

SIME



A NAME YOU MIGHT RECOGNIZE

- Sime, is one of the top 10 boiler manufactures in Europe and a global leader in wall hung boiler technology
- Sime has established itself through the years as a market leader in both the cast iron and wall hung boiler market
- Sime products are manufactured in Verona, Italy, and currently being sold in over 50 countries around the world

A HISTORY OF A LEADING INNOVATOR

- The history of the SIME group of companies is marked by a highly successful technological record. For nearly fifty years, a deep commitment to innovation has led the company to new goals of quality:
 - IN 1973 the first ever cast iron plate radiator
 - In 2001 Sime's test laboratory gained accreditation as a certified laboratory for CE testing, the first one of any boiler manufacturer in Italy to obtain this recognition
 - In 2016 sime launches the first boiler in A++ class according to the ERP energy directive

WHY HYBRID PRODUCTS?

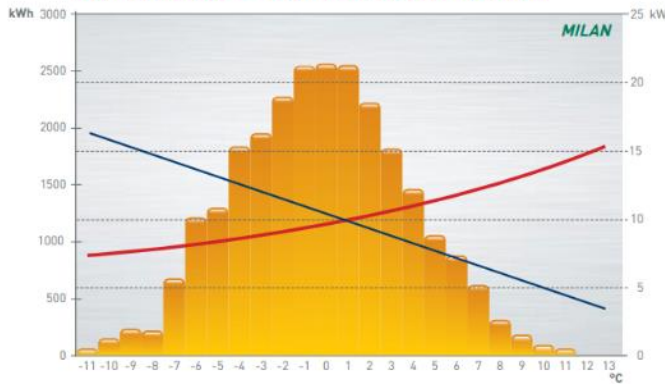
- To achieve the 20-20 energy plan, Europe aims to phase out poorly performing products and encourages the use of most innovative technologies to reduce carbon emissions
- A hybrid product combines different energy sources to improve the overall performance of the appliance removing the weaknesses of the single sources
- Most common hybrid products combine a gas condensing generator with an air-water heat pump

WHY HYBRID PRODUCTS?

	GAS CONDENSING BOILER	AIR-WATER HEAT PUMP
Strenghts	<ul style="list-style-type: none">▪ Lower appliance cost per kw▪ Performance independent from external conditions▪ Quick response	<ul style="list-style-type: none">▪ Higher efficiency
Weaknesses	<ul style="list-style-type: none">▪ Lower efficiency	<ul style="list-style-type: none">▪ Higher appliance cost per kw▪ Performance dependent on external conditions▪ Slow response▪ Suitable for low-medium temperature heating plants▪ Not suitable for d.H.W. Production▪ De-frost

WHY HYBRID PRODUCTS?

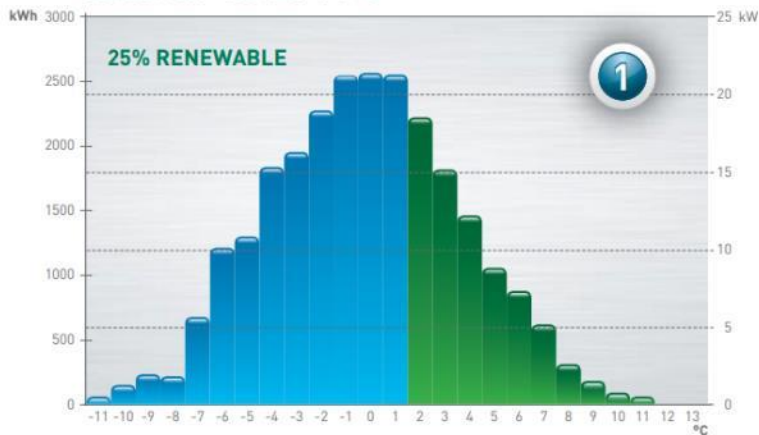
BUILDING TYPE – ENERGY LOAD REQUIRED



Consider the energy profile of a building in Milan (Italy). Two generators are installed: one heat pump (12 kW) and one boiler (25 kW) managed with 2 different logics

