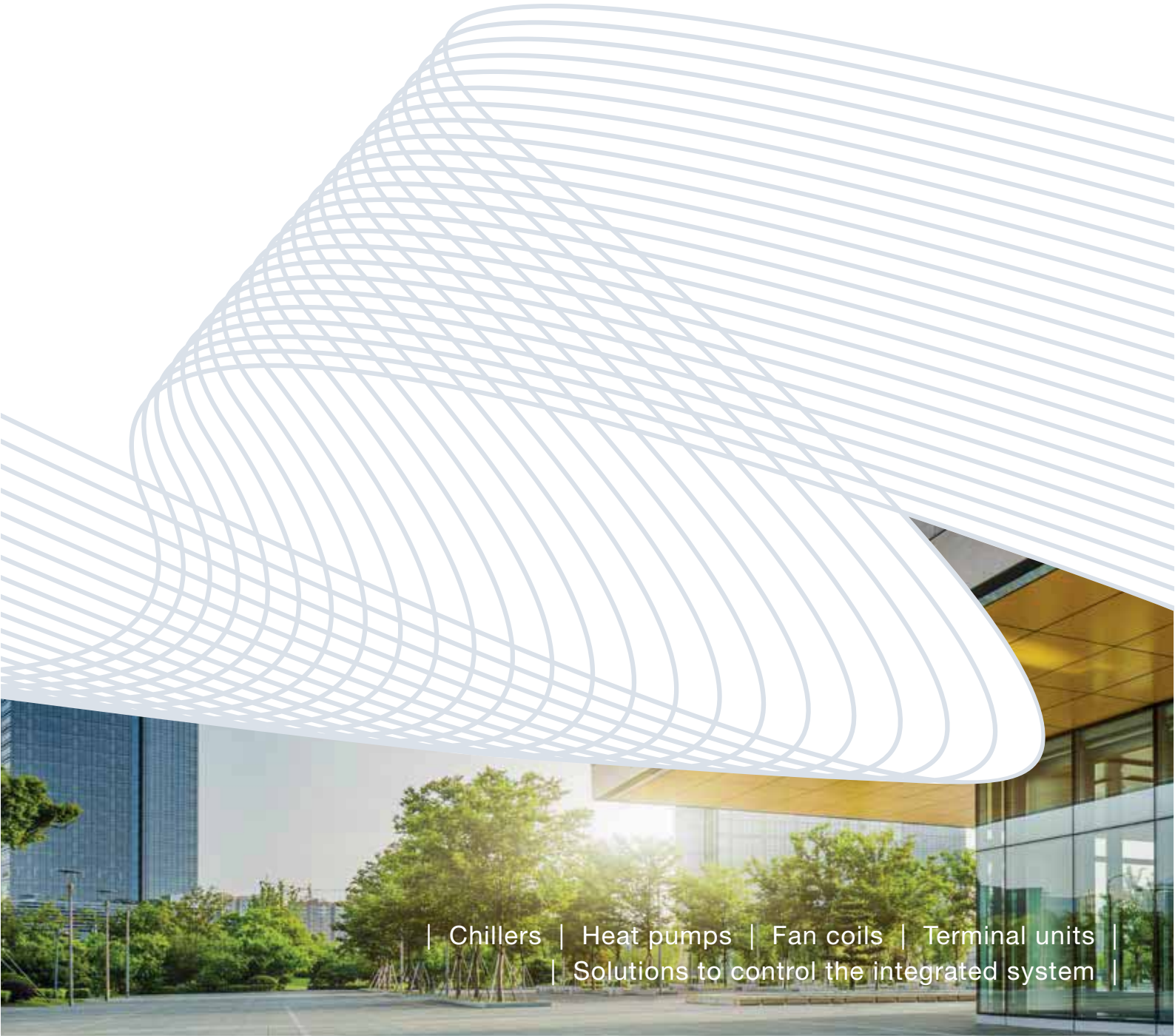
RHOSS

NIBE GROUP MEMBER

APPLIED SYSTEMS

Product Catalogue 2020



NIBE

A global organisation with companies and a presence worldwide

NIBE Group is a global organisation that contributes to a smaller carbon footprint and better utilisation of energy. In its three business areas – Climate Solutions, Element and Stoves – we develop, manufacture and market a wide range of eco-friendly, energy-efficient solutions for indoor climate comfort in all types of property, plus components and solutions for intelligent heating and control in industry and infrastructure.

