Sheen EVO 2.0
WiSAN-YSE1 10.1 – 40.2

Product presentation

CLIVET
Inspiring Solutions. Since 1989

MideaGroup
humanizing technology

Applied / Commercial Heat Pump – air source: capacity range

				Nominal capacity, kW
R-32	LARGE EVO	N	EXC	High efficiency heat pump (110 – 240)
	SPINCHILLER4	N	EXC	High efficiency heat pump (200 – 240+)
			PRM	Standard efficiency heat pump (200 – 240+)
	STORM EVO	N	---	MODULARITY (50 – 90 ... →)
	SHEEN EVO 2.0	N	EXC	High efficiency heat pump (30 – 90)
			PRM	Standard efficiency heat pump (30 – 95)
R-410A	MAGNUM XEM	N	---	High efficiency heat pump (155 – 240+)
		HW	---	High efficiency heat pump (50 – 150)
	MAGNUM XIN	N	---	High efficiency heat pump (50 – 120)

Nominal capacity, kW: 30 50 90 120 130 150 180 240

EXC = high efficiency
PRM = standard efficiency

Legend: High efficiency heat pump | Standard efficiency heat pump

Sheen EVO 2.0: Main features

**EXCELLENCE version
WiSAN-YSE1 EXC**

Nominal heating capacity:
(**A7/W45**) from **24** to **85 kW**

➤ Suitable for colder climates:
   Leaving water temperature available up to 60°C
   Operation guaranteed down to -20°C ambient
➤ Outstanding seasonal efficiency in heating (SCOP W35 up
   to 4,5) compared with previous SHEEN EVO unit
➤ Quieter operation (-4 dB(A) avg.) compared with previous
   SHEEN EVO unit

**Versione PREMIUM
WiSAN-YSE1 PRM**

Nominal heating capacity:
(**A7/W45**) from **27** to **102 kW**

➤ Maximum competitiveness from Investment cost point of
   view
➤ Improved capacity on each size
➤ Competitive performances in reference market
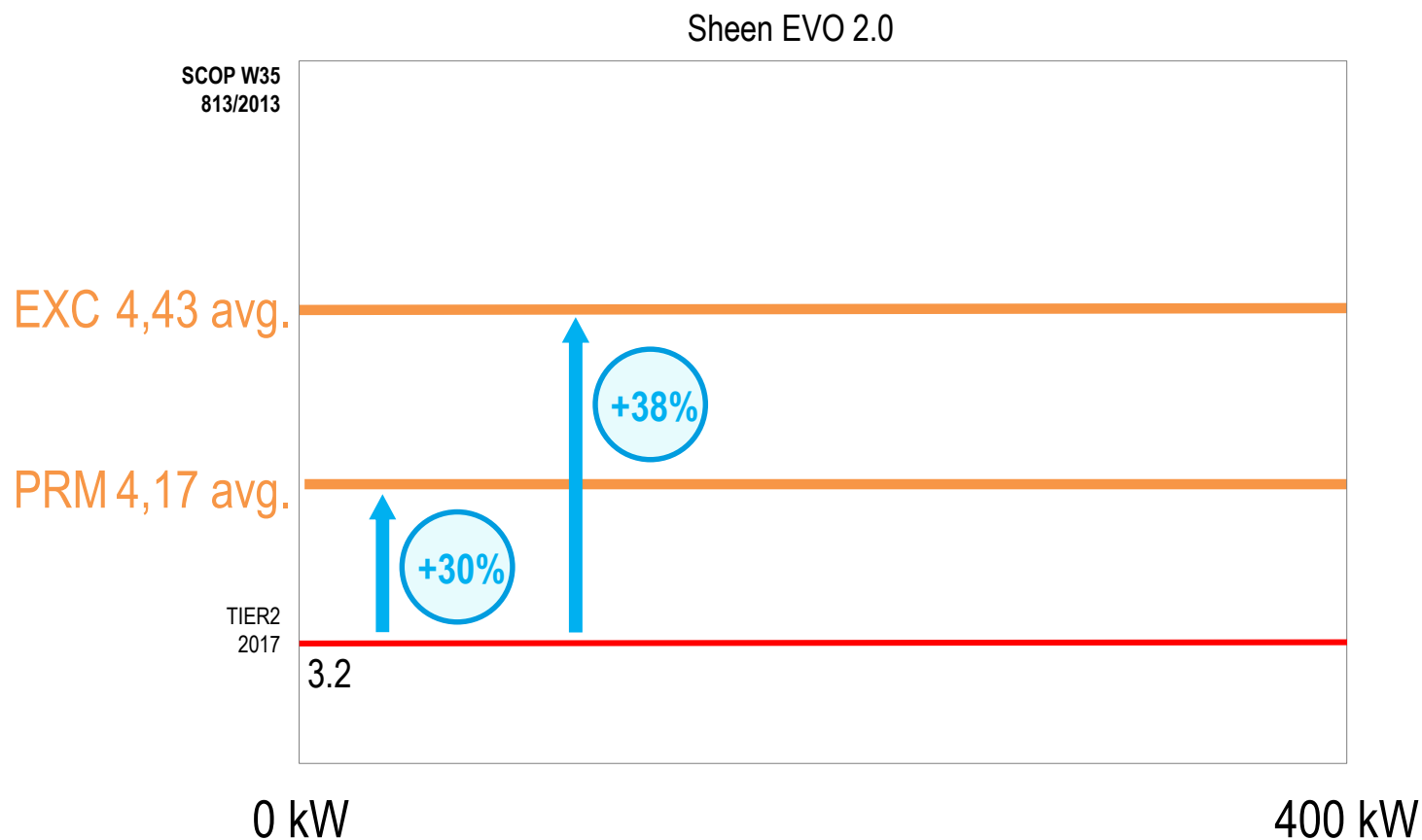
R-32