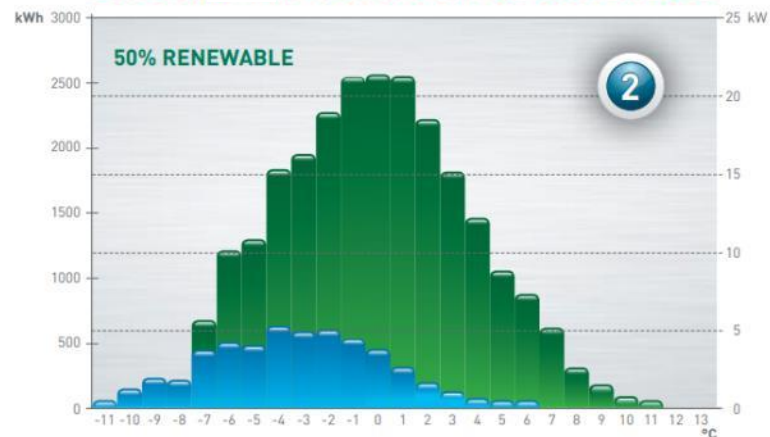
- HEAT PUMP (kWh)
- BOILER (kWh)
- Heat pump power (kW)
- The needs of the building

LOGIC OR - CUT OFF 1°C



A switching temperature is defined (1°C) between heat pump and boiler at the balance between the power supplied by the heat pump and the building needs

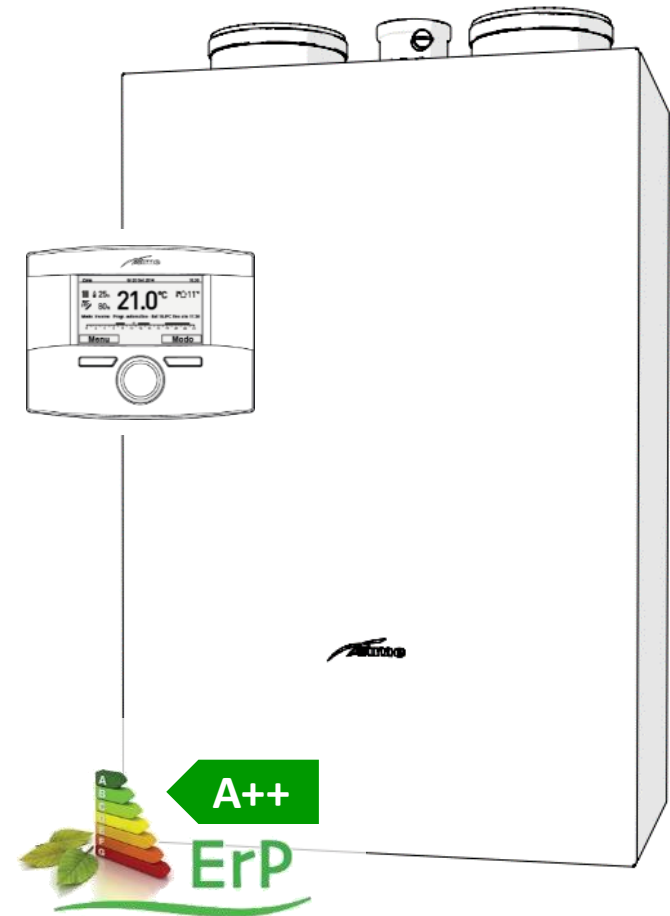
LOGIC AND M - CUT OFF ON THE CONVENIENCE



The two sources of heat are managed according to the energy convenience: the heat pump switches off when it is not convenient in energy terms with respect to the boiler. The power that cannot be supplied with the heat pump is in any case guaranteed to the building with the boiler

MURELLE REVOLUTION

- Appliance for heating, integrating a wall hung condensing boiler with output of 30 kw and an air-water heat pump of 4 kw
- The two generators work in series for space heating