From its beginning in Markaryd, in the province Småland ***more than 60 years ago, NIBE has grown into an international company with more than 15,000 employees and a presence worldwide.*** From the very start, the company was driven by a strong culture of entrepreneurship and a passion for responsible business operation. Its success factors are long-term investments in sustainable product development and strategic acquisitions. Combined, these factors have brought about strong, targeted growth, which generated sales of just over SEK 20 billion (EUR 2 billion).


RHOSS
Be the change
you want to see
in the world
NIBE GROUP MEMBER

RHOSS

NIBE GROUP MEMBER

Our focus on world-class solutions in sustainable energy contributes to the global goal to reduce emissions of greenhouse gases into the atmosphere.

Our entire value chain, from vision to end customers, must be based on the principles of sustainability in our business principles.

We are responsible not only for the financial results of our operations but also for their social and environmental impact.

NIBE's responsibility forms the Group's framework for sustainability efforts in four different areas:

IN BUSINESS

FOR THE ENVIRONMENT

RESPONSIBILITY FOR EMPLOYEES

LOCAL SOCIAL RESPONSIBILITY


To our sons,
for a more
sustainable future

CHILLERS - HEAT PUMPS

Air cooled - axial fans
PAGE 23

Inverter scroll compressors
4 kW … 131 kW

R32
ELECTA ECO
4÷15,5 kW
Web code: EE001
PAGE 24

R410A
MidiPACK-I
18,8÷30,4 kW
Web code: CYI02
PAGE 28

R410A
MidiPACK-I
37,4÷71 kW
Web code: CYI12
PAGE 34

R410A
EasyPACK-I
67,1÷130,4 kW
Web code: EAI01
PAGE 40

Hermetic scroll compressors
6 kW …

R410A
Mini-Y NF
5,6÷11,3 kW
Web code: MYN01
PAGE 26

R410A
Compact-Y MD
32,3÷63,7 kW
Web code: CY011
PAGE 36

R410A
POKER
28,8÷115,2 kW
Web code: PK001
PAGE 38

R410A
Compact-Y NF
15,5÷26,6 kW
Web code: CYP01
PAGE 30

R410A
Compact-Y SM
15,7÷29,5 kW
Web code: CY001
PAGE 32

R410A
Y-Pack FREECOOLING
170÷361 kW
Web code: YKF11
PAGE 60

Semi-hermetic screw compressors
317 kW …

R134a
FullPOWER HE-A
317÷1325 kW
Web code: FPE11
PAGE 78

R134a
FullPOWER SE
319÷1271 kW
Web code: FP011
PAGE 82

Oil-free centrifugal compressors
267 kW …

Air-cooled Centrifugal fans
PAGE 97

Inverter scroll compressors
16 kW … 160 kW

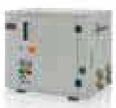
R410A
Compact-ID
16,4÷27,5 kW
Web code: CID01
PAGE 98

Hermetic scroll compressors

R410A
Y-Pack C-PF
32,3÷160,2 kW
Web code: YKC11
PAGE 100

Water cooled - Condenserless units
PAGE 105

Water cooled
Hermetic scroll compressors
5 kW …



R410A
Comby-Flow
5,3÷11,9 kW
Web code: CF001
PAGE 106

R410A
Y-Flow
15,5÷41,7 kW
Web code: YF011
PAGE 108

R410A
Y-Flow
41,2÷448,8 kW
Web code 245-2185: YF021 - Web code 4180÷4450: YF031
PAGE 110

