

HYDROFLEXY

Split hydronic units



Split hydronic units for
maximum installation
flexibility in hotels, historical
buildings and all applications
in confined spaces



NIBE GROUP MEMBER

Versatility and efficiency in the most difficult application areas.

Split hydronic units in heat pump and EXP multi-purpose units, combining performance, efficiency, flexibility in all applications where installation in small spaces and noise reduction are the distinguishing features.

In some particular hotel facilities, located in historic buildings, or situated in scenic locations or in confined spaces, it is not always possible to design traditional hydronic solutions.

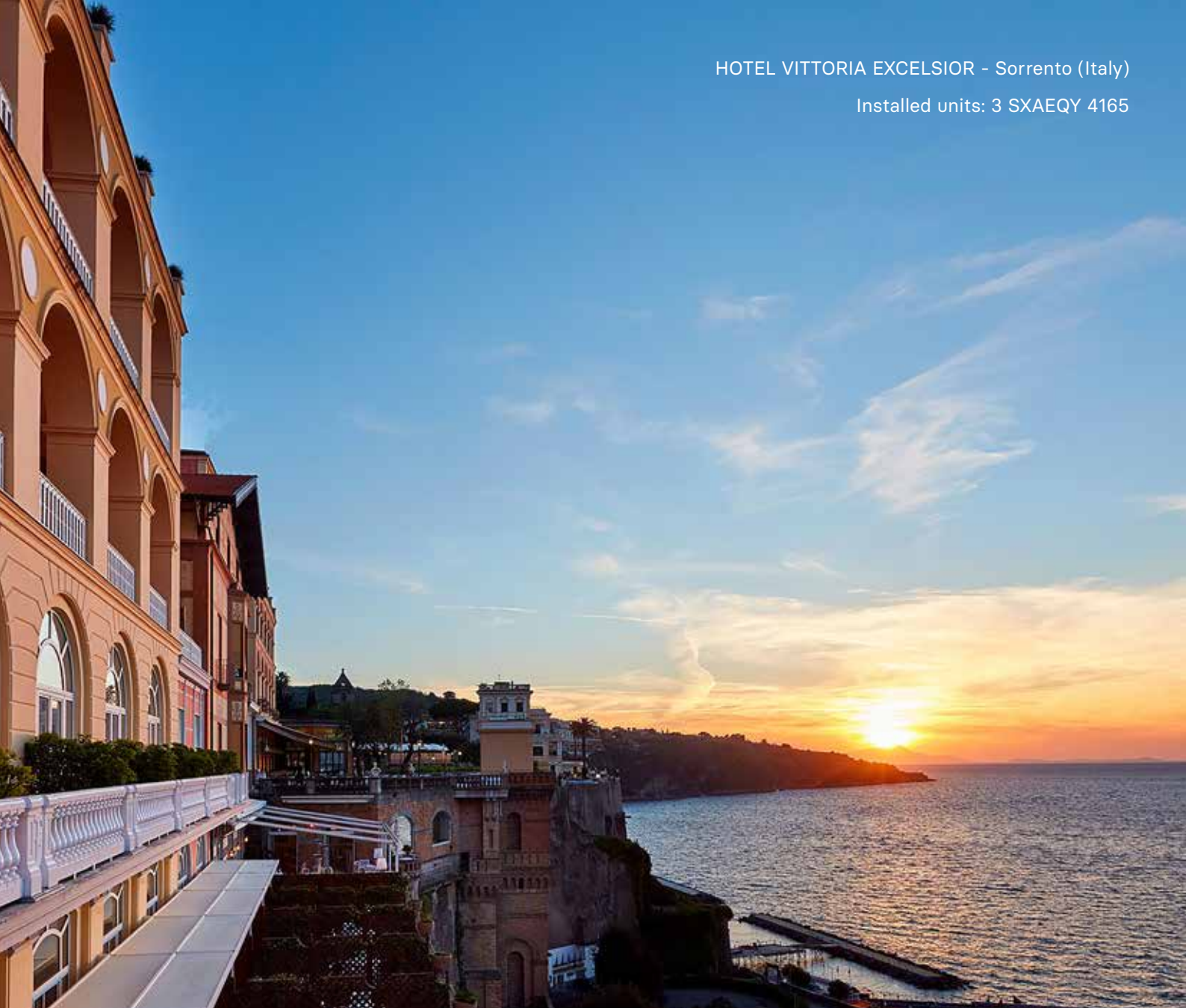
The same needs may arise in all those applications where it is not possible to use a heat pump or multi-purpose package unit for reasons of aesthetics, available space, maximum permissible noise levels, and handling and lifting issues.