Sheen EVO 2.0: Capacity range

WiSAN-YSE1 range is available with two different energy versions: **EXC** & **PRM**

EXC capacity range: 24 - 85 kW

Series	WiSAN-YSE1 EXC 10.1 - 35.2							
Size	**10.1**	**12.1**	**14.1**	**16.2**	**18.2**	**22.2**	**30.2**	**35.2**
Cooling Capacity [kW] (A35/W7)	24	27	30	44	50	57	70	80
Heating Capacity [kW] (A7/W45)	24	29	34	50	55	63	75	85
Layout								
Compressors / Circuits	1 / 1			2 / 1			2 / 1	
Type of compressor	Rotary			Rotary			Scroll	
Fans	1			2			3	

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Sheen EVO 2.0: Capacity range

WiSAN-YSE1 range is available with two different energy versions: **EXC** & **PRM**
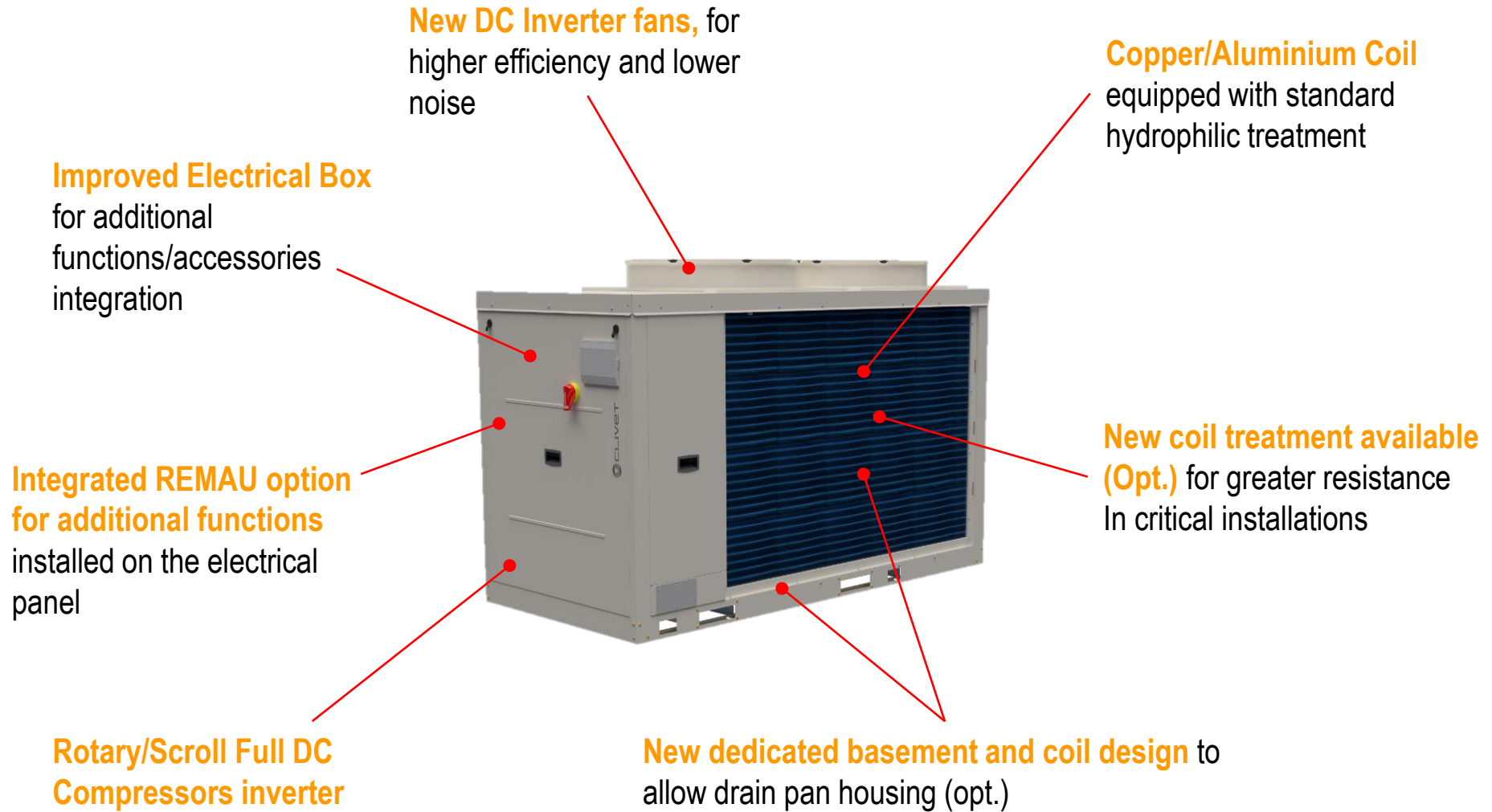
PRM capacity range: 27 - 102 kW

Series	WiSAN-YSE1 PRM 10.1 - 40.2								
Size	**10.1**	**12.1**	**14.1**	**16.2**	**18.2**	**22.2**	**30.2**	**35.2**	**40.2**
Cooling Capacity [kW] (A35/W7)	25	28	32	46	52	61	74	86	94
Heating Capacity [kW] (A7/W45)	27	30	36	53	58	66	78	91	102
Layout									
Compressors / Circuits	1 / 1			2 / 1			2 / 1		
Type of compressor	Rotary			Rotary			Scroll		
Fans	1			2			3		

Sheen EVO 2.0: Seasonal efficiency

WiSAN-YSE1 reaches very high seasonal efficiency values. Both versions (**EXC & PRM**) are already compliant to minimum efficiency requirements of the Ecodesign directive

Sheen EVO 2.0

SCOP W35 813/2013

EXC 4,43 avg.