Condenserless units
Hermetic scroll compressors
13 kW …

R410A
Y-Flow E
13,7÷36,9 kW
Web code: YFC11
PAGE 122

R410A
Y-Flow E
39,8÷320,9 kW
Web code 245-2185: YFC21 - Web code 4180-4360: YFC31
PAGE 124

510 kW — 1307 kW

Inverter screw compressors

R134a

FullPOWER VFD (1+i)
518÷1307,4 kW
Web code: FPV21
PAGE 76

R134a

FullPOWER VFD
510÷1001,5 kW
Web code: FPV11
PAGE 74

917 kW

R410A

EasyPACK
63,7÷144,4 kW
Web code: EAS01
PAGE 42

R410A

WinPACK HE-A
91,6÷345 kW
Web code: WKE11
PAGE 46

R410A

WinPACK SE
97,6÷328,6 kW
Web code: WK011
PAGE 50

R410A

WinPACK-R HE-A
221,4÷372 kW
Web code: WKE21
PAGE 56

R410A

WinPACK-R SE
214,2÷345,7 kW
Web code: WK021
PAGE 58

R410A

WinPOWER HE-A
337,3÷916,8 kW
Web code: WPE11
PAGE 62

R410A

WinPOWER SE
335÷861,8 kW
Web code: WP011
PAGE 68

1600 kW

R134a

Z-Power SE
1404,4÷1.609,7 kW
Web code: ZP001
PAGE 86

R134a

Z-Power FREECOOLING
469÷1.216 kW
Web code: ZPF01
PAGE 88

949 kW

R134a

TurboPOWER
267,0÷1101 kW
Web code: TP011
PAGE 92

HFO 1234ze

TurboPOWER ECO
323,2÷948,6 kW
Web code: TP014
PAGE 94

1628 kW

Inverter screw compressors

new

R513A

FullFLOW VFD (1+i)
389,5÷1701,1 kW
Web code: FFE03
PAGE 114

new

HFO 1234ze

FullFLOW ECO VFD (1+i)
285,6÷1217,2 kW
Web code: FFE04
PAGE 116

Semi-hermetic screw compressors

R134a

Z-Flow HE
203,3÷1.627,6 kW
Web code: ZFE01
PAGE 118

1425 kW

Condenserless units
Semi-hermetic screw compressors

R134a

Z-Flow E
171,9÷1.424,8 kW
Web code: ZFC01
PAGE 126

ONLY COOLING HEAT PUMP POLYVALENT SYSTEMS

EXP - Polyvalent systems

Air cooled - Axial fans

PAGE 129

Compressori ermetici scroll — 18 kW

R410A
Compact-Y EXP SM
17,7÷29,1 kW
Web code: CYX11
PAGE 130

R410A
Compact-Y EXP MD
33,8÷61,6 kW
Web code: CYX21
PAGE 132

new
R454B
WinPACK ECO EXP
135,7÷333,6 kW
Web code: WKX15
PAGE 136

Compressori semiermetici a vite — 530 kW

R134a
Z-Power EXP
530,3÷695,1 kW
Web code: ZPX01
PAGE 142

Water cooled

PAGE 129

Compressori ermetici scroll — 5 kW ● ● ● ● ● ● ● ● ● ● ● ● 438 kW

R410A
Comby-Flow EXP
5,5÷12,2 kW
Web code: CFX01
PAGE 144

R410A
Y-Flow EXP
44,2÷437,8 kW
Web code 245-2185: YFX21 - Web code 4180÷4450: YFX31
PAGE 146

