

# ZENA PLUS

## WALL-HUNG GAS BOILERS



ZENA PLUS MSL 24, 31 FF,  
ZENA PLUS MSL 24, 28, 31 MI FF



ZENA PLUS MSL 24, 31 FF + SRB 130



ZENA PLUS MSL 24, 31 FF + BMR 80

- **MSL... FF**  
from 9.3 to 31 kW for heating only
- **MSL... FF + BMR 80 and MSL... FF + SRB 130**  
from 9.3 to 31 kW for heating and DHW produced by an 80-litre calorifier placed beside the boiler, or a 130-litre calorifier placed under the boiler
- **MSL...MI (FF)**  
from 9.3 to 31 kW for heating and instantaneous DHW



**MSL 24, 31 FF:** Heating only



**MSL...MI or MSL 24, 31 FF + BMR 80 or SRB 130:** Heating and domestic hot water produced by an integrated or independent calorifier or instantaneous DHW



Low temperature



All natural gases  
Propane

## OPERATING CONDITIONS

Max. operating pressure: 3bar  
Max. operating temp.: 95°C  
Safety thermostat: 105°C  
Thermostat adjustable from 30 to 85°C  
Protection rating: IP X5D

### Homologation

- MSL 24 MI: B11BS
- MSL 24, 28, 31 MI FF, MSL 24, 31 FF:  
C12x - C32x - C42x - C52 - C82x - B22

### gas category

All natural gases, propane

### Boilers available:

- For connection to a chimney: MSL 24 MI
- For horizontal or vertical forced flue connection or Bi-flow (C<sub>52</sub>): MSL 24, 28, 31 MI FF-MSL 24, 31 FF

Fully equipped boilers, including an easy-to-use, functional electronic control panel as standard to control a direct circuit and a DHW circuit. As optional equipment, this panel can be completed with a control system offering two comfort levels: either by room temperature thermostat and/or by outside sensor.

# PRESENTATION

The ZENA PLUS MSL... boilers are delivered fully assembled and factory tested. They are pre-fitted to run on natural gases and can be converted to propane using a conversion kit (optional); they are available for various types of connection: chimney, forced flue (FF) (see next page).

**The MSL 24 FF and 31 FF boilers** are small-scale boilers (780 x 450 x 345 mm) for heating only, equipped as standard with a heating/DHW reversal valve allowing the connection of an independent domestic hot water calorifier, two types of calorifier are available:

- 80-litre BMR 80 calorifier to be juxtaposed to the right or left of the boiler: MSL 24, 31 FF... + BMR 80
- 130-litre SRB 130 floor standing calorifier under the boiler: MSL 24, 31 FF... + SRB 130

**The MSL 24, 28, 31 MI FF and MSL 24 MI boilers** are small-scale boilers (780 x 450 x 345 mm) with production of instantaneous DHW thanks to a large stainless steel plate exchanger.

## HIGH PERFORMANCE

- 3-star efficiency rating for the forced flue versions, 2-star for the chimney versions
- NOx class 3 in accordance with EN 297 A3 for the chimney version, EN 483 the forced flue versions (FF).

## STRONG POINTS

- Primary exchanger in copper coated with aluminium silicone paint increasing its heat resistance;
- Gas valve with external modulator and double safety solenoid valve;
- Atmospheric burner with stainless steel burner trains;
- Electronic ignition and ionisation flame check;
- Digital display direct access electronic control panel used as standard to control a direct circuit and a DHW circuit (optional sensor for MSL 24, 31 FF models); Possibility of controlling circuit by adding a room temperature thermostat and/or an outside sensor (options);
- Hydroblock in brass incorporating the 3-speed heating pump, with automatic vent, the automatic by-pass, the heating/DHW reversal valve fitted to the return, the water pressure switch, the drain cock, the disconnector, the 3-bar heating safety valve, the pressure gauge, the stainless steel plate exchanger and the turbine flow detector for measuring the DHW flow rate on MSL...MI;
- Anti-overflow thermostat on "chimney" version;
- Extraction fan and air pressure switch on FF;
- 8-litre heating expansion vessel on MSL 24... and 10-litre on MSL 28/31...;
- Wall-hanging bracket provided.