Maintaining the required services with guaranteed reliability is a

must for manufacturers, who, like Rhoss, have been in the HVAC business for more than 50 years.

**Hydroflexy:
the versatile choice
for the hotel sector,
historic buildings
and restricted spaces**





**Minimal aesthetic
and acoustic impact**

**Compact design and
installation flexibility
in 2-4-6 pipe systems**

**Modularity, reliability
and control**

**Efficiency without
compromise**

**Guaranteed comfort
and domestic hot
water**

Heat pumps and multi-purpose units with **zero aesthetic impact**

HYDROFLEXY is the split hydronic unit available in heat pump mode or with multi-purpose EXP technology.

The unit in **heat pump mode**, used in 2-pipe systems, allows the production of cold water in the summer season and hot water in the winter season.

The **EXP** multi-purpose unit can be used in 2-pipe systems with domestic hot water (DHW) production or in 4-pipe systems for simultaneous or independent production of cold and hot water.

HYDROFLEXY consists of 2 units connected by refrigeration lines. The outdoor unit is available in 2 configurations that differ in their silence.



**Combinations of
HYDROFLEXY EXP
units (SXAETY
245-265-4165) and
high-efficiency heat
pumps (SHAETY
245-265-4165)**

SXEETY 4165 (EXP)
SHAETY 4165
(Heat pump)
CHAMTY 280 (2 units)

SXEETY 265 (EXP)
SHAETY 265
(Heat pump)
CHAMTY 265

SXEETY 245 (EXP)
SHAETY 245
(Heat pump)
CHAMTY 245



HOTEL MURAT - Positano (Italy)

Installed units: 1 SXAEQY 90 kW



Combinations of
HYDROFLEXY EXP
units (SXAEQY 245-
265-4165) and heat
pumps (SHAQY 245-
265-4165) in **super-
silenced version**

SXEETY 4165 (EXP)

SHAETY 4165
(Heat pump)

CHAMQY 280 (2 units)

SXEETY 265 (EXP)

SHAETY 265
(Heat pump)

CHAMQY 265

SXEETY 245 (EXP)

SHAETY 245
(Heat pump)

CHAMQY 245





HOTEL COVO DEI SARACENI - Positano (Italy) - Installed units: 2 SXAEQY 4165



The Hydroflexy offer

Available in different sizes from 45 to 165 kW, in two acoustic versions, equipped with scroll compressors.

Heat pumps and multi-purpose systems

The SHAEY heat pump is used in 2-pipe systems, while the EXP SXAEY multi-purpose split units can be used in 2-pipe + DHW or 4-pipe systems.

Multi-purpose 6-pipe technology

Hydroflexy with multi-purpose EXP technology, by means of an additional heat exchanger, is applied to 6-pipe systems with high-temperature water production for specific uses or to maintain thermal storage at temperature.

System control

The units can be hydraulically connected in parallel with each other and controlled by the integrated RHOSS sequencer (SIR) up to a maximum of 4 units, in order to efficiently adapt to the power demands of the system.

Heat pumps and versatile multi-purpose units

Needs in hotel installation

In some particular hotel facilities, located in historic buildings, or situated in scenic locations or in confined spaces, it is not always possible to design traditional hydronic solutions.

