

Remote condensers
CCAMY 115÷2185

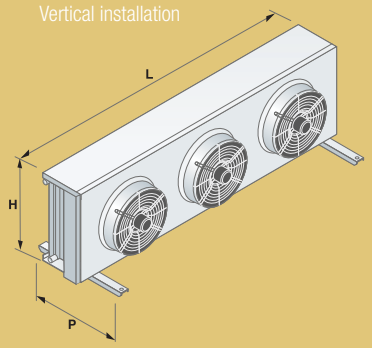
Vertical installation



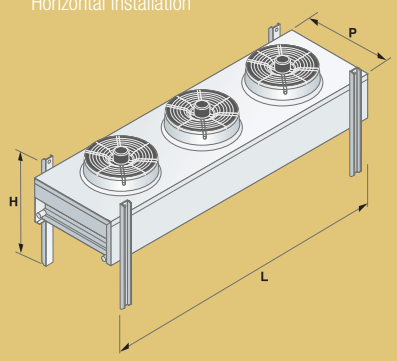
Horizontal installation



Vertical installation



Horizontal installation



Remote air condensers with axial fans for direct expansion units operating with R410A refrigerant gas. To be combined with the TCEEY condenserless units.

Construction features

- Heat exchanger: with high efficiency finned coil with copper pipes mechanically expanded on aluminium fins.
  The cooling unit connection fittings require brazing. Design pressure 40 barg. Each heat exchanger is tested against leaks with dry air and supplied preloaded with nitrogen.
- Fans: of axial type with external rotor with fans equipped with innovative polymer blades and integrated thermal protection to provide protection against thermal overload. IP54 protection rating, in compliance with DIN 40050. The fan motors are also standard supplied with phase cutting speed control.
- Structure: pre-painted galvanised steel plate with epoxy finish (RAL 9002).
  The coil structure is made of Aluminium alloy (AlMg3), for protection against vibration and thermal expansion.

The condensers are supplied with support bracket kit for vertical installation with horizontal air flow (CCAMY V) or horizontal with vertical air flow (CCAMY H).
The support brackets are made of galvanised steel
Electrical panel complete with:
- electrical wiring suited for 400V-3ph-50Hz power supply voltage;
- electrical supply junction box with disconnecting switch where the general power supply voltage of the remote condenser can be connected;
- self-extinguishing plastic casing (IP55) containing the fan rotation speed continuous control device, via a phase cut device,
- pressure probe,
- fan electrical wiring,
- contact for external signal of fan thermal intervention, remote on/off contact.

Versions

- The CCAMY range remote condensers are available in 3 construction options that meet the different system requirements regarding ambient noise emission containment:
  - Basic “B” version (except mod.115)
  - Version “S” Silenced
  - Version “Q” Super-silenced

	CCAMBY MODEL			118	122	125	230	240
	VERSION B "Basic"							
❶	Nominal heating capacity	kW		23	26	30	41	51
❷	Sound pressure	dB(A)		46	46	49	52	52
	Cooling circuits	no.		1	1	1	1	1
	Fans	no.		1	1	1	2	2
	Fan nominal air flow	m³/h		6419	6068	7019	15560	14760
	Rotation speed	rpm		1180	1180	1360	1360	1360
❶	Absorbed power	kW		0,55	0,55	0,72	1,44	1,44
	Electrical supply	V-ph-Hz		400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS							
	H horizontal installation							
	L - Width	mm		1115	1115	1115	2015	2015
	H - Height	mm		846	846	846	846	846
	P - Depth	mm		868	868	868	868	868
	V vertical installation							
	L - Width	mm		1115	1115	1115	2015	2015
	H - Height	mm		828	828	828	828	828
	P - Depth	mm		470	470	470	470	470
	Weight *	Kg		49	54	54	83	92

	CCAMSY MODEL		115	118	122	125	230	240
	VERSION S "Silenced"							
❶	Nominal heating capacity	kW	18,5	20,5	28,5	34	37,5	47
❷	Sound pressure	dB(A)	37	39	40	40	42	44
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	1	1	2	2	2	3
	Fan nominal air flow	m³/h	4865	4599	9224	8643	9730	15510
	Rotation speed	rpm	930	930	800	800	930	930
❶	Absorbed power	kW	0,27	0,27	0,38	0,38	0,54	0,81
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	1115	1115	2015	2015	2015	2915
	H - Height	mm	846	846	846	846	846	846
	P - Depth	mm	868	868	868	868	868	868
	V vertical installation							
	L - Width	mm	1115	1115	2015	2015	2015	2915
	H - Height	mm	828	828	828	828	828	828
	P - Depth	mm	470	470	470	470	470	470
	Weight *	Kg	49	54	83	92	92	121

	CCAMQY MODEL		115	118	122	125	230	240
	VERSION Q "Super-silenced"							
❶	Nominal heating capacity	kW	19	21,5	26	30	36,5	51
❷	Sound pressure	dB(A)	36	38	38	38	40	42
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	1	1	1	1	2	3
	Fan nominal air flow	m³/h	4071	7285	6724	6262	8141	12800
	Rotation speed	rpm	800	690	690	690	785	785
❶	Absorbed power	kW	0,19	0,4	0,4	0,4	0,38	0,57
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	1115	1261	1261	1261	2015	2915
	H - Height	mm	846	1171	1171	1171	846	846
	P - Depth	mm	868	1100	1100	1100	868	868
	V vertical installation							
	L - Width	mm	1115	1261	1261	1261	2015	2915
	H - Height	mm	828	1034	1034	1034	828	828
	P - Depth	mm	470	750	750	750	470	470
	Weight *	Kg	54	78	85	94	101	135

Data at the following conditions:

❶ Outdoor air temperature 35°C D.B., condensation temperature 50°C (dew point), desuperheating 25°K. Maximum speed

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

* Empty weight

Sound pressure level correction for distances other than 10m									
Distance	**(m)**	**2**	**3**	**4**	**5**	**7**	**10**	**15**	**20**
Correction	dB(A)	11	8,5	7	5	2,5	0	-3	-5,5

Remote condensers

CCAMY 115÷2185

	CCAMBY MODEL		245	250	260	270	275	290
	VERSION B "Basic"							
❶	Nominal heating capacity	kW	57	76	78	80	87,5	108,5
❷	Sound pressure	dB(A)	52	54	54	55	54	56
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	2	3	3	4	2	3
	Fan nominal air flow	m³/h	14040	22100	22130	31130	21160	33100
	Rotation speed	rpm	1360	1360	1360	1360	1330	1330
❶	Absorbed power	kW	1,44	2,16	2,16	2,88	2,5	3,75
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	2015	2915	2915	3815	2261	3261
	H - Height	mm	846	846	846	846	1171	1171
	P - Depth	mm	868	868	868	868	1100	1100
	V vertical installation							
	L - Width	mm	2015	2915	2915	3815	2261	3261
	H - Height	mm	828	828	828	828	1034	1034
	P - Depth	mm	470	470	470	470	750	750
	Weight *	Kg	101	136	140	174	169	237

	CCAMSY MODEL		245	250	260	270	275	290
	VERSION S "Silenced"							
❶	Nominal heating capacity	kW	54	70	75	92	95,5	106,5
❷	Sound pressure	dB(A)	51	51	51	52	51	51
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	3	3	3	4	3	3
	Fan nominal air flow	m³/h	20480	19260	18210	25670	27190	25690
	Rotation speed	rpm	1110	1110	1110	1110	1070	1070
❶	Absorbed power	kW	1,65	1,65	1,65	2,2	2,52	2,52
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	2915	2915	2915	3815	3261	3261
	H - Height	mm	846	846	846	846	1171	1171
	P - Depth	mm	868	868	868	868	1100	1100
	V vertical installation							
	L - Width	mm	2915	2915	2915	3815	3261	3261
	H - Height	mm	828	828	828	828	1034	1034
	P - Depth	mm	470	470	470	470	750	750
	Weight *	Kg	121	136	149	193	237	257

	CCAMQY MODEL		245	250	260	270	275	290
	VERSION Q "Super-silenced"							
❶	Nominal heating capacity	kW	53	62	75,5	81	94,5	105
❷	Sound pressure	dB(A)	42	44	45	45	44	45
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	3	3	4	4	3	4
	Fan nominal air flow	m³/h	12960	13800	19460	18400	25490	33800
	Rotation speed	rpm	785	920	920	930	890	890
❶	Absorbed power	kW	0,57	0,81	1,08	1,08	1,8	2,4
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	2915	2915	3815	3815	3261	4261
	H - Height	mm	846	846	846	846	1171	1171
	P - Depth	mm	868	868	868	868	1100	1100
	V vertical installation							
	L - Width	mm	2915	2915	3815	3815	3261	4261
	H - Height	mm	828	828	828	828	1034	1034
	P - Depth	mm	470	470	470	470	750	750
	Weight *	Kg	140	149	192	210	216	274

Data at the following conditions:

❶ Outdoor air temperature 35°C D.B., condensation temperature 50°C (dew point), desuperheating 25°K. Maximum speed

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

* Empty weight

	CCAMBY MODEL		2100	2115	2130	2145	2165	2185
	VERSION B "Basic"							
❶	Nominal heating capacity	kW	123,5	135	149	169,5	201	217,5
❷	Sound pressure	dB(A)	56	57	57	57	58	59
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	3	4	4	4	5	6
	Fan nominal air flow	m³/h	31730	44140	44240	42310	52920	66210
	Rotation speed	rpm	1330	1330	1330	1330	1330	1330
❶	Absorbed power	kW	3,75	5	5	5	6,25	7,5
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	3261	4261	4261	4261	5261	6261
	H - Height	mm	1171	1171	1171	1171	1171	1171
	P - Depth	mm	1100	1100	1100	1100	1100	1100
	V vertical installation							
	L - Width	mm	3261	4261	4261	4261	5261	6261
	H - Height	mm	1034	1034	1034	1034	1034	1034
	P - Depth	mm	750	750	750	750	750	750
	Weight *	Kg	257	302	310	327	421	451

	CCAMSY MODEL		2100	2115	2130	2145	2165	2185
	VERSION S "Silenced"							
❶	Nominal heating capacity	kW	130,5	135	149	173,5	191	212
❷	Sound pressure	dB(A)	52	52	52	53	54	54
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	4	4	4	5	6	6
	Fan nominal air flow	m³/h	36250	34100	34250	42820	54380	51380
	Rotation speed	rpm	1070	1070	1070	1070	1070	1070
❶	Absorbed power	kW	3,36	3,36	3,36	4,2	5,04	5,04
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	4261	4261	4261	5261	6261	6261
	H - Height	mm	1171	1171	1171	1171	1171	1171
	P - Depth	mm	1100	1100	1100	1100	1100	1110
	V vertical installation							
	L - Width	mm	4261	4261	4261	5261	6261	6261
	H - Height	mm	1034	1034	1034	1034	1034	1034
	P - Depth	mm	750	750	750	750	750	750
	Weight *	Kg	302	327	335	421	451	488

	CCAMQY MODEL		2100	2115	2130	2145	2165	2185
	VERSION Q "Super-silenced"							
❶	Nominal heating capacity	kW	125	138	160	176	203	210
❷	Sound pressure	dB(A)	45	45	46	46	47	47
	Cooling circuits	no.	1	1	1	1	1	1
	Fans	no.	4	4	5	5	6	6
	Fan nominal air flow	m³/h	33990	32110	40000	40130	47900	48160
	Rotation speed	rpm	890	890	890	890	890	890
❶	Absorbed power	kW	2,4	2,4	3	3	3,6	3,6
	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 WEIGHTS							
	H horizontal installation							
	L - Width	mm	4261	4261	5261	5261	6261	6261
	H - Height	mm	1171	1171	1171	1171	1171	1171
	P - Depth	mm	1100	1100	1100	1100	1100	1100
	V vertical installation							
	L - Width	mm	4261	4261	5261	5261	6261	6261
	H - Height	mm	1034	1034	1034	1034	1034	1034
	P - Depth	mm	750	750	750	750	750	750
	Weight *	Kg	274	299	383	383	443	450

Data at the following conditions:

❶ Outdoor air temperature 35°C D.B., condensation temperature 50°C (dew point), desuperheating 25°K. Maximum speed

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

* Empty weight

Web code: **GPA01**

Pump units
AS 0300÷2500

- **300 to 2,500 L buffer tank.**
- **Multiple combinations user side electric pumps**
- **Connection to system on delivery or on return**

Pump units with buffer tank.

Construction features
- Buffer tank: in carbon steel with a capacity of 300, 500, 750, 1,000, 1,500, or 2,500 litres.
- Hydraulic components: single or double centrifugal type electric pump, inlet and delivery ball shut-off valve of each electric pump, automatic replenishment cock, manual replenishment cock, safety valve, automatic air vent valve, tank water drain cock, membrane expansion tank, non-return valve (with double pump only), pressure gauge.
- The water circuit is insulated with closed cell expanded polyurethane of adequate thickness.
- Structure: galvanised and painted steel plate supporting structure.
- Control: electromechanical

Versions
- AS - Standard version with two connections.

Models
- AS 0300 UP or DUP 1÷5: pump unit equipped with single user pump (UP) or double user pump (DUP).
- AS 0500 UP or DUP 1÷5: pump unit equipped with single user pump (UP) or double user pump (DUP).
- AS 0750 UP or DUP 6÷10: pump unit equipped with single user pump (UP) or double user pump (DUP).
- AS 1000 UP or DUP 6÷10: pump unit equipped with single user pump (UP) or double user pump (DUP).
- AS 1500 UP or DUP 6÷14: pump unit equipped with single user pump (UP) or double user pump (DUP).
- AS 2500 UP or DUP 6÷14: pump unit equipped with single user pump (UP) or double user pump (DUP).

Factory fitted accessories
- Tank antifreeze electrical resistance complete with activator.

Separately supplied accessories
- Victaulic fittings.

MODEL		AS 0300	AS 0500	AS 0750	AS 1000	AS 1500	AS 2500
Tank capacity	l	300	500	750	1000	1500	2500
Electric pump model		1-2-3-4-5	1-2-3-4-5	6-7-8-9-10	6-7-8-9-10	6-7-8-9-10-11-12-13-14	6-7-8-9-10-11-12-13-14
Expansion tank capacity	l	25	25	25	25	3X25	3X25
Expansion tank pre-load	bar	1,5	1,5	1,5	1,5	1,5	1,5
Safety valve calibration	bar	3	3	3	3	3	3
Maximum operating pressure	bar	3	3	3	3	3	3
Electrical resistance (optional)	W	1300	1300	1300	1300	1.300X2	1.300X2
Hydraulic connections (female)	Ø (Gas)	21/2"	21/2"	3"	3"	4"	4"
Minimum liquid temperature	°C	-10	-10	-10	-10	-10	-10
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 WEIGHTS		**AS 0300**	**AS 0500**	**AS 0750**	**AS 1000**	**AS 1500**	**AS 2500**
L - Width	mm	1504	1504	2044	2044	2260	2260
H - Height	mm	1265	1265	1510	1510	1782	1782
P - Depth	mm	1120	1120	1200	1200	1900	1900
Weight (*)	kg	194	215	377	400	660	712
Weight (**)	kg	231	253	501	528	878	930

(*) Empty weight with 1 pump

(**) Empty weight with 2 pumps

TANK	PUMP	Electrical supply	Maximum absorbed power	Flow	Available head	Flow	Available head	Flow	Available head
Capacity (l)	**Model**	**V-pH-Hz**	**kW**	**m³/h**	**mh2o**	**m³/h**	**mh2o**	**m³/h**	**mh2o**
300 or 500	1	400-3-50	1,1	12	15,5	15	13,5	18	11,1
300 or 500	2	400-3-50	1,5	12	19	15	17	18	14,7
300 or 500	3	400-3-50	1,5	21	12,4	24	10,8	30	7,5
300 or 500	4	400-3-50	2,2	21	18,2	24	16,6	30	13,3
300 or 500	5	400-3-50	3	21	20,4	24	18,8	30	15,6
750 or 1,000	6	400-3-50	3	36	18,5	42	16,5	48	14
750 or 1,000	7	400-3-50	5,5	42	27	48	25	60	20
750 or 1,000	8	400-3-50	5,5	60	20	72	17	84	12,5
750 or 1,000	9	400-3-50	7,5	72	22	84	18,5	96	14,5
750 or 1,000	10	400-3-50	11	72	31	84	27,5	96	24
1,500 or 2,500	11	400-3-50	15	72	38,5	84	35	96	31
1,500 or 2,500	12	400-3-50	15	108	29	120	27	138	24,5
1,500 or 2,500	13	400-3-50	18,5	108	34	120	32	138	29,5
1,500 or 2,500	14	400-3-50	22	108	40	120	38,5	138	36

Diagram with AS pump unit on delivery

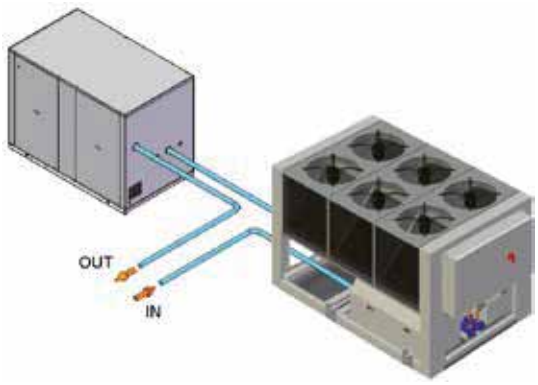
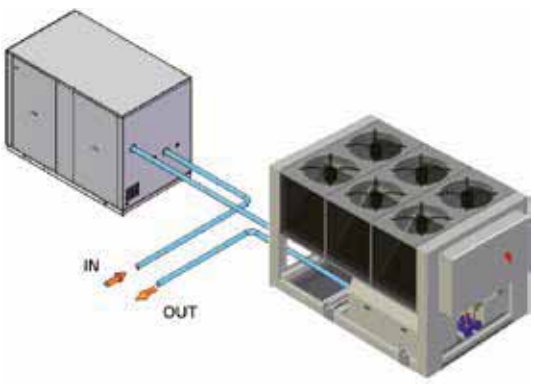


Diagram with AS pump unit on return

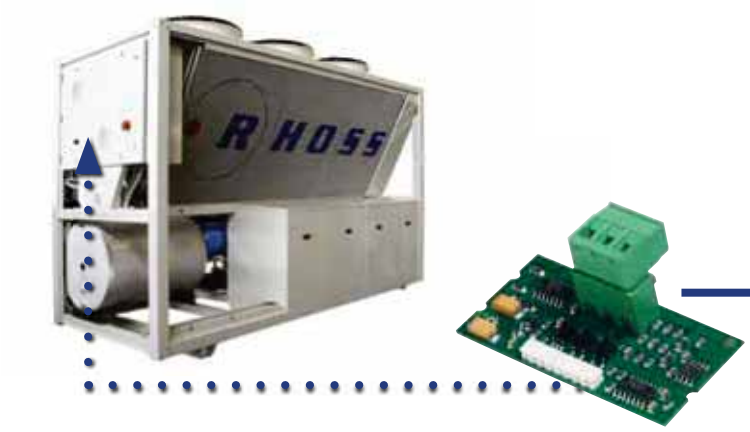


MANAGEMENT SYSTEMS, CONTROL AND MONITORING

Remote monitoring

RHOSS MONITORING: Mobile - Cloud - Real time

- **Remote management of cooling units, handling units**
- **3 different solutions for remote monitoring with GSM-GPRS network**
- **Connection via mobile or smartphone**
- **Web interface with Cloud service**
- **Status display in real time**
- **Data logger function**
- **Alarm and malfunctioning alerts**
- **Installation of the device on DIN bar, within 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**

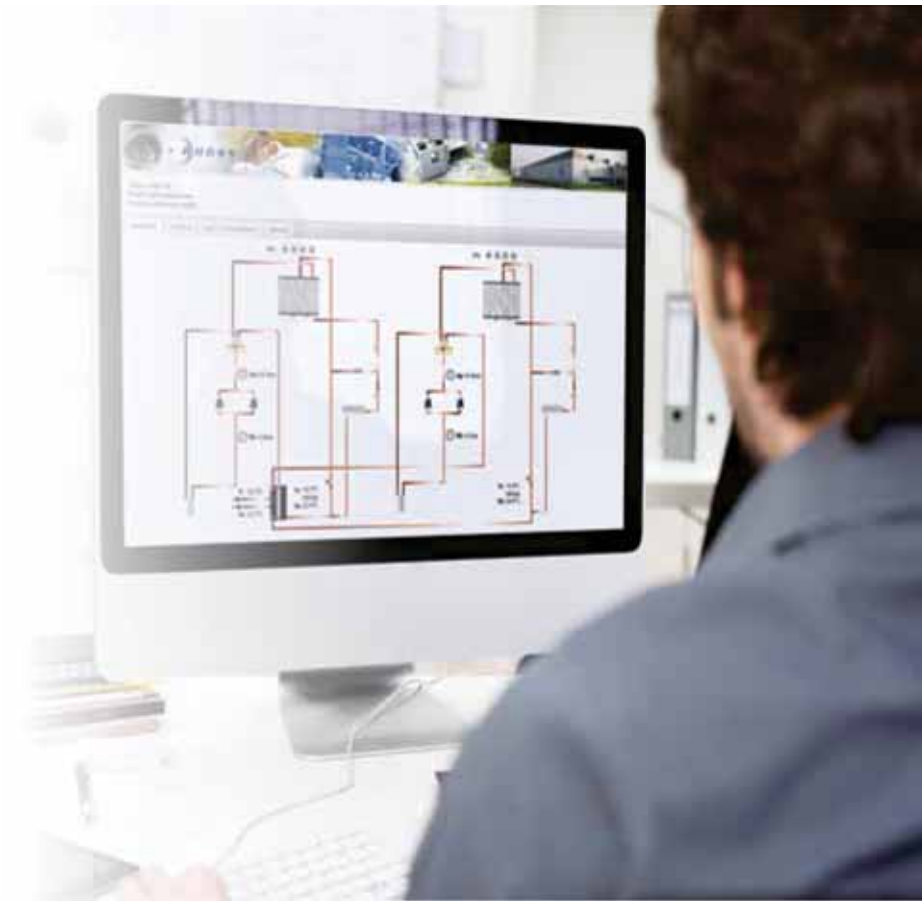
MANAGEMENT WITH INTERNET CLOUD SERVICE VIA WEB BROWSER OR WITH iOS AND ANDROID APPS

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 15÷40V dc or 11÷28V ac 50Hz.	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 9-36Vdc (12-24Vac +/-10%). 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 100 readings

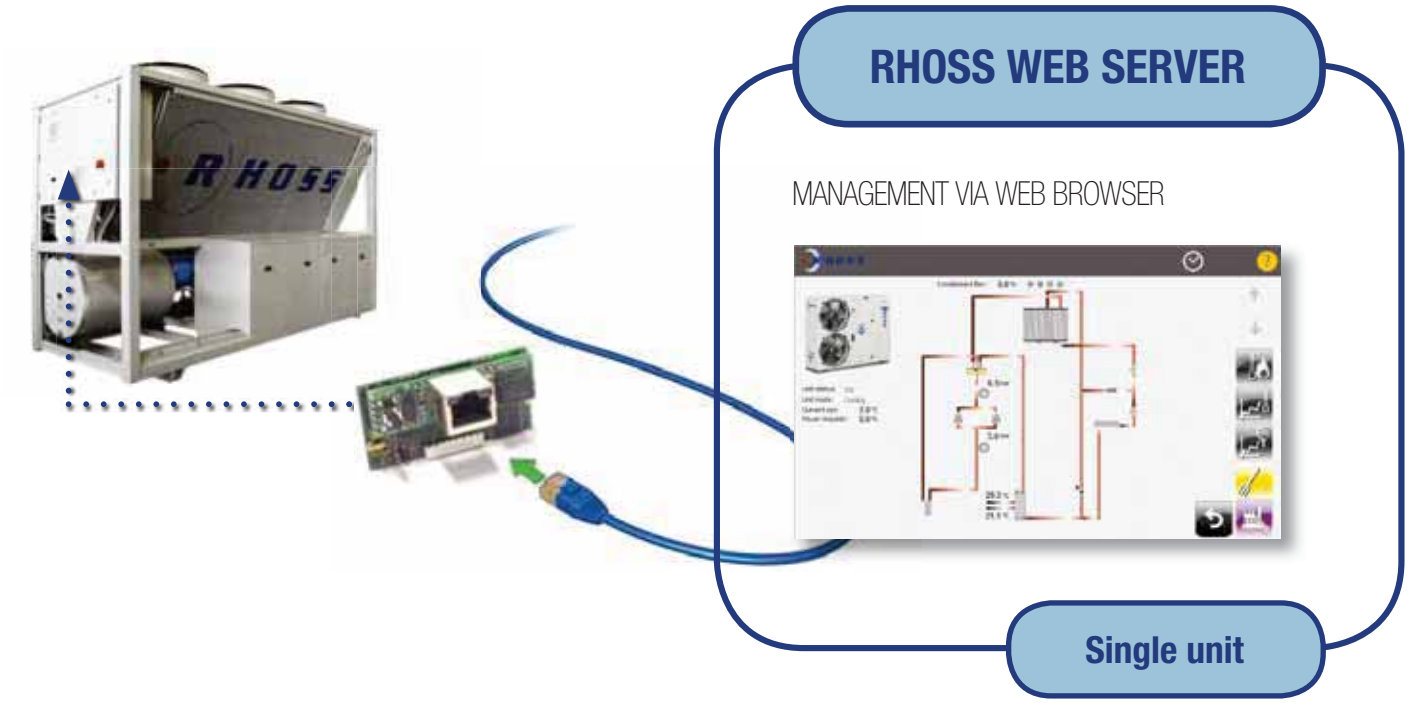
Control and monitoring via ETHERNET

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	ADDITIONAL 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: 1) Web Server board for Ethernet 2) User graphical interface	KCWEB - System control unit to be provided only for ELECTA range

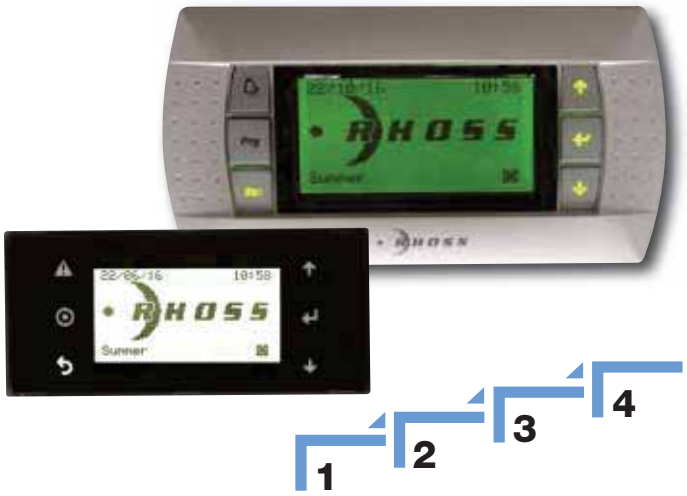


RHOSS COOLING UNIT + Web Server for Ethernet + User graphical interface

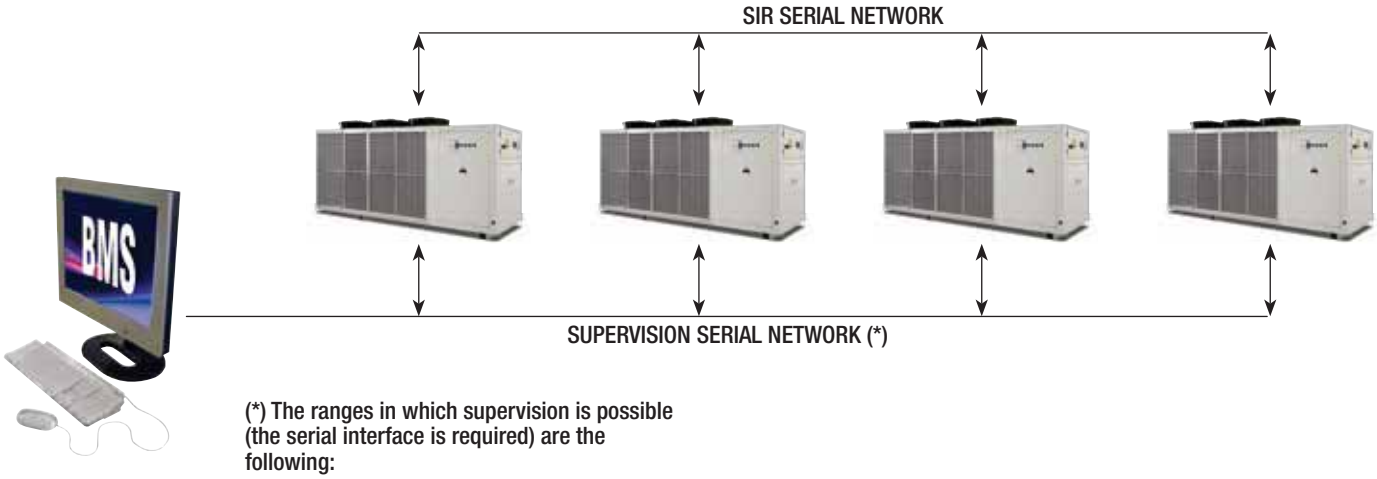
Chiller management software

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).