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

	WALL MOUNTING INSTALLATION	FLOOR, CEILING, RECESSED WALL OR FALSE CEILING INSTALLATION

FAN COILS

PAGE 163 - CONTROLS PAGE 199

Inverter Brushless motor

IDROWALL-I
2,0÷3,5 kW
Web code: IDR01
PAGE 196

BRIO-I SLIM
1,0÷4,0 kW
Web code: BRIS1
PAGE 166

YARDY-I EV3
1,9÷8,6 kW
Web code: YARI3
PAGE 174
airsuite

Standard motor

YARDY EV3
1,1÷8,5 kW
Web code: YARV3
PAGE 176
airsuite

Inverter scroll compressors

new

R410A

Y-Pack EXP
80,7÷332,9 kW
Web code: YKX11
PAGE 138

R410A

WinPOWER EXP
361,2÷648,1 kW
Web code: WPX01
PAGE 140

R410A

EasyPACK-I EXP
64,4÷133,2 kW
Web code: EAX01
PAGE 134

System accessories

Remote condensers

new

R410A

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

Pumping units and water tanks

300÷2500 l
Web code: GPA01
PAGE 160

PAGE 155

DUCTED INSTALLATION

YARDY-ID2
2,4÷6,4 kW
Web code: YAID2
PAGE 186
air'suite

YARDY-DUCT2
2,0÷5,8 kW
Web code: YADC2
PAGE 188
air'suite

YARDY-HP
7,2÷20,5 kW
Web code: YAHP1
PAGE 190
air'suite

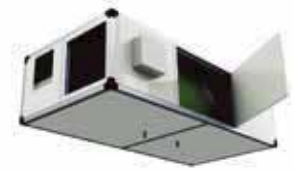
FALSE CEILING CASSETTE

DIVA-I
2,8÷10,8 kW
Web code: DIVI1
PAGE 192

DIVA
2,0÷11,1 kW
Web code: DIVA1
PAGE 194

ONLY COOLING HEAT PUMP POLYVALENT SYSTEMSI

Terminal unit
UTNA Platinum
6,4÷70 kW
Web code: UTAP1
PAGE 210



Heat recovery unit
UTNR-A Platinum
Counterflow heat recovery
400÷4.050 m³/h
Web code: UTNR3
PAGE 214

Heat recovery unit
UTNR-HE Platinum
Rotative heat recovery
310÷4.250 m³/h
Web code: UTHE3
PAGE 218

Heat recovery unit
UTNR-HP
Thermodynamic heat recovery
350÷4.500 m³/h
Web code: UTHP1
PAGE 226

Heat recovery unit
VMC-E
Counterflow heat recovery
250÷1.000 m³/h
Web code: VMC01
PAGE 228