+38%

PRM 4,17 avg.

+30%

TIER2 2017

3.2

0 kW

400 kW

Sheen EVO 2.0: High performances technology

New DC Inverter fans, for higher efficiency and lower noise

Copper/Aluminium Coil equipped with standard hydrophilic treatment

Improved Electrical Box for additional functions/accessories integration

Integrated REMAU option for additional functions installed on the electrical panel

New coil treatment available (Opt.) for greater resistance In critical installations

Rotary/Scroll Full DC Compressors inverter

New dedicated basement and coil design to allow drain pan housing (opt.)

Sheen EVO 2.0: Operative range in heating

EXCELLENCE version: Min outdoor temperature = **-20°C**

Max water temperature = **+60°C**

DHW production up to **+44°C** ambient
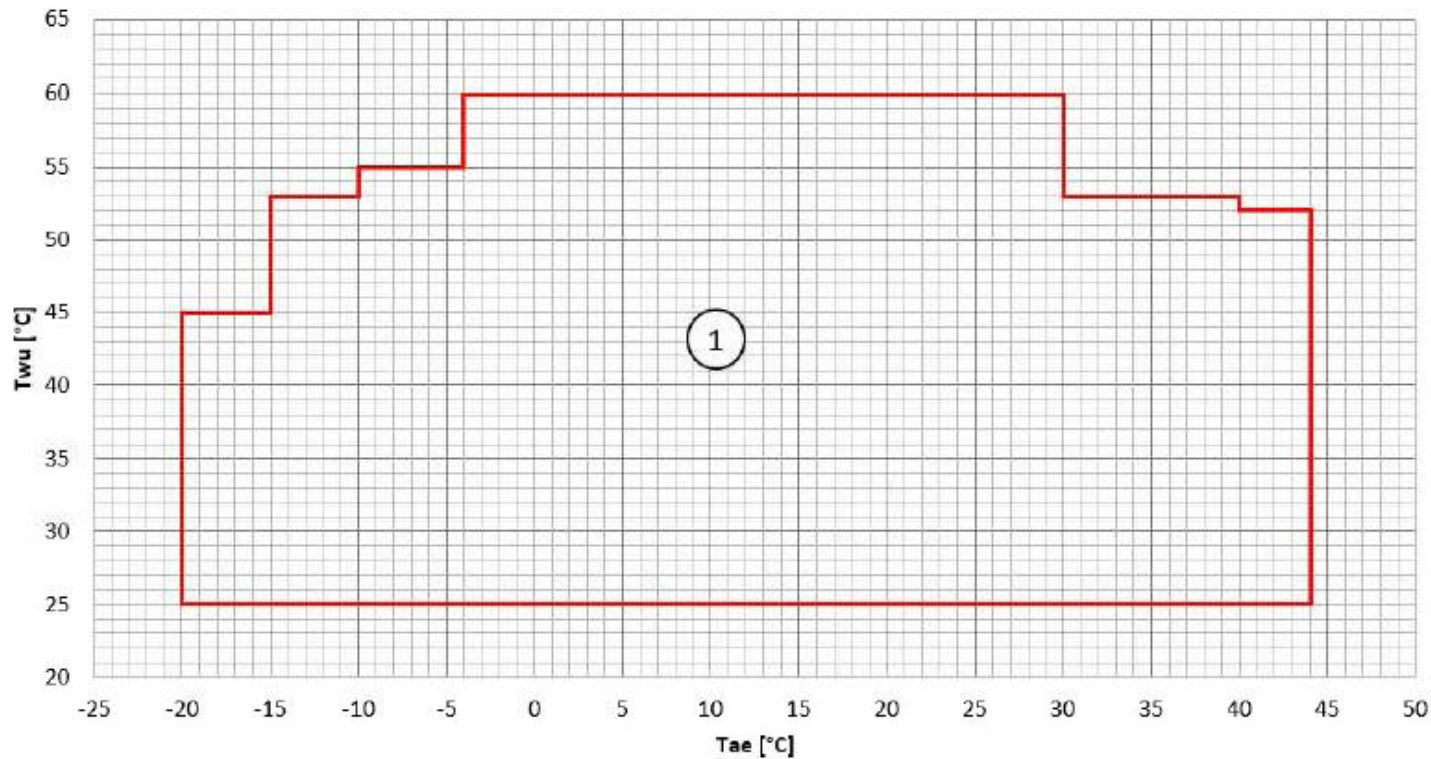
Twu [°C] = Leaving exchanger water temperature