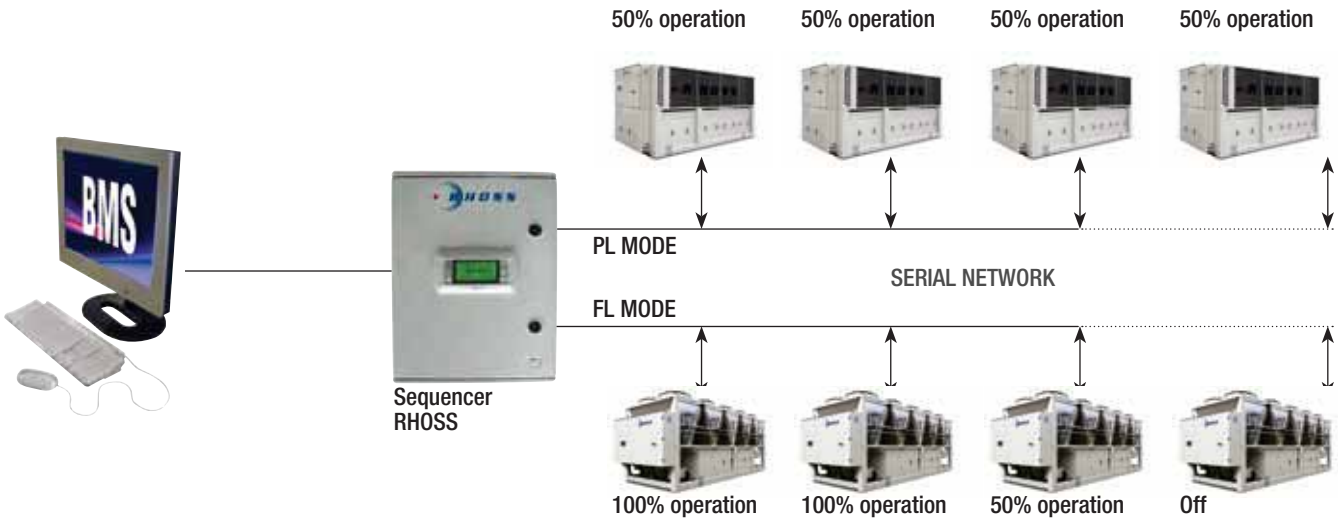
(*) The ranges in which supervision is possible (the serial interface is required) are the following:

- **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



Fan coils with EC motor - IDROWALL-I

Fan coils with EC motor - BRIO-I SLIM

Fan coils with EC motor - YARDY-I EV3

Fan coils - YARDY EV3

Ducted fan coils with EC motor - YARDY-ID2

Ducted fan coils - YARDY-DUCT2

Ductable terminals - YARDY-HP

Fan coils with EC motor - DIVA-I

Fan coils - DIVA

Fan coils - VTNC

FAN COILS

Web code: **IDR01**

Fan coils with EC motor

IDROWALL-I

Cooling capacity: 2.0÷3.5 kW - Heating capacity: 3.0÷5.1 kW

INVERTER

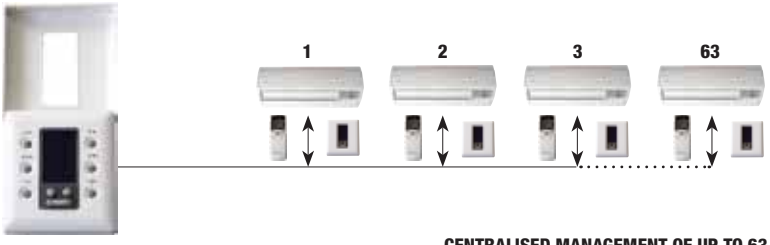
- **Consumption reduced by 50% compared to traditional motor**
- **3-way valve on board**
- **Integrated master/ slave function and serial interface**

Wall mounted fan coils.

Construction features
- Heat exchanger: finned coil.
- Fan: tangential with Inverter Brushless EC motor with continuous speed regulation.
- Baffle: motorised with different positions.
- Structure: made of heat-resistant ABS polymer, RAL 9003 colour, complete with regenerable polypropylene filter, direction-adjustable fins and natural condensate drain pan.
- Unit equipped with a 3-way ON/OFF valve and resident RS485 serial interface.
- Control: microprocessor electronic control. Regulation functions: full auto, cool, dry, fan, autofan, heat. Comfort functions: orienting, swing, timer, sleep, hot start, memory.
  Remote control supplied as standard.

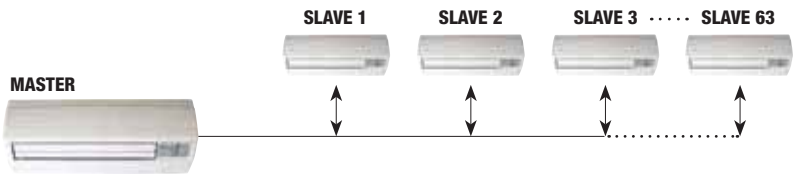
Separately supplied accessories
- KV2V - 2-way ON/OFF valve accessory. The installer is responsible for on board assembly.
- K2TF - Accessory for electrovalve use externally to the unit. Assembled by the installer.
- KVAM - Wall mounted recessed box.

Controls supplied separately
- KWPI - Electronic panel for wall mounting installation.
- KWPCI - Centralised electronic panel for wall mounting installation Power supply V230-1-50.
- KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).
- KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).



KWPCI centralised panel

CENTRALISED MANAGEMENT OF UP TO 63 UNITS DISTANCE UP TO 1200 m



MASTER/SLAVE MANAGEMENT OF UP TO 64 UNITS FOR A TOTAL DISTANCE OF 1200 m

Remote control
•
Flush panel KWPI

IDROWALL-I			21	31	41
❶ Total cooling capacity	MAX	kW	2,01	2,98	3,54
	MED	kW	1,64	2,15	2,47
	MIN	kW	1,33	1,9	1,9
❶ Total cooling capacity [EN1397]	MAX	kW E	1,99	2,95	3,5
	MED	kW E	1,63	2,14	2,45
	MIN	kW E	1,32	1,89	1,89
❷ Heating capacity (45°C) [EN1397]	MAX	kW E	2,68	4,21	4,45
	MED	kW E	2,02	3,05	3,64
	MIN	kW E	1,45	2,61	2,61
❸ Heating capacity (50°C)	MAX	kW	3,05	4,78	5,14
	MED	kW	2,34	3,46	4,11
	MIN	kW	1,72	2,98	2,98
❹ Heating capacity (70°C) [EN1397]	MAX	kW	5,53	8,49	9
	MED	kW	4,2	6,23	7,38
	MIN	kW	3,02	5,36	5,36
Air flow speed	MAX	m³/h	556	722	814
	MED	m³/h	413	473	581
	MIN	m³/h	295	396	396
❺ Sound power	MAX	dB(A) E	52	55	59
	MED	dB(A) E	43	46	51
	MIN	dB(A) E	34	42	42
Sound pressure	MAX	dB(A)	43	46	50
	MED	dB(A)	34	37	42
	MIN	dB(A)	25	33	33
Absorbed power	MAX	W E	22	27	38
	MED	W E	14	15	19
	MIN	W E	11	12	12
Electrical supply		V-ph-Hz	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS			21	31	41
L - Width		mm	795	990	990
H - Height		mm	290	290	290
P - Depth		mm	230	230	230
Weight		kg	9,3	11,6	11,6

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.

❷ Air: 20°C - Water: 45/40°C.

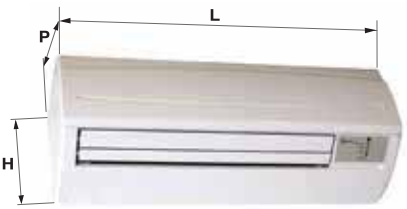
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.

❹ Air: 20°C - Water: 70/60°C.

❺ For room volume equal to 100 m³ and reverberation time = 0.5 sec.

E Eurovent certificate performance.

Remote control
●
Centralised panel
●
Flush panel



Web code: **BRIS1**

Web code accessories: **ACFCS**

Fan coils with EC motor

BRIO-I SLIM

Cooling capacity: 1.0÷4.0 kW - Heating capacity: 1.1÷4.6 kW

INVERTER

new

- **Exclusive design with thin profile.**
- **Silent operation.**
- **Excellent room comfort with continuous regulation of the fan speed.**
- **Low consumption with standard EC motor.**
- **Versions with cabinet and recessed installation with front radiant function.**
- **Touch control, on board or wall-mounted**

Floor and ceiling fan coil units with cabinet for recessed wall or false ceiling installation

Construction features
- Heat exchanger: finned coil with Eurokonus ¾" left-hand connections; right-hand connections with accessory supplied separately.
- Tangential fan with constant speed regulation EC electronic motor and low-consumption micro-fans in the version with radiant function.
- Cabinet version structure: covering cabinet consisting of pre-painted sheet metal central panel and sides made of ABS polymer (or pre-painted sheet metal for 4-pipe systems), colour RAL9003 with matt finish, upper delivery grille in painted aluminium, silver grey colour. Complete unit with vertical condensate drain pan and additional one with natural drainage, and regenerable filter.
- Recessed version structure: in galvanised sheet steel, complete with vertical condensate drain pan and additional horizontal one with natural drainage, and regenerable filter.

Versions
- MVP - Vertical unit with cabinet for wall mounting installation or with feet standing on the ground; ceiling installation with accessory supplied separately (KVXO)
- IXP - Recessed horizontal/vertical unit for false ceiling installation or wall installation.
- MVR - Vertical only unit with cabinet and front radiant function, for wall mounting installation or with feet standing on the ground.
- IVR - Vertical only recessed unit with front radiant function, for wall formwork installation.

Construction set-ups

Type of system

2T - 2-pipe systems

4T - 4-pipe systems with additional water heating coil (MVP and IXP versions only).

Accessories
- ➔ Cable for water connections on the right side.
- ➔ Eurokonus / Gas connection straight fitting.
- ➔❖ 2 -way ON/OFF solenoid valves for 2 and 4-pipe systems.
- ➔❖ 3 -way ON/OFF solenoid valves for 2 and 4-pipe systems.
- ➔ UVC device for air sterilisation.
- ➔ Condensate drain pan for horizontal installation.
- ➔ Back in view.
- ➔ Aesthetic and floor support feet.
- ➔ Formwork for recessed installation (only 2-pipe systems)
- ➔ Wall aesthetic panel for formwork, colour matt white RAL 9003.
- ➔ Ceiling aesthetic panel for formwork, colour matt white RAL 9003.
- ➔ Straight or 90° inlet fitting.
- ➔ 90° delivery fitting, insulated.
- ➔ Telescopic delivery fitting, insulated.
- ➔ Wall inlet grille made of aluminium, with straight profile.
- ➔ Wall delivery nozzle made of aluminium, with double row of adjustable fins.
- ➔ Ceiling inlet grille made of aluminium, with curved profile.
- ➔ Ceiling delivery nozzle made of aluminium, with curved profile.

STANDARD controls

For installation on machine
- ➔ Electronic board in combination with 3-speed thermostats
- ➔ Electronic board in combination with thermostats with 0-10V analogue output

For wall mounting installation
- ➔ Panel with room thermostat, summer/winter switch, speed switch and ON/OFF valve control.
- ➔ Electronic panel with automatic summer/winter switching for 2-pipe systems.

ADVANCED controls
- ➔ Slim-touch wall-mounted control panel, with RS485 Modbus RTU interface.

For installation on machine
- ➔❖ Touch control on board and electronic control with continuous speed modulation.
- ➔❖ Touch control on board and 4-speed electronic control, only for 2-pipe systems.
- ➔❖ Electronic control with continuous speed modulation only when combined with a KPST panel, with master/slave management up to 31 controls.
- ➔❖ RS485 Modbus RTU serial interface

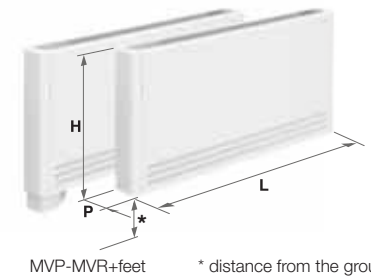
Key: ❖ Factory fitted
➔ Supplied separately

BRIO-I SLIM - MVP-MVR-IXP-IVR				10	20	25	30	40
❶ Total cooling capacity	MAX	kW		0,99	1,83	2,89	3,34	3,98
	MED	kW		0,76	1,35	2,17	2,44	2,91
	MIN	kW		0,39	0,73	1,15	1,27	1,47
❶ Total cooling capacity [EN1397]	MAX	kW	E	0,98	1,81	2,87	3,31	3,94
	MED	kW	E	0,75	1,35	2,16	2,43	2,9
	MIN	kW	E	0,38	0,73	1,14	1,27	1,46
❷ Heating capacity (45°C) [EN1397]	MAX	kW	E	1,13	2,03	3,19	3,75	4,57
	MED	kW	E	0,81	1,48	2,32	2,75	3,19
	MIN	kW	E	0,57	0,75	0,92	1,48	1,84
❸ Heating capacity (50°C)	MAX	kW		1,38	2,48	3,91	4,59	5,57
	MED	kW		0,99	1,8	2,84	3,35	3,89
	MIN	kW		0,7	0,92	1,11	1,8	2,24
❹ Heating capacity (70°C) [EN1397]	MAX	kW		2,27	4,08	6,41	7,54	9,17
	MED	kW		1,63	2,98	4,67	5,52	6,42
	MIN	kW		1,16	1,54	1,84	2,97	3,7
❸ Heating capacity only radiant function (50°C) MVR-IVR version		kW		0,32	0,38	0,46	0,55	0,66
❹ Heating capacity only radiant function (70°C) MVR-IVR version		kW		0,54	0,67	0,78	0,92	1,08
❺ Heating capacity of additional coil (65°C) [EN1397]	MAX	kW	E	0,67	1,21	1,76	2,3	2,84
	MED	kW	E	0,56	0,97	1,27	1,81	2,3
	MIN	kW	E	0,33	0,69	0,95	1,31	1,45
❹ Heating capacity of additional coil (70°C)	MAX	kW		0,77	1,42	2,16	2,74	3,3
	MED	kW		0,63	1,15	1,55	2,18	2,7
	MIN	kW		0,36	0,8	1,12	1,58	1,71
Air flow speed	MAX	m³/h		162	320	461	576	648
	MED	m³/h		113	252	367	453	494
	MIN	m³/h		55	155	248	370	426
Sound power	MAX	dB(A)	E	50	51	52	54	54
	MED	dB(A)	E	42	43	45	46	46
	MIN	dB(A)	E	32	33	34	35	34
❻ Sound pressure	MAX	dB(A)		41	42	43	45	45
	MED	dB(A)		33	34	36	37	37
	MIN	dB(A)		23	24	25	26	25
Absorbed power	MAX	W	E	11	19	20	28	35
	MED	W	E	9	10	13	15	17
	MIN	W	E	7	7	7	8	8
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**10**	**20**	**25**	**30**	**40**
W - MVP-MVR width		mm		723	923	1123	1323	1523
W - IXP-IVR width		mm		525	725	925	1125	1325
H - MVP-MVR height - 2 pipes		mm		579	579	579	579	579
H - IXP-IVR height - 2 pipes		mm		590	590	590	590	590
H - MVP height - 4 pipes		mm		639	639	639	639	639
H - IXP height - 4 pipes		mm		650	650	650	650	650
Feet height /minimum height from floor		mm		80	80	80	80	80
D - MVP-MVR depth		mm		149	149	149	149	149
D - IXP-IVR depth		mm		126	126	126	126	126
MVP-MVR weight - 2 pipes / MVP- 4 pipes		kg		17 / 18	20 / 21	23 / 25	26 / 28	29 / 32
IXP-IVR weight - 2 pipes / IXP - 4 pipes		kg		9 / 10	12 / 13	15 / 17	18 / 20	21 / 24
WxHxD - KCASE formwork - 2 pipes		mm		715x725x142	915x725x142	1115x725x142	1315x725x142	1515x725x142

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.
❷ Air: 20°C - Water: 45/40°C.
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.
❹ Air: 20°C - Water: 70/60°C.
❺ Air: 20°C - Water: 65/55°C.
❻ For room volume equal to 100 m³ and reverberation time = 0.5 sec.
E Eurovent certified performance.

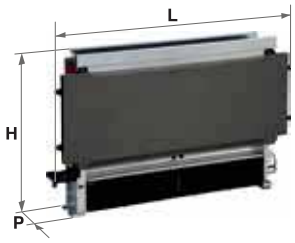
MVP-MVR for vertical installation



MVP-MVR+feet * distance from the ground

IXP for vertical installation and horizontal IVR for vertical installation

For horizontal installation



IXP-IVR with KCASE formwork and covering panel

Slim

With its slim and exclusive design and simple and essential shape, BRIO-I Slim **furnishes** the environment with a discreet touch of elegance.

BRIO-I Slim

A simple and easy concept to remember, like a wonderful experience that leaves a distinctive memory.
BRIO-I Slim is simple and memorable for its design, silence, comfort, low consumption and user experience.
A product designed from the future.

Multi-form

Flexible versions with a cabinet and recessed, wall-supported formwork or false ceiling installation, BRIO-I Slim **structures any architectural requirement**.

Unparalleled silence

Barely audible when operating at low speed and efficient when required, **with continuous modulation at** skilfully controlled speed, BRIO-I Slim **can provide the right day and night comfort without ever being heard**.

Low consumption

The EC electronic motor compresses consumption to extremely low values and enables **constant performance control** with advanced logic **based on actual room requirements, without any waste.**

With touch control

The **intuitive touch control** makes the control unit extremely easy to use: the wall-mounted control panel responds immediately to the commands **with a simple touch**.

Radiant heat

The radiant function creates a pleasant sense of well-being through heat distributed from the front panel, which heats **during winter operation**.

Web code: **YARI3**

Web code accessories:
ACMEC

Fan coils with EC motor

YARDY-I EV3

Cooling capacity: 1.9÷8.6 kW - Heating capacity: 2.5÷11.8 kW

- **Enhanced performance with 4-row coil**
- **Consumption reduced by 50% compared to traditional motor**
- **Continuous fan speed regulation**
- **Quieter operation**
- **Better room comfort**

Floor and ceiling fan coil units with cabinet for recessed wall or false ceiling installation

Construction features
- Heat exchanger: with finned coil with left-hand connections reversible to right.
- Centrifugal fan with inverter controlled electronic brushless motor and continuous speed regulation.
- Cabinet version structure: covering cabinet in pre-painted sheet steel complete with regenerable filter, ABS polymer grilles and natural condensate drain pan.
- Recessed version structure: in galvanised sheet steel, complete with natural condensate drain pan and regenerable filter.

Versions
- MVP - Vertical unit with cabinet equipped with lower air inlet and upper delivery for wall mounting installation or with feet on ground.
- MVT - Vertical unit with cabinet equipped with front air inlet and upper outlet for floor installation.
- MXP - Horizontal/vertical unit with cabinet, equipped with lower air inlet and upper delivery, for ceiling installation, wall-mounting or with feet on ground.
- MXT - Horizontal/vertical unit with cabinet, equipped with front air inlet and upper delivery, for ceiling or floor installation.
- IVP - Recessed vertical unit equipped with lower air inlet and upper delivery for wall mounting installation.
- IVF - Recessed vertical unit equipped with lower air inlet and front delivery for wall installation.
- IXP - Horizontal/vertical unit equipped with lower air inlet and upper delivery for false ceiling or recessed wall installation.

Accessories
- ➔♦Additional water heating coil.
- ➔♦Electrical resistance.
- ➔♦2 -way ON/OFF electrovalves for 2 and 4-pipe systems.
- ➔♦3 -way ON/OFF electrovalves for 2 and 4-pipe systems.
- ➔♦Auxiliary condensate-drain pan.
- ➔ Manual damper.
- ➔ Motorised damper.
- ➔ Back in view.
- ➔ Rear closing panel.
- ➔ Rear closing panel with grille and filter.
- ➔ Support feet with pipe cover.
- ➔ Frame with filter (G2) that can be extracted in any direction.
- ➔ Delivery straight fitting.
- ➔ 90° delivery and inlet fitting.
- ➔ Telescopic outlet/inlet fitting.
- ➔ Inlet grille with filter.
- ➔ Delivery grille.
- ➔ Cover panel with grilles (only IXP).
- ➔ Flanged frame for connection to duct.
- ➔ Anti-vibration fitting for delivery/inlet duct connection.
- ➔ Intake/outlet plenum with round nozzles.