FULL CONTROL CONTROLS PAGE 222

INTEGRATED SYSTEM MANAGEMENT

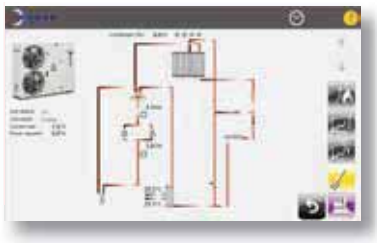
PAGE 231

SYS-TO
System Touch Manager & Web APP

CONTROL AND MONITORING VIA ETHERNET

PAGE 236

RHOSS WEB SERVER



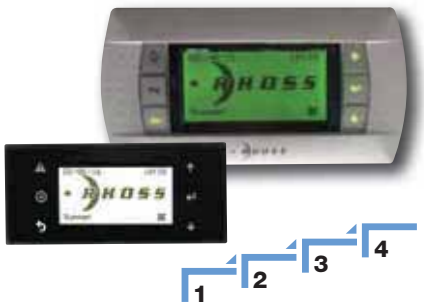
REMOTE MONITORING

PAGE 238

RHOSS MONITORING:
Mobile - Cloud - Real time

CHILLER MANAGEMENT SOFTWARE

SIR - RHOSS INTEGRATED SEQUENCER - PAGE 240

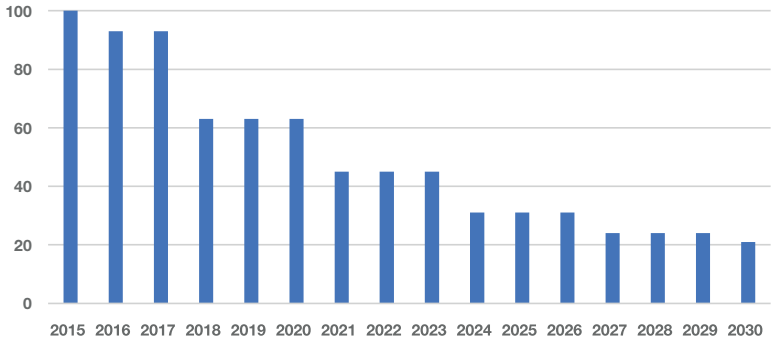


RHOSS SEQUENCER - PAGE 241

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.



Volume di riferimento (100%) corrispondente alla media annuale della quantità totale di CO_2 equivalente immessa all'interno dell'UE nel periodo dal 2009 al 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.

Refrigerante	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.
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.

Our certifications, in 360 degrees

ISO 9001:2015 Certification

RHOSS Spa provides quality goods designed for environmental comfort, making them available and accessible thanks to the advanced technological and organisational level achieved, and, above all, to the committed, reliable and dedicated approach that RHOSS personnel take to their job every day. The organisation and operations of the business are based on a Quality Management System. The Quality System currently implemented with the new ISO 9001-2015 version is based on rules and practices that are established and agreed on with the entire organisation.

ISO 14001:2015 Certification

RHOSS Spa supplies quality goods designed for environmental comfort. With the same commitment, it pays attention to environmental issues, considering correct management and efficient control of its environmental aspects of prime importance, engaging in Environmental Protection and in full compliance with the standards in force and with specific requirements. For this reason, Management has decided to implement an environmental certification system, based on the requirements of the international standard UNI EN ISO 14001, applying it to all the activities carried out within the company and especially to its production activities.

EUROVENT certification for CHILLERS, HEAT PUMPS (CCP-HP) AND FAN-COILS (FCU)

Rhoss participates in the Eurovent certification programmes for chillers, heat pumps and fan coils. The performance of Rhoss products is therefore guaranteed by tests performed by an accredited third party certification company.

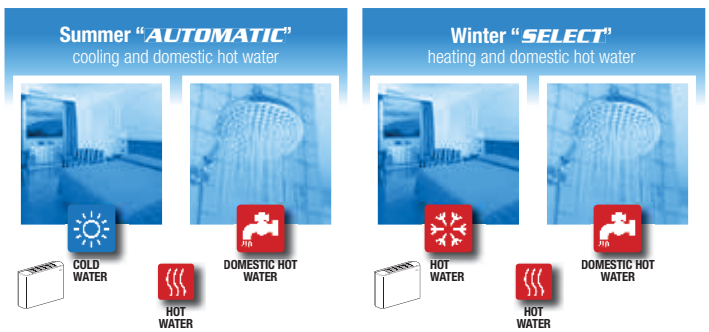
EUROVENT certification for AIR HANDLING UNITS (AHU)

Rhoss participates in the Eurovent certification programme for the Air handling units with the ADV and NEXTAIR range according to the EN 13053 standard; certification of mechanical characteristics according to EN1886; and the energy classification of the machines.