In hotels, the need for cold water production for air conditioning and hot water for domestic use is a prerogative of the summer season, while in the winter season hot water production is required for both air conditioning and hot water for domestic hot water production.

Summer season "AUTOMATIC"

cooling and domestic hot water



Winter season "SELECT"

heating and domestic hot water



EXP Technology

For more than 20 years, Rhoss has been producing EXP multi-purpose units using the most innovative technologies and countless installations in the territory.

SXAEY multi-purpose units combine EXP technology with the need for applications where limited space, low noise requirements and ease of installation are key aspects to be addressed.

This gives rise to split units in which the production of hot and cold water simultaneously or independently is delegated to two interconnected units. The indoor unit is usually confined within the structure (heating plant or technical compartment), while the outdoor unit is placed in the roof or where there is space for heat disposal.

Operation

SXAEY units are multi-purpose heat pumps suitable for cold and hot water production in both 4-pipe and 2-pipe + DHW systems. The dedicated software allows you to choose whether to produce:

in AUTOMATIC mode, cold water from the main heat exchanger and hot water from the secondary/recovery heat exchanger which is then used for DHW production (a common need in hotels in the summer season);

in SELECT mode only hot water from both the main exchanger used for air conditioning and the secondary/recovery exchanger used for DHW production. If the thermal load demand is greater in one of the two heat exchangers, a priority must be set according to the specific needs of the system (a common need in hotels in the winter season).

The **advantages** of using split hydronic units



Solutions for a new concept of comfort, versatility and sustainability

Efficiency as a starting point

Rhoss produces units in which efficiency and reliability are distinctive features.

HYDROFLEXY is the solution to specific requirements for reduced space, zero environmental impact, minimal noise without compromising efficiency.

HYDROFLEXY, split heat pumps and EXP multi-purpose units, thus enable energy savings that turn into financial savings also thanks to the tax deductions they can access.



Free hot water production

HYDROFLEXY with EXP technology allows free recovery of condensation heat in a specific recovery heat exchanger during operation for the production of chilled water (typical operation during summer). If chilled water is not required or the load is temporarily satisfied, the unit will intelligently provide the required heating capacity.

This makes EXP technology unique: simultaneous or independent production of hot and cold water to fulfil the thermal loads throughout the year.



Reduced footprint and noise emissions

HYDROFLEXY is designed to suit the most difficult installations, where installation space can be an objective difficulty and noise must be minimised for the context of the installation.

HYDROFLEXY consists of an indoor unit and an outdoor unit. The indoor unit is designed to be compact, so that it can fit into narrow places and smaller sizes through doors. The outdoor unit is available in two acoustic configurations, both with EC fans and hydrophilic treated coils, and is usually installed in confined spaces and/or concealed.



6-pipe system

The proposal of split units with EXP technology is enriched with an interesting opportunity: the production of high-temperature water in a dedicated exchanger throughout the year both in summer mode with the production of chilled water and in winter mode with the production of hot water. Thus, 6-pipe systems were created for the production of cold, hot and high-temperature hot water, used for specific purposes or simply to maintain hot water at a high temperature level.



Modularity and control

In order to ensure maximum system redundancy and reliability in installations with limited space requirements, design criteria with power split into several cooling units, Rhoss provides the SIR integrated sequencer. The SIR sequencer can manage up to 4 identical hydronic units, connected in hydraulic parallel in MASTER/SLAVE mode with energy-saving logic.

If there is a need to connect several units together, of different size and technology, MTM (Multi Technology Manager) is the system designed by Rhoss to manage them.

Control and precision at the service of the most demanding user.

Split multi-purpose units with environmentally friendly EXP technology

Main accessories

- High-temperature hot water device for applications in 6-pipe systems.
- Anti-vibration mounts.
- Pressure gauges for displaying pressure in cooling circuits.
- RS485 serial board for interfacing with a BMS manager, for possible supervision or connection to other split units for their control via management systems (SIR - integrated sequencer or MTM - Multi Technology Manager).