STANDARD controls

For wall mounting installation
- ➔ Electronic panel with display and RS485 serial interface, semi-recessed in wall.

iDRHOSS Controls
- ➔ Wall mounting receiver for remote control.
- ➔ Electronic panel for wall mounting or installation on machine.
- ➔ Wall-mounted recessed electronic panel

For installation on machine
- ➔♦ Master/slave electronic board, ON/OFF valve control module and electrical resistance, temperature probe for hot row.
- ➔ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).
- ➔ RS 485/USB serial converter.
- ➔ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.
- ➔ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).
- ➔ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ♦ Factory fitted
➔ Supplied separately

YARDY-I EV3 MVP-MVT-MXP-MXT-IVP-IVF-IXP				20	24	30	34	45	48	60	74	80	88
❶ Total cooling capacity	MAX	kW		1,88	2,25	3	3,4	4,15	4,64	6,37	7,41	8,08	8,55
	MED	kW		1,45	1,69	2,33	2,77	3,06	3,49	4,62	5,27	5,92	6,38
	MIN	kW		0,75	0,81	1,09	1,35	1,54	1,74	1,79	2,11	2,11	2,26
❶ Total cooling capacity [EN1397]	MAX	kW	E	1,86	2,23	2,97	3,37	4,11	4,6	6,28	7,32	7,94	8,4
	MED	kW	E	1,44	1,68	2,32	2,75	3,05	3,48	4,59	5,24	5,87	6,32
	MIN	kW	E	0,74	0,8	1,08	1,34	1,53	1,73	1,78	2,1	2,1	2,25
❷ Heating capacity (45°C) [EN1397]	MAX	kW	E	2,09	2,18	3,27	3,41	4,46	4,65	7,13	7,41	9,67	10,07
	MED	kW	E	1,48	1,56	2,52	2,6	3,13	3,27	5,13	5,31	7,15	7,43
	MIN	kW	E	0,77	0,81	1,2	1,23	1,51	1,57	1,88	1,94	2,63	2,74
❸ Heating capacity (50°C)	MAX	kW		2,47	2,59	3,87	4,06	5,28	5,54	8,38	8,8	11,29	11,77
	MED	kW		1,77	1,88	2,99	3,14	3,74	3,93	6,07	6,37	8,39	8,75
	MIN	kW		0,91	0,96	1,42	1,49	1,81	1,9	2,24	2,35	3,07	3,22
❹ Heating capacity (70°C) [EN1397]	MAX	kW		4,2	4,35	6,56	6,83	8,92	9,31	14,28	14,85	19,36	20,15
	MED	kW		2,98	3,14	5,06	5,26	6,28	6,56	10,3	10,77	14,35	14,91
	MIN	kW		1,55	1,62	2,44	2,51	3,06	3,19	3,85	3,96	5,37	5,6
❺ Heating capacity of additional coil (65°C) [EN1397]	MAX	kW	E	1,95	2,07	2,94	2,8	3,37	3,2	5,63	5,37	6,51	6,16
	MED	kW	E	1,66	1,57	2,34	2,23	2,84	2,71	4,68	4,45	5,4	5,14
	MIN	kW	E	0,88	0,83	1,29	1,23	1,54	1,46	2,17	2,06	2,52	2,4
❹ Heating capacity of additional coil (70°C)	MAX	kW		2,19	2,33	3,3	3,14	3,79	3,6	6,29	5,98	7,23	6,83
	MED	kW		1,91	1,81	2,63	2,5	3,29	3,13	5,27	5,01	6,07	5,77
	MIN	kW		1	0,95	1,47	1,4	1,78	1,69	2,49	2,37	2,89	2,75
Air flow speed	MAX	m³/h		331	331	523	523	645	645	1235	1235	1503	1458
	MED	m³/h		230	230	400	400	450	450	780	780	965	965
	MIN	m³/h		97	97	167	167	198	198	256	256	300	300
Sound power	MAX	dB(A)	E	48	48	50	50	51	51	62	62	66	66
	MED	dB(A)	E	40	40	43	43	42	42	50	50	56	56
	MIN	dB(A)	E	23	23	24	24	25	25	27	27	32	32
❻ Sound pressure	MAX	dB(A)		39	39	41	41	42	42	53	53	57	57
	MED	dB(A)		31	31	34	34	33	33	41	41	47	47
	MIN	dB(A)		14	14	15	15	16	16	18	18	23	23
Absorbed power	MAX	W	E	23	25	26	28	39	42	89	95	136	146
	MED	W	E	13	14	15	16	14	15	28	30	52	56
	MIN	W	E	6	6	6	6	7	8	7	7	9	10
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**20**	**24**	**30**	**34**	**45**	**48**	**60**	**74**	**80**	**88**
L - MXP-MXT-MVP-MVT width		mm		800	800	1000	1000	1200	1200	1500	1500	1500	1500
L - IVP-IXP-IVF width		mm		550	550	750	750	950	950	1250	1250	1250	1250
H - MXP-MXT-MVP-MVT height		mm		570	570	570	570	570	570	570	570	570	570
H - IVP-IXP-IVF height		mm		545	545	545	545	545	545	545	545	545	545
MVP-MVT-MXP-MXT Feet height		mm		100	100	100	100	100	100	100	100	100	100
P - MXP-MXT-MVP-MVT Depth		mm		220	220	220	220	220	220	220	220	220	220
P - IVP-IXP-IVF Depth		mm		212	212	212	212	212	212	212	212	212	212
MXP-MXT-MVP-MVT Weight		kg		20	20,5	21	22	28	29	35	36	37	38
IVP-IXP-IVF Weight		kg		16,5	17	20,5	21,5	25,5	27	34,5	35,5	36,5	37,5

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.
❷ Air: 20°C - Water: 45/40°C.
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.
❹ Air: 20°C - Water: 70/60°C.
❺ Air: 20°C - Water: 65/55°C.
❻ For room volume equal to 100 m³ and reverberation time = 0.5 sec.
E Eurovent certified performance.
MAX, MED, MIN speed with 10 Vdc, 6 Vdc, 1 Vdc input.
YARDY-I EV3 24 - 34 - 48 - 74 - 88 with oversized 4-row coil.

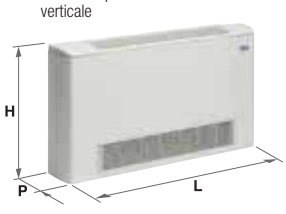
MXP per installazione orizzontale

MXT per installazione orizzontale

MVP-MXP per installazione verticale

MVP-MXP+piedini

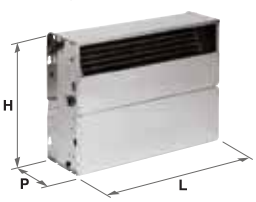
MVT-MXT per installazione verticale



IXP per installazione orizzontale

IVP-IXP per installazione verticale

IVF per installazione verticale



Web code: **YARV3**

Web code accessories:
ACMEC

Fan coils
YARDY EV3

Cooling capacity: 1.1÷8.5 kW - Heating capacity: 1.6÷11.7 kW

- **Enhanced performance with 4-row coil**
- **Acoustic comfort**
- **6-speed fan**
- **Installation flexibility**
- **Pre-fitted accessories and controls**

Floor and ceiling fan coil units with cabinet for recessed wall or false ceiling installation

Construction features
- Heat exchanger: with finned coil with left-hand connections reversible to right.
- Centrifugal fan: 6 speeds, 3 of which are connected to the terminal block.
- Cabinet version structure: covering cabinet in pre-painted sheet steel complete with regenerable filter, ABS polymer grilles and natural condensate drain pan.
- Recessed version structure: in galvanised sheet steel, complete with natural condensate drain pan and regenerable filter.

Versions
- MVP - Vertical unit with cabinet equipped with lower air return and upper delivery for wall mounting installation or with feet on ground.
- MVT - Vertical unit with cabinet equipped with front air inlet and upper delivery for floor installation.
- MXP - Horizontal/vertical unit with cabinet equipped with lower air inlet and upper delivery for ceiling installation, wall-mounting or with feet on ground.
- MXT - Horizontal/vertical unit with cabinet, equipped with front air return and upper delivery, for ceiling or floor installation.
- IVP - Recessed vertical unit equipped with lower air return and upper delivery for wall mounting installation.
- IVF - Recessed vertical unit equipped with lower air inlet and front delivery for wall installation.
- IXP - Horizontal/vertical unit equipped with lower air inlet and upper delivery for false ceiling or recessed wall installation.

YARDY EV3 MVP-MVT-MXP-MXT-IVP-IVF-IXP		15	20	24	25	30	34	40	45	48	55	58	60	74	80	88
DIMENSIONS AND WEIGHTS																
L - MXP-MXT-MVP-MVT width	mm	700	800	800	1000	1000	1000	1200	1200	1200	1500	1500	1500	1500	1500	1500
L - IVP-IXP-IVF width	mm	450	550	550	750	750	750	950	950	950	1250	1250	1250	1250	1250	1250
H - MXP-MXT-MVP-MVT height	mm	570	570	570	570	570	570	570	570	570	570	570	570	570	570	570
H - IVP-IXP-IVF height	mm	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545
MVP-MVT-MXP-MXT Feet height	mm	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P - MXP-MXT-MVP-MVT Depth	mm	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
P - IVP-IXP-IVF Depth	mm	212	212	212	212	212	212	212	212	212	212	212	212	212	212	212
MXP-MXT-MVP-MVT Weight	kg	16	20	20,5	20	21	22	27	28	29	35	35	35	36	37	38
IVP-IXP-IVF Weight	kg	14,5	16,5	17	20,5	20,5	21,5	24	25,5	27	34,5	34,5	34,5	35,5	36,5	37,5

Accessories

➔❖Additional water heating coil.
➔❖Electrical resistance.
➔❖2 -way ON/OFF electrovalves for 2 and 4-pipe systems.
➔❖3 -way ON/OFF electrovalves for 2 and 4-pipe systems.
➔❖Auxiliary condensate-drain pan.
➔ Manual damper.
➔ Motorised damper.
➔ Back in view.
➔ Rear closing panel.
➔ Rear closing panel with grille and filter.
➔ Support feet with pipe cover.

STANDARD controls

For wall mounting installation

➔ Panel with speed and summer/winter switch.
➔ Panel with room thermostat, summer/winter switch, speed switch, ON/OFF valve signal and electrical resistance.
➔ Minimum temperature thermostat (for installation on machine).
➔ Electronic panel with automatic summer/winter switching for 2-pipe systems.
➔ Electronic panel with automatic summer/winter switching and automatic speed regulation for 2-pipe systems with electrical resistance or 4-pipe systems.
➔ Electronic panel with display and RS485 serial interface, semi-recessed in wall.

For installation on machine (MVP and MVT versions)

➔❖Panel with speed switch.
➔❖Panel with room thermostat, summer/winter switch and speed switch.
➔❖Minimum temperature thermostat.
➔❖Panel with room thermostat, summer/winter switch, speed switch, ON/OFF valve control and electrical resistance.
➔❖Electronic panel with automatic summer/winter switching for 2-pipe systems.
➔❖Electronic panel with automatic summer/winter switching and automatic speed regulation for 2-pipe systems with electrical resistance or 4-pipe systems.
➔ Interface board to control up to 4 fan coils.

iDRHOSS Controls

➔ Wall mounting receiver for remote control.
➔ Electronic panel for wall mounting or installation on machine.
➔ Wall-mounted recessed electronic panel

For installation on machine

➔❖Master/slave electronic board.
➔❖Temperature probe for hot row.
➔❖Module for management of ON/OFF valves and electrical resistance.
➔ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).
➔ RS 485/USB serial converter.
➔ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.
➔ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).
➔ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ❖ Factory fitted
➔ Supplied separately

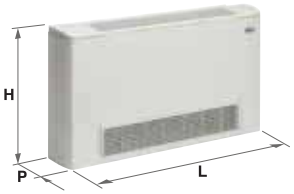
MXP for horizontal installation

MXT for horizontal installation

MVP-MXP for vertical installation

MVP-MXP+feet

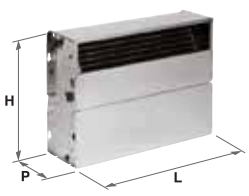
MVT-MXT for vertical installation



IXP for horizontal installation

IVP-IXP for vertical installation

IVF for vertical installation



	YARDY EV3 MVP-MVT-MXP-MXT-IVP-IVF-IXP			15	20	24	25	30	34	40	45	48	55	58	60	74	80	88
❶	Total cooling capacity	VI	kW	1,14	2,02	2,24•	2,54•	3,27	3,34 •	3,79	4,33 •	4,84 •	5,49 •	6,01 •	6,69 •	7,16 •	8 •	8,45 •
		V	kW	1,07•	1,8•	2,13	2,27	2,85•	3,11	3,42 •	3,9	4,53	4,95	5,36	6,22	6,61	7,69	8,11
		IV	kW	0,99	1,56	1,89•	2,05•	2,61	2,85 •	2,88	3,35 •	3,61 •	4,48 •	4,85 •	5,54 •	6,13	7,26	7,54 •
		III	kW	0,91•	1,39•	1,7	1,71	2,49•	2,58	2,66 •	3,03	3,39	3,97	4,31	5,37	5,8 •	6,9 •	7,46
		II	kW	0,78	1,2	1,47•	1,64•	2,1	2,28 •	2,5	2,84	3,14	3,39 •	3,62 •	4,49	5,15	6,43	6,96
		I	kW	0,65•	1,14•	1,36	1,4	1,8•	2	2,09 •	2,52 •	2,88 •	2,73	3,07	4,31 •	4,73 •	6,36 •	6,61 •
❶	Total cooling capacity [EN1397]	VI	kW	1,1	1,98	2,2•E	2,5•E	3,21	3,28 •E	3,72	4,26 •E	4,76 •E	5,38 •E	5,87 •E	6,53 •E	6,99 •E	7,82 •E	8,25 •E
		V	kW	1,03•E	1,76•E	2,1	2,24	2,8•E	3,05	3,36 •E	3,84	4,46	4,86	5,24	6,09	6,48	7,52	7,93
		IV	kW	0,96	1,54	1,87•E	2,02•E	2,57	2,81 •E	2,84	3,31 •E	3,57 •E	4,4 •E	4,75 •E	5,42 •E	6,01	7,12	7,39 •E
		III	kW	0,88•E	1,37•E	1,68	1,69	2,46•E	2,55	2,63 •E	2,99	3,35	3,9	4,23	5,26	5,68 •E	6,77 •E	7,32
		II	kW	0,76	1,18	1,45•E	1,62•E	2,07	2,25 •E	2,47	2,81	3,11	3,34 •E	3,56 •E	4,4	5,05	6,31	6,83
		I	kW	0,63•E	1,13•E	1,35	1,38	1,78•E	1,98	2,06 •E	2,49 •E	2,85 •E	2,69	3,03	4,22 •E	4,63 •E	6,24 •E	6,49 •E
❷	Heating capacity (45°C) [EN1397]	VI	kW	1,38	2,26	2,36•E	2,97•E	3,59	3,78 •E	4,37	4,68 •E	4,9 •E	6,14 •E	7,19 •E	7,53 •E	7,89 •E	8,71 •E	10,05 •E
		V	kW	1,21•E	1,97•E	2,04	2,68	3,29•E	3,45	3,79 •E	4,27	4,45	5,46	6,74	7,04	7,37	8,25	9,61
		IV	kW	1,08	1,62	1,73•E	2,31•E	2,85	2,98 •E	3,22	3,47 •E	3,63 •E	4,89 •E	5,93 •E	6,2 •E	6,48	8,16	9,12 •E
		III	kW	1,06•E	1,47•E	1,52	1,94	2,65•E	2,79	2,97 •E	3,21	3,34	4,13	5,81	6,02	6,3 •E	7,8 •E	9
		II	kW	0,92	1,26	1,44•E	1,85•E	2,26	2,36 •E	2,77	2,81	2,93	3,57 •E	5,12 •E	5,29	5,49	7,12	8,22
		I	kW	0,72•E	1,24•E	1,27	1,57	2,02•E	2,2	2,52 •E	2,6 •E	2,69 •E	2,94	4,6	4,71 •E	4,92 •E	7,05 •E	8,15 •E
❸	Heating capacity (50°C)	VI	kW	1,59	2,65	2,78•	3,47•	4,21	4,42 •	5,11	5,51 •	5,79 •	7,17 •	8,34 •	8,78 •	9,22 •	10,19 •	11,68 •
		V	kW	1,4•	2,31•	2,43	3,14	3,85•	4,04	4,45 •	5,03	5,28	6,39	7,81	8,22	8,63	9,67	11,17
		IV	kW	1,25	1,91	2,06•	2,71•	3,36	3,53 •	3,79	4,11 •	4,32 •	5,74 •	6,89 •	7,25 •	7,61	9,55	10,62 •
		III	kW	1,23•	1,74•	1,83	2,28	3,14•	3,3	3,5 •	3,79	3,98	4,87	6,69	7,04	7,39 •	9,13 •	10,49
		II	kW	1,07	1,49	1,72•	2,18•	2,67	2,8 •	3,26	3,35	3,52	4,22 •	5,85 •	6,16	6,47	8,35	9,6
		I	kW	0,84•	1,46•	1,53	1,84	2,37•	2,59	2,93 •	3,08 •	3,23 •	3,47	5,24	5,52 •	5,8 •	8,26 •	9,49 •
❹	Heating capacity (70°C) [EN1397]	VI	kW	2,74	4,51	4,71•	5,94•	7,17	7,54 •	8,75	9,34 •	9,77 •	12,26 •	14,34 •	15,02 •	15,74 •	17,38 •	20,05 •
		V	kW	2,41•	3,94•	4,08	5,37	6,57•	6,88	7,59 •	8,53	8,89	10,9	13,46	14,05	14,72	16,47	19,17
		IV	kW	2,14	3,24	3,45•	4,62•	5,71	5,97 •	6,46	6,93 •	7,27 •	9,78 •	11,84 •	12,39 •	12,94	16,31	18,22 •
		III	kW	2,11•	2,96•	3,06	3,88	5,32•	5,6	5,96 •	6,41	6,69	8,26	11,61	12,02	12,59 •	15,6 •	17,99
		II	kW	1,84	2,54	2,9•	3,72•	4,54	4,77 •	5,57	5,63	5,89	7,17 •	10,25 •	10,57	11,06	14,24	16,44
		I	kW	1,44•	2,51•	2,57	3,15	4,06•	4,45	5,05 •	5,19 •	5,42 •	5,97	9,27	9,45 •	9,95 •	14,09 •	16,29 •
❺	Heating capacity of additional coil (65°C) [EN1397]	VI	kW	1,37	2,09	1,77•E	2,7•E	3,2	3,05 •E	3,68	3,51 •E	3,34 •E	5,48 •E	5,14 •E	5,7 •E	5,44 •E	6,5 •E	6,26 •E
		V	kW	1,25•E	1,93•E	1,69	2,61	2,69•E	2,56	3,03 •E	3,38	3,22	5,15	5	5,56	5,28	6,46	6,2
		IV	kW	1,19	1,81	1,46•E	2,28•E	2,61	2,47 •E	2,9	2,97 •E	2,82 •E	4,6 •E	4,68 •E	5,21 •E	4,96	6,36	6,06 •E
		III	kW	1,05•E	1,51•E	1,33	2,0	2,28•E	2,17	2,82 •E	2,79	2,65	4,27	4,34	4,91	4,62 •E	5,9 •E	5,92
		II	kW	0,96	1,4	1,2•E	1,84•E	2,15	2,04 •E	2,76	2,74	2,6	3,6 •E	3,72 •E	4,71	3,96	5,7	5,75
		I	kW	0,87•E	1,29•E	1,16	1,69	1,93•E	1,83	2,62 •E	2,21 •E	2,1 •E	3,16	3,25	4,22 •E	3,53 •E	5,3 •E	5,28 •E
❹	Heating capacity of additional coil (70°C)	VI	kW	1,55	2,33	1,97•	3,01•	3,56	3,38 •	4,11	3,91 •	3,71 •	6,08 •	5,66 •	6,29 •	5,98 •	7,18 •	6,88 •
		V	kW	1,41•	2,16•	1,9	2,92	2,99•	2,84	3,4 •	3,78	3,59	5,73	5,54	6,16	5,85	7,14	6,82
		IV	kW	1,35	2,06	1,65•	2,55•	2,91	2,76 •	3,32	3,4 •	3,23 •	5,13 •	5,19 •	5,77 •	5,48	7,06	6,71 •
		III	kW	1,19•	1,72•	1,52	2,24	2,55•	2,43	3,24 •	3,19	3,03	4,76	4,83	5,45	5,1 •	6,55 •	6,56
		II	kW	1,09	1,6	1,37•	2,06•	2,4	2,28 •	3,17	3,15	2,99	4,02 •	4,15 •	5,23	4,38	6,33	6,38
		I	kW	0,98•	1,47•	1,33	1,9	2,15•	2,04	3,02 •	2,54 •	2,41 •	3,58	3,68	4,68 •	3,89 •	5,88 •	5,86 •
	Air flow speed	VI	m³/h	229	339	339•	484•	547	547 •	676	681 •	681 •	1077 •	1077 •	1235 •	1235 •	1480 •	1480 •
		V	m³/h	209•	288•	288	405	483•	483	587 •	627	627	916	916	1109	1109	1388	1388
		IV	m³/h	183	238	238•	339•	434	434 •	472	474 •	474 •	802 •	802 •	948 •	948	1220	1220 •
		III	m³/h	163•	207•	207	281	383•	383	419 •	431	431	662	662	882	882 •	1171 •	1171
		II	m³/h	138	177	177•	252•	329	321 •	390	392	392	537 •	537 •	757	757	1031	1031
		I	m³/h	100•	155•	155	217	281•	281	365 •	338 •	338 •	420	420	672 •	672 •	994 •	994 •
	Sound power	VI	dB(A)	46	48	48•E	48•E	50	50 •E	51	52 •E	52 •E	58 •E	58 •E	62 •E	62 •E	66 •E	66 •E
		V	dB(A)	43•E	44•E	44	42	47•E	47	48 •E	50	50	56	56	60	60	65	65
		IV	dB(A)	40	41	40•E	38•E	43	43 •E	43	43 •E	43 •E	52 •E	54 •E	56 •E	56	62	62 •E
		III	dB(A)	37•E	35•E	35	33	40•E	40	40 •E	41	41	47	47	54	54 •E	61 •E	61
		II	dB(A)	32	34	32•E	30•E	36	36 •E	38	38	38	41 •E	41 •E	50	50	59	59
		I	dB(A)	26•E	30•E	31	26	34•E	34	35 •E	35 •E	35 •E	36	36	48 •E	48 •E	57 •E	57 •E
❻	Sound pressure	VI	dB(A)	37	39	39•	39•	41	41 •	42	43 •	43 •	49 •	49 •	53 •	53 •	57 •	57 •
		V	dB(A)	34•	35•	35	33	38•	38	39 •	41	41	47	47	51	51	56	56
		IV	dB(A)	31	32	31•	29•	34	34 •	34	34 •	34 •	43 •	45 •	47 •	47	53	53 •
		III	dB(A)	28•	26•	26	24	31•	31	31 •	32	32	38	38	45	45 •	52 •	52
		II	dB(A)	23	25	23•	21•	27	27 •	29	29	29	32 •	32 •	41	41	50	50
		I	dB(A)	17•	21•	22	17	25•	25	26 •	26 •	26 •	27	27	39 •	39 •	48 •	48 •
	Absorbed power	VI	W	40	40	41•E	45•E	60	65 •E	72	70 •E	76 •E	115 •E	145 •E	161 •E	172 •E	184 •E	197 •E
		V	W	39•E	36•E	32	34	54•E	58	58 •E	61	66	95	122	130	133	173	185
		IV	W	31	25	25•E	26•E	36	39 •E	42	41 •E	44 •E	81 •E	102 •E	117 •E	125	142	152 •E
		III	W	28•E	23•E	21	22	31•E	33	34 •E	36	39	66	83	109	117 •E	133 •E	142
		II	W	23	17	16•E	17•E	27	27 •E	33	31	33	51 •E	64 •E	95	102	124	133
		I	W	17•E	15•E	14	16	25•E	25	28 •E	28 •E	30 •E	41	44	92 •E	98 •E	116 •E	124 •E
	Electrical supply		V-ph-Hz								230-1-50							

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.

❷ Air: 20°C - Water: 45/40°C.

❸ Air: 20°C - Water: 50°C, flow rate as in cooling.

❹ Air: 20°C - Water: 70/60°C.

❺ Air: 20°C - Water: 65/55°C.

❻ For room volume equal to 100 m³ and reverberation time = 0.5 sec.

• Wired speed in terminal block.

E Eurovent certificated performance.
Yardy EV3 24 - 34 - 48 - 74 - 88 with oversized 4-row coil.

Web code: **YAID2**

Web code accessories:
ACMEC

Ducted fan coils with EC motor

YARDY-ID2

Cooling capacity: 2.4÷6.4 kW - Heating capacity: 3.0÷8.7 kW

INVERTER

- **Consumption reduced by 50% compared to traditional motor**
- **Continuous fan speed regulation**
- **Quieter operation**
- **Better room comfort**

Ducted fan coils for recessed horizontal or vertical installation.

Construction features

- Heat exchanger: with finned coil with left-hand connections reversible to right.
- Centrifugal fan: with inverter controlled electronic brushless motor and continuous speed regulation.
- Structure: made of galvanised sheet steel complete with natural condensate drain pan and regenerable filter.
- Standard or enhanced configuration setting by means of KCMI electronic board digital input.

Versions

- CXP - Recessed unit for horizontal or vertical installation (with lower return and upper delivery).

Accessories

→♦ Additional water heating coil.
→♦ Electrical resistance.
→♦ Valve and lock.
→♦ 2-way ON/OFF electrovalves for 2 and 4-pipe systems.
→♦ 3-way ON/OFF electrovalves for 2 and 4-pipe systems.
→♦ Auxiliary condensate drain pan.
☒ Motorised damper.
→ Frame with filter (G2) that can be extracted in any direction.
→ Delivery straight fitting.
→ 90° delivery and inlet fitting.
→ Telescopic outlet/inlet fitting.
→ Inlet grille with filter.
→ Delivery grille.
→ Flanged frame for connection to duct.
→ Anti-vibration fitting for delivery/inlet duct connection.
→ Intake/outlet plenum with round nozzles.