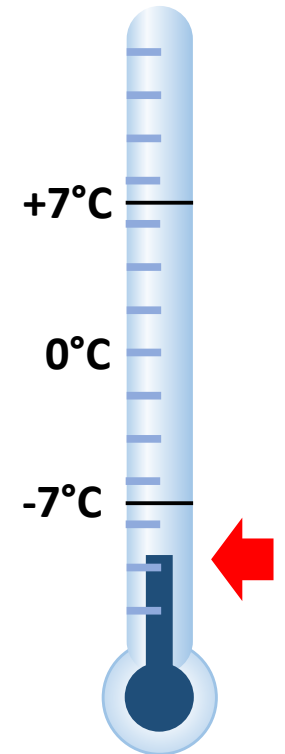
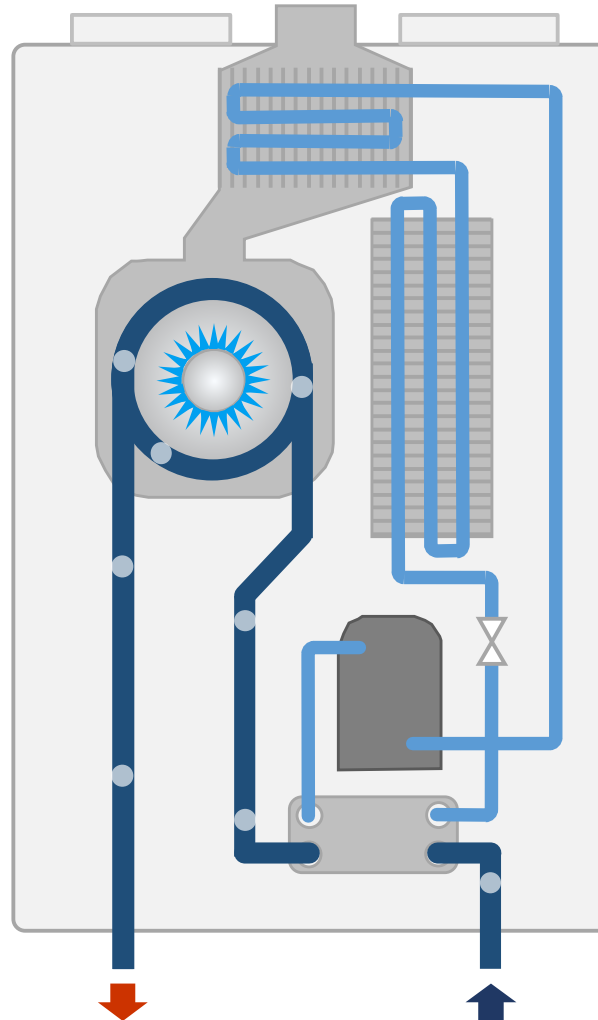




MURELLE REVOLUTION

HEATING REQUEST

If the **EXTERNAL TEMPERATURE IS LOWER THAN -7°C** (changeable parameter) only the boiler will operate



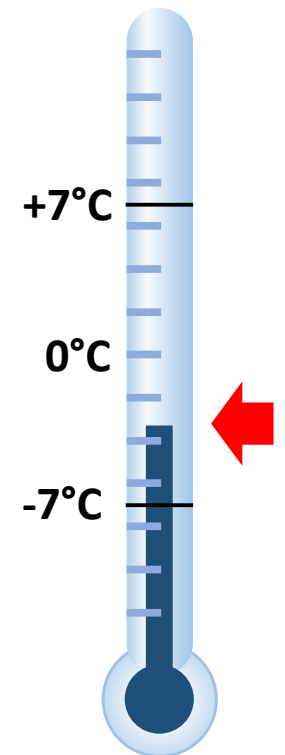
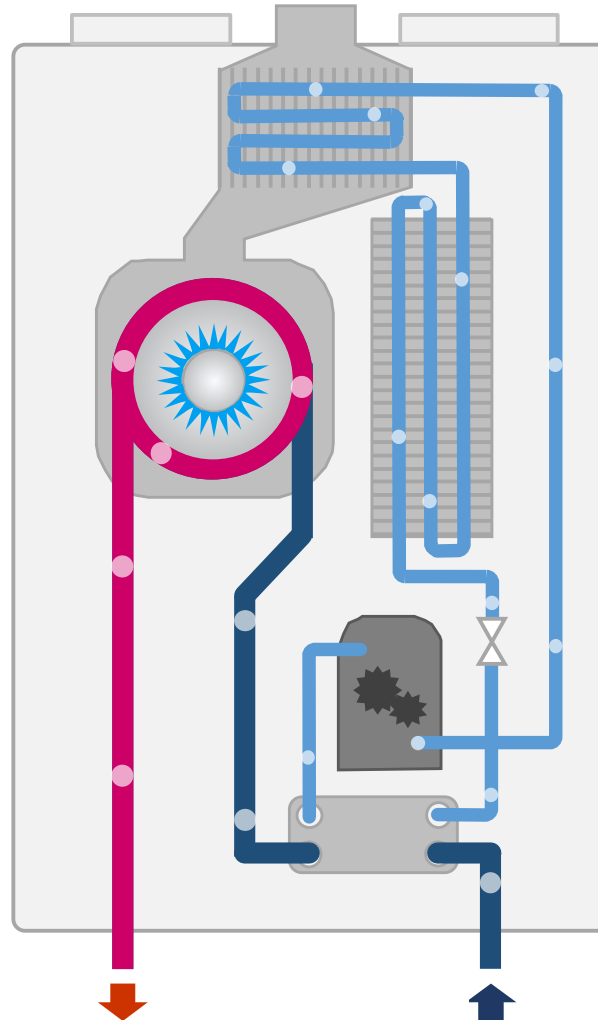
EXTERNAL TEMPERATURE

