



Floor standing
boilers

MISTRAL



sime[®]



Mistral 32/50

Mistral 32

Mistral 32/80
32/120

MISTRAL

The wind of innovation

Mistral is Sime's range of cast iron, floor-standing premix boilers. **Mistral's** innovative characteristic is its perfect synthesis of high technology and reliability, now enhanced by the introduction of a direct burner ignition system to the entire **Mistral** range. **Mistral** is also the synonym for maximum attention to energy and environmental issues, enabling heating without pollution and without wasting resources. It is available in four models

responding to diverse heating and domestic hot water production requirements: **Mistral 32** for heating only, **Mistral 32/50** and **Mistral 32/80** with integrated 50 and 80 litre storage tanks respectively and the new **Mistral 32/120** model, with a 120 litre storage tank to satisfy the most abundant requirements for domestic hot water and an optional system set-up to manage different temperature zones.

An ecological and efficient system

Mistral boilers are sealed chamber, cast iron boilers with continuous electronic modulation.

The premix system guarantees maximum combustion efficiency, favouring the reduction of fuel consumption and control of polluting emissions.

Ecological

In the total premix system developed for **Mistral** boilers, air and gas are premixed in an appropriate collector in constant proportions varying with the input power. Control of these parameters enables extremely low levels of polluting emissions (CO

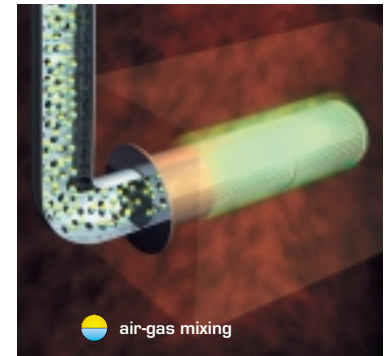


and NOx) to be achieved. Thanks to this system, **Mistral's** emissions are well below the limits specified by the most restrictive European

standards and the boiler fully enters in **Class 5**, the least polluting specified by UNI EN standards 297 and 483.

Efficient

The premixing and fan control of the primary air used for combustion allow a constant gas-air ratio to be maintained and air-



gas mixing guarantee maximum efficiency for all boiler operations.

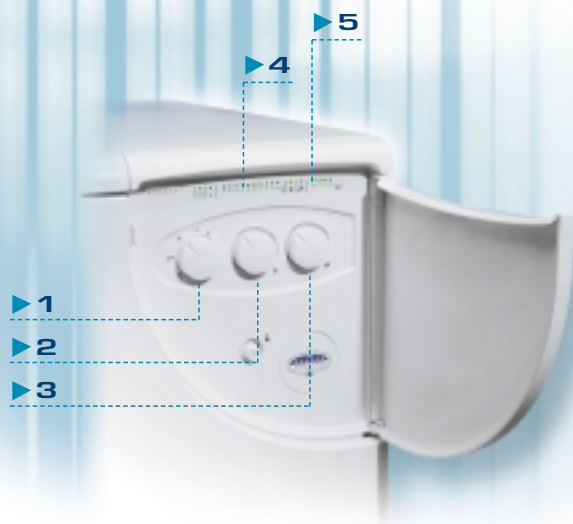
To improve yield, Sime has developed a new exchanger using "Genetic Algorithm" logic, a sophisticated calculation software package enabling the maximum heat exchange to be achieved with the minimum loss of load, optimising the body's shape, passages and surface.

Mistral's high efficiency has gained **3 stars** under the EC efficiency directive 92/42, the maximum attainable for a non-condensing boiler.

Technology on tap

Mistral can be easily situated in all domestic environments and is easy to use, thanks to its elegant, discrete design.

Its control panel is easy to understand and use, with luminous temperature and pressure indications always visible.



List of operations / tools

- ▶ **1** *Function selector*
- ▶ **2** *Heat control*
- ▶ **3** *Domestic hot water control*
- ▶ **4** *Temperature function and malfunction warning*
- ▶ **5** *System pressure indicator*

Logica Remote Control - Intelligent control

Mistral's output is enhanced by using **Logica Remote Control** heat control with external probe. This is a simple, effective system which optimises the system's control, helping improve performance and reduce consumption.