STANDARD controls

For wall mounting installation

→ Electronic panel with display and RS485 serial interface, semi-recessed in wall.

iDRHOSS Controls

→ Wall mounting receiver for remote control.
→ Electronic panel for wall mounting installation.
→ Wall-mounted recessed electronic panel

For installation on machine

→♦ Master/slave electronic board, ON/OFF valve control module and electrical resistance, temperature probe for hot row.
→ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).
→ RS 485/USB serial converter.
→ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.
→ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).
→ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ♦ Factory fitted
→ Supplied separately

YARDY-ID2 CXP			40			48			60			74			80			88		
Configuration (*)			STANDARD	ENHANCED		STANDARD	ENHANCED		STANDARD	ENHANCED		STANDARD	ENHANCED		STANDARD	ENHANCED		STANDARD	ENHANCED	
❶ Total cooling capacity	MAX	kW	2,42	3,08		2,65	3,35		3,37	4,22		3,9	4,68		4,75	6,02		5,1	6,4	
	MED	kW	2,05	2,76		2,28	3,01		3,09	3,58		3,57	4,5		3,84	5,42		4,3	5,8	
	MIN	kW	1,2	1,2		1,29	1,29		1,59	1,59		1,73	1,73		2,04	2,04		2,3	2,3	
❶ Total cooling capacity [EN1397]	MAX	kW	2,36	3,01	E	2,58	3,28	E	3,29	4,12	E	3,81	4,58	E	4,65	5,88	E	5	6,26	E
	MED	kW	2,01	2,7	E	2,24	2,95	E	3,03	3,5	E	3,5	4,42	E	3,79	5,32	E	4,25	5,7	E
	MIN	kW	1,19	1,19	E	1,28	1,28	E	1,58	1,58	E	1,72	1,72	E	2,03	2,03	E	2,29	2,29	E
❷ Heating capacity (45°C) [EN1397]	MAX	kW	2,57	3,29	E	2,6	3,34	E	3,84	4,73	E	3,83	4,77	E	5,66	7,37	E	5,75	7,48	E
	MED	kW	2,16	2,93	E	2,17	2,97	E	3,47	4,53	E	3,46	4,48	E	4,62	6,6	E	4,65	6,71	E
	MIN	kW	1,16	1,16	E	1,18	1,18	E	1,58	1,58	E	1,61	1,61	E	2,49	2,49	E	2,5	2,5	E
❸ Heating capacity (50°C)	MAX	kW	3	3,86		3,06	3,94		4,46	5,52		4,55	5,63		6,58	8,55		6,71	8,72	
	MED	kW	2,54	3,44		2,59	3,51		4,05	5,23		4,13	5,33		5,39	7,69		5,5	7,84	
	MIN	kW	1,39	1,39		1,42	1,42		1,9	1,9		1,94	1,94		2,92	2,92		2,98	2,98	
❹ Heating capacity (70°C) [EN1397]	MAX	kW	5,1	6,56		5,19	6,65		7,72	9,44		7,81	9,62		11,3	14,72		11,54	14,93	
	MED	kW	4,31	5,84		4,38	5,92		7,02	9,04		7,07	9,1		9,3	13,21		9,47	13,42	
	MIN	kW	2,35	2,35		2,39	2,39		3,24	3,24		3,27	3,27		5,1	5,1		5,13	5,13	
❺ Heating capacity of additional coil (65°C) [EN1397]	MAX	kW	2,29	2,76	E	2,18	2,62	E	3,57	4,16	E	3,39	4,32	E	4,55	5,71	E	4,33	5,43	E
	MED	kW	2,01	2,52	E	1,92	2,4	E	3,3	3,99	E	3,15	3,7	E	3,89	5,11	E	3,69	5,03	E
	MIN	kW	1,28	1,28	E	1,22	1,22	E	1,91	1,91	E	1,91	1,91	E	2,42	2,42	E	2,3	2,3	E
❹ Heating capacity of additional coil (70°C)	MAX	kW	2,59	3,12		2,46	2,96		3,94	4,61		3,74	4,78		5,04	6,32		4,79	6	
	MED	kW	2,3	2,86		2,19	2,72		3,67	4,43		3,49	4,10		4,35	5,68		4,13	5,59	
	MIN	kW	1,47	1,47		1,4	1,4		2,2	2,2		2,19	2,19		2,78	2,78		2,64	2,64	
Available static Air flow rate / Pressure	MAX	m³/h / Pa	350 / 70	469 / 64	E	350 / 70	469 / 64	E	573 / 61	737 / 56	E	573 / 61	737 / 56	E	767 / 76	1010 / 65	E	738 / 74	949 / 64	E
	MED	m³/h / Pa	291 / 50	410 / 50	E	291 / 50	410 / 50	E	512 / 50	691 / 50	E	512 / 50	691 / 50	E	606 / 50	866 / 50	E	594 / 50	831 / 50	E
	MIN	m³/h / Pa	150 / 8	150 / 8	E	150 / 8	150 / 8	E	214 / 6	214 / 6	E	214 / 6	214 / 6	E	284 / 7	284 / 7	E	284 / 7	284 / 7	E
❻ Delivery sound power	MAX	dB(A)	51	56	E	51	56	E	55	57	E	55	57	E	57	58	E	57	58	E
	MED	dB(A)	48	52	E	47	52	E	52	56	E	52	56	E	56	57	E	56	57	E
	MIN	dB(A)	30	30	E	30	30	E	30	30	E	30	30	E	30	30	E	30	30	E
❼ Delivery sound pressure	MAX	dB(A)	42	47		42	47		46	48		46	48		48	49		48	49	
	MED	dB(A)	39	43		38	43		43	47		43	47		47	48		47	48	
	MIN	dB(A)	21	21		21	21		21	21		21	21		21	21		21	21	
Absorbed power	MAX	W	65	69	E	67	72	E	85	100	E	89	105	E	105	140	E	105	140	E
	MED	W	38	60	E	38	63	E	65	80	E	68	84	E	75	100	E	75	100	E
	MIN	W	8	8	E	8	8	E	8	8	E	8	8	E	13	13	E	13	13	E
Electrical supply		V-ph-Hz	230-1-50			230-1-50			230-1-50			230-1-50			230-1-50			230-1-50		
DIMENSIONS AND WEIGHTS			**40**			**48**			**60**			**74**			**80**			**88**		
L - Width		mm	950			950			1250			1250			1250			1250		
H - Height		mm	545			545			545			545			545			545		
P - Depth		mm	212			212			212			212			212			212		
Weight		kg	25,5			26,5			34,5			35,5			36,5			37,5		

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.

❷ Air: 20°C - Water: 45/40°C.

❸ Air: 20°C - Water: 50°C, flow rate as in cooling.

❹ Air: 20°C - Water: 70/60°C.

❺ Air: 20°C - Water: 65/55°C.

❻ According to EN16583

❼ For room volume equal to 100 m³ and reverberation time = 0.5 sec.

E Eurovent certified performance.

(*) Performance refers to the following configurations: STANDARD: 2/6.5/8 Vdc outlet at min/med/max speed; ENHANCED: 2/7/10 Vdc outlet at min/med/max speed. Yardy ID2 48 - 74 - 88 with oversized 4-row coil.

YARDY-ID2 for horizontal and vertical installation

Web code: **YADC2**

Web code accessories: **ACMEC**

Ducted fan coils

YARDY-DUCT2

Cooling capacity: 2.0÷5.8 kW - Heating capacity: 2.4÷7.2 kW

- **Enhanced performance with 4-row coil**
- **Six-speed ductable version**
- **Vertical and horizontal installation**
- **Remote control**

Ducted fan coils for recessed horizontal or vertical installation.

Construction features

- Heat exchanger: with finned coil with left-hand connections reversible to right.
- Centrifugal fan: 6 speeds connected to the terminal block.
- Structure: made of galvanised sheet steel complete with natural condensate drain pan and regenerable filter.

Versions

- CXP - Recessed unit for horizontal or vertical installation (with lower return and upper delivery).

Accessories

→◆ Additional water heating coil.
→◆ Electrical resistance.
→◆ 2-way ON/OFF electrovalves for 2 and 4-pipe systems.
→◆ 3-way ON/OFF electrovalves for 2 and 4-pipe systems.
→◆ Auxiliary condensate drain pan.
→ Motorised damper.
→ Frame with filter (G2) that can be extracted in any direction.
→ Delivery straight fitting.
→ 90° delivery and inlet fitting.
→ Telescopic outlet/inlet fitting.
→ Inlet grille with filter.
→ Delivery grille.
→ Flanged frame for connection to intake or delivery duct.
→ Anti-vibration fitting for delivery/inlet duct connection.
→ Intake/outlet plenum with round nozzles.

STANDARD controls

For wall mounting installation

→ Panel with speed and summer/winter switch.
→ Panel with room thermostat, summer/winter switch, speed switch, ON/OFF valve signal and electrical resistance.
→ Minimum temperature thermostat (for installation on machine).
→ Electronic panel with automatic summer/winter switching for 2-pipe systems.
→ Electronic panel with automatic summer/winter switching and automatic speed regulation for 2-pipe systems with electrical resistance or 4-pipe systems.
→ Interface board to control up to 4 fan coils (for on board installation).
→ Electronic panel with display and RS485 serial interface, semi-recessed in wall.

iDRHOSS Controls

→ Wall mounting receiver for remote control.
→ Electronic panel for wall mounting installation.
→ Wall-mounted recessed electronic panel

For installation on machine

→◆ Master/slave electronic board.
→◆ Temperature probe for hot row.
→◆ Module for ON/OFF valves and electrical resistance management.
→ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).
→ RS 485/USB serial converter.
→ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.
→ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).
→ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ◆ Factory fitted
→ Supplied separately
* Previous name

YARDY-DUCT2 CXP				40	48	50	60	74	80	88
❶ Total cooling capacity	VI	kW		1,97	2,29	2,68	3,6	4,56	4,98	5,84
	V	kW		1,82	2,12	2,47	3,43	4,37	4,74	5,66
	IV	kW		1,54	1,73	2,32	3,27	4,09	4,51	5,53
	III	kW		1,39	1,61	2	3,1	3,87	4,28	5,31
	II	kW		1,27	1,47	1,75	2,73	3,5	4,01	5,04
	I	kW		1,1	1,28	1,34	2,49	3,22	3,95	4,89
❶ Total cooling capacity [EN1397]	VI	kW		1,9E	2,22E	2,59E	3,47E	4,43E	4,83 E	5,69 E
	V	kW		1,76E	2,06E	2,39	3,33	4,26	4,61	5,53
	IV	kW		1,5	1,69	2,25E	3,18E	4E	4,38 E	5,42 E
	III	kW		1,35E	1,57E	1,94	3,01	3,78	4,17	5,2
	II	kW		1,24	1,44	1,7E	2,65E	3,42E	3,9 E	4,94 E
	I	kW		1,07	1,25	1,3	2,42	3,14	3,86	4,8
❷ Heating capacity (45°C) [EN1397]	VI	kW		2,07E	2,15E	3E	4,11E	4,17E	5,77 E	6,12 E
	V	kW		1,9E	1,96E	2,77	3,92	3,98	5,62	5,8
	IV	kW		1,53	1,59	2,6E	3,69E	3,76E	5,51 E	5,74 E
	III	kW		1,41E	1,46E	2,16	3,49	3,54	5,3	5,45
	II	kW		1,27	1,33	1,89E	3,2E	3,26E	4,78 E	5,11 E
	I	kW		1,11	1,16	1,55	2,94	2,98	4,61	5,06
❸ Heating capacity (50°C)	VI	kW		2,41	2,53	3,47	4,74	4,98	6,68	7,18
	V	kW		2,21	2,32	3,21	4,52	4,75	6,51	6,84
	IV	kW		1,8	1,89	3,02	4,29	4,5	6,37	6,76
	III	kW		1,65	1,73	2,52	4,05	4,25	6,13	6,44
	II	kW		1,5	1,58	2,21	3,7	3,89	5,53	6,04
	I	kW		1,3	1,37	1,79	3,39	3,56	5,35	5,99
❹ Heating capacity (70°C) [EN1397]	VI	kW		4,12	4,3	6,01	8,21	8,49	11,48	12,23
	V	kW		3,78	3,94	5,58	7,84	8,1	11,20	11,64
	IV	kW		3,07	3,2	5,26	7,44	7,67	10,98	11,53
	III	kW		2,82	2,93	4,39	7,04	7,24	10,56	10,99
	II	kW		2,56	2,67	3,85	6,48	6,65	9,52	10,33
	I	kW		2,22	2,32	3,15	5,96	6,08	9,20	10,26
❺ Heating capacity of additional coil (65°C) [EN1397]	VI	kW		1,97E	1,88E	3,19E	3,78E	3,6E	4,64 E	4,42 E
	V	kW		1,84E	1,76E	2,99	3,75	3,58	4,45	4,24
	IV	kW		1,7	1,61	2,85E	3,62E	3,45E	4,36 E	4,15 E
	III	kW		1,51E	1,43E	2,5	3,52	3,36	4,25	4,05
	II	kW		1,41	1,34	2,24E	3,41E	3,25E	4,16 E	3,95 E
	I	kW		1,27	1,21	1,89	3,32	3,15	4,04	3,85
❹ Heating capacity of additional coil (70°C)	VI	kW		2,22	2,11	3,54	4,14	3,93	5,09	4,84
	V	kW		2,08	1,98	3,34	4,12	3,91	4,9	4,66
	IV	kW		1,93	1,83	3,2	4	3,8	4,8	4,56
	III	kW		1,71	1,62	2,81	3,9	3,71	4,7	4,47
	II	kW		1,6	1,52	2,53	3,8	3,61	4,59	4,36
	I	kW		1,44	1,37	2,14	3,72	3,53	4,48	4,26
Available static Air flow rate / Pressure	VI	m³/h		275 / 56E	275 / 56E	450 / 69E	620 / 66E	620 / 66E	912 / 62 E	862 / 62 E
	V	m³/h		250 / 50E	250 / 50E	411 / 58	587 / 59	587 / 59	858 / 54	828 / 54
	IV	m³/h		198 / 33	198 / 33	382 / 49E	539 / 50E	539 / 50E	820 / 50 E	800 / 50 E
	III	m³/h		180 / 19E	180 / 28E	315 / 36	504 / 44	504 / 44	772 / 45	759 / 45
	II	m³/h		163 / 16	163 / 24	270 / 26E	445 / 34E	445 / 34E	715 / 39 E	708 / 39 E
	I	m³/h		140 / 9	140 / 18	210 / 19	402 / 28	402 / 28	685 / 35	680 / 35
❻ Delivery sound power	VI	dB(A)		50E	50E	48E	56E	54E	57 E	57 E
	V	dB(A)		48E	48E	46	55	53	55	55
	IV	dB(A)		43	43	45E	54E	51E	54 E	54 E
	III	dB(A)		42E	42E	42	51	50	53	53
	II	dB(A)		38	38	40E	50E	47E	51 E	51 E
	I	dB(A)		37	37	38	48	46	50	50
❼ Delivery sound pressure	VI	dB(A)		41	41	39	47	45	48	48
	V	dB(A)		39	39	37	46	44	46	46
	IV	dB(A)		34	34	36	45	42	45	45
	III	dB(A)		33	33	33	42	41	44	44
	II	dB(A)		29	29	31	41	38	42	42
	I	dB(A)		28	28	29	39	37	41	41
Absorbed power	VI	W		68E	71E	94E	128E	134E	154 E	154 E
	V	W		60E	63E	78	120	126	134	134
	IV	W		41	43	71E	91E	95E	127 E	127 E
	III	W		36E	38E	60	88	93	109	109
	II	W		32	34	49E	84E	89E	105 E	105 E
	I	W		27	28	39	77	80	91	91
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**40**	**48**	**50**	**60**	**74**	**80**	**88**
L - Width		mm		950	950	1250	1250	1250	1250	1250
H - Height		mm		545	545	545	545	545	545	545
P - Depth		mm		212	212	212	212	212	212	212
Weight		kg		25,5	27	34,5	34,5	35,5	36,5	37,5

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.

❷ Air: 20°C - Water: 45/40°C.

❸ Air: 20°C - Water: 50°C, flow rate as in cooling.

❹ Air: 20°C - Water: 70/60°C.

❺ Air: 20°C - Water: 65/55°C.

❻ According to EN16583

❼ For room volume equal to 100 m³ and reverberation time = 0.5 sec.

E Eurovent certified performance.
YARDY-DUCT2 48 - 74 - 88 with oversized 4-row coil.

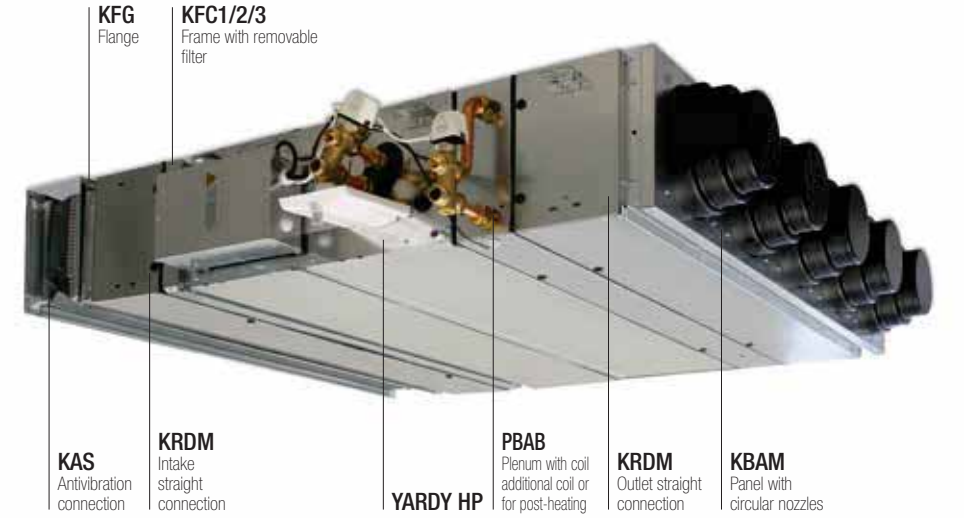
Web code: **YAHP1**

Web code accessories: **ACMEC**

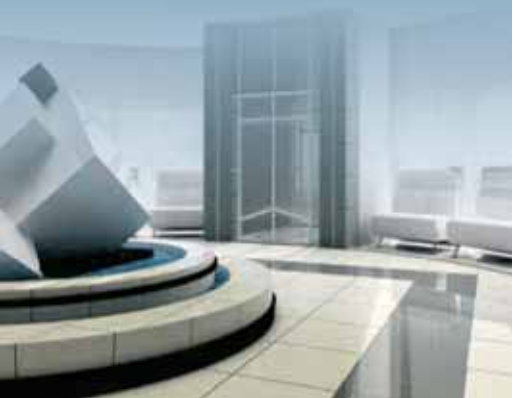
Ductable terminals

YARDY-HP

Cooling capacity: 7.2÷20.5 kW - Heating capacity: 9.6÷28.0 kW



- **Horizontal and vertical installation**
- **New pan removable from below for cleaning**
- **Set up with 3, 4, 5-row coil**
- **Filters with different efficiency levels**
- **Remote control**



Ductable terminals for recessed horizontal or vertical installation.

Construction features

- Structure: self-supporting, in galvanised sheet steel for horizontal installation in a false ceiling or vertical recessed wall installation, complete with natural condensate drain pan, flanges to fit to the inlet/ delivery duct. Pan is removable from below. Filter supplied separately from the unit.
- Heat exchanger: with finned coil and electrical box for terminal block with reversible left connections, which can be switched right directly on site. Coil is removable from below.
- Double inlet centrifugal fan with directly coupled 3-speed motor. Fan unit is removable from below.

Versions

- CXP - Recessed unit for horizontal or vertical installation (with lower return to upper delivery)

Number of rows

- 3 Rows - Unit with 3-row coil; unit for recessed horizontal/vertical installation.
- 4 Rows - Unit with 4-row coil; unit for recessed horizontal/vertical installation.
- 5 Rows - Unit with 5-row coil (only models 250, 300); unit for recessed horizontal/ vertical installation.

Accessories

→♦ Additional water heating coil (1 row) for 4T-KBAA 4-pipe systems - only for 3R units with a 3-row coil.
→ External plenum with additional water heating coil for 4-pipe systems (PBAB).
→♦ ON/OFF 2-way electrovalves for 2 and 4-pipe-systems.
→♦ On/OFF 3-way electrovalves for 2 and 4-pipe-systems.
→♦ Auxiliary condensate drain pan.
→ Frame with filter that can be extracted in any direction (efficiency rating G1/ G2/G3).
→ Straight delivery and inlet connection.
→ 90° delivery and inlet fitting.
→ Flange for connection to duct.
→ Anti-vibration connection for connection to the inlet/ delivery duct.
→ Panel with round nozzles to be connected to the delivery/inlet connections.

STANDARD controls

For wall mounting installation

→ Panel with speed and summer/winter switch.
→ Panel with room thermostat, summer/winter switch, speed switch, ON/OFF valve signal and electrical resistance.
→ Electronic panel with automatic summer/winter switching for 2-pipe systems.
→ Electronic panel with automatic summer/winter switching and automatic speed regulation for 2-pipe systems with electrical resistance or 4-pipe systems.
→ Air probe with remote control option.
→ Interface card to control up to 4 fan coils (models 100-150-200 only, for on board installation).

iDRHOSS Controls

→ Wall mounting receiver for remote control.
→ Electronic panel for wall mounting installation.
→ Wall-mounted recessed electronic panel

For installation on machine

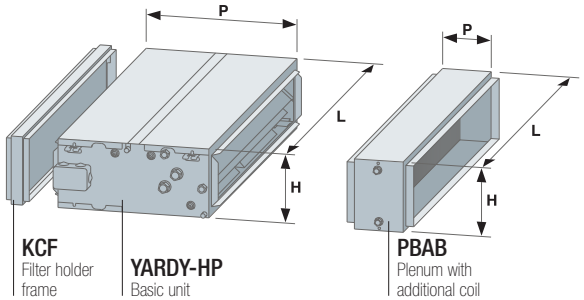
→♦ Master/slave electronic board.
→♦ Temperature probe for hot row.
→♦ Module for ON/OFF valves and electrical resistance management.
→ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).
→ RS 485/USB serial converter.
→ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.
→ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).
→ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ♦ Factory fitted
→ Supplied separately

	YARDY HP CXP			100	150	200	250	300
❶	Total cooling capacity	3R	kW	7,16	8,37	10,13	13,53	15,22
❶	Total cooling capacity [EN1397]	3R	kW	6,96	8,13	9,75	12,85	14,42
❷	Heating capacity (45°C) [EN1397]	3R	kW	8,37	10,22	12,56	17,02	19,5
❸	Heating capacity (50°C)	3R	kW	9,66	11,71	14,28	19,12	21,82
❶	Total cooling capacity	4R	kW	8,41	9,51	11,37	16,55	18,75
❶	Total cooling capacity [EN1397]	4R	kW	8,22	9,28	11,04	15,88	18
❷	Heating capacity (45°C) [EN1397]	4R	kW	9,31	10,92	13,33	19,59	22,61
❸	Heating capacity (50°C)	4R	kW	10,86	12,68	15,38	22,35	25,76
❶	Total cooling capacity	5R	kW	-	-	-	18,7	20,5
❶	Total cooling capacity [EN1397]	5R	kW	-	-	-	18,04	19,75
❷	Heating capacity (45°C) [EN1397]	5R	kW	-	-	-	21,83	24,61
❸	Heating capacity (50°C)	5R	kW	-	-	-	25,04	28,11
❹	Heating capacity of additional coil (70°C)	4T -KBAA	kW	6,69	6,78	9,35	10,44	11,31
❺	Heating capacity of additional coil (65°C) [EN1397]	4T -KBAA	kW	6,09	6,22	8,61	9,86	10,74
❹	Heating capacity of additional coil (70°C)	PBAB	kW	12,9	14,14	16,4	29,73	32,77
❺	Heating capacity of additional coil (65°C) [EN1397]	PBAB	kW	11,56	12,69	14,78	26,92	29,68
❻	Air flow rate/Speed static pressure (3R)	MAX	m³/h / Pa	1.552 / 60	1.840 / 60	2.339 / 60	3.312 / 60	3.875 / 60
		MED	m³/h / Pa	1.369 / 50	1.620 / 50	1.717 / 50	2.189 / 50	3.075 / 50
		MIN	m³/h / Pa	1.013 / 35	1.432 / 35	1.414 / 35	1.329 / 35	2.415 / 35
❼	Delivery sound power (3R)	MAX	dB(A)	61	62	62	63	68
		MED	dB(A)	59	61	60	59	64
		MIN	dB(A)	56	59	57	55	61
❽	Speed sound pressure (3R)	MAX	dB(A)	47	48	48	49	54
		MED	dB(A)	45	47	46	45	50
		MIN	dB(A)	42	45	43	41	47
	Nominal spd absorbed power MAX	3R	W	200	245	380	680	800
		4R	W	190	230	330	670	750
		5R	W	-	-	-	660	750
	Maximum absorbed power (0 Pa)	3R	W	280	300	500	850	900
	Electrical supply		V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
	DIMENSIONS AND WEIGHTS			**100**	**150**	**200**	**250**	**300**
	L - Width		mm	1295	1295	1295	1295	1295
	H - Height		mm	250	250	285	335	335
	P - YARDY HP Depth		mm	555	555	670	720	720
	P - PBAB Depth		mm	200	200	200	200	200
	YARDY HP Weight		kg	38	38	46	57	57

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.
❷ Air: 20°C - Water: 45/40°C.
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.
❹ Air: 20°C - Water: 70/60°C.
❺ Air: 20°C - Water: 65/55°C.
❻ 3 row coil (3R) without filter.
❼ With G3 filter at the conditions specified in point 6 according to EN16583
❽ At 2 m from the air outflow point with directionality factor 2 and G3 filter.



Web code: **DIVI1**

Web code controls: **ACREG**

Fan coils with EC motor

DIVA-I

Cooling capacity: 2.8÷10.8 kW - Heating capacity: 3.4÷12.7 kW

INVERTER

- **Consumption reduced by 50% compared to traditional motor**
- **Set-ups for 2-, 4-pipe installations or 2 pipes with electrical resistance**
- **ABS or metal ceiling panelling**
- **2 or 3-way, ON/OFF electrovalves and pre-mounted controls on board**

Cassette-type fan coil units

Construction features
- Fan coils: cassette-type for installation in false ceilings, with air return and delivery directly in the room.
- Heat exchanger: finned coil.
- Radial fan;
- Inverter brushless EC motor.
- Structure: self-supporting galvanised sheet steel complete with additional condensate drain pan and pump to lift the condensate (maximum head 650mm).
- PLP buffer ceiling (accessory): in ABS polymer (RAL 9003) with manually adjustable delivery fins, return grille and regenerable filter.