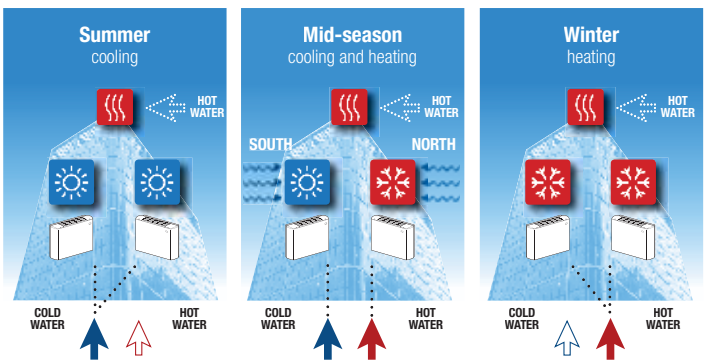
LEED certification - Leadership in Energy & Environmental Design

Rhoss participates in the certification protocol of LEED buildings. The international system is based on the entire building life cycle from design and construction to management and maintenance.

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



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 700 kW with TER* index up to 8.33.

* 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 new plant engineering breakthrough

Cooling systems with VPF (Variable Primary Flow), ideal for medium to large cooling capacities, are an interesting alternative to more conventional constant flow systems.
In fact, the solutions designed by Rhoss offer benefits like reduced pumping unit energy consumption with consequent cost savings, as well as reliability and simplified system control.
Using these systems contributes significantly to achieving more LEED building certification credits.

Variable flow systems

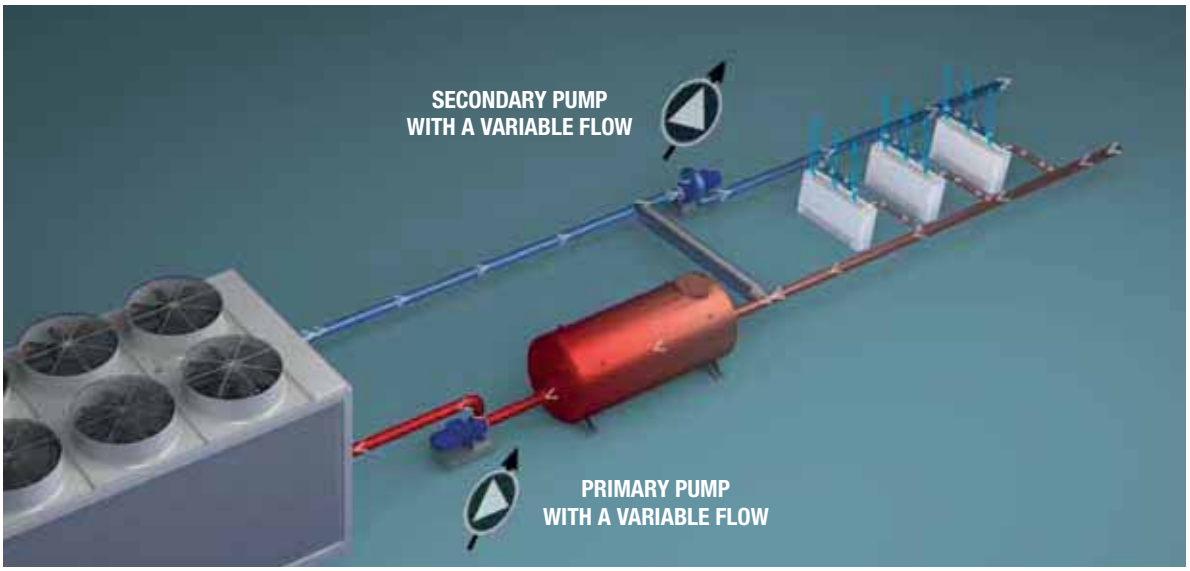
The Rhoss VPF solution can be summarised as follows:
The primary circuit pump or double pump is inverter-controlled to regulate the flow and thereby reduce pumping power [P= f (Q^3)].
The customer provides the inverter pump/pumps to control the secondary one. In this case, Rhoss can control them and, therefore, there will be no limitations in their use.
VPF testing in the Rhoss R&D Lab, regardless of the solution, has shown that the amount of water is important to stabilise operation and reduce how often the cooling unit turns ON/OFF. 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.
Using 2-way "V2" valves for the terminals and a minimum number of 3-way "V3" valves is recommended to ensure a 20% minimum flow when the terminals are closed.