With **Logica Remote Control** and external probe it is possible to:

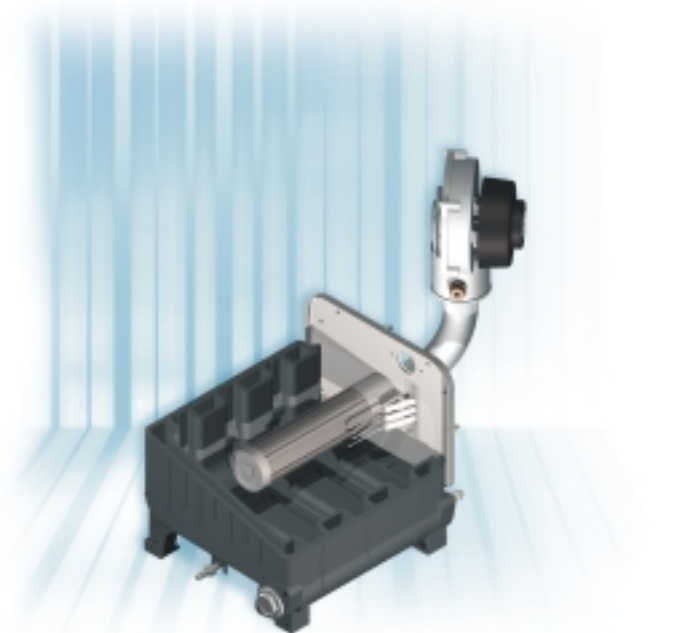
- ▶ Control all boiler functions at a distance
- ▶ Use the thermostat timer system, with three operating temperatures
- ▶ Control the system in relation to the outside temperature (with optional probe)
- ▶ Control boiler temperature through time programming
- ▶ Periodically raise the storage tank temperature to eliminate any pathogens (legionella control function)
- ▶ Signal any malfunctions, identifying the cause
- ▶ Anticipate and compensate for both external climate variations and external heat contributions (self learning function)
- ▶ Limit heating during the day or long periods when the outside temperature is higher than the room temperature (ECO function)
- ▶ Vary room temperature by simple control adjustment, without modifying set programmes
- ▶ Interrupt the set programme for a holiday period, with automatic reset on return.



Renewed reliability

The entire **Mistral** range is equipped with a particular burner ignition system, called "direct ignition". The device was introduced to further enhance **Mistral's** strong technological characteristics and improve reliability.

Direct ignition offers significant advantages in both technology and energy saving: the ignition process is optimised, with faster ignition even after the boiler has been turned off for a long time; in addition, the elimination of the pilot light enables a considerable reduction in consumption.



Mistral 32/120: the new solution for mixed systems

Mistral 32/120 is the new addition to the **Mistral** range.

While equipped with all **Mistral's** distinctive features, **Mistral 32/120** is distinguished mainly by its integrated 120 litre storage tank and an optional system set-up to manage different temperature zones.

In fact, **Mistral 32/120** can be used in both traditional and mixed systems.

To achieve this type of installation, various accessory kits are available which enable control of multi-temperature (mixed system with radiant floor panels and radiators) and multi-zone systems (management of up to three temperature zones within the home).

The multi-zone system division enables the various parts of the house (living areas, bedrooms, attic) to be regulated independently.



This system type can be achieved using a second/third zone pump kit with centralised electronic control and a low temperature kit with mixer valve, if the system is to be divided into low and high temperature zones. All system components remain within the casing, and the boiler is ready to be installed as a complete system. **Mistral 32/120** is also equipped with an integrated 120 litre storage tank with a double vitrification layer to guarantee optimum efficiency and hygiene. The 120 litre storage tank satisfies the most demanding requirements for domestic hot water and is the ideal solution to supply hydro-massage baths or for simultaneous water use (for example in houses with two or more bathrooms).



A versatile and modular system

Mistral can be installed in traditional or multi-zone systems, thanks to its optional accessories (hydraulic kit for three-zone management; centralised control kit)

To enable efficient division of heat loads, modular systems are also possible, connecting up to four

Mistral 32 generators in parallel with the RVA 47 SC centralised control unit.

A modular system with these features assures the highest comfort and considerable savings in running costs for large domestic, commercial and industrial buildings.