Type of system
- 2T - Boxes for 2-pipe systems.
- 4T - Boxes for 4-pipe systems.
- RE - Boxes for 2-pipe systems with supplementary electrical resistance.

Separately supplied accessories
- PLP-ABS ceiling panelling (RAL 9003).
- PLM-Metal ceiling panelling (RAL 9003) flush with false ceiling, 60x60cm models only.

→♦ ON/OFF 3-way electrovalve for 2-pipe and 4-pipe systems.

→♦ ON/OFF 2-way electrovalves for 2 and 4-pipe-systems.
- Primary air duct connection.
- Shank for air distribution at a distance from the unit.
- Primary air kit.

STANDARD controls
For wall mounting installation

→ Electronic panel with display and RS485 serial interface, semi-recessed in wall.

iDRHOSS Controls

→ Remote control and receiver.

→ Electronic panel for wall mounting installation.

→ Wall-mounted recessed electronic panel

For installation on machine

→♦Master/slave electronic board, ON/OFF valve control module and electrical resistance, temperature probe for hot row.

→ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).

→ RS485/USB serial converter

→ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.

→ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).

→ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ♦ Factory fitted
→ Supplied separately

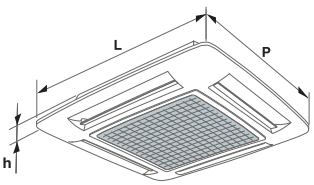
Recessed control panel
•
Remote control with bracket for wall installation
•
Wall control panel

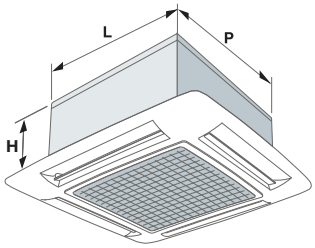
DIVA-I 2T - DIVA-I RE				30	40	50	60	110
❶ Total cooling capacity	MAX	kW		2,75	4,33	5,02	6,33	10,75
	MED	kW		2,17	3,05	3,87	5,15	7,72
	MIN	kW		1,84	2,24	2,56	4,21	5,29
❶ Total cooling capacity [EN1397]	MAX	kW	E	2,73	4,3	4,96	6,3	10,69
	MED	kW	E	2,16	3,04	3,85	5,13	7,69
	MIN	kW	E	1,84	2,24	2,55	4,2	5,28
❷ Heating capacity (45°C) [EN1397]	MAX	kW	E	2,87	4,36	5,15	6,7	10,56
	MED	kW	E	2,22	2,98	3,85	5,3	7,34
	MIN	kW	E	1,85	2,12	2,46	4,27	4,9
❸ Heating capacity (50°C)	MAX	kW		3,44	5,24	6,2	8,01	12,7
	MED	kW		2,67	3,58	4,63	6,35	8,83
	MIN	kW		2,22	2,55	2,96	5,11	5,89
❹ Heating capacity (70°C) [EN1397]	MAX	kW		5,81	8,81	10,47	13,5	21,34
	MED	kW		4,5	5,99	7,77	10,68	14,75
	MIN	kW		3,75	4,29	4,96	8,57	9,81
RE electrical resistance	230-1-50 V	kW		-	1,5	2,5	2,5	3
Air flow speed	MAX	m³/h		535	710	880	1165	1770
	MED	m³/h		380	445	610	870	1130
	MIN	m³/h		310	310	360	630	710
Sound power	MAX	dB(A)	E	47	54	60	48	57
	MED	dB(A)	E	39	43	50	39	47
	MIN	dB(A)	E	33	33	37	33	34
❻ Sp. sound pressure	MAX	dB(A)		38	45	51	39	48
	MED	dB(A)		30	34	41	30	38
	MIN	dB(A)		24	24	28	24	25
Absorbed power	MAX	W	E	16	31	62	33	108
	MED	W	E	8	11	21	17	32
	MIN	W	E	5	5	7	10	10
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**30**	**40**	**50**	**60**	**110**
Boxes - Dimensions WxHxD		mm			575 x 275 x 575		820 x 303 x 820	
PLP Ceiling panelling - Dimensions WxHxD		mm			670x 67x 670		965 x 85 x 965	
Boxes - Weight		kg		22	24	24	36	39
PLP Ceiling panelling - Weight		kg		3	3	3	6	6

DIVA-I 4T				30	40	50	60	110
❶ Total cooling capacity	MAX	kW		2,77	3,93	4,53	6,51	9,87
	MED	kW		2,18	2,81	3,53	5,28	7,17
	MIN	kW		1,85	2,09	2,38	4,3	4,98
❶ Total cooling capacity [EN1397]	MAX	kW	E	2,75	3,9	4,47	6,48	9,76
	MED	kW	E	2,17	2,8	3,51	5,26	7,14
	MIN	kW	E	1,85	2,09	2,37	4,29	4,97
❺ Heating capacity of additional coil (65°C) [EN1397]	MAX	kW	E	3,18	2,91	3,29	8,24	8,33
	MED	kW	E	2,51	2,2	2,66	6,65	6,27
	MIN	kW	E	2,13	1,73	1,92	5,41	4,58
❹ Heating capacity of additional coil (70°C)	MAX	kW		3,62	3,35	3,79	9,36	9,51
	MED	kW		2,85	2,53	3,06	7,54	7,16
	MIN	kW		2,43	1,98	2,2	6,14	5,22
Air flow speed	MAX	m³/h		535	710	880	1165	1770
	MED	m³/h		380	445	610	870	1130
	MIN	m³/h		310	310	360	630	710
Sound power	MAX	dB(A)	E	47	54	60	48	57
	MED	dB(A)	E	39	43	50	39	47
	MIN	dB(A)	E	33	33	37	33	34
❻ Sp. sound pressure	MAX	dB(A)		38	45	51	39	48
	MED	dB(A)		30	34	41	30	38
	MIN	dB(A)		24	24	28	24	25
Absorbed power	MAX	W	E	16	31	62	33	108
	MED	W	E	8	11	21	17	32
	MIN	W	E	5	5	7	10	10
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**30**	**40**	**50**	**60**	**110**
Boxes - Dimensions WxHxD		mm			575 x 275 x 575		820 x 303 x 820	
PLP Ceiling panelling - Dimensions WxHxD		mm			670x 67x 670		965 x 85 x 965	
Boxes - Weight		kg		22	24	24	36	39
PLP Ceiling panelling - Weight		kg		3	3	3	6	6

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.
❷ Air: 20°C - Water: 45/40°C.
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.
❹ Air: 20°C - Water: 70/60°C.
❺ Air: 20°C - Water: 65/55°C.
❻ For room volume equal to 100 m³ and reverberation time = 0.5 sec.
E Eurovent certificated performance.





Web code: **DIVA1**

Web code controls: **ACREG**

Fan coils

DIVA

Cooling capacity: 2.0÷11.1 kW - Heating capacity: 2.6÷14.0 kW

- **Set-ups for 2-, 4-pipe installations or 2 pipes with electrical resistance**
- **ABS or metal ceiling panelling**
- **2 or 3-way, ON/OFF electrovalves and pre-mounted controls on board**

Cassette-type fan coil units

Construction features
- Fan coils: cassette-type for installation in false ceilings, with air return and delivery directly in the room.
- Heat exchanger: finned coil.
- Radial fan.
- 6-speed engine, 3 of which are connected in a terminal block.
- Structure: self-supporting galvanised sheet steel complete with additional condensate drain pan and pump to lift the condensate (maximum head 650mm).
- PLP buffer ceiling (accessory): in ABS polymer (RAL 9003) with manually adjustable delivery fins, return grille and regenerable filter.

Type of system
- 2T - Boxes for 2-pipe systems.
- 4T - Boxes for 4-pipe systems.
- RE - Boxes for 2-pipe systems with supplementary electrical resistance.

Separately supplied accessories
- PLP-ABS ceiling panelling (RAL 9003).
- PLM-Metal ceiling panelling (RAL 9003) flush with false ceiling, 60x60cm models only.

→♦ ON/OFF 3-way electrovalve for 2 and 4-pipe systems.

→♦ ON/OFF 2-way electrovalves for 2 and 4-pipe-systems.
- Primary air duct connection.
- Shank for air distribution at a distance from the unit.
- Primary air kit.

STANDARD controls

For wall mounting installation

→ Panel with speed and summer/winter switch.

→ Panel with room thermostat, summer/winter switch, speed switch, ON/OFF valve signal and electrical resistance.

→ Electronic panel with automatic summer/winter switching for 2-pipe systems.

→ Electronic panel with automatic summer/winter switching and automatic speed regulation for 2-pipe systems with electrical resistance or 4-pipe systems.

→ Electronic panel with display and RS485 serial interface, semi-recessed in wall.

→ Interface board to control up to 4 fan coils.

iDRHOSS Controls

→ Remote control and receiver.

→ Electronic panel for wall mounting installation.

→ Wall-mounted recessed electronic panel

For installation on machine

→♦Master/slave electronic board.

→♦Temperature probe for hot row.

→♦Module for management of ON/OFF valves and electrical resistance.

→ RS485 interface for serial communication with other devices (proprietary protocol; Modbus RTU protocol).

→ RS 485/USB serial converter.

→ Serial interface (CAN-bus - Controller Area Network) for the iDRHOSS system.

→ KGTW-BAC- Gateway RS485/BACnet (max 64 fan coil).

→ KGW-LON - Gateway RS485/FTT10-LonWorks (max 64 fan coil).

Key: ♦ Factory fitted
→ Supplied separately

Recessed control panel

●

Remote control with bracket for wall installation

●

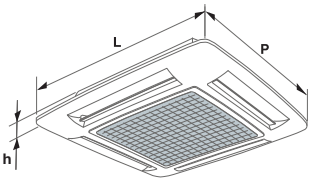
Wall control panel

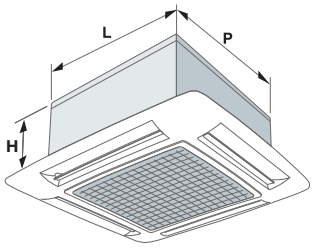
DIVA 2T - DIVA RE				20	30	40	50	60	90	110
❶ Total cooling capacity	MAX	kW		1,98	2,68	4,33	5,02	6,16	9,51	11,1
	MED	kW		1,63	2,34	3,34	3,88	4,91	6,78	8,45
	MIN	kW		1,27	1,84	2,25	2,94	4,21	5,31	5,31
❶ Total cooling capacity [EN1397]	MAX	kW	E	1,92	2,64	4,26	4,93	6,08	9,39	10,93
	MED	kW	E	1,6	2,31	3,3	3,82	4,86	6,72	8,36
	MIN	kW	E	1,25	1,82	2,23	2,91	4,18	5,27	5,27
❷ Heating capacity (45°C) [EN1397]	MAX	kW	E	2,24	2,8	4,37	5,15	6,5	9,23	11,72
	MED	kW	E	1,8	2,42	3,28	3,85	5,03	6,4	8,55
	MIN	kW	E	1,38	1,85	2,12	2,85	4,27	4,92	5,12
❸ Heating capacity (50°C)	MAX	kW		2,64	3,35	5,23	6,17	7,77	10,7	14
	MED	kW		2,12	2,9	3,93	4,63	6,03	7,34	10,3
	MIN	kW		1,62	2,22	2,56	3,43	5,12	5,61	6,13
❹ Heating capacity (70°C) [EN1397]	MAX	kW		4,55	5,68	8,83	10,44	13,15	17,94	23,7
	MED	kW		3,62	4,91	6,61	7,81	10,17	12,24	17,36
	MIN	kW		2,79	3,77	4,32	5,76	8,61	9,33	10,27
RE electrical resistance	230-1-50 V	kW		-	1,5	2,5	2,5	3	3	3
Air flow speed	MAX	m³/h		610	520	710	880	1140	1500	1820
	MED	m³/h		420	420	500	610	820	970	1280
	MIN	m³/h		310	310	320	430	630	710	710
Sound power	MAX	dB(A)	E	49	45	53	59	48	53	58
	MED	dB(A)	E	40	40	45	49	40	40	48
	MIN	dB(A)	E	33	33	33	41	33	34	34
❻ Sp. sound pressure	MAX	dB(A)		40	36	44	50	39	44	49
	MED	dB(A)		31	31	36	40	31	31	39
	MIN	dB(A)		24	24	24	32	24	25	25
Absorbed power	MAX	W	E	57	44	68	90	77	120	170
	MED	W	E	32	32	44	57	48	63	95
	MIN	W	E	25	25	25	32	33	42	42
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**20**	**30**	**40**	**50**	**60**	**90**	**110**
Boxes - Dimensions WxHxD		mm			575 x 275 x 575				820 x 303 x 820	
PLP Ceiling panelling - Dimensions WxHxD		mm			670x 67x 670				965 x 85 x 965	
Boxes - Weight		kg		22	22	24	24	36	39	39
PLP Ceiling panelling - Weight		kg		3	3	3	3	6	6	6

DIVA 4T				20	30	32	40	42	50	60	80	90	92	110
❶ Total cooling capacity	MAX	kW		2,33	2,7	3,34	3,93	3,81	4,53	6,34	7,71	8,77	8,89	10,2
	MED	kW		1,96	2,36	2,65	3,06	3,02	3,53	5,03	5,66	6,33	6,93	7,84
	MIN	kW		1,51	1,85	1,85	2,09	2,36	2,72	4,14	4,52	4,99	4,52	4,99
❶ Total cooling capacity [EN1397]	MAX	kW	E	2,27	2,66	3,27	3,86	3,72	4,44	6,26	7,59	8,65	8,72	10,03
	MED	kW	E	1,93	2,33	2,61	3,02	2,96	3,47	4,98	5,6	6,27	6,84	7,75
	MIN	kW	E	1,49	1,83	1,83	2,07	2,33	2,69	4,11	4,48	4,95	4,48	4,95
❺ Heating capacity of additional coil (65°C) [EN1397]	MAX	kW	E	2,66	3,04	3,86	2,91	4,19	3,29	8,02	9,66	7,5	11,16	8,58
	MED	kW	E	2,23	2,66	3,04	2,43	3,33	2,66	6,33	7,15	5,63	8,8	6,78
	MIN	kW	E	1,72	2,13	2,13	1,73	2,61	2,14	5,21	5,69	4,59	5,69	4,59
❹ Heating capacity of additional coil (70°C)	MAX	kW		3,03	3,46	4,4	3,35	4,95	3,79	9,1	11	8,56	12,7	9,8
	MED	kW		2,54	3,02	3,46	2,71	3,97	3,06	7,19	8,1	6,42	9,98	7,74
	MIN	kW		1,96	2,43	2,43	1,98	3,1	2,46	5,91	6,45	5,23	6,45	5,23
Air flow speed	MAX	m³/h		610	520	710	710	880	880	1140	1500	1500	1820	1820
	MED	m³/h		420	420	500	500	610	610	820	970	970	1280	1280
	MIN	m³/h		310	310	320	320	430	430	630	710	710	710	710
Sound power	MAX	dB(A)	E	49	45	53	53	59	59	48	53	53	58	58
	MED	dB(A)	E	40	40	45	45	49	49	40	40	40	48	48
	MIN	dB(A)	E	33	33	33	33	41	41	33	34	34	34	34
❻ Sp. sound pressure	MAX	dB(A)		40	36	44	44	50	50	39	44	44	49	49
	MED	dB(A)		31	31	36	36	40	40	31	31	31	39	39
	MIN	dB(A)		24	24	24	24	32	32	24	25	25	25	25
Absorbed power	MAX	W	E	57	44	68	68	90	90	77	120	120	170	170
	MED	W	E	32	32	44	44	57	57	48	63	63	95	95
	MIN	W	E	25	25	25	25	32	32	33	42	42	42	42
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**20**	**30**	**32**	**40**	**42**	**50**	**60**	**80**	**90**	**92**	**110**
Boxes - Dimensions WxHxD		mm				575 x 275 x 575					820 x 303 x 820			
PLP Ceiling panelling - Dimensions WxHxD		mm				670x 67x 670					965 x 85 x 965			
Boxes - Weight		kg		24	24	24	24	24	24	39	39	39	39	39
PLP Ceiling panelling - Weight		kg		3	3	3	3	3	3	6	6	6	6	6

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.
❷ Air: 20°C - Water: 45/40°C.
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.
❹ Air: 20°C - Water: 70/60°C.
❺ Air: 20°C - Water: 65/55°C.
❻ For room volume equal to 100 m³ and reverberation time = 0.5 sec.
E Eurovent certified performance.





Web code: **VTNC1**

Web code accessories: **ACMEC**

Fan coils

VTNC

Cooling capacity: 2.9÷7.8 kW - Heating capacity: 3.7÷9.4 kW

- **Boxes for 2-pipe systems**
- **Adjustable motorised fins**
- **Remote control (standard)**
- **Wired panel**

Cassette-type fan coil units

Construction features

- Fan coils: cassette-type for installation in false ceilings, with air return and delivery directly into the room.
- Heat exchanger: finned coil.
- Fan: 3-speed.
- Structure: load-bearing, in galvanised sheet steel, complete with condensate drain pump (up to 200 mm above the unit) and auxiliary condensate drain pan.
- Buffer ceiling: in ABS polymer (RAL9010) with motorised delivery fins adjustable in various positions, return grille and regenerable filter.
- Remote control: supplied as standard.

Versions

VTNC - Boxes for 2-pipe systems

Separately supplied accessories

- 3-way ON/OFF electrovalve.
- 2-way ON/OFF electrovalve.
- Delivery nozzle lock.

STANDARD controls

For wall mounting installation

➔ Electronic panel for wall mounting installation.

Key: ➔ Supplied separately

VTNC				26	36	46	60	85
❶ Total cooling capacity	MAX	kW		2,91	3,59	4,37	5,8	7,83
	MED	kW		2,54	3,05	3,5	4,86	6,94
	MIN	kW		2,17	2,69	2,96	4,04	6,04
❶ Total cooling capacity [EN1397]	MAX	kW	E	2,86	3,52	4,28	5,64	7,66
	MED	kW	E	2,5	3	3,45	4,76	6,8
	MIN	kW	E	2,14	2,65	2,92	3,95	5,92
❷ Heating capacity (45°C) [EN1397]	MAX	kW	E	3,1	4,25	4,48	5,81	7,92
	MED	kW	E	2,71	3,61	3,55	4,21	7,02
	MIN	kW	E	2,37	3,21	3,03	3,23	6,63
❸ Heating capacity (50°C)	MAX	kW		3,65	4,95	5,31	6,89	9,42
	MED	kW		3,2	4,2	4,25	5,21	8,37
	MIN	kW		2,8	3,73	3,62	4,1	7,77
❹ Heating capacity (70°C) [EN1397]	MAX	kW		6,2	8,52	9,09	11,82	16,21
	MED	kW		5,46	7,31	7,42	8,92	14,59
	MIN	kW		4,84	6,56	6,34	6,93	13,8
Air flow speed	MAX	m³/h		560	690	840	1024	1460
	MED	m³/h		490	540	570	733	1228
	MIN	m³/h		380	440	470	640	1041
Sound power	MAX	dB(A)	E	54	59	63	56	64
	MED	dB(A)	E	47	52	56	51	58
	MIN	dB(A)	E	41	46	48	45	56
❺ Sp. sound pressure	MAX	dB(A)		45	50	54	47	55
	MED	dB(A)		38	43	47	42	49
	MIN	dB(A)		32	37	39	36	47
Absorbed power	MAX	W	E	50	70	90	156	170
	MED	W	E	40	50	50	105	140
	MIN	W	E	30	40	40	92	120
Electrical supply		V-ph-Hz		230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
DIMENSIONS AND WEIGHTS				**26**	**36**	**46**	**60**	**85**
W2/H1/H2/D2 - Width 2/Height 1-2/Depth 2		mm		575/265/285/575	575/265/285/575	575/265/285/575	840/230/245/840	840/300/315/840
W/h1/h2/P - Width/Height/Depth		mm		647/50/30/647	647/50/30/647	647/50/30/647	950/50/35/950	950/50/35/951
Weight		kg		18	18	18	29	35
Ceiling panelling weight		kg		3	3	3	6	6

Data at the following conditions:

❶ Air: 27°C D.B.; 19°C W.B. - Water: 7/12°C.

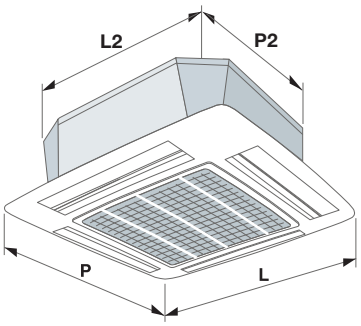
❷ Air: 20°C - Water: 45/40°C.

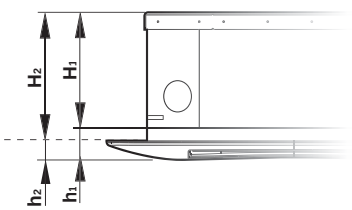
❸ Air: 20°C - Water: 50°C, flow rate as in cooling.

❹ Air: 20°C - Water: 70/60°C.

❺ For room volume equal to 100 m³ and reverberation time = 0.5 sec.

E Eurovent certificated performance.





Web code: **ACREG**

CONTROLS for fan coil units

COMPATIBLE FAN COIL CONVECTORS:

YARDY-I EV3 / YARDY EV3	YARDY-ID2/YARDY-DUCT2	YARDY-HP	DIVA-I / DIVA
 INVERTER	 INVERTER		 INVERTER

STANDARD CONTROLS

		INSTALLATION:	3-speed ON/OFF switch	0-10 Vdc Minimum fan analogue	Room thermostat	Thermostat output	Air sensor with remote control option	Summer/winter switch	3-way ON/OFF valve control	2-way ON/OFF valve control	Electric heater control	Continuous ventilation/ thermostat	2-pipe systems	4-pipe systems	Weekly time bands	Control interface for 4 fan coil units	Serial interface
 KC C		→ **KC** - ❖ **C** on board	◆														
 KTA TATM		→ **KTA** - ❖ **TATM** on board	◆		◆	◆		◆									
	KCV2 	→ **KCV2** receiver	◆			◆		◆								◆	
	KTCV2 	→ **KTCV2** wall mounted → **KBTCV2** - ❖ **TCV2** on board	◆		◆	◆ ACCESSORY	◆	◆	◆	◆	◆	◆	◆	◆		◆	
	KTCVA 	→ **KTCVA** wall mounted → **KBTCVA** - ❖ **TCVA** on board	◆		◆	◆	◆	◆ AUTOMATIC	◆			◆	◆			◆	
	KTCVR 	→ **KTCVR** wall mounted → **KBTCVR** - ❖ **TCVR** on board	AUTOMATIC SPEED MINIMUM SPEED ◆		REGULATION ±5°C ◆	◆	◆	◆ AUTOMATIC	◆	◆ ONLY FOR 4-PIPE-SYSTEMS	◆		◆	◆		◆	
STANDARD FAN COIL		→ **KTVD** semi-recessed in wall	MANUAL/ AUTOMATIC SPEED ◆		◆	TIMED ◆ (A)		AUTOMATIC ◆ (B)	◆	◆	◆	◆	◆	◆	◆	◆	
		→ **KTVDM** semi-recessed in wall	MANUAL/ AUTOMATIC SPEED ◆		◆	TIMED ◆ (A)		AUTOMATIC ◆ (B)	◆	◆	◆	◆	◆	◆	◆	◆	◆
INVERTER FAN COIL		→ **KTVDI** semi-recessed in wall	MANUAL/ AUTOMATIC SPEED ◆	◆	◆	TIMED ◆ (A)		AUTOMATIC ◆ (B)	◆	◆	◆	◆	◆	◆	◆		
		→ **KTVDIM** semi-recessed in wall	MANUAL/ AUTOMATIC SPEED ◆	◆	◆	TIMED ◆ (A)		AUTOMATIC ◆ (B)	◆	◆	◆	◆	◆	◆	◆		◆

(A) Fan or minimum thermostat with KSO probe (accessory) start delay.
(B) Manual summer/winter switch or by contact or automatic with KSO probe (accessory).
❖ Factory mounted → supplied loose

iDRHOSS CONTROLS

Additional components:

(1) MVR (or KMVR) only if you wish to manage an ON-OFF valve.

(2) MVR (or KMVR) mandatory for electrical resistance management (also manages any ON-OFF valve).

(3) MVR (or KMVR) + STI (or KSTI) mandatory to manage the two ON-OFF valves and the temperature probe for the additional coil.

(4) KRS485 mandatory for RS485 Modbus communication.

(5) Infrared receivers for remote control:

KRIP - For wall mounting installation (only for YARDY type of fan coils).

KRI - For installation on DIVA type of cassettes with PLP ceiling panelling.

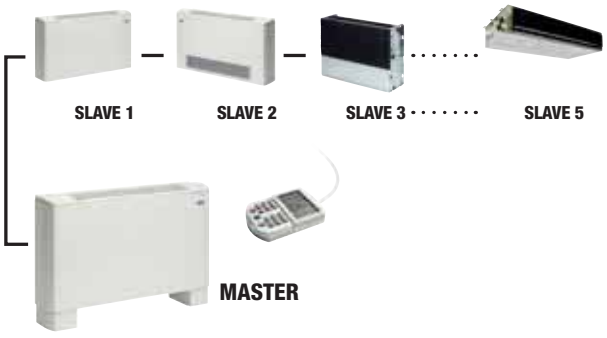
KRIM - For installation on DIVA type of cassettes with PLM ceiling panelling.