Tae [°C] = External exchanger inlet air temperature

Sheen EVO 2.0: Operative range in heating

PREMIUM version: Min outdoor temperature = **-15°C**

Max water temperature = **+55°C**
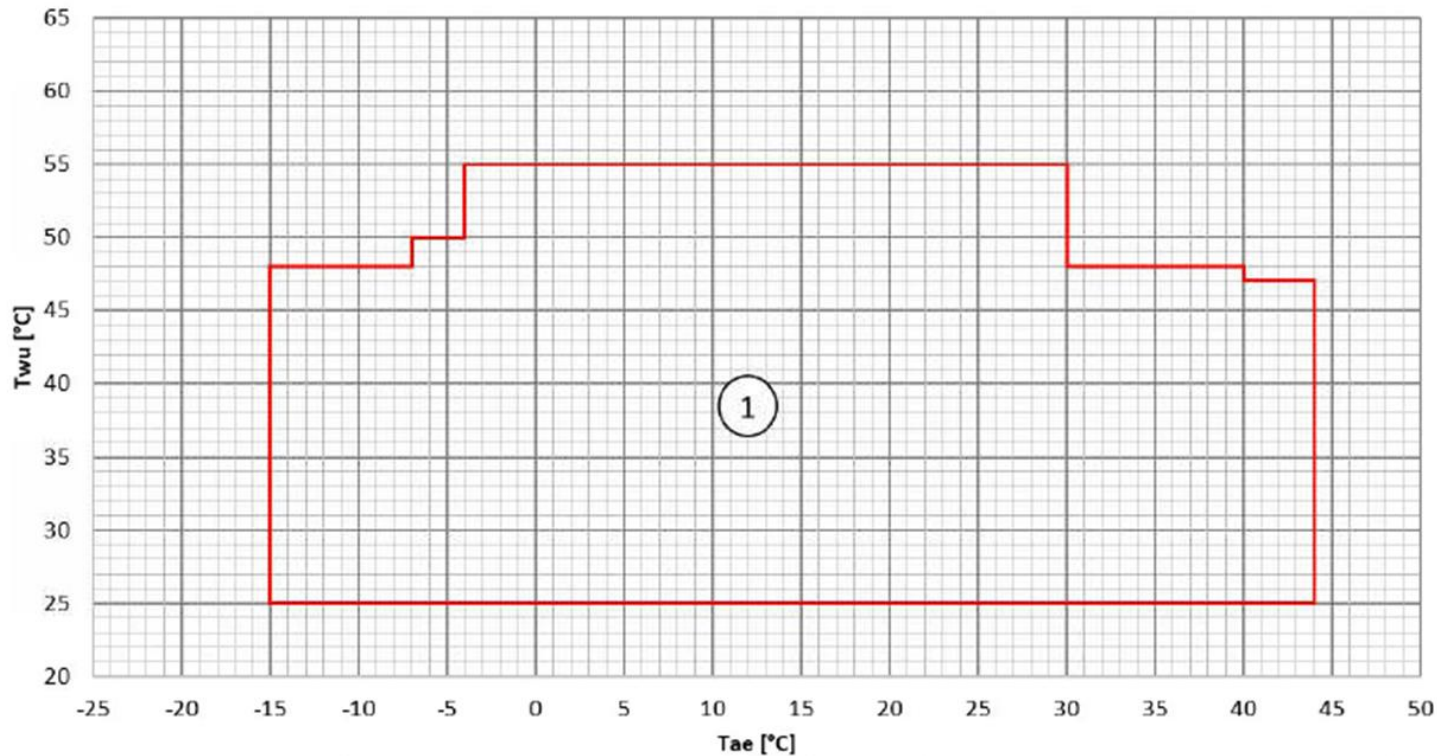
Twu [°C] = Leaving exchanger water temperature

Tae [°C] = External exchanger inlet air temperature

Sheen EVO 2.0: Operative range in cooling

EXCELLENCE / **PREMIUM** version:

Max outdoor air temperature = **+48°C**

Min water temperature = **+0°C**
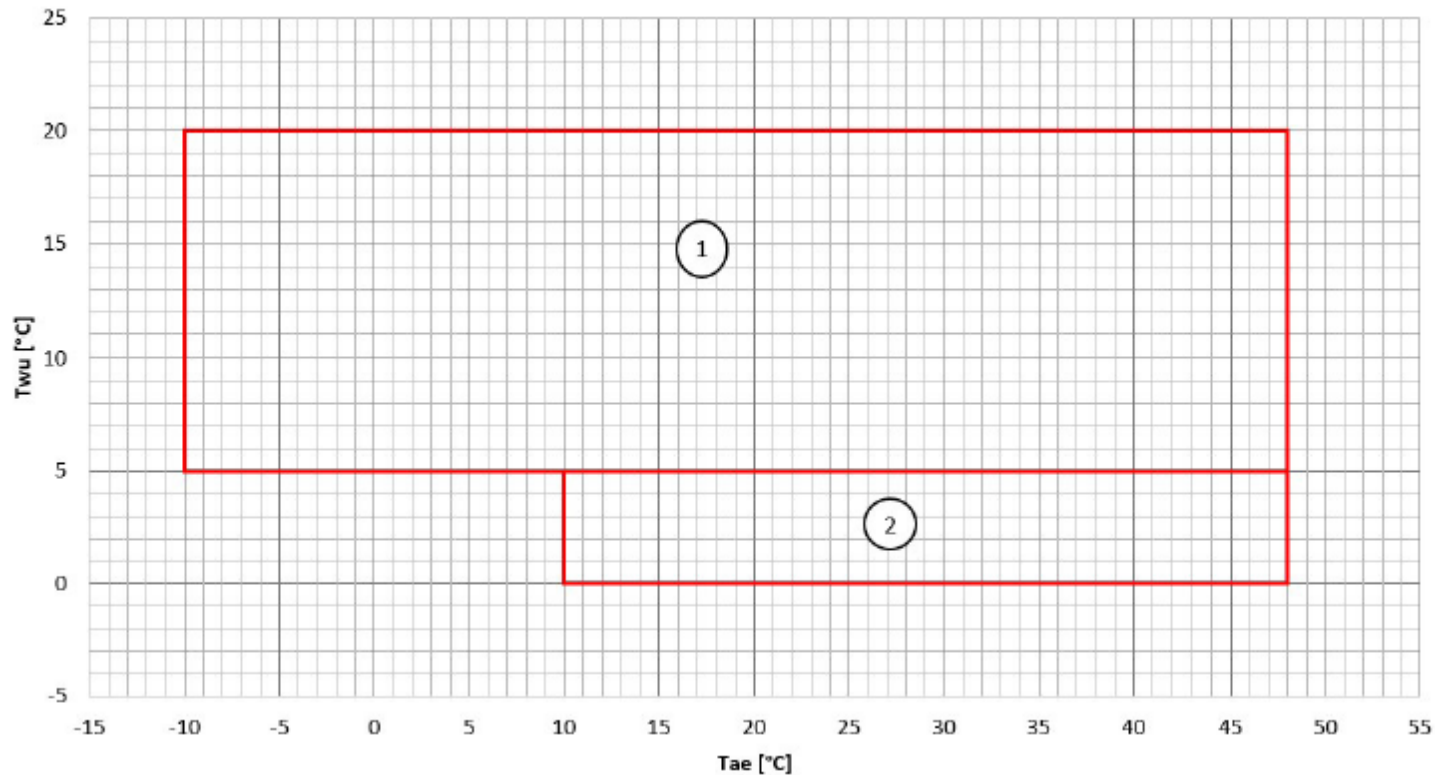
1. Normal operating range
2. Operating range where the use of ethylene glycol is mandatory in relation to the temperature of the water at the outlet of the user side exchanger