Abundant hot water controlled with intelligence

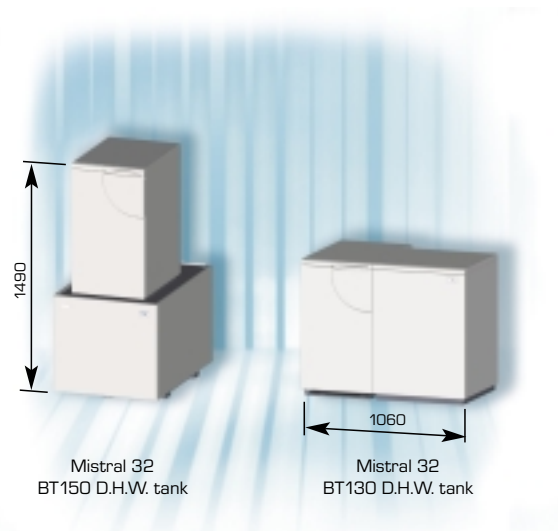
Mistral 32/50, 32/80 and 32/130 have integrated boilers with double vitrification, guaranteeing optimum efficiency and hygiene.

By adopting **Remote Control Logic** the boiler's activity can be programmed at two levels, comfort and reduced, to have abundant hot water only when it is needed and reducing consumption during periods of non-use.

Thanks to Logic, the boiler temperature is automatically raised to 65°C once a week to eliminate any bacteria (legionella control function).

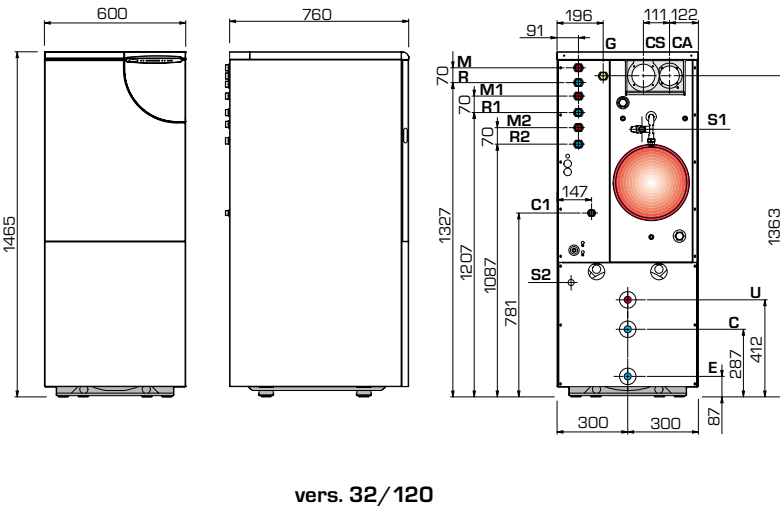
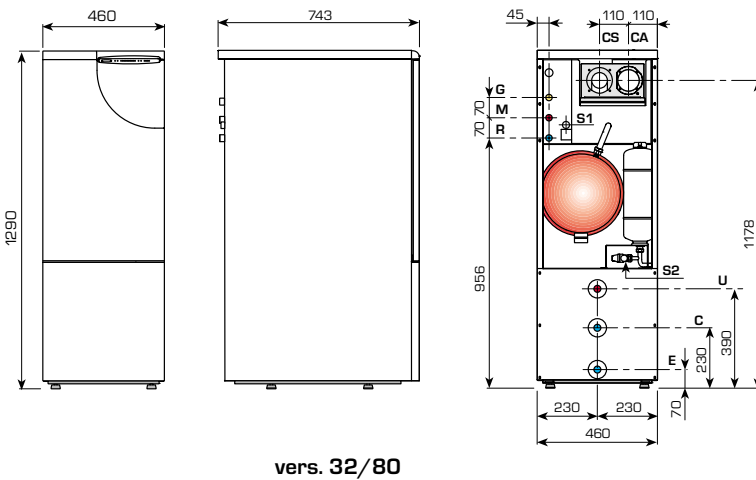
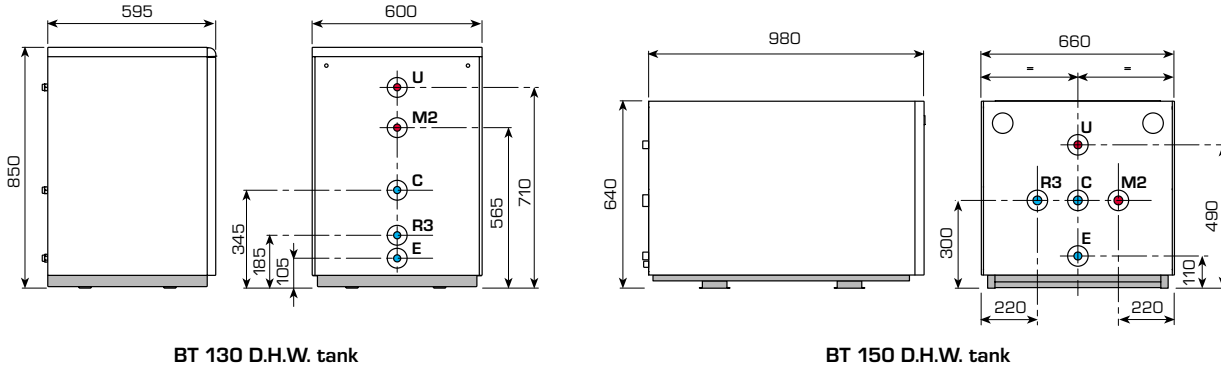
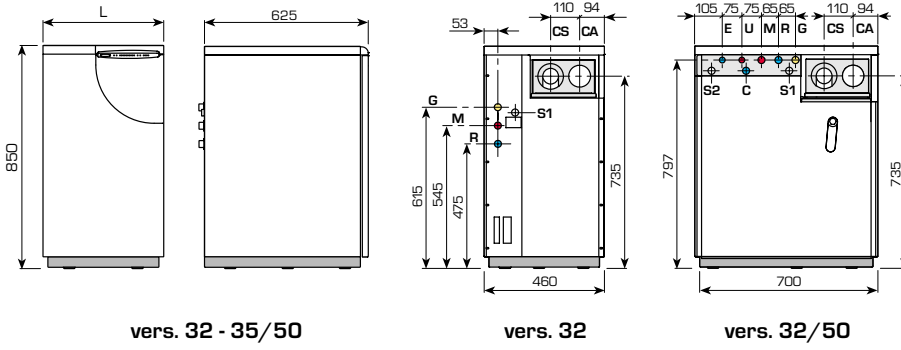
If 80 or 120 litres of water are not enough,