(6) Included ON/OFF valve management.

	USER PANEL				
	PCM	KPCM	KICM	KTCM + KRIP/KRI/KRIM	NONE
					
Installation on fancoil	◆				No user panel in case of slave fan coil
Assembly receiver		◆			
Assembly panel			◆		
Remote control + receiver				◆ (5)	
Regulation functions	◆	◆	◆	◆	
Comfort functions	◆	◆	◆	◆	
Master/Slave function	◆ (MASTER)	◆ (MASTER)	◆ (MASTER)	◆ (MASTER)	◆ (SLAVE)

CIRCUIT BOARD			2-pipe systems	2-pipe systems with electric heater	4-pipe systems	Serial interface	iDRHOSS CONTROLS				
STANDARD FAN COIL	Factory fitted		◆ (1)	◆ (2)	◆ (3)	◆ (4)	→	CMS/PCM	CMS + KPCM	CMS + KICM	CMS + KTCM + (5)	CMS
	Provided separately		◆ (1)	◆ (2)	◆ (3)	◆ (4)	→	KCMS/PCM	KCMS + KPCM	KCMS + KICM	KCMS + KTCM + (5)	KCMS
INVERTER FAN COIL	Factory fitted		◆ (6)	◆ (6)		◆ (4)	→	CMIPCM2	CMI2 + KPCM	CMI2 + KICM	CMI2 + KTCM + (5)	CMI2
	Provided separately		◆ (6)	◆ (6)		◆ (4)	→	KCMIPCM2	KCMI2 + KPCM	KCMI2 + KICM	KCMI2 + KTCM + (5)	KCMI2
	Factory fitted				◆ (6)	◆ (4)	→	CMIPCM4	CMI4 + KPCM	CMI4 + KICM	CMI4 + KTCM + (5)	CMI2
	Provided separately				◆ (6)	◆ (4)	→	KCMIPCM4	KCMI4 + KPCM	KCMI4 + KICM	KCMI4 + KTCM + (5)	KCMI4

MASTER/SLAVE FUNCTION



REGULATION FUNCTIONS
Automatic management - Cooling - Dehumidification - Manual/automatic Ventilation **- Heating**

COMFORT FUNCTIONS
Programmed activation/deactivation - Night-time air conditioning - Winter consent - Summer consent - Operation mode saving

ADVANCED FUNCTIONS
Economy - ON/OFF remote control - SUMMER/WINTER remote control - SECURITY control - PROBE IN/PROBE OUT - CONTINUOUS VENTILATION - COMFORT CONTROL - OCCUPANCY - ALARM - MASTE/SLAVE

MASTER/SLAVE FUNCTION - 6 units
Centralised management of up to 5 SLAVE units by means of one single MASTER unit without serial interface.

Terminal unit - UTNA Platinum 013÷120

Heat recovery unit - UTNR-A Platinum 040÷500

Heat recovery unit - UTNR-HE Platinum 040÷400

Heat recovery unit - UTNR-HP 035÷450

Heat recovery unit - VMC-E 025÷130

TERMINAL UNITS

Web code: **UTAP1**

Terminal unit

UTNA Platinum 013÷120

Cooling capacity: 6.4÷70 kW - Heating capacity: 4.9÷78 kW

INVERTER

- **Compliant with ErP 2018 NRVU**
- **BRUSHLESS EC fan**
- **F7 high efficiency filters**

Modular ductable air handling terminal units.

Construction features

- Terminal air handling unit: with modules for horizontal or vertical installation (013-050) with or without ducting.
- Structure with double wall sandwich type freestanding panelling, 30mm-thick with closed cell polyurethane foam insulation with high soundproofing and thermal insulation capacity.
- Routine machine maintenance from the bottom (for the horizontal version with installation in false ceiling or hanging from ceiling) or frontally (for the vertical version) with removable panels.
- BA coil module (horizontal) / BAV coil module (vertical up to size 050) complete with: G4 standard filter, optional fine F7 filter. All filters are supplied complete with differential pressure switch to signal filter clogging condition in compliance with European regulation no. 1253/2014.
  Finned coil heat exchanger, with copper pipes and 2 rows of aluminium fins for heating or reheating only and 4-6 rows for cooling and/or heating with right or left connections to be selected with order. Condensate drain pan in aluminium both for horizontal BA4R and BA6R versions and vertical BAV4R and BAV6R versions.
- SV fan module complete with EC Brushless centrifugal plenum fan with single intake directly coupled to electric motor. Static and dynamic balancing of the entire assembly, built in accordance with standard DIN ISO 1940. G6.3 balancing grade. Standard control of the rotation speed via special 0-10V analogue input. Electrical connection panel fitted as standard complete with disconnect switch, protection fuses and connecting terminal block.

Accessory modules

- PMA - Intake/outlet plenum with pre-cut side outlets.
- SIL - Plenum with absorbent cartridge silencer to be placed on delivery or intake.
- MUV-PRV - Plenum with steam humidifier and external electric generator.
- BE - Additional electrical coil for connection to channel.

Factory fitted accessories

- SG - Optional polypropylene drop separator at low load losses.
- TAG - Optional antifreeze thermostat.

Separately supplied accessories

- KSG - Polypropylene drop separator at low load losses (only for BA).
- KTAG - Antifreeze thermostat (only for BA).
- KSER - Kit in combination with PMA consisting of: damper with aluminium blades and frame, fitted with seal gasket, certified class 2 according to En 1751 for fresh air (max 30%) or recirculated air and a fastening panel to PMA module. The damper is sized for treating up to 100% of the UTNA air capacity and may be positioned at the front, top or bottom of the PMA.
- KMS - Manual control for KSER damper.
- KB2R - Separately supplied additional reheat coil.

	UTNAP MODEL			013	025	035	050	070	090	120
❷	Coil thermal power Only hot	BA 2R/BAV 2R	kW	4,9	8,4	11,7	16,8	25,1	32,8	39,1
❶	Cooling capacity	BA/BAV 4R	kW	6,4	11,1	14,6	21,3	31,9	45,2	53,6
❷	Heating capacity	BA/BAV 4R	kW	7,6	13,6	18,4	26,5	39,7	52,3	64,4
❶	Cooling capacity	BA/BAV 6R	kW	8,1	14,9	20,2	27,5	41,2	56,8	68,9
❷	Heating capacity	BA/BAV 6R	kW	9,1	16,6	22,8	32,2	48,3	62,1	78,2
❸	Heater power	230V-1ph-50Hz	kW	3	-	-	-	-	-	-
	BE electric	400V-3ph-50Hz	kW	-	6	9	13	17	24	24
❹	Air flow rate	NOM	m³/h	1300	2500	3500	5000	7500	9000	12000
		MIN	m³/h	800	1100	1500	2100	3100	5000	5000
		MAX	m³/h	2100	3700	4800	6700	10500	14400	15500
❹	Useful static head.	NOM	Pa	300	300	300	300	300	300	300
❺	Irradiated sound power		dB(A)	47	50	54	54	56	55	59
❺	Intake sound power		dB(A)	64	65	69	68	71	70	74
❺	Delivery sound power		dB(A)	70	71	75	75	78	77	80
❹	SFP Int (Erp 2018<230)		W/m³/s	80	121	137	128	143	101	146
	Filtration grade EN779			G4/F7	G4/F7	G4/F7	G4/F7	G4/F7	G4/F7	G4/F7
	PRV Maximum steam production		Kg/h	3	5	5	8	10	15	18
	Electrical supply		V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS			**013**	**025**	**035**	**050**	**070**	**090**	**120**
	L - Width		mm	945	1245	1545	1645	1645	2045	2045
	H - Height		mm	387	387	387	504	687	837	837
	PMA -SIL-MUV-SV- Depth		mm	480	480	480	596	780	931	931
	BA - Depth		mm	750	750	750	750	750	750	750
	BAV - Height		mm	812	812	862	962	-	-	-
❻	UTNA Weight		kg	53	60	67	88	94	132	142

Data at the following conditions:

❶ Air T in 26°C D.B.; 18.6°C W.B. (50% R.H.); water T in 7°C with Δt 5°C; nominal air flow.

❷ Air T in 20°C D.B.; 13.7°C W.B. (50% R.H.); water T in 40°C with Δt 5°C; nominal air flow.

❸ Air T in 20°C D.B.; 13.7°C W.B. (50% R.H.); nominal air flow.

❹ Air T in 20°C D.B.; 13.7°C W.B. (50% R.H.); nominal air flow; 4-row coil BA/BAV 4R; clean type F7 filter.

❺ Of SV only with work point at nominal air flow; and total head calculated in configuration: 4-row coil BA/BAV 4R; clean type F7 filter; available static 300 Pa. In accordance with EN ISO 11546-2.

❻ SV Weight

Controls

- KPTZ - Rotating potentiometer for wall mounting installation, dedicated to manual fan speed control. The speed of delivery and return fans is calibrated with a single potentiometer.
- KTVDIM - Electronic control panel with display, for semi-recessed wall installation, including ON/OFF button, MODE, 3 Speeds+AUTO, SETPOINT change; auxiliary contacts to control ON/OFF valve in 2-pipe and 4-pipe systems; summer/winter switching; manual/automatic/ from contact; continuous/thermostat ventilation; configurable digital inputs (SCR, ECO, SIC, ALARM), weekly time bands management., complete with RS485 resident serial interface (Modbus RTU protocol).
- KRCA1 - Electronic control panel with display, for semi-recessed wall installation, including ON/OFF button, MODE, 2 Speeds, SETPOINT change; summer/winter switching with button or remote digital input; continuous ventilation, weekly time bands management room probe; 3 analogue outputs to control modulating fan, 1 or 2 modulating valves in 2-pipe or 4-pipe systems, modulating damper; 1 auxiliary contact to control on/off electrical resistance (1 stage) in 2-pipe systems + electrical resistance; 2 configurable digital inputs and 2 configurable analogue inputs. Compete with RS485 resident serial interface (Modbus RTU protocol).

Terminal unit

UTNA Platinum 013÷120

Cooling capacity: 6.4÷70 kW - Heating capacity: 4.9÷78 kW

INVERTER

Full Controls

- KRFCS - Electrical panel complete with: DDC programmable microprocessor regulator. BMS interfacing Integrated as standard with Modbus RTU protocol, main disconnecting switch, relay to control various users, terminal blocks for quick connection of all machine components, auxiliary circuit supply with suitable transformer 230/12-24V.

USER PANELS (for KRFCS)

- KHMIG -Interface terminal with black monochrome graphic display with LED backlighting.
- KHMIR - Interface terminal complete with integrated room temperature probe with black monochrome graphic display with LED backlighting.
- KTOUCH - Black and white touch screen control panel.
- KCOLOR - Colour touch screen control panel.
- KCW - White decorative plate for control panel.
- KCB - Black decorative plate for control panel.
- KWMS - Wall mounting installation support for control panel.

Valves and actuators

- KV3V - PN40 Mixer/diverter 3-way regulation ball valves, female threaded hydraulic connections.
- KV2V - PN40 2-way regulation ball valves, female threaded hydraulic connections.
- KVMM - Actuator for ball regulation valves with modulating control 0/10 Vdc 24 Vac power supply.
- KVOM - Actuator for 230V On/Off valves.
- KDMA-S - Actuator for modulating damper 0-10V 24V with spring return.
- KDMA - Actuator for modulating damper 0-10V 24V without spring return.
- KDOA - Actuator for ON/OFF damper with spring return.

All the probes, actuators and valves on the Full Control section are also available.

Full Control regulation

The Full Control kit allows integrated management of all the functions in the UTNAP, guaranteeing total control of room comfort in a simple and complete manner:

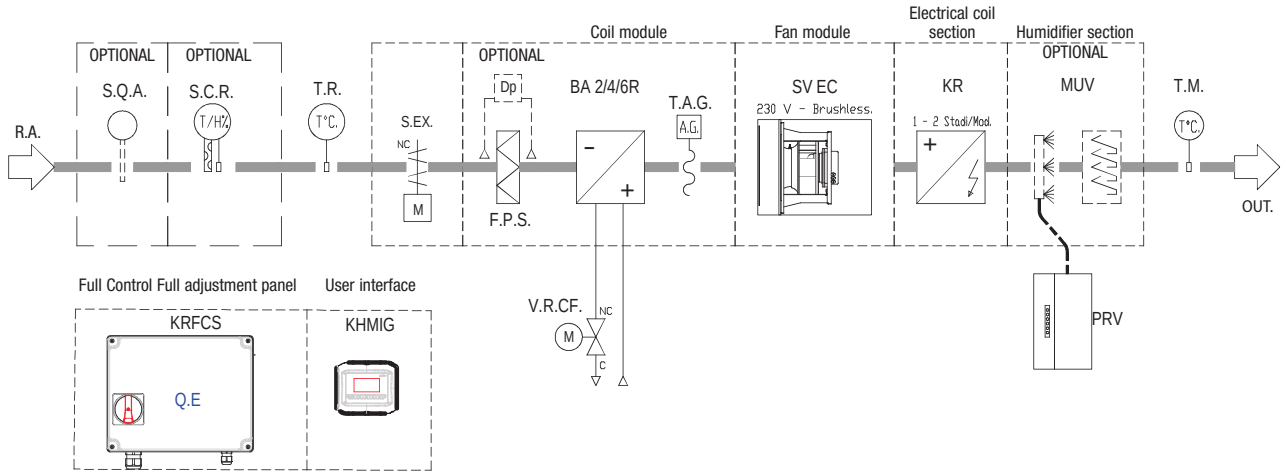
- **Simple installation: all components are designed for on site maximum simplicity and flexibility of installation and supplied separately to not hinder handling and the installation of the units in a false ceiling and in confined spaces. The electrical panel can also be installed remotely. Pre-assembled and pre-wired at the factory on request.**
- **Easy to use: intuitive and user friendly functions and menus.**
- **Weekly time schedule.**
- **Easy start-up: pre-calibrated regulators, pre-set and tested at the factory, specifically developed to manage all functions of the chosen configuration, avoiding any complication.**
- **Easily and immediately interfaced: controller comes standard with a USB port, RS 485 for dialogue via Modbus RTU and Canbus port to develop local networks.**

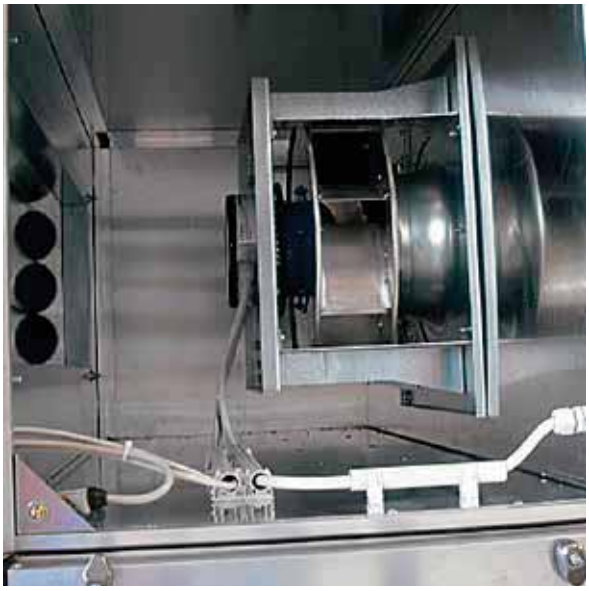
The following functions are present according to the selected machine composition:

- S.Q.R. - Duct or ambient air quality sensor to manage the fan speed or automatic modulation of the dampers.
- S.C.R. - Combined temperature and humidity return air or environment probe to manage air units with humidification and/or dehumidification functions.
- T.R. - Air return temperature probe.
- S.EX. - Shut-off damper.
- F.P.S. - Standard pleated filter.
- DP - Differential clogging filters pressure switch.
- BA - Hot/cold water coil.
- V.R.CF. - Hot-cold coil adjustment valve.
- T.A.G. - Antifreeze thermostat.
- SV EC - Brushless EC ventilated section.
- SV - 3-speed ventilated section.
- B.E. - Electrical coil.
- PV - Steam producer.
- T.M. - Supply temperature probe.
- KRFCS - Full Control power and regulation electrical panel.
- KHMIG - Control panel with graphic display.

UTNA SV EC

UTNA fan unit





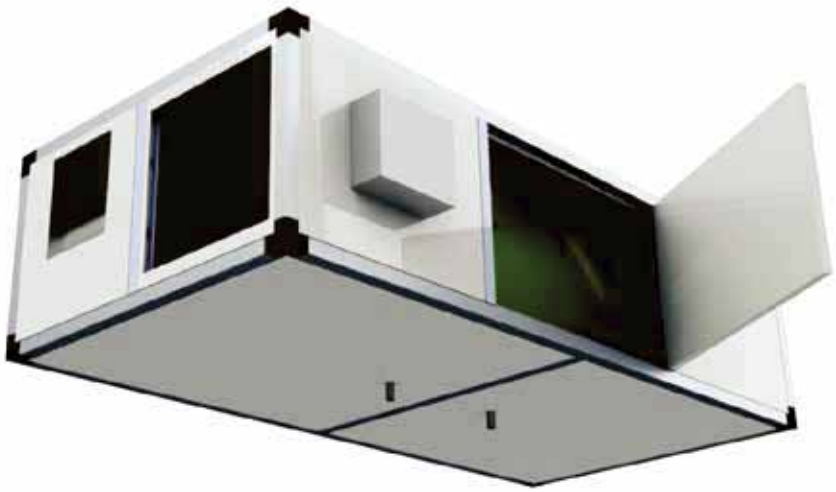
Web code: **UTNR3**

Heat recovery unit

UTNR-A Platinum 040÷500

Air flow rate: 400÷4,050 m³/h

INVERTER



- Complying with ErP 2018 NRVU
- Very high efficiency heat recovery Eurovent Certificate
- Multi-speed or Brushless EC fans
- F7 and M5 high efficiency filters
- Double sandwich wall with high insulation capacity
- Full control kit

Fresh air terminal unit with counterflow opposing flow static heat recovery.

Construction features

- Recovery unit: very high yield static type with aluminium plates with counterflow with close step. Side extraction of exchange pack (except for size 40 which is extracted from the bottom).
- Fans: fresh air inlet and forward blade double intake centrifugal expulsion type with a continuously adjustable directly coupled electric motor; optionally, EC Brushless technology high efficiency electric motors. Fan unit installed on anti-vibration mountings to prevent the transmission of vibration to the structure. The EC fans can be factory set for operation with constant flow (specification to be provided in order)
- Structure: frame made with extruded aluminium profile with preloaded nylon joints. Sandwich buffer panels, 23 mm thick, made with galvanised sheet steel on the inside and pre-painted on the outside with thermal and acoustic insulation made of injected polyurethane, with a density of 45 kg/m^3.
- Filtering section: filtration sections made of compact cell filters with low pressure drop polypropylene media, removable from the side, with F7 efficiency class in fresh flow and M5 in expulsion flow.
- Factory-installed dirty filter differential pressure switches
- Condensate drain pan made of galvanised sheet steel with condensate drain connection from the bottom.
- Integrated free cooling or thawing by-pass system. Thanks to the presence of a motorised damper next to the heat recovery, a bypass system can be created to manage freecooling or thawing depending on thermohygrometric needs or conventions

Versions

- UTNR-A/O PLATINUM - Recovery unit with opposing flow heat exchanger, installed horizontally and with standard multi-speed fans
- UTNRE-A/O PLATINUM - Recovery unit with opposing flow heat exchanger, installed horizontally and with Brushless EC fans that reduce power consumption for ventilation at equal performance.

Available orientation

- 01 - Right-hand connections
- 02 - Left-hand connections

The selected orientation must be specified to process the job order.

Installation

- EXT- Outdoor installation including rain cover, 80 mm-high base and an outdoor electrical box

Factory fitted accessories

- BER - Reheating electrical resistance installed inside, complete with filament-type safety thermostats and control relays to contain pressure drops. 230/1/50 single-phase electrical supply for model 040. 400/3/50 three-phase for models 075÷500.
- BA - Internal hot water reheating coil.
- BAATG - Antifreeze thermostat installed downstream of the water reheating coil.
- BP - Bypass control for free-cooling (suitable for PCU and KPCUE) including damper actuator and 2 NTC probes on board the machine.
- ERF7-F7 efficiency return filter

Separately supplied accessories

- KSBFR - Section containing hot/cold water coil to reheat or recool, placed outside the machine in front of the inlet. Includes stainless steel condensate drain pan with drain connection from the bottom.
- KSBFR + ATG - Hot/cold water coil section with mounted antifreeze thermostat.
- KSRE - Regulation damper set up for servo-control, consisting of a galvanised sheet steel frame with adjustable fins.
- KSSC - Duct silencer with a rectangular base made of glass wool covered with a protective film of glass fibre and micro-stretched sheet steel.
- KRMS - Section with 3 dampers for air mixing and recirculating (only for horizontal installation).
- KSPC - Panel with round fittings.

	UTNR-A PLATINUM MODEL		40	75	100	150	200	320	400	500
	Type of Unit					Non-residential- Bidirectional				
	Outdoor air filters					F7				
	Return air filters					M5				
	Bypass					Motorisable side bypass damper				
	TECHNICAL SPECIFICATIONS									
	Nominal air flow	m^3/h	400	750	1000	1500	2050	3200	3800	4700
	STANDARD FANS									
❶	Nominal available static pressure	Pa	160	120	130	160	120	180	n.d.	n.d.
❷	Specific fan power (SFP)	$W/(m^3/s)$	740	934	1105	1102	1078	1054	n.d.	n.d.
❸	Sound pressure level	dB(A)	59	60	63	63	63	69	n.d.	n.d.
	Speed N°/Regulation Type		4	3	3	3	3	3	n.d.	n.d.
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	n.d.	n.d.
	BRUSHLESS EC FANS									
❶	Nominal available static pressure	Pa	160	120	130	160	120	180	200	200
❶	Max available static pressure	Pa	340	210	520	500	540	375	940	760
❷	Specific fan power (SFP)	$W/(m^3/s)$	705	742	1059	1048	898	1040	949	935
❸	Sound pressure level	dB(A)	60	61	62	64	62	68	70	73
	Speed N°/Regulation Type		0-10 V							
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
	COUNTERFLOW HEAT RECOVERY									
❹	Winter Efficiency	%	83,6	82,9	81,6	83,3	83,7	86,8	84,1	84,2
❺	Summer Efficiency	%	75,5	75,9	74,5	75,1	75,6	78,0	75,0	75,1
❻	Efficiency Regulation EC 1253/2014	%	75,9	76,4	75,0	75,6	76,0	76,3	75,5	75,6
	DIMENSIONS AND WEIGHTS		**40**	**75**	**100**	**150**	**200**	**320**	**400**	**500**
	Length/Height/Depth UTNR-A PLATINUM	mm	1480/380/800	1940/480/990	1940/480/990	2200/550/1000	2200/550/1400	2500/680/1400	2500/680/1400	2500/680/1700
	Weight UTNR-A/P O	kg	90	140	150	170	200	240	250	280

Data at the following conditions:

❶ Values referred to the nominal air flow considering the pressure drops of the heat recovery and the F7 filter

❷ Values referred to the nominal air flow and Nominal available static pressure

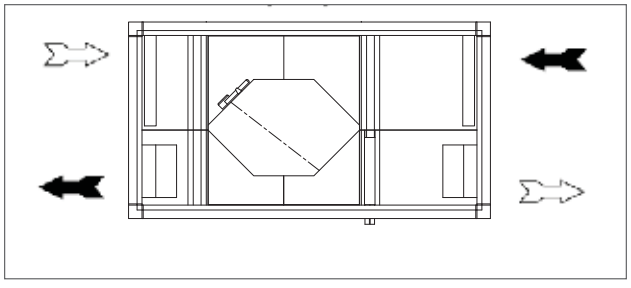
❸ Sound pressure level referring to 1 m from the machine inlet in free field

❹ Outdoor air T: -5°C, 80% RH ; Ambient air T: 20°C, 50% RH.

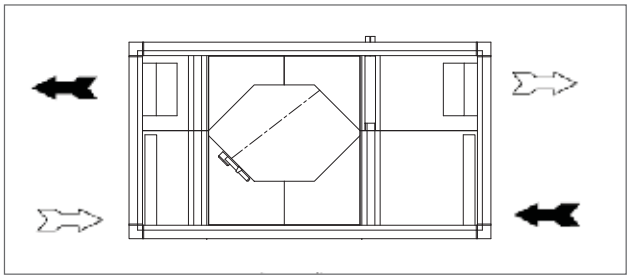
❺ Outdoor air T: 32°C, 50% RH ; Amb. air T: 26°C, 50% RH.

❻ Dry nominal conditions, measured according to En 308 in balanced flows. Outdoor air 5°C D.B.; Ambient air 25°C D.B.