MURELLE REVOLUTION

HEATING REQUEST

If the **EXTERNAL TEMPERATURE IS BETWEEN -7°C AND $+7^{\circ}\text{C}$** (Changeable parameter)

Heat pump and boiler will activate in quick succession



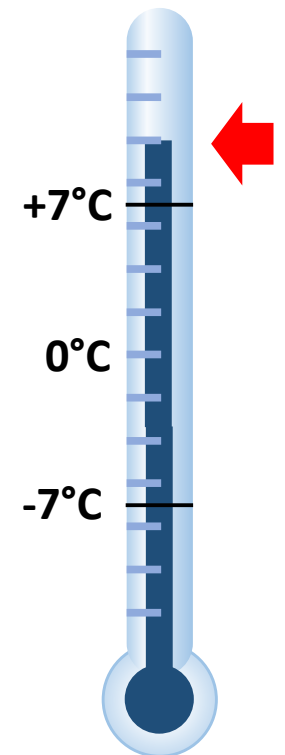
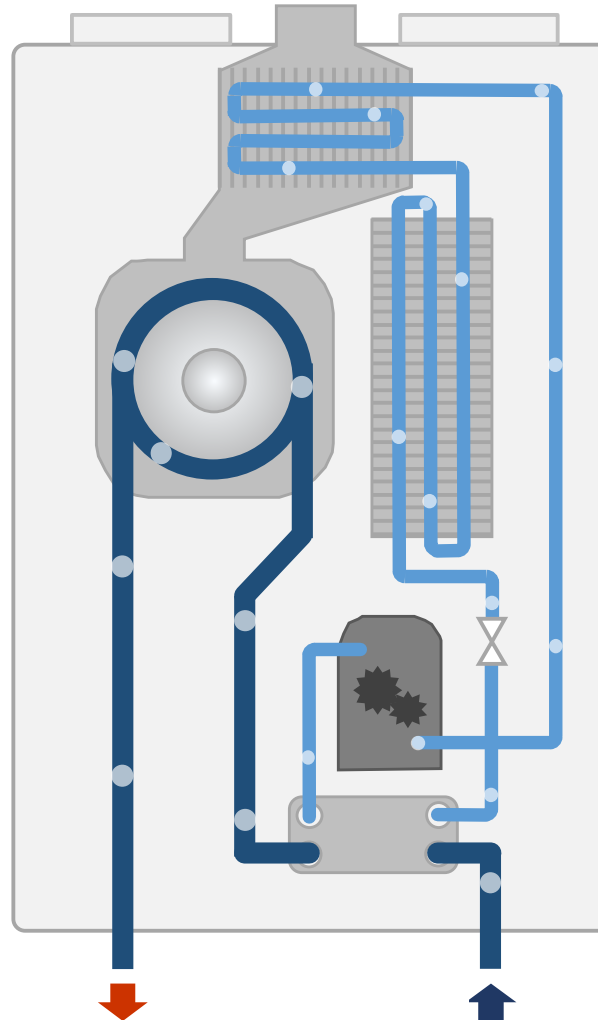
EXTERNAL TEMPERATURE