Twu [°C] = Leaving exchanger water temperature

Tae [°C] = External exchanger inlet air temperature

Climatic compensation with outdoor air temperature

In cooling mode the user can set the **climate correlation curve** according to its needs, then system will set the outlet water temperature according to the outdoor ambient temperature automatically.
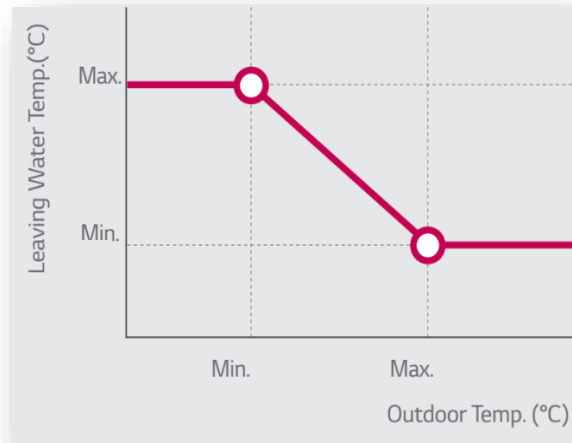
➢ **Heating operation**: if outdoor temperature decreases, heating capacity supplied will increase automatically in order to keep comfortable heating performance.

➢ **Cooling operation**: if outdoor temperature increases outlet water set-point will decrease automatically to allow a higher cooling capacity to the system.

Double set-point management

Unit is able to manage **two different set-point**, either in heating and in cooling operation.

Double setpoint	
Double setpoint	◄Disable►
Setpoint Cool_1	◄ 7► ℃
Setpoint Cool_2	◄10► ℃
Setpoint_Heat_1	◄35► ℃
Setpoint_Heat_2	◄30► ℃
↵OK	↕◄►

For an even greater energy savings!

➢ **Easy** to set-up through the user interface
➢ Set-points activated through **dry contact** terminal board

DHW mode

Sheen EVO 2.0 allows the DHW production up to **60°C**, directly managing the main components of the system.

- ➢ Management of domestic hot water has **priority** over the system
- ➢ The **3-way valve** is available as **a built-in** solution

Modularity

➢ Management of **up to 16 units** in a local network

➢ Up to **1680kW** of installed capacity (cooling)

➢ **Easy** to connect and set the system throught the user interface

➢ Possibility to manage it throught a BMS system thanks to the **Modbus connection as standard**

Which benefits?

✓ System efficiency increased

✓ Higher reliability

✓ Simplified handling and installation

✓ Scalability

Main features of the modular system:

➢ **Duty cycling**

Duty cycling equalizes the running time of the outdoor units in a multiple-unit system, significantly extending compressor lifespan
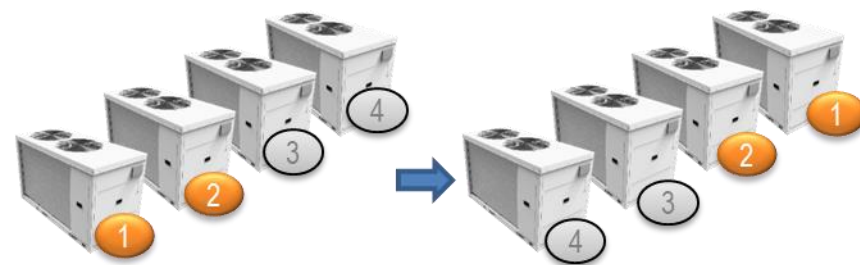
NEW ROTATION LOGIC