VPF solution by RHOSS
the new plant engineering frontier

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

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

Rhoss VPF Solution (Variable Primary Flow)

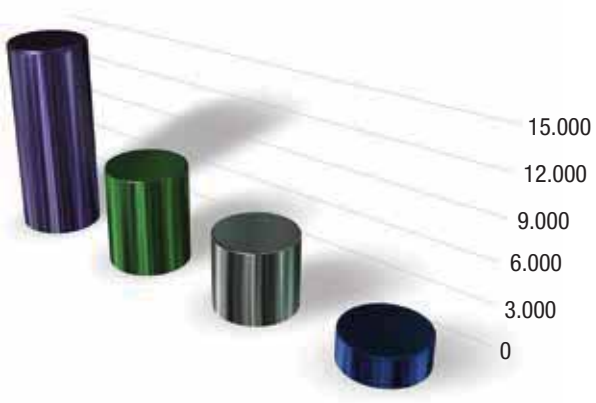


VPF RHOSS - The most efficient solution for variable flow systems

Comparison of the Rhoss VPF system and other pumping systems, when the load required changes.
Annual savings are very high in terms of energy and costs, in the Mediterranean area as well as in Central European cities, which are applicable to 100 kW cooling units installed in systems running 24/7 (hospitals, hotels, etc.).
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 as with 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
Conventional 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 the northern Italy and central Europe climatic area.



Advantages of the RHOSS VPF solution:

1 **A stable, functional solution for system adjustment**

2 **Energetically advantageous solution with real pumping energy savings**

3 **Safe solution for the chiller**

4 **Validated solution even with multiple chillers connected in parallel**

RHOSS: worldwide solutions for energy efficiency

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.

The designer's role is all the more crucial when facing the energy challenges of the coming years and the research presented here is 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.
This guide shows a few examples of the many results obtained from a major survey conducted by RHOSS in collaboration with researchers from the "Department of Energy of the POLYTECHNIC OF TURIN" and with the invaluable advice of Engineer Michele Vio (AiCARR past-president) for the identification of possible HVAC plant solutions aimed at achieving the best energy performance.

MILAN

LONDON

DUBAI

BARCELONA

MOSCOW

BERLIN

PARIS

Compared plant solutions

8 different types of plant were compared for each building: 4 primary air, 3 all-air VAV and 1 with a ceiling radiant system. The decisive factors between the different types of systems are the RH setting in the environment via the UTA cold coil, the flow of fresh air (fixed or variable with the presence of people), the project temperature of the fan-coils and its variability during the season and the possible presence of a Free-Cooling system assisted by direct adiabatic cooling (DAC). In addition, for each plant solution, 6 different technologies have been considered for the heat recovery from the exhaust air and 8 different technologies for the generators.