Mistral 32 can be connected to the **BT130** storage tank, with a 130 litre capacity to be placed by the side of the boiler, and the **BT150** tank, with 150 litre



capacity to be placed under the boiler, without giving up the advantages of Logic's intelligent control.

Dimensional details - Hydraulic connections



Dimensions

	L mm
32	460
32/50	700

Connections

M	C.H. flow	3/4"
M1	C.H. flow zone 2 (optional)	3/4"
M2	D.H.W. flow (BT130 - BT150)	1"
	C.H. flow zone 3/Low temperature flow (optional) (32/120)	3/4"
R	C.H. return zone 1	3/4"
R1	C.H. return zone 2 (optional)	3/4"
R2	C.H. return zone 3/ Low temperature return (optional)	3/4"
R3	D.H.W. tank return	1"
G	Gas connection	3/4"
E	D.H.W. inlet (32/50 - BT130)	1/2"
	D.H.W. inlet (32/80 - 32/120 - BT150)	3/4"
U	D.H.W. outlet (32/50 - BT 130)	1/2"
	D.H.W. outlet (32/80 - 32/120 - BT 150)	3/4"
C	Recirculation (32/50 - BT130)	1/2"
	Recirculation (32/80 - 32/120 - BT150)	3/4"
C1	Recirculation with optional kit	1/2"
S1	Boiler safety valve outlet	
S2	D.H.W. tank safety valve outlet	
CA	Inlet pipe	ø 80
CS	Outlet pipe	ø 80
	Coaxial	ø 60/100