➢ **Back-up**

In a multi-unit system, if one module fails, the other modules provide backup so that the system can continue operating
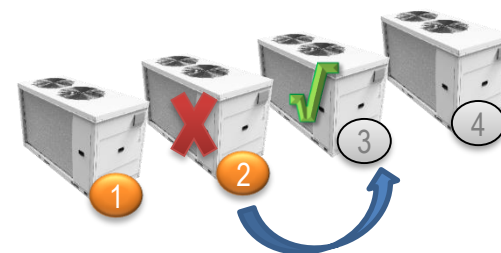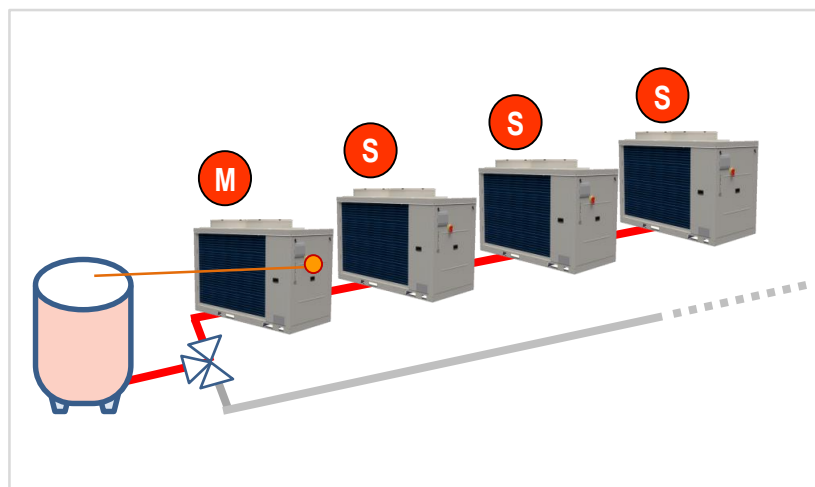
Modular system: DHW management

DHW tank: *1 x System*
DHW 3-way valve: *1 x System*
DHW request: *YES*

Operation: *master commands, slave follow master operation.*

DHW tank: *1 x System*
DHW 3-way valve: *1 x System*
DHW request: *YES*

Operation: *master commands, slave follow master operation.*

Modular system: DHW management

DHW °C SET

T5

DHW tank: *1 x Unit*

DHW 3-way valve: *1 x Unit*

Operation: *independent. Each unit manages its own DHW production.*
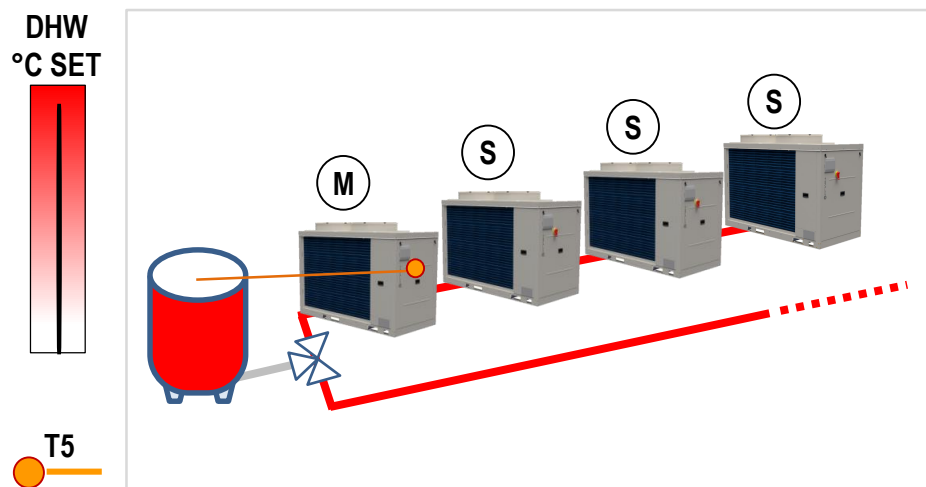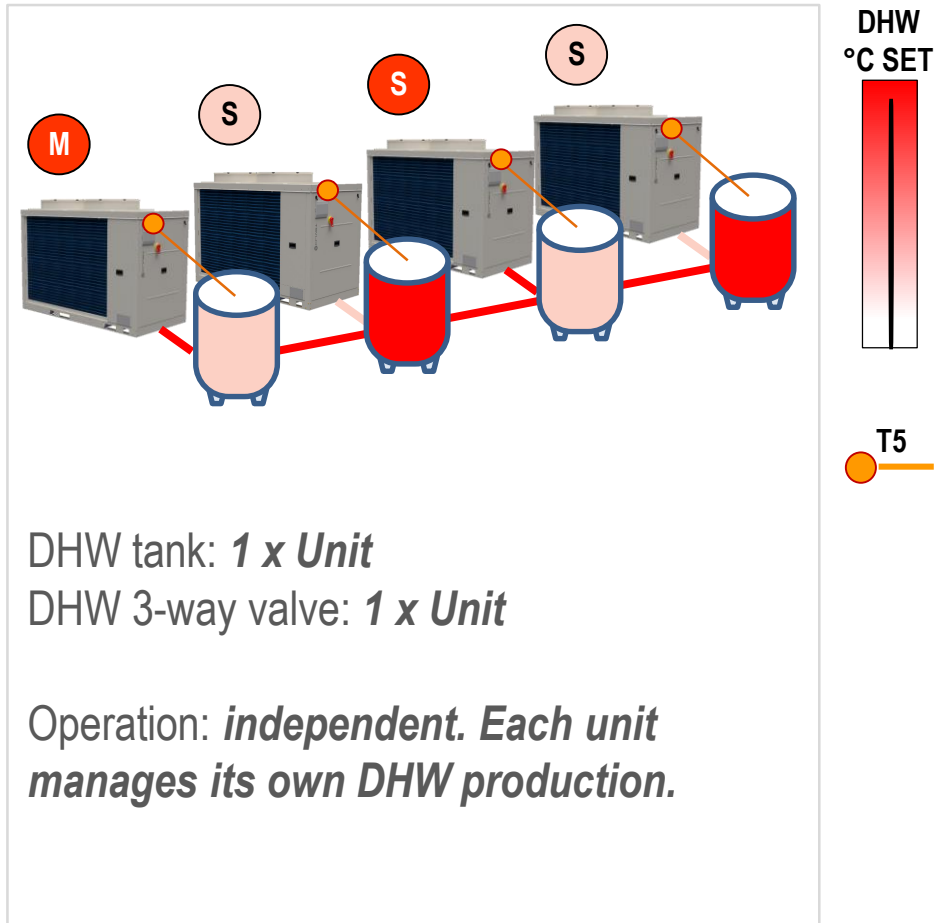
Smart Grid Ready