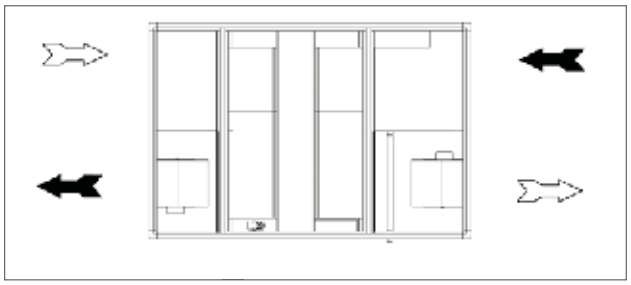
ORIENTATION TYPE 01 (MOD.40)



ORIENTATION TYPE 02 (MOD.40)

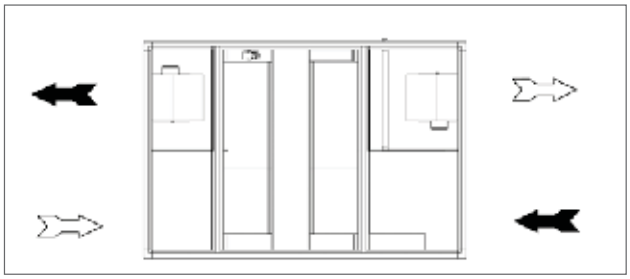


ORIENTATION TYPE 01



Expelled air
Fresh air

ORIENTATION TYPE 02



Expelled air
Fresh air

The illustrated guidelines concerning the machine seen from above

Heat recovery unit

UTNR-A Platinum 040÷500

Air flow rate: 400÷4,050 m³/h

INVERTER

Controls

- KCV2 - Speed selector for wall mounting installation, to select from 3 speeds: Off/heating/cooling switch; 3-speed switch; 230V power supply.
- PCU-KPCUE - Control panel for wall mounting installation, allows the winter/summer room temperature to be controlled, gives consent to activate or exclude the water coil or the electrical resistance. Selects the operating speed of the fan from minimum, medium, maximum (excluding model 40 which only offers one speed) or by 0/10 V regulation (KPCUE for EC fans) and controls the free-cooling function.
- KPTZ - Rotating potentiometer for wall mounting installation, dedicated to manual fan speed control. The speed of delivery and return fans is calibrated with a single potentiometer (only for the EC Brushless fan version).

Full Controls

- KRFCS - Electrical panel complete with: DDC programmable microprocessor regulator. BMS interfacing Integrated as standard with Modbus RTU protocol, main disconnecting switch, relay to control various users, terminal blocks for quick connection of all machine components, auxiliary circuit supply with suitable transformer 230/12-24V.

USER PANELS (for KRFCS)

- KHMIG -Interface terminal with black monochrome graphic display with LED backlighting.
- KHMIR - Interface terminal complete with integrated room temperature probe with black monochrome graphic display with LED backlighting.
- KTOUCH - Black and white touch screen control panel.
- KCOLOR - Colour touch screen control panel.
- KCW - White decorative plate for control panel.
- KCB - Black decorative plate for control panel.
- KWMS - Wall mounting installation support for control panel.

Valves and actuators

- KV3V - PN40 Mixer/diverter 3-way regulation ball valves, female threaded hydraulic connections.
- KV2V - PN40 2-way regulation ball valves, female threaded hydraulic connections.
- KVMM - Actuator for ball regulation valves with modulating control 0/10 Vdc 24 Vac power supply.
- KVOM - Actuator for 230V On/Off valves.
- KDMA-S - Actuator for modulating damper 0-10V 24V with spring return.
- KDMA - Actuator for modulating damper 0-10V 24V without spring return.
- KDOA - Actuator for ON/OFF damper with spring return.

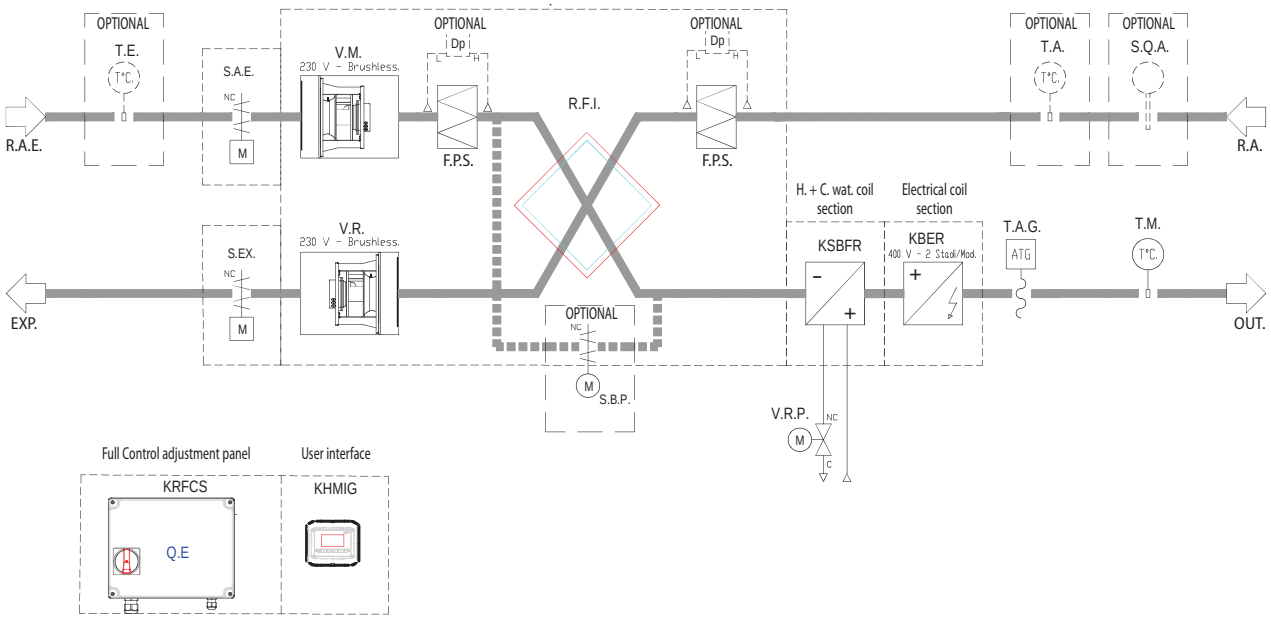
All the probes, actuators and valves on the Full Control section are also available.

PCU Panel

•

KPCUE Panel

UTNRE-A Platinum



Full Control regulation

The Full Control kit allows integrated management of all the functions in the UTNRA-P, guaranteeing total control of room comfort in a simple and complete manner:

- **Simple installation: all components are designed for on site maximum simplicity and flexibility of installation and supplied separately to not hinder handling and the installation of the units in a false ceiling and in confined spaces. The electrical panel can also be installed remotely.**
  Pre-assembled and pre-wired at the factory on request.
- **Easy to use: intuitive and user friendly functions and menus.**
- **Weekly time schedule.**
- **Easy start-up: pre-calibrated regulators, pre-set and tested at the factory, specifically developed to manage all functions of the chosen configuration, avoiding any complication.**
- **Easily and immediately interfaced: controller comes standard with a USB port, RS 485 for dialogue via Modbus RTU and Canbus port to develop local networks.**

The following are present according to the composition of the selected machine and accessories:

- T.E. - Outdoor air temperature probe.
- S.A.E. - Outdoor air damper.
- V.M. - Supply fan.
- F.P.S. - Standard pleated filter.
- Dp - Differential clogging filters pressure switch.
- KSBFR - Hot-cold additional coil module.
- V.R.P - Mixed coil adjustment valve.
- BCR - Integrated hot water coil.
- V.R.C - Hot coil adjustment valve.
- BER - Integrated electrical coil.
- T.A.G. - Antifreeze thermostat.
- T.M. - Supply temperature probe.
- S.Q.A. - Environmental air quality probe.
- T.A. - Environmental air temperature probe.
- V.R. - Return fan.
- S.EX. - Shut-off damper.
- KRFCS - Full Control power and regulation electrical panel.
- KHMIG - Control panel with graphic display.

Web code: **UTHE3**

Heat recovery unit

UTNR-HE Platinum 040÷400

Air flow rate: 310÷4,250 m³/h

INVERTER

- **Compliant with ErP 2018 NRVU**
- **Very high efficiency heat recovery Eurovent Certificate**
- **Multi-speed or Brushless EC fans**
- **F7 and M5 high efficiency filters**
- **Double sandwich wall with high insulation capacity**
- **Full control kit**

Fresh air terminal unit with enthalpy rotary heat recovery.

Construction features

- Recovery unit: high yield rotary type made of aluminium with hygroscopic surface. Electric induction motor with belt and pulley transmission. Recovery unit-motor assembly easily removed from the side for periodic maintenance.
- Fans: fresh air inlet and forward blade double intake centrifugal expulsion type with a continuously adjustable directly coupled electric motor; optionally, EC Brushless technology high efficiency electric motors. Fan unit installed on anti-vibration mountings to prevent the transmission of vibration to the structure. The EC fans can be factory set for operation with constant flow (specification to be provided in order)
- Structure: frame made with extruded aluminium profile with preloaded nylon joints. Sandwich buffer panels, 23 mm thick, with galvanised sheet steel on the inside and pre-painted on the outside with thermal and acoustic insulation made of injected polyurethane, with a density of 45 kg/m^{3}.
- Integrated free cooling or thawing by-pass system. Thanks to the presence of a motorised damper on the heat recovery side, a bypass system can be created to manage the freecooling or thawing depending on requirements or mm thermohygrometric conventions, with galvanised sheet steel on the inside and pre-painted on the outside with thermal-acoustic insulation made of injected polyurethane, with a density of 45 kg/m3 offering very high thermal and acoustic insulation.
- Filtering section: filtration sections made of compact cell filters with low pressure drop polypropylene media, removable from the side, with F7 efficiency class in fresh flow and M5 in expulsion flow.
- Factory-installed dirty filter differential pressure switches
- Terminal block: already part of the machine to facilitate the electrical connections, fan controls and rotary recovery.

Versions

- UTNR-HE/O PLATINUM - Recovery unit with rotary heat exchanger, installed horizontally and with standard multi-speed fans
- UTNRE-A/O PLATINUM - Recovery unit with rotary heat exchanger, installed horizontally and with Brushless EC fans that reduce the power consumption for ventilation at equal performance.

Available orientation

- 01 - Right-hand connections
- 02 - Left-hand connections

The selected orientation must be specified to process the job order.

Installation

- EXT- Outdoor installation

Factory fitted accessories

- ERF7-F7 efficiency return filter
- BP-Bypass control for free-cooling including: NC relay on board the panel (suitable for PCU and KPCUE) and 2 NTC probes on board the machine

Separately supplied accessories

- KBER - Reheating electrical resistance installed outside in a duct dedicated module, complete with filament-type safety thermostats and control relays to contain pressure drops.
  230/1/50 single-phase electrical supply for model 040 and 075. 400/3/50 three-phase for 100÷400 models.
- KSBFR - Section containing hot/cold water coil to reheat or recool, placed outside the machine in front of the inlet. Includes stainless steel condensate drain pan with drain connection from the bottom.
- KSBFR + ATG - Hot/cold water coil section with mounted antifreeze thermostat
- KSRE - Regulation damper preset for servo-control, consisting of a galvanised sheet steel frame with adjustable fins.
- KSSC - Duct silencer with a rectangular base made of glass wool covered with a protective film of glass fibre and micro-stretched sheet steel.
- KRMS - Section with 3 dampers for air mixing and recirculating (only for horizontal installation).
- KSPC - Panel with round fittings.

	UTNR-HE PLATINUM MODEL		40	75	100	150	200	320	400
	Type of Unit				Non-residential- Bidirectional				
	Outdoor air filters				F7				
	Return air filters				M5				
	Bypass				Motorisable side bypass damper				
	TECHNICAL SPECIFICATIONS								
	Nominal air flow	m³/h	310	640	1000	1650	2400	3200	3800
	STANDARD FANS								
❶	Nominal available static pressure	Pa	230	130	190	160	300	180	n.d.
❷	Specific fan power (SFP)	W/(m³/s)	1409	1443	1580	1036	806	1226	n.d.
❸	Sound pressure level	dB(A)	59	60	62	62	63	66	n.d.
	Speed N°/Regulation Type		4	3	3	3	3	3	n.d.
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	
	BRUSHLESS EC FANS								
❶	Nominal available static pressure	Pa	230	130	190	160	300	180	100
❶	Max available static pressure	Pa	430	280	560	600	480	460	230
❷	Specific fan power (SFP)	W/(m³/s)	1045	1263	1102	842	617	869	1029
❸	Sound pressure level	dB(A)	60	61	61	63	62	65	66
	Speed N°/Regulation Type		0-10 V						
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
	COUNTERFLOW HEAT RECOVERY								
❹	Winter efficiency temp/enthalpy	%	79/74	74/69	73/58	74/60	75/62	74/60	73,5/59
❺	Summer efficiency temp/enthalpy	%	79/69	74/65	73/59	75/60	81/65	75/59,5	73/59
❻	Efficiency Regulation EC 1253/2014	%	74,2	74	73	73	73,7	74,3	73
	DIMENSIONS AND WEIGHTS		**40**	**75**	**100**	**150**	**200**	**320**	**400**
	Length/Height/Depth UTNR-A PLATINUM	mm	1075/480/800	1075/480/800	1205/550/1000	1400/550/1000	1720/680/1290	2000/680/1400	2000/680/1400
	Weight	kg	70	75	105	140	180	230	250

Data at the following conditions:

❶ Values referred to the nominal air flow considering the pressure drops of the heat recovery and the F7 filter

❷ Values referred to the nominal air flow and Nominal available static pressure

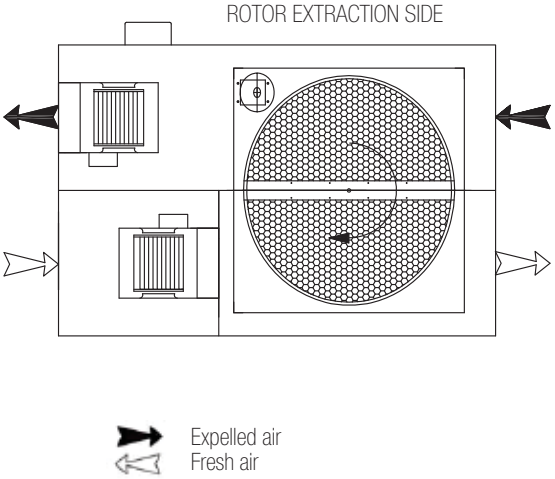
❸ Sound pressure level referring to 1 m from the machine inlet in free field

❹ Outdoor air T: -5°C, 80% RH ; Ambient air T: 20°C, 50% RH.

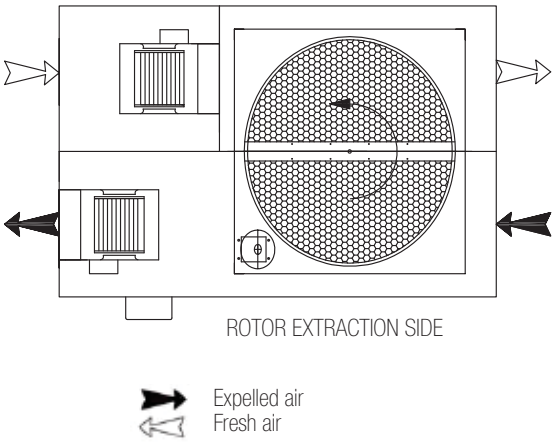
❺ Outdoor air T: 32°C, 50% RH ; Amb. air T: 26°C, 50% RH.

❻ Dry nominal conditions, measured according to En 308 in balanced flows. Outdoor air 5°C D.B.; Ambient air 25°C D.B.

ORIENTATION TYPE 01



ORIENTATION TYPE 02



Heat recovery unit

UTNR-HE Platinum 040÷400

Air flow rate: 310÷4,250 m³/h

INVERTER

PCU Panel
•
KPCUE Panel

Controls

- KCV2-Speed selector for wall mounting installation, to select from 3 speeds (excluding model 40): Off/heating/cooling switch; 3-speed switch; 230V power supply.
- PCU-KPCUE - Control panel for wall mounting installation, allows the winter/summer room temperature to be controlled, gives consent to activate or exclude the water coil or the electrical resistance. Selects the operating speed of the fan from minimum, medium, maximum (excluding model 40 which only offers one speed) or by 0/10 V regulation (KPCUE for EC fans) and controls the free-cooling function.
- KPTZ - Rotating potentiometer for wall mounting installation, dedicated to manual fan speed control. The speed of delivery and return fans is calibrated with a single potentiometer (only for the EC Brushless fan version).

Full Controls

- KRFCS - Electrical panel complete with: DDC programmable microprocessor regulator. BMS interfacing Integrated as standard with Modbus RTU protocol, main disconnecting switch, relay to control various users, terminal blocks for quick connection of all machine components, auxiliary circuit supply with suitable transformer 230/12-24V.

Optional first start-up

User panels (for KRFCS)

- KHMIG -Interface terminal with black monochrome graphic display with LED backlighting.
- KHMIR - Interface terminal complete with integrated room temperature probe with black monochrome graphic display with LED backlighting.
- KTOUCH - Black and white touch screen control panel.
- KCOLOR - Colour touch screen control panel.
- KCW - White decorative plate for control panel.
- KCB - Black decorative plate for control panel.
- KWMS - Wall mounting installation support for control panel.

Valves and actuators

- KV3V - PN40 Mixer/diverter 3-way regulation ball valves, female threaded hydraulic connections.
- KV2V - PN40 2-way regulation ball valves, female threaded hydraulic connections.
- KVMM - Actuator for ball regulation valves with modulating control 0/10 Vdc 24 Vac power supply.
- KVOM - Actuator for 230V On/Off valves.
- KDMA-S - Actuator for modulating damper 0-10V 24V with spring return.
- KDMA - Actuator for modulating damper 0-10V 24V without spring return.
- KDOA - Actuator for ON/OFF damper with spring return.

All the probes, actuators and valves on the Full Control section are also available.

Full Control regulation

The Full Control kit allows integrated management of all the functions in the UTNRHE, guaranteeing total control of room comfort in a simple and complete manner:

- **Simple installation: all components are designed for on site maximum simplicity and flexibility of installation and supplied separately to not hinder handling and the installation of the units in a false ceiling and in confined spaces. The electrical panel can also be installed remotely. Pre-assembled and pre-wired at the factory on request.**
- **Easy to use: intuitive and user friendly functions and menus.**
- **Weekly time schedule.**
- **Easy start-up: pre-calibrated regulators, pre-set and tested at the factory, specifically developed to manage all functions of the chosen configuration, avoiding any complication.**
- **Easily and immediately interfaced: controller comes standard with a USB port, RS 485 for dialogue via Modbus RTU and Canbus port to develop local networks.**

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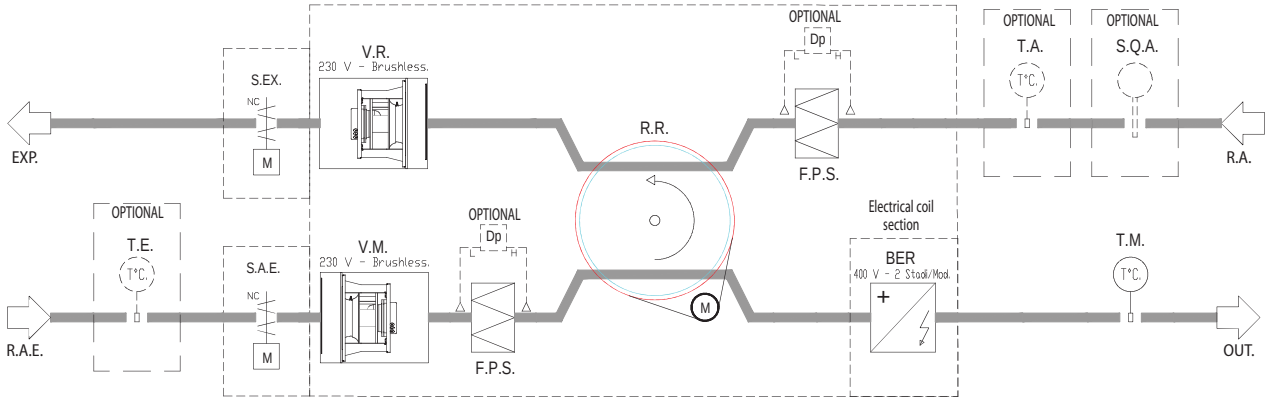
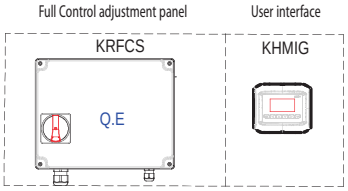
- Dp - Differential clogging filters pressure switch.
- KSBFR - Hot-cold additional coil module.
- V.R.P - Mixed coil adjustment valve.
- BCR - Integrated hot water coil.
- V.R.C - Hot coil adjustment valve.
- BER - Integrated electrical coil.
- T.A.G. - Antifreeze thermostat.
- T.M. - Supply air thermostat.
- S.Q.A. - Environmental air quality probe.
- T.A. - Air return or ambient temperature probe.
- V.R. - Return fan.
- S.EX. - Shut-off damper.
- KRFCS - Full Control power and regulation electrical panel.
- KHMIG - Control panel with graphic display.

UTNR-HE Platinum version E brushless

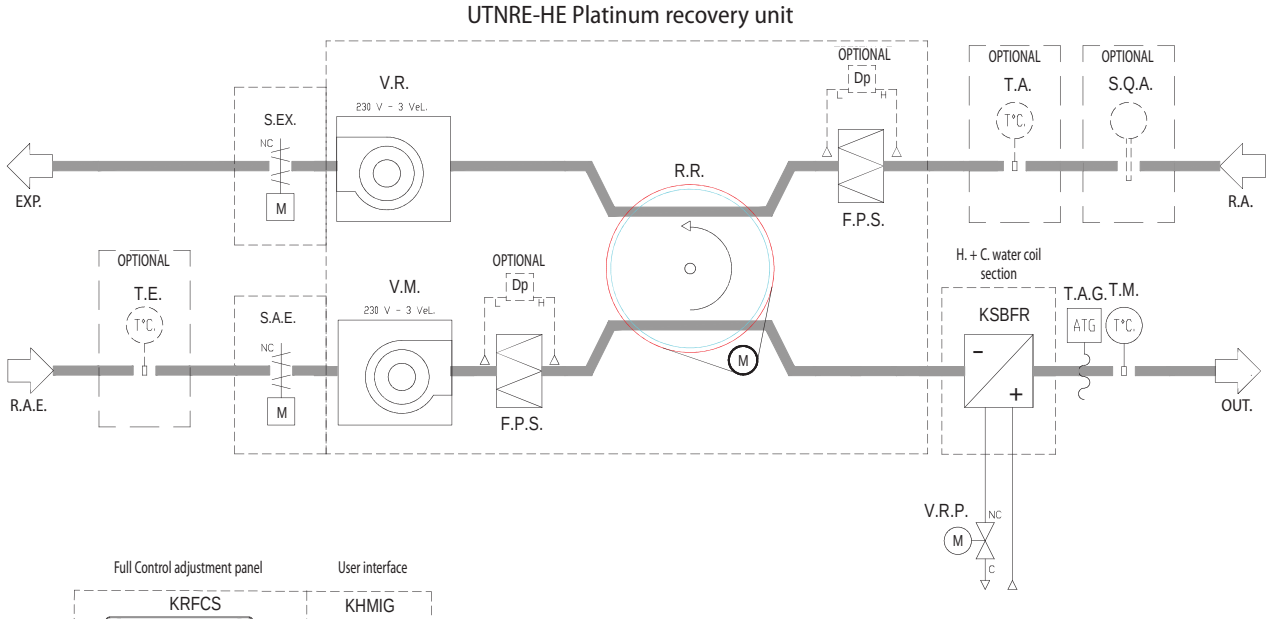
UTNRE-HE Platinum recovery unit

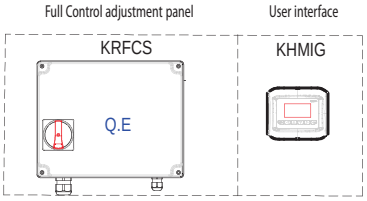




UTNR-HE Platinum

UTNRE-HE Platinum recovery unit





Controls
FULL CONTROL

The Full Control adjustment system aims to meet all the adjustment requirements of our units in the UTNA - UTNV - UTNR A/P and HE comfort range starting from the most basic up to fully-equipped units.

MAIN CONTROL LOGIC SETTINGS

Temperature adjustment at a supply fixed point (primary air)
The Tm fixed point probe controls the supply temperature using the modulating actuator of the control valve.

"Sliding" adjustment of the supply temperature according to the ambient set-point (all air)
The supply set-point is calibrated according to the difference between the room temperature and set-point, with the authority set. This function allows the performance of a control loop with a high degree of difficulty to be improved, thereby reducing the delay with which the ambient/return probe indicates the interference that occurs in the supply and is used as a base when the ambient temperature is to be set.

Result
The supply air temperature varies according to the difference between the actual ambient temperature and that prescribed.

Benefits for the end user
The ambient temperature control is faster and more accurate, and the gap on the ambient set-point is smaller than that achieved with separate ambient/return temperature control.

Antifreeze protection function
The TAG antifreeze thermostat protects the coil from frost (in case of intervention) when the outdoor air damper closes and the unit stops

Filter clogging monitoring
The cleanliness and healthiness of the filters is constantly monitored by the differential pressure switch as required by the relevant EU regulation

2-pipe systems
In case of the mixed coil, the season must be selected from the control panel or the remote selector.
The E/I selector also lets you exclude antifreeze protection while the coil is powered by cold water.

4-pipe systems
The hot and cold valve control is in automatic sequence, with central dead band to prevent instability.

Supply summer temperature compensation in relation to the outdoor one

Adjusting the ambient/return humidity
The humidity probe on the return controls the humidity. During winter, it modulates the delivery of the steam humidifier. During the summer period it acts on the actuator of the control valve of the cold coil, thereby modulating the performance.

Temperature free-cooling
This type of function is ONLY possible if you have selected a unit with heat recovery and it is set to achieve maximum savings.
Energy will be saved in systems with internal foreign heat production in cooling mode since the typical outdoor temperatures of the winter or intermediate seasons (approx. 10 to 20°C), the ambient temperature controller controls the outdoor air dampers and expulsion on opening and recirculation on closing, thereby eliminating the added heat with a corresponding percentage of outdoor air.
The function must be activated on start-up.