MURELLE REVOLUTION

HEATING REQUEST

IF THE **EXTERNAL TEMPERATURE IS HIGHER THAN +7°C** (CHANGEABLE PARAMETER) ONLY THE HEAT PUMP WILL ACTIVATE

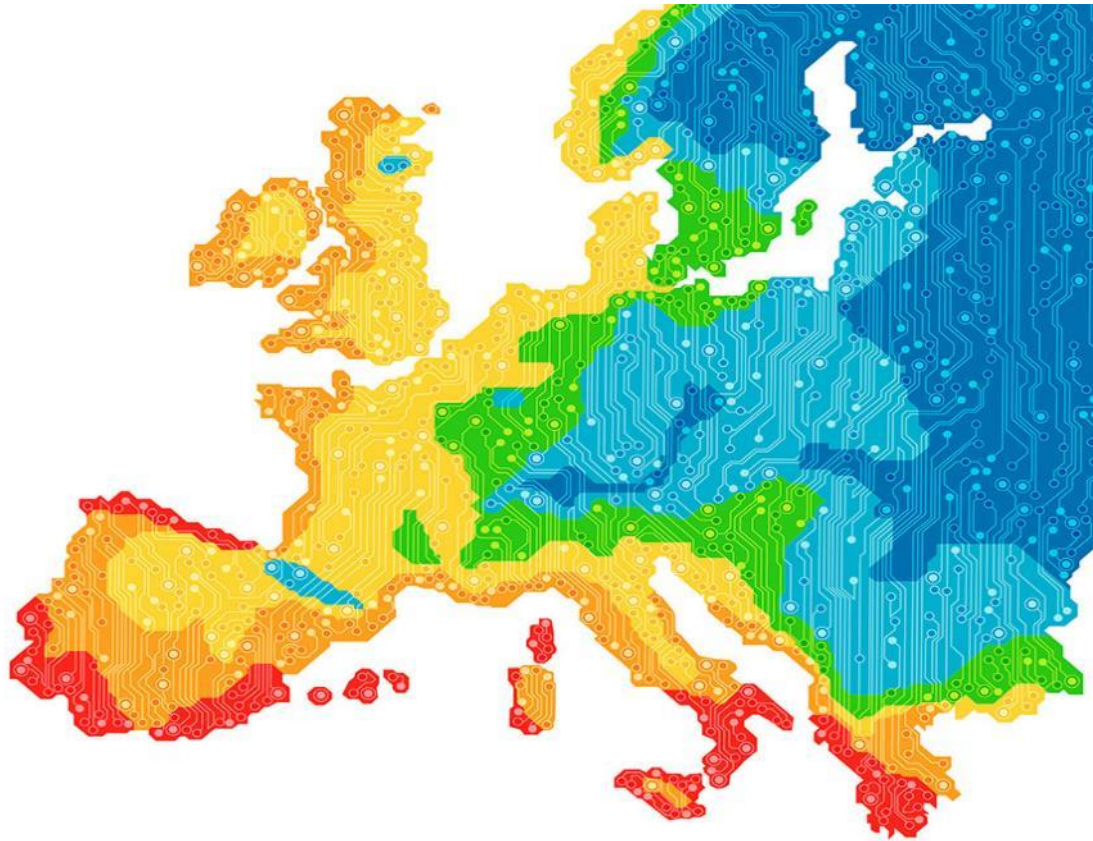
The boiler will be activated only when the desired temperature is not achieved by the heat pump on its own



EXTERNAL TEMPERATURE

MURELLE REVOLUTION

Zone 1 Red +2/+6 , Zone2 Orange -2/+1 , Zone 3 Yellow -8/-3
Zone 4 Green -14/-9 , Zone 5 Light Blue -17/-15 , Zone 6 Blue -22/-18



MURELLE REVOLUTION SAVINGS

This is the potential savings replacing your boiler with Murelle Revolution.

Currently: Annual cost **£1.000,00**

Fuel type **Oil** Boiler type **Condensing**

Climatic zone **Zone 3 - Yellow -8/-3°C**

With Murelle Revolution:

Total cost £501,29

Saving £498,71

MURELLE REVOLUTION SAVINGS

This is the potential savings replacing your boiler with Murelle Revolution.

Currently: Annual cost **£1.000,00**

Fuel type **Natural Gas** Boiler type **Condensing**

Climatic zone **Zone 3 - Yellow -8/-3°C**

With Murelle Revolution:

Total cost £704,12

Saving £295,88

MURELLE REVOLUTION SUMMARY

- A++ heating efficiency class (ERP European directive)
- Maximum compactness with no external unit
- Constant cop of heat pump of 4
- Series operation of two generators
- Installation the same as that for a gas boiler
- No requirement for F gas installers
- Suitable for either Natural Gas or LPG out of the box