The unit can optimize the overproduced electricity storing it as thermic energy in DHW tank and, can rationalize its own electrical consumptions, by smart managing its own power supply connection to the grid

SG Ready Smart Heat Pumps **ON**

SMART ELECTRICITY GRIDS

EVU *ON*

Unit will be forced to produce DHW (if DHW enabled on the HMI)

EVU *OFF*

The unit continues the normal operation

It is necessary to equip the unit with the REMAU option
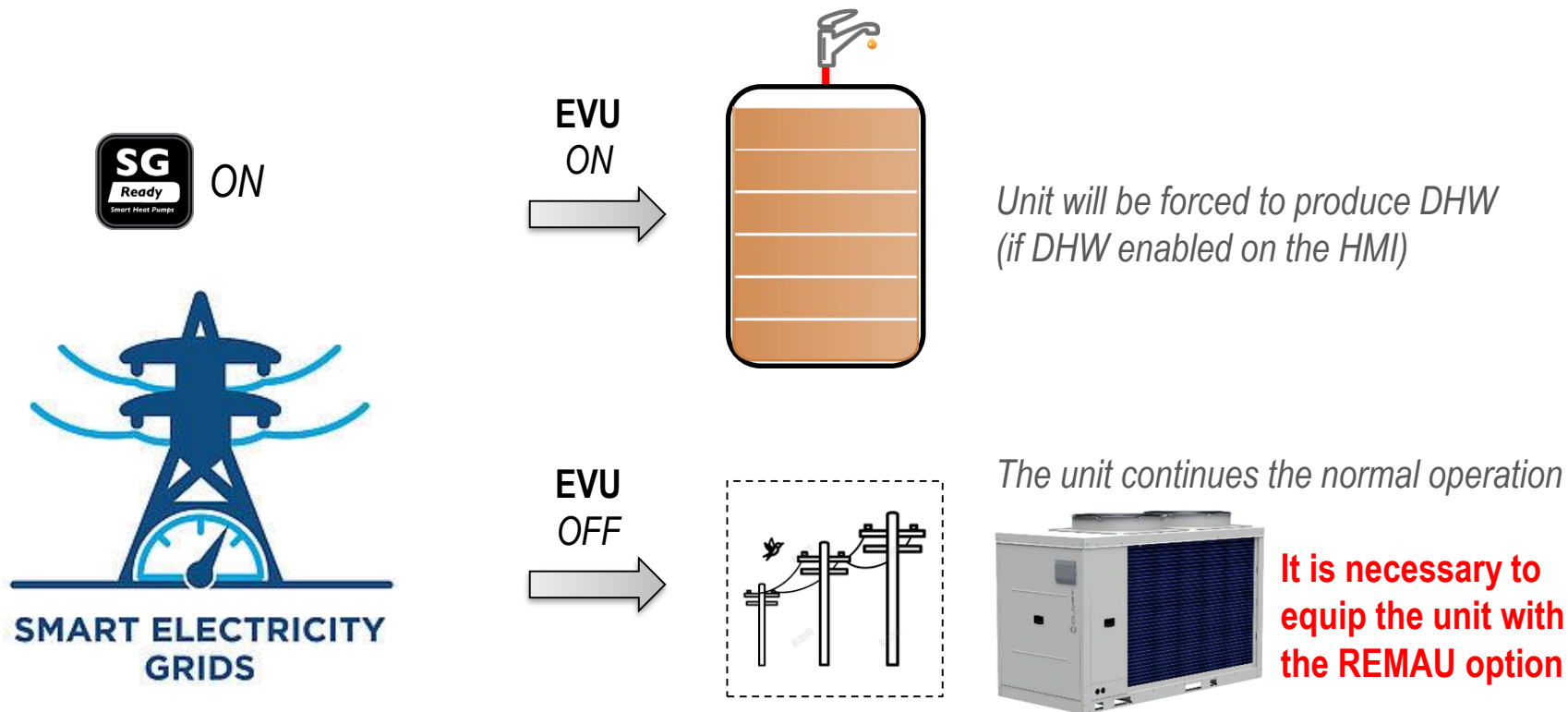
Hydronic assemblies

Optional integrated pumping groups save:

➢ Time and cost for the set-up

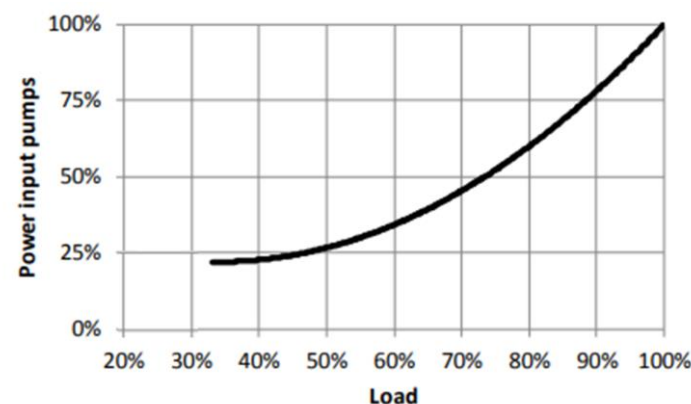➢ Floor area for pumping equipment and relevant clearance