Data at the following conditions:

- ❶ Chilled water (main heat exchanger): 12/7°C - Air 35°C
- ❷ Chilled water (main heat exchanger): 23/18°C - Air 35°C
- ❸ Chilled water (main heat exchanger): 12/7°C - Hot water (secondary heat exchanger/recovery): 40/45°C.
- ❹ Hot water (main heat exchanger or secondary heat exchanger/recovery): 40/45°C- Air: 7°C.
- ❺ Hot water (main heat exchanger or secondary heat exchanger/recovery): 30/35°C- Air: 7°C.
- ❻ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
- ❼ In free field (Q = 2) at 10 m from the unit in summer mode (ISO 3744).
- ❸ In free field (Q = 2) 5 m from the unit in summer mode (ISO 3744).
- ❹ Empty weight.

Values referred to individual CHAMY 280. The SXEETY 4165 indoor unit includes 2 CHAMTY 280 and the SXEEQY (*) 4165 indoor unit includes 2 CHAMQY 280; the sound power value in dBA must be increased by 3 dBA if the units are close to each other.

Weight per CHAMY. The SXEETY 4165 indoor unit includes (***) 2 CHAMTY 280 and the SXEEQY 4165 indoor unit includes 2 CHAMQY 280.

Notes

The units operate with refrigerant gas R410A and are supplied preloaded with nitrogen (N₂). Performance refers to units connected with a 20m pipeline of equivalent length.



MODEL SXAETY		245	265	4165	MODEL SXAEQY		245	265	4165	
COOLING OPERATIONS (AUTOMATIC 1 MODE)										
❶	Nominal cooling capacity	kW	43.2	63.2	163.0	❶	kW	43.2	63.2	163.0
❶	Absorbed power	kW	14.5	20.8	57.2	❶	kW	12.9	19.1	53.5
❶	EER		2.98	3.04	2.85	❶		3.36	3.31	3.04
❶	Main heat exchanger flow rate	m³/h	7.4	10.9	28.0	❶		7.4	10.9	28.0
❶	Main heat exchanger pressure drop	kPa	16	12	13	❶	kPa	16	12	13
❷	EER (14511) - Radiant application		3.86	3.93	3.51	❷		4.26	4.27	3.75
COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)										
❸	Nominal cooling capacity	kW	43.6	66.3	178.6	❸	kW	43.6	66.3	178.6
❸	Recovery heating capacity	kW	55.4	83.3	223.7	❸	kW	55.4	83.3	223.7
❸	Absorbed power	kW	12.2	17.5	46.4	❸	kW	12.2	17.5	46.4
HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)										
❹	Nominal heating capacity	kW	44.1	63.8	168.7	❹	kW	44.1	63.8	168.7
❹	Total absorbed power	kW	14.9	21.0	51.7	❹	kW	13.2	19.4	48.0
❹	COP		2.96	3.04	3.27	❹		3.35	3.29	3.51
❹	Main heat exchanger flow rate	m³/h	7.7	11.1	29.3	❹	m³/h	7.7	11.1	29.3
❹	Main heat exchanger pressure drop	kPa	17	13	14	❹	kPa	17	13	14
❺	COP (14511) - Radiant application		3.8	3.81	3.99	❺		4.22	4.19	4.41
INDOOR UNIT (SXEETY)		245	265	4165	I.U. (SXEETY)		245	265	4165	
❻	Sound power	dB(A)	67	68	77	❻	dB(A)	67	68	77
❼	Sound pressure	dB(A)	41	42	50	❼	dB(A)	41	42	50
Scroll compressor/steps		no.	2/2	2/2	4/2	no.		2/2	2/2	4/2
Circuits		no.	1	1	2	no.		1	1	2
Electrical supply		V-ph-Hz	400-3+N-50	400-3+N-50	400-3-50	V-ph-Hz		400-3+N-50	400-3+N-50	400-3-50
L - Width		mm	700	1020	2600	mm		700	1020	2600
H - Height		mm	1140	1470	1860	mm		1140	1470	1860
P - Depth		mm	1250	870	870	mm		1250	870	870
❾	Weight	kg	450	630	1700	❾	kg	450	630	1700
OUTDOOR UNIT (CHAMTY)		245	265	280 (*)	O.U. (CHAMQY)		245	265	280 (*)	
❻	Sound power	dB(A)	83	78	78	❻	dB(A)	66	68	68
❼	Sound pressure	dB(A)	51	46	46	❼	dB(A)	34	36	36
❸	Sound pressure	dB(A)	57	52	52	❸	dB(A)	40	42	42
L - Width		mm	1945	2345	2345	mm		2345	3345	3345
H - Height		mm	1350	1225	1225	mm		1225	1225	1225
P - Depth		mm	900	900	900	mm		900	900	900
❾	Weight	kg	215	250	250 (**)	❾	kg	250	320	320(**)