UNIT		UTNA/UTNV		UTNR A-P-HE	
FUNCTION		**AP**	**TA**	**AP**	**TA**
CONFIGURATIONS / FUNCTIONS	2-pipe single coil (Hot, Cold, Mixed)	●	●	●	●
	4-pipe second coil (Hot, Mixed)	●	●	●	●
	Fan control 1, 2 or 3V	●	●	●	●
	Fan control control (operated manually from the control panel or from the external input/potentiometer or according to the pressure/IAQ/Humidity probes)	●	●	●	●
	On/off damper control (operated electro-mechanically when the machine is switched on and the optional antifreeze thermostat, in case of alarm)	●	●	●	●
	Mixture chamber module damper control (potentiometer/from controller)	**n/a**	●	**n/a**	**n/a**
	Separate control for double vent.	**n/a**	**n/a**	●	●
	Recovery unit bypass command (for free-cooling control)	**n/a**	**n/a**	●	●
	Recovery unit antifreeze control	**n/a**	**n/a**	●	●
	On/off dehumidifier command	●	●	●	●
	Modulating dehumidifier command	●	●	●	●
	Coil on/off command Electric (ONLY 2-pipe versions alternative to the second hot coil for UTNA and UTNR)	●	●	●	●
	Coil modul. command Electric (ONLY 2-pipe versions alternative to the second hot coil for UTNA and UTNR)	**OPT**	**OPT**	**OPT**	**OPT**
PROBES	Antifreeze Thermostat	●	●	●	●
	Supply temperature probe	●	●	●	●
	Ambient/Return temperature probe and combined return/ambient temperature + humidity probe	●	●	●	●
	Ambient/Return Humidity Probe	●	●	●	●
I/O OPT.	IAQ input probe* (Modulating damper control or fan speed)	●	●	●	●
	Channel const. pressure probe input (Speed modulation of the fans on VAV systems with separate zone dampers or pressurised control)**	●	●	●	●
	Outdoor air temperature probe outlet (for supply set-point compensation, recovery/free-cooling bypass)	●	●	●	●
	Dp filter pressure switch input	**n/a**	●	**n/a**	●
	Remote temperature recalibration potentiometer input and remote damper positioning	●	●	●	●
	Input Remote E/I selection input (ONLY 2 pipes)	●	●	●	●
	Remote On/Off input	●	●	●	●
	Economy input (from external timer, micro window, badge reader, etc.)	●	●	●	●
	Ext. alarm input (general alarm, fire protection etc) for emergency stop	●	●	●	●
	Alarm repeat output (Relay)	**n/a**	**n/a**	**n/a**	**n/a**
	Thawing input from heat pump	●	●	**n/a**	**n/a**
	E/I switching output for heat pump	●	●	●	●
	Pump control 1 (auxiliary, not power, for the pump or generator to service the coil/circuit 1)	●	●	●	●
	Pump control 2 (auxiliary, not power, for the pump or generator to service the coil/circuit 2)	●	●	●	●
ADDITIONAL FUNCTIONS	Modbus serial communication	●	●	●	●
	Weekly time schedule	●	●	●	●
	Holiday schedule	●	●	●	●

** only with the Brushless EC fan
n/a: not available
OPT: option

Controls
FULL CONTROL

Separately supplied accessories
- KSEZM - Single-phase main disconnecting switch on the front of the electrical panel interrupts the power supply before allowing the door to be opened. It can be blocked with a padlock.
  Separately supplied accessories
- KSEZT - Three-phase main disconnecting switch on the front of the electrical panel interrupts the power supply before allowing the door to be opened. It can be blocked with a padlock.
- KPD - Differential air pressure switch (20-300Pa) to indicate the alarm when the point of intervention set to detect a dirty filter or air flow is reached.
- KTAG - Antifreeze thermostat (with brackets).
- KPOTS - Remote potentiometer for damper calibration.
- KLS - Damper manual command lever

Probes
- KATS - Ambient air NTC temperature probe (in the diagrams: TA).
- KDTS - NTC temperature probe from the channel (in the diagrams: TM/TR/TX).
- KOTS - Outdoor air NTC temperature probe (in the diagrams: TE).
- KDHS - Active humidity probe from channel with 0/10Vdc signal (in the diagrams: TUR/TUM).
- KATHS - Ambient temperature/humidity probe (in the diagrams: TUA).
- KDTHS - Channel temperature/humidity probe (in the diagrams: UR/UM).
- KAVOCS - Ambient IAQ VOC probe (in the diagrams: IAQ).
- KDVOCS - Channel IAQ VOC probe (in the diagrams: IAQ).
- KAIAQS - Ambient IAQ VOC+CO2 probe.
- KDIAQS - Channel IAQ VOC/CO2 probe.
- KDAPS - Air pressure probe.

Mixing/diverter 3-way ball PN40 VALVE. With body and shaft in brass and chrome plated brass ball. Sealed with an EPDM ring, female THREADED hydraulic connections
- KV3V15-x_x - 3-WAY threaded VALVE. DN15 kv from 1.6 to 6.3 depending on the sizes.
- KV3V20-6_3 - 3-WAY threaded VALVE DN20 kv 6.3.
- KV3V25-10 - 3-WAY threaded VALVE DN25 kv 10.
- KV3V20-6_3 - 3-WAY threaded VALVE DN32 kv 16.
- KV3V40-25 - 3-WAY threaded VALVE DN40 kv 25.
- KV3V50-xx - 3-WAY threaded VALVE DN50 kv 40 or 63 depending on the sizes.

Adjustment 2-way ball PN40 VALVES. With body and shaft in brass and chrome plated brass ball. Sealed with an EPDM ring, female THREADED hydraulic connections.
- KV2V15-x_x - 2-WAY threaded VALVE. DN15 kv from 1.6 to 6.3 depending on the sizes.
- KV2V20-6_3 - 2-WAY threaded VALVE DN20 kv 6.3.
- KV2V25-10 - 2-WAY threaded VALVE DN25 kv 10.
- KV2V32-16 - 2-WAY threaded VALVE DN32 kv 16.
- KV2V40-25 - 2-WAY threaded VALVE DN40 kv 25.
- KV2V50-40 - 2-WAY threaded VALVE DN50 kv 40.

Actuators for regulation BALL valves with 0/10Vdc 24Vac power supply modulating control
- KVMM25 - ACTUATOR V.DN MAX25 24V 0-10Vdc.
- KVMM50 - ACTUATOR V.DN MAX50 24V 0-10Vdc.

On/Off valve actuators, 230V TO OPERATE WITH 2-position control FAN-COIL THERMOSTATS
- KV0M25 - ACTUATOR V. DN MAX 25 230V On/Off SPDT.
- KV0M025 - ACTUATOR V. DN MAX 25 230V On/Off SPRING RET. SPST.
- KV0M050 - ACTUATOR V. DN MAX 50 230V On/Off SPRING RET. SPST.

ACTUATORS FOR MODULATING DAMPERS 0-10V 24V
- KDMAxS - ROT. DAMP. ACTUATOR 2/7/18Nm modulating with 24V spring return
- KDMAx b - ROT. DAMP. ACTUATOR 5/10/15Nm modulating without 24V spring return

ACTUATORS FOR ON-OFF 24V DAMPERS
- KD0AxS - ROT. DAMP. ACTUATOR 2/7/18 Nm on/off with 24V spring return

BASIC CONTROLS

User panels
With these accessories you can easily manage all active control functions by means of symbols and clear icons and intuitive including:
change the set-point, manage summer/winter seasonal switching, manage the ON/OFF power, manage the ventilation mode, display the temperature, humidity and all the values measured by the connected probes, set a weekly program schedule or a timer for prolonged absences (holiday mode), view alarms, reset alarms and manually position any motorised dampers in modulating control.
The features described above are common to all the following control panels
All Panel controls are used for box recessed installation (BTicino 506 type).
You can customise the terminal to integrate it aesthetically in environments with the KCW or KCB plates according to the price list or the several Bticino series “Living” and “Light” plaques.

- KHMIG - Vgraph control panel. Interface terminal with black monochrome graphic display with LED backlighting.
- KHMIR - Control panel with ambient temperature probe (Vroom). In addition to the functions of the previous control panel implemented a temperature probe in the panel.
- KTOUCH - Black and white monochrome touch screen control panel 320x240 pixels.
- KCOLOR - Colour touch screen control panel 320x240 pixels.
- KCW - White decorative plate for control panel.
- KCB - Black decorative plate for control panel.
- KWMS - Wall mounting installation support for control panel.

KHMIG and KHMIR

KCOLOR

KCW

Electrical panel in a resin case, with IP55 protection, compliant with IEC EN 60204-1, complete with:

- DDC programmable microprocessor regulator that can manage up to 40 I/O with Rhoss software and configuration specifically designed to make sure the optimal automatic control of all functions can be managed on the machine, via continuous comparisons made between the set values and the temperature and humidity conditions detected by the sensors. The adjustment, optimised with proportional-type algorithms plus integral (PI), assures accurate and safe operation of the air handling unit.
  The regulator is equipped with a Real Time Clock to set the date, time and time program, with a backup battery to keep the saved data even in case of a prolonged power cut (up to 2 days). Interfaced with BMS Integrated as standard with Modbus RTU protocol.
- Main disconnecting switch.
- Fuse holder to protect single phase fan motors with power up to 1.6 kW with isolating function for phase and neutral on opening (*).
- Motor protection fuses for the motor of a rotary recovery, the 230/12V transformer and the 24V auxiliary circuit.
- Relay to control various utilities.
- Spring terminal blocks with removable connectors for quick connection of all components on the machine.
- Electrical supply 1F+N 230V 50Hz.
- Auxiliary power supply with a converter transformer 230/12-24V.
  (*) An external panel with specific protection and drive devices must be added required for higher power and three-phase loads .
- KRFCS - Full Control power and regulation electrical panel for UTNB-UTNA-UTNR-UTNV Single-phase Max Pow. 2x1.6 kW.

- KDTR - Usable with all UTNA-V-R with 1 coil.
  Simple and reliable regulator to be installed in the delivery duct, in the same case which already holds the temperature probe and is designed to handle simple air handling units operating at a supply fixed point. Operating range 0-50°C:
- KPOTR - Remote potentiometer for damper recalibration (in combination with KDTR).

AMBIENT regulators for wall mounting with software application, display, ambient sensor, RS485 serial board and clock with control of up to 9 I/O.

- KRCA1 - Ambient regulator with integrated temperature probe to control the following functions:
  - 2 modulating coils, antifreeze, 1 modulating damper, 1 on/off resistance
  - modulating coils, antifreeze, 1 modulating fan, 1 on/off resistance
  - 2 modulating coils, antifreeze, 1 modulating resistance, 1 on/off fan
  - 2 modulating coils, antifreeze, 1 modulating fan, recovery bypass
- KRCA2 - Ambient regulator with integrated temperature probe to control the following functions:
  - 2 modulating coils, antifreeze, 1 on/off fan, 1 aux. on/off control
  - 2 modulating coils, antifreeze, 1 on/off fan, recovery bypass, 1 aux. on/off control
  - 2 modulating coils, antifreeze, 1 on/off resistance, recovery bypass, 1 aux. on/off control

Web code: **UTHP1**

Heat recovery unit

UTNR-HP 035÷450

Air flow rate: 350÷4,500 m³/h

INVERTER

- **Combined crossed flow and active thermodynamic heat recovery**
- **Standard air filter with G4 efficiency**
- **Integrated electronics**

Fresh air terminal units with two-stage heat recovery unit.

Construction features

- Recovery unit:
  - First stage of the crossed flow air-air static heat recovery with aluminium heat exchanger plates; lower condensate drain pan along the entire heat treatment area.
  - Second stage of the active thermodynamic heat recovery unit with heat pump cooling circuit (with R410A gas) consisting of hermetic compressor (rotary or scroll type depending on the size of the machine), evaporating and condensing coils with copper pipes and continuous aluminium fins, electronic expansion valve, liquid separator and receiver, 4-way valve for cycle inversion, high and low pressure switches, Freon filter and liquid indicator.
- Fans: fresh air inlet and double intake centrifugal expulsion type with a directly coupled electric motor. Fan unit installed on anti-vibration mountings to prevent the transmission of vibration.
- Structure and panels: frame made with extruded aluminium profile, Anticorodal 63 alloy, with preloaded nylon angular joints. Sandwich buffer panels, 23 mm thick, made internally with galvanised sheet steel and externally with galvanised pre-painted sheet steel (RAL 9002), with thermal and acoustic insulation made of injected polyurethane, with a density of 45 kg/m³.
- Filtering section: consisting of two class G4 filters (one on the fresh air intake and one on the ambient inlet), both can be removed from the bottom and side.
- Electrical panel: with integrated regulation and power; NTC temperature probes on both the delivery and return air circuits; micro-processor electronic control for automatic room temperature management, winter/summer switch and thawing cycles; remote control of panel up to 20 m from the unit,

Versions

Available orientation:

- UTNR-HP 01, 02 – Heat recovery unit with crossed flow and active thermodynamic double heat exchanger with 01 or 02 orientation (right connection side) or 01s or 02s (left connection side).
  The selected orientation must be specified to process the job order.

Installation

- EXT - Protective roof for outdoor installation.

Factory fitted accessories

- BER - Internally installed filament type reheating electrical resistance, complete with safety thermostats and control relays. 230/1/50 single-phase for models 035÷150. 400/3/50 three-phase for models 230÷450.
- BEP - Internally installed filament type reheating electrical coil, complete with safety thermostats and control relays. 230/1/50 single-phase for models 035÷150. 400/3/50 three-phase for models 230÷450.
- PF - Differential pressure switch installed on the inlet filter to indicate a dirty filter.
- ATG - Antifreeze thermostat installed downstream of the water coil.
- EG4PF - G4 outdoor air filter with differential pressure switch.
- ERG4PF - G4 outdoor air filter and G4 return air with differential pressure switch.
- EF7 - F7 outdoor air filter.
- ERF7 - F7 outdoor and return air filter.
- EG7PF - F7 outdoor air filter with differential pressure switch.
- ERF7PF - F7 outdoor and return air filter with differential pressure switch.

Separately supplied accessories

- KSBFR - Section containing hot/cold water coil for reheat or recool, placed outside the machine in front of the inlet. Includes a stainless steel condensate drain pan with drain connection from the bottom.
- KSBFR + ATG - Hot/cold water coil section with mounted antifreeze thermostat.
- KV2V ON/OFF - 2 way valve kit with On/Off servo-control.
- KV3V ON/OFF - 3 way valve kit with On/Off servo-control.
- KSRE230 - Regulation damper consisting of a galvanised sheet steel frame with adjustable fins, equipped with 230V ON/OFF servo-control.
- KSME230R - Regulation damper consisting of a galvanised sheet steel frame with adjustable fins, equipped with 230V ON/OFF servo-control with spring return.
- KSSC - Duct silencer with wool baffles covered with glass fibre and micro-stretched sheet steel.
- KRMS - 3-damper section for operation with outdoor air at low temperature up to -20°C, with modulating servo-controls.

Controls supplied separately

- KTUP - Additional user terminal, with remote control up to 50 m, for wall mounting.
- KSCMB - Modbus serial board.

	UTNR-HP MODEL		35	60	100	150	230	320	450
	Nominal air flow	m³/h	350	600	1000	1500	2300	3200	4500
	Available delivery static pressure	Pa	165	170	195	155	155	185	175
	Available return static pressure	Pa	140	100	140	95	95	115	110
❶	Sound pressure level	db (A)	59/47/52	64/50/55	62/49/54	67/54/57	65/51/59	68/54/59	70/56/59
	Max available delivery static pressure - Version E Brushless	Pa	270	285	295	290	365	265	270
	Max available return static pressure - Version E Brushless	Pa	245	215	240	230	305	195	205
	FUNCTIONAL LIMITS		**35**	**60**	**100**	**150**	**230**	**320**	**450**
❷	Standard configuration winter limit operating conditions	°C / %			MIN -10°C OUT & MIN 19°C 50% IN				
❷	Winter limit operating conditions with KRMS accessory	°C / %			MIN -20°C OUT & MIN 19°C 50% IN				
	Summer limit operating conditions	°C / %			MAX 38°C 50% OUT & MAX 27°C IN				
	Flow rate variation field	%			-10 ÷ +10				
	ELECTRICAL SPECIFICATIONS		**35**	**60**	**100**	**150**	**230**	**320**	**450**
	Electrical supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50
	Max. absorption	A	5,3	9	13,2	20,2	10	15,4	16,4
❸	**PERFORMANCE IN HEATING MODE**		**35**	**60**	**100**	**150**	**230**	**320**	**450**
	Static recovery efficiency	%	62	51	50	50	50	50	50
	Active recovery	W	1740	2960	5010	7690	11090	16300	17300
	Total power	W	3580	5790	9410	14390	21190	30260	36010
	Treated air temperature	°C	24	23	22	22	22	22	18
❹	Overall COP	W/W	10,9	9,6	9,22	8,64	8,9	9,9	12,6
❺	**PERFORMANCE IN COOLING MODE**		**35**	**60**	**100**	**150**	**230**	**320**	**450**
	Static recovery efficiency	%	56	50	50	50	50	50	49
	Active recovery	W	1810	2860	4890	7270	10580	15310	16990
	Total power	W	2210	3450	5840	8720	12830	18390	21440
	Treated air temperature	°C	19	20	20	20	20	20	21
❹	Overall EER	W/W	4,2	3,9	4,2	3,9	3,9	4,1	5,01
	DIMENSIONS AND WEIGHTS								
	Length/Height/Depth	mm	1540/370/1240	1540/370/1240	1840/410/1440	1840/500/1440	2040/550/1690	2040/650/1690	2240/710/1890
	Weight	Kg	122	125	185	228	267	281	329

Data at the following conditions:

❶ Sound pressure level assessed at 1 m from: permanent ducted socket/intake socket/compressor compartment. Generally, the operating noise level differs from the indicated values depending on the operating conditions, reflected noise and peripheral noise.

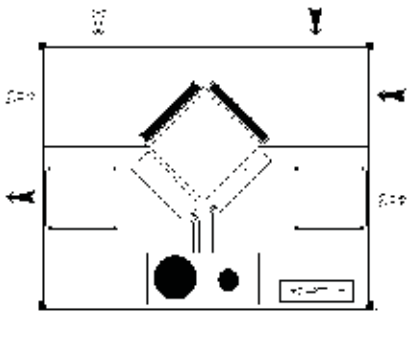
❷ Referred to the nominal flow rate.

❸ Outdoor air -5°C RH 80%; ambient air 20°C RH 50%.

❹ Excluding power consumption for ventilation.

❺ Outdoor air 32°C RH 50%; ambient air 26°C RH 50%.

ORIENTATION TYPE 01



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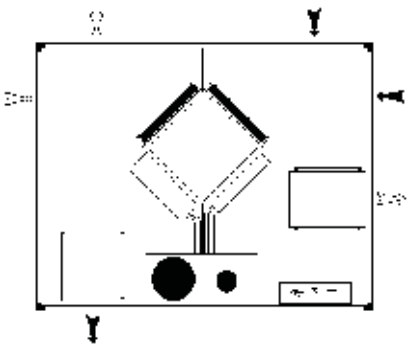
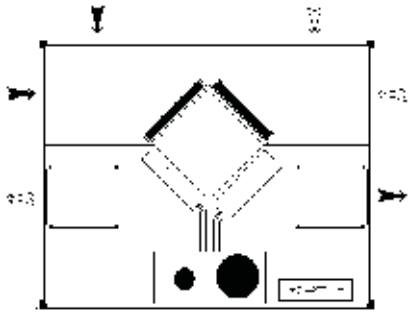


ORIENTATION TYPE 1S



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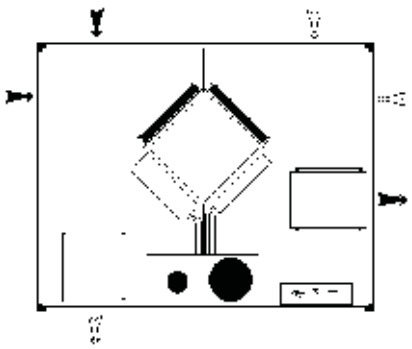


Expelled air
Fresh air

Expelled air
Fresh air

The illustrated guidelines concerning the machine seen from above

Web code: **VMC01**

Heat recovery unit

VMC-E 025÷130

Air flow rate: 250÷1.300 m³/h

INVERTER

- **Extremely compact**
- **High efficiency recovery**
- **Very silent**
- **Brushless DC fans**

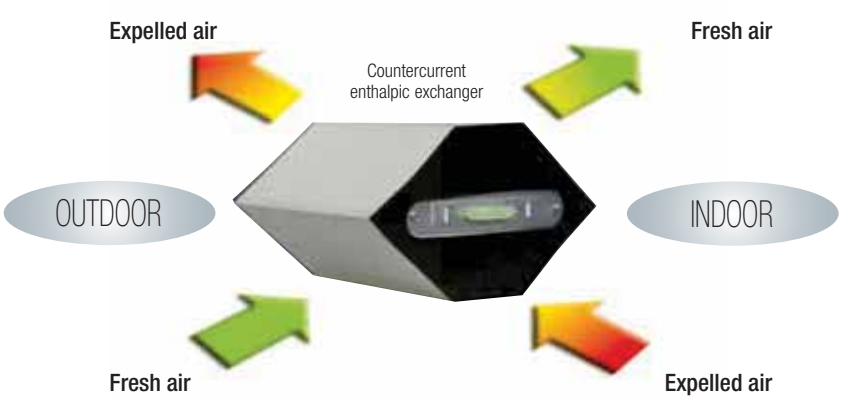
Fresh air terminal unit with counterflow static heat recovery.

Construction features

- Galvanised sheet steel self-bearing structure, insulated internally and externally.
- Recovery unit: thanks to a high yield static type heat exchanger with counterflows consisting of flat layers of special paper that allow total heat exchange, thereby recovering both sensitive and latent heat. The air flows are kept separate by relevant sealing. Maintenance is easily performed on the heat exchanger and filters thanks to side extraction.
- By-pass motorised system of the recovery unit actuated automatically by the electronic control
- Air filtration in F9 efficiency class (with G3 pre-filter) on the fresh air and G3 filter on return air.
- Integrated dirty filter signal pressure switches.
- Fans: fresh air inlet and centrifugal expulsion with BRUSHLESS EC motors that allow higher efficiency to be achieved in comparison to traditional motors with energy savings of up to 60%. 10-speed management option.
- Ducting connections with plastic round fittings.
- Incorporated electrical panel with electronic board to control the free-cooling and fan functions.

Controls

- KPST- Touch screen remote control panel
- KQSW- CO2 wall sensor for fan regulation
- KUSW- Wall humidity sensor for fan regulation



	VMC MODEL		025	035	050	080	100	130
	Nominal air flow	m³/h	250	350	500	750	1000	1300
	Nominal available static pressure	Pa	90	140	110	140	140	140
	Total nominal absorbed power	W	80	130	150	320	390	500
	Total maximum absorbed current	A	0,5	0,6	0,6	1,4	2,1	2,7
	Int S.F.P.	W/m³/s	812	670	547	865	881	873
❶	Sound pressure	dB(A)	34	37	39	42	43	44
	Electrical supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
	Speed number		10	10	10	10	10	10
	HEAT RECOVERY		**025**	**035**	**050**	**080**	**100**	**130**
❷	Winter efficiency (temp/enthalpy)	%	73/65	74/65	76/67	76/65	76/62	74/59
❸	Summer efficiency (temp/enthalpy)	%	73/62	74/62	76/63	76/63	76/60	74/58
❹	Dry thermal efficiency	%	73	74	76	76	76	74
	DIMENSIONS AND WEIGHTS		**025**	**035**	**050**	**080**	**100**	**130**
	Length/Depth/Height	mm	815/650/270	815/855/270	895/955/270	1185/1200/390	1200/1290/390	1200/1290/390
	Weight	Kg	30	37	43	71	83	83

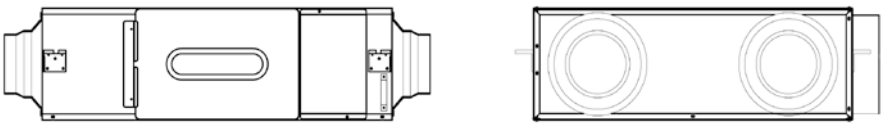
Data at the following conditions:

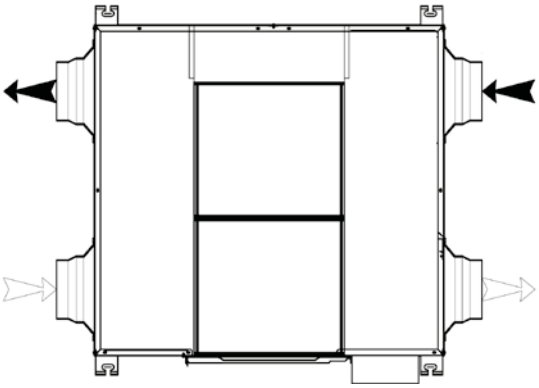
❶ Sound pressure level assessed at 1 m, with all 4 air nozzles ducted, on the machine inspection side and under nominal operating conditions

❷ Nominal winter conditions: outdoor air: –5°C; 80% TH. Ambient air: 20°C; 50% RH.

❸ Nominal summer conditions: outdoor air: 32°C; 50% TH. Ambient air: 26°C; 50% RH.

❹ According to EU Regulation 1253/2014





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