Step1

Step2

Step3

Step4

Step5

Step6
Solution

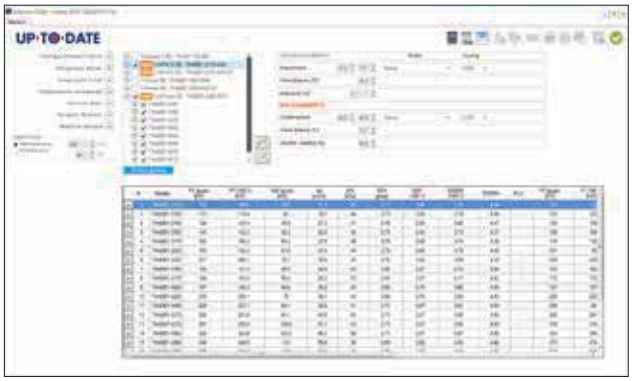
UP·TO·DATE

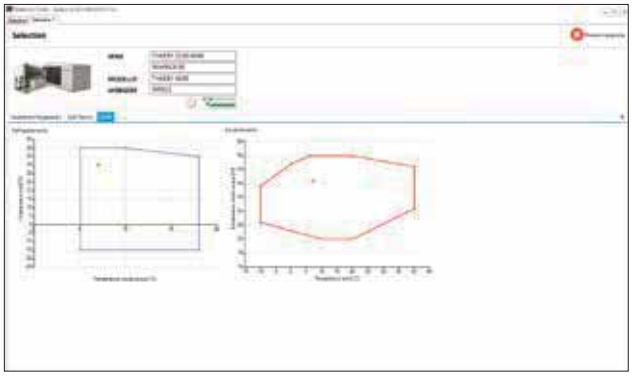
Readily available Rhoss solutions

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.

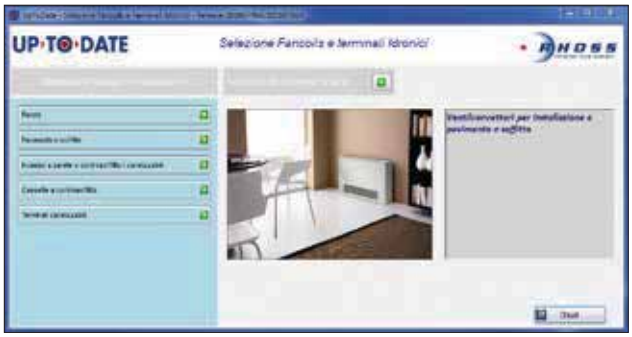
- Comprehensive instruments for choosing Rhoss products suitable for your needs.
- Fast search of Rhoss products.
- Always updated on the latest news.
- Detailed technical reports in 7 languages.
- Chiller sorter also available on tablets and smartphones as a WEB application.

CHILLER selection





Fan-coil and hydronic terminal selection




UP TO DATE
Dati Calcolati
Serie
Y-Power HE-A
Gamma
THAETY 4370-6660
Modello
THAETY 4370 DS ASP1
THAETY 4400 DS ASP1
THAETY 4440 DS ASP1
THAETY 5470 DS ASP1
elementi per pagina
1 - 8 di 8 elementi
Dettagli
Opzioni ed accessori montati a bordo
Accessori forniti separatamente
Stampa
Salva la selezione tecnica
Chiudi

Electa-ECO - THAITI 106÷116

Mini-Y NF - THAEY 105-111 NF

MidiPACK-I - TCAITY-THAITY 120÷130

Compact-Y NF Plus - THAETY 115-127 NF

Compact-Y SM - THAEY 122-130

MidiPACK-I - TCAITY-THAITY 138÷262

Compact-Y MD - TCAEY-THAEY 233-265

POKER - THAETY 234 H.T.

EASYPACK-I - TCAIY-THAIY 270-2130

EasyPACK - TCAEY-THAEY 269-2146

WinPACK HE-A - TCAEY-THAEY 2110-4340

WinPACK SE - TCAEY-THAEY 2110-4340

WinPACK-R HE-A - TCAETY-TCAEQY 4235-4370

WinPACK-R SE - TCAEBY-TCAESY 4225-4345

Y-Pack FREECOOLING - TFAEY-TGAEY 4160-4320

WinPOWER HE-A - TCAEY 4385-8920 / THAEY 4385-6700

WinPOWER SE - TCAEY 4360-8860 / THAEY 4360-6670

FullPOWER VFD - TCAITZ-TCAIQZ 2565-21005

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

FullPOWER HE-A - TCAVTZ-TCAVQZ 2345-21335

FullPOWER SE - TCAVBZ-TCAVSZ 2335-21275

Z-Power SE - TCAVZ 21400-21600

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

Z-POWER HT & HTDC - TCAVBZ 2370-21290 HT / TCAVBZ 2370-21290 HTDC

TurboPOWER - TCATBZ-TCATTZ-TCATQZ 1300-31100

TurboPOWER ECO - TCATTE-TCATQE 1330-3950