Split heat pumps flexible and efficient without compromise



Main accessories

- High-temperature hot water device for applications in 2-pipe systems.
- Anti-vibration mounts.
- Pressure gauges for displaying pressure in cooling circuits
- RS485 serial board for interfacing with a BMS manager, for possible supervision or connection to other split units for their control via management systems (SIR - integrated sequencer or MTM - Multi Technology Manager).

Data at the following conditions:

- ❶ Chilled water (main heat exchanger): 12/7°C - Air 35°C
- ❷ Chilled water (main heat exchanger): 23/18°C - Air 35°C
- ❹ Hot water (main heat exchanger or secondary heat exchanger/recovery): 40/45°C- Air: 7°C.
- ❺ Hot water (main heat exchanger or secondary heat exchanger/recovery): 30/35°C- Air: 7°C.
- Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
- ❷ In free field (Q = 2) at 10 m from the unit in summer mode (ISO 3744).
- ❸ In free field (Q = 2) 5 m from the unit in summer mode (ISO 3744).
- ❹ Empty weight.

Values referred to individual CHAMY 280. The SHEETY 4165 indoor unit includes 2 CHAMTY 280 and the SHEEQY (*) 4165 indoor unit includes 2 CHAMQY 280; the sound power value in dBA must be increased by 3 dBA if the units are close to each other.

Weight per CHAMY. The SHEETY 4165 indoor unit includes (**) 2 CHAMTY 280 and the SHEEQY 4165 indoor unit includes 2 CHAMQY 280.

Notes

The units operate with refrigerant gas R410A and are supplied preloaded with nitrogen (N₂). Performance refers to units connected with a 20m pipeline of equivalent length.