Technical data

CE 0694	MISTRAL				Unità bollitore		
	32 AD	32/50 AD	32/80 AD	32/120 AD	BT 130	BT 150	
Nominal heat output	kW	31,9	31,9	31,9	31,9	-	-
Minimum heat output	kW	16,1	16,1	16,1	16,1	-	-
Nominal heat input	kW	34,3	34,3	34,3	34,3	-	-
Minimum heat input	kW	17,1	17,1	17,1	17,1	-	-
NOx class		5	5	5	5	-	-
Smoke temperat. at nominal output**	°C	152	152	152	152	-	-
Smoke temperat. at minimum output**	°C	99	99	99	99	-	-
Maximum smokes flow	kg/h	57	57	57	57	-	-
CO ₂ at nominal / minimum output G20	%	9,3/9,1	9,3/9,1	9,3/9,1	9,3/9,1	-	-
CO ₂ at nominal / minimum output G31	%	10,0/10,0	10,0/10,0	10,0/10,0	10,0/10,0	-	-
Absorbed power consumption	W	160	170	170	170	-	-
CE certification	n°	1312BP4097	1312BP4097	1312BP4097	1312BP4097	-	-
Category		II _{2H3P}	II _{2H3P}	II _{2H3P}	II _{2H3P}	-	-
Type		B ₂₃ /C ₁₃₋₃₃₋₄₃₋₅₃₋₈₃	B ₂₃ /C ₁₃₋₃₃₋₄₃₋₅₃₋₈₃	B ₂₃ /C ₁₃₋₃₃₋₄₃₋₅₃₋₈₃	B ₂₃ /C ₁₃₋₃₃₋₄₃₋₅₃₋₈₃	-	-
CENTRAL HEATING							
Maximum water head	bar	4	4	4	4	-	-
Maximum working temperature	°C	85	85	85	85	-	-
Water content	l	14	16	17	20	-	-
Elements	n°	4	4	4	4	-	-
C.H. setting range	°C	40/80	40/80	40/80	40/80	-	-
Capacity expansion vessel	l	8	8	10	12	-	-
Preloading pressure expansion vessel	bar	1	1	1	1	-	-
D.H.W. PRODUCTION							
D.H.W. tank maximum water head	bar	7*	7	7	7	-	-
Specific D.H.W. flow rate EN 625 ***	l/min	-	15,2	18,4	19,6	23,6	26,0
Continuous D.H.W. flow rate Δt 30°C	l/h	-	820	730	770	820	800
D.H.W. tank capacity	l	-	50	80	120	130	150
Recovery time between 25 a 55°C	min	-	4' 30"	9' 30"	17' 00"	11	16
D.H.W. setting range	°C	10/60*	10/60	10/60	10/60	-	-
Capacity expansion vessel	l	4*	2,5	4	4	-	-
GAS PRESSURES AND INJECTORS							
Gas supply pressure G20	mbar	20	20	20	20	-	-
Gas supply pressure G31	mbar	37	37	37	37	-	-
Min / max burner pressure G20	mbar	1,05 / 4,25	1,05 / 4,25	1,05 / 4,25	1,05 / 4,25	-	-
Min / max burner pressure G31	mbar	1,23 / 5,05	1,23 / 5,05	1,23 / 5,05	1,23 / 5,05	-	-
Injector diameter G20	ø	5,7	5,7	5,7	5,7	-	-
Injector diameter G31	ø	4,2	4,2	4,2	4,2	-	-
WEIGHT	kg	142	197	210	230	89	117

* When the boiler is connected to the D.H.W. tanks "BT130 - BT150" with the connection kit and D.H.W. expansion vessel optional.

** Comburent air temperature 20 °C

*** Flow calculated with a fixed temperature on the hot-water service potentiometer of 60°C for a maximum period of 10 minutes (referred to Δt 30°C).

Technical features and safety

	32	32/50	32/80	32/120
C.H. expansion vessel	▲	▲	▲	▲
C.H. pump	▲	▲	▲	▲
D.H.W. pump		▲	▲	▲
D.H.W. expansion vessel		▲	▲	▲
Safety stat	▲	▲	▲	▲
3 bar safety valve on C.H. system	▲	▲	▲	▲
7 bar safety valve on D.H.W. system		▲	▲	▲
No water safety device	▲	▲	▲	▲
Double electrical valve for interrupting gas flow in the absence of flame	▲	▲	▲	▲
Anti-freeze system active at 6 °C by means of the C.H. sensor	▲	▲	▲	▲

We pursue a policy of continuing improvement in design and performance of our products. The right is therefore reserved to vary specifications without notice.