Available options:

✓ On/off pump

✓ Inverter pump

✓ System tank
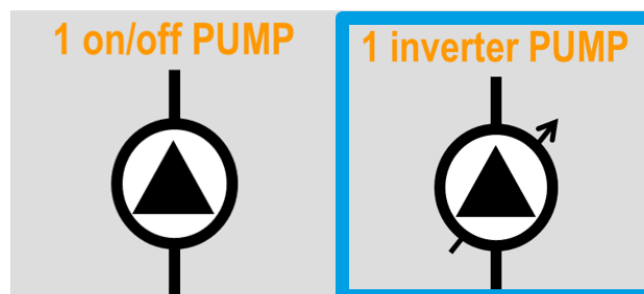
New SHEEN EVO 2.0 using Inverter pump can manage **variable waterflow** with many advantages:

➢ Pumping energy savings

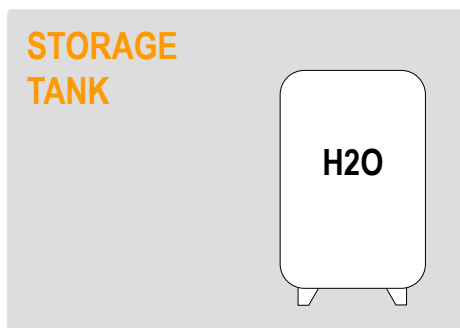➢ Improved efficiency of the system at part load

Storage Tank (optional):

Recommended for applications with insufficient water content for the properly function of the unit

Size	10.1	12.1	14.1	16.2	18.2	22.2	30.2	35.2	40.2
Storage Tank Capacity [Liters]	145	145	145	160	160	160	275	275	275

STORAGE TANK

H2O

Sheen EVO 2.0: Energy metering

The energy calculation function is implemented in the HMI without any additional device, and will be possible to look at the following parameters:
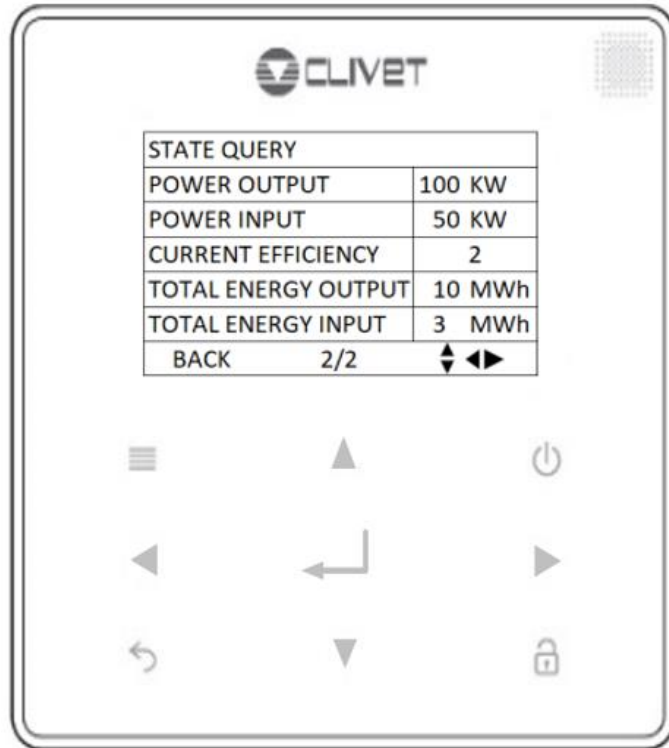

- Power output = produced power in kW

- Power input = absorbed power in kW

- Current efficiency = EER/COP

- Total energy output = cumulative produced power in MWh

- Total energy input = cumulative absorbed power in MWh

All energy meter display items are available with Modbus

Sheen EVO 2.0: Hybrid configuration

The new **Sheen EVO 2.0** will also allow the **hybrid version** in combination with an external boiler supplied by Clivet or a third-party generator, thanks to the control of the auxiliary generator:
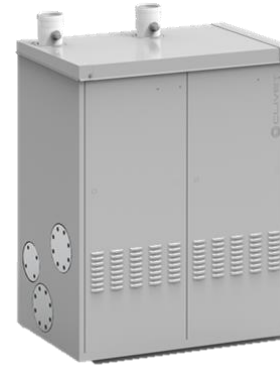
- Boiler size = 65,7 / 111,5 / 194,8 kW
- ON/OFF signal
- Auxiliary operation when the heat pump does not work
- Auxiliary operation with low ambient temperature
- Auxiliary operation when the heat pump capacity is not sufficient
- Auxiliary operation when DHW starts and stops frequently
- Auxiliary operation when the tank temperature is too low
- Sterilization process

Sheen EVO 2.0: Drain pan

Drain pan layout for easy maintenance

AUTOMATIC HEATER
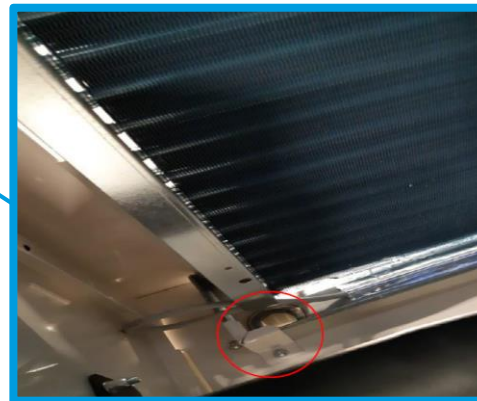
NEW WATER DRAINAGE

The resistance is activated when the external temperature is < 5°C

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