MODEL SHAETY		245	265	4165	MODEL SHAEQY		245	265	4165
COOLING MODE									
❶ Nominal cooling capacity	kW	43.2	63.2	163.0	❶ kW	43.2	63.2	163.0	
❶ Absorbed power	kW	14.5	20.8	57.2	❶ kW	12.9	19.1	53.5	
❶ EER		2.98	3.04	2.85	❶	3.36	3.31	3.04	
❶ Main heat exchanger flow rate	m³/h	7.4	10.9	28.0	❶	7.4	10.9	28.0	
❶ Main heat exchanger pressure drop	kPa	16	12	13	❶ kPa	16	12	13	
❷ EER (14511) - Radiant application		3.86	3.93	3.51	❷	4.26	4.27	3.75	
HEATING MODE									
❹ Nominal heating capacity	kW	44.1	63.8	168.7	❹ kW	44.1	63.8	168.7	
❹ Total absorbed power	kW	14.9	21.0	51.7	❹ kW	13.2	19.4	48.0	
❹ COP		2.96	3.04	3.27	❹	3.35	3.29	3.51	
❹ Main heat exchanger flow rate	m³/h	7.7	11.1	29.3	❹ m³/h	7.7	11.1	29.3	
❹ Main heat exchanger pressure drop	kPa	17	13	14	❹ kPa	17	13	14	
❺ COP (14511) - Radiant application		3.8	3.81	3.99	❺	4.22	4.19	4.41	
INDOOR UNIT (SHEETTY)		245	265	4165	I.U. (SHEETTY)		245	265	4165
❸ Sound power	dB(A)	67	68	77	❸ dB(A)	67	68	77	
❸ Sound pressure	dB(A)	41	42	50	❸ dB(A)	41	42	50	
Scroll compressor/steps	no.	2/2	2/2	4/2	no.	2/2	2/2	4/2	
Circuits	no.	1	1	2	no.	1	1	2	
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3-50	V-ph-Hz	400-3+N-50	400-3+N-50	400-3-50	
L - Width	mm	700	1020	2600	mm	700	1020	2600	
H - Height	mm	1140	1470	1860	mm	1140	1470	1860	
P - Depth	mm	1250	870	870	mm	1250	870	870	
❹ Weight	kg	425	570	1580	❹ kg	425	570	1580	
OUTDOOR UNIT (CHAMTY)		245	265	280 (*)	O.U. (CHAMQY)		245	265	280 (*)
❸ Sound power	dB(A)	83	78	78	❸ dB(A)	66	68	68	
❷ Sound pressure	dB(A)	51	46	46	❷ dB(A)	34	36	36	
❸ Sound pressure	dB(A)	57	52	52	❸ dB(A)	40	42	42	
L - Width	mm	1945	2345	2345	mm	2345	3345	3345	
H - Height	mm	1350	1225	1225	mm	1225	1225	1225	
P - Depth	mm	900	900	900	mm	900	900	900	
❹ Weight	kg	215	250	250 (**)	❹ kg	250	320	320(**)	

HYDROFLEXY Split hydronic units

Comfort, elegance and style

Efficiency that stands out,
without being noticed



HOTEL SAN PIETRO (POSITANO) - ITALY

Total cooling capacity:

100 kW

Machines installed:

2 SXAEQY 245



HOTEL LEONE (SORRENTO) - ITALY

Total cooling capacity:

130 kW

Machines installed:

2 SXAETY 265



HOTEL VILLA GARDEN (SORRENTO) - ITALY

Total cooling capacity:

90 kW

Machines installed:

2 SXAEQY 245



HOTEL VITTORIA EXCELSIOR (SORRENTO) - ITALY

Total cooling capacity:

480 kW

Machines installed:

3 SXAEQY 4165



HOTEL MURAT (POSITANO) - ITALY

Total cooling capacity:

90 kW

Machines installed:

1 SXAEQY 90 kW



HOTEL SAVOIA (POSITANO) - ITALY

Total cooling capacity:

130 kW

Machines installed:

2 SXAEQY 265



HOTEL CONTINENTAL (SORRENTO) - ITALY

Total cooling capacity:

440 kW

Machines installed:

2 SXAEQY 220 kW



HOTEL COVO DEI SARACENI (POSITANO) - ITALY

Total cooling capacity:

400 kW

Machines installed:

2 SXAEQY 4165



HOTEL VILLA ROMANA
(PRAIANO) - ITALY

Total cooling capacity:

180 kW

Machines installed:

4 SXAETY 245



"TINA ANSELMI"
PRIMARY SCHOOL
(Marcon, VE) - ITALY

Total cooling capacity:

130 kW

Machines installed:

2 SXAEQY 265



HOTEL ANCORA
(POSITANO) - ITALY

Total cooling capacity:

130 kW

Machines installed:

2 SXAETY 265



CASA ANGELINA
(Praiano, SA) - ITALY

Total cooling capacity:

260 kW

Machines installed:

4 SXAETY 265





New air for the future.

RHOSS S.P.A.

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