# MODELS

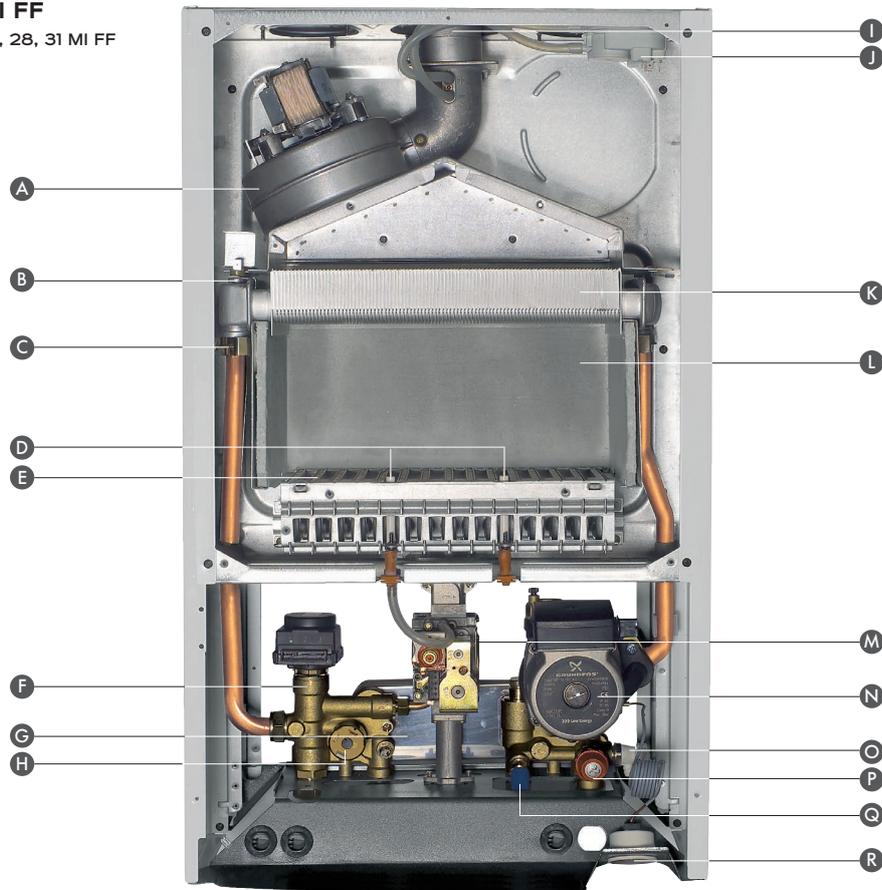
EASYLIFE		CONNECTION TYPE	MODEL	USEFUL OUTPUT RANGE (KW)
	 MSL_Q0001	Forced flue	MSL 24 FF MSL 31 FF	9.3-25 9.3-31
 	 MSL_Q0011	Chimney	MSL 24 MI	9.3-25
 	 MSL_Q0001	Forced flue	MSL 24 MI FF MSL 28 MI FF MSL 34 MI FF	9.3-24 10.4-28.1 10.4-31
 	 MSL_Q0005	Forced flue	MSL 24 FF + BMR 80 MSL 31 FF + BMR 80	9.3-24 10.4-31
 	 MSL_Q0004	Forced flue	MSL 24 FF + SRB 130 MSL 31 FF + SRB 130	9.3-24 10.4-31

# TECHNICAL SPECIFICATIONS

## DESCRIPTION

### MSL 24, 28, 31 MI FF

Model shown: MSL 24, 28, 31 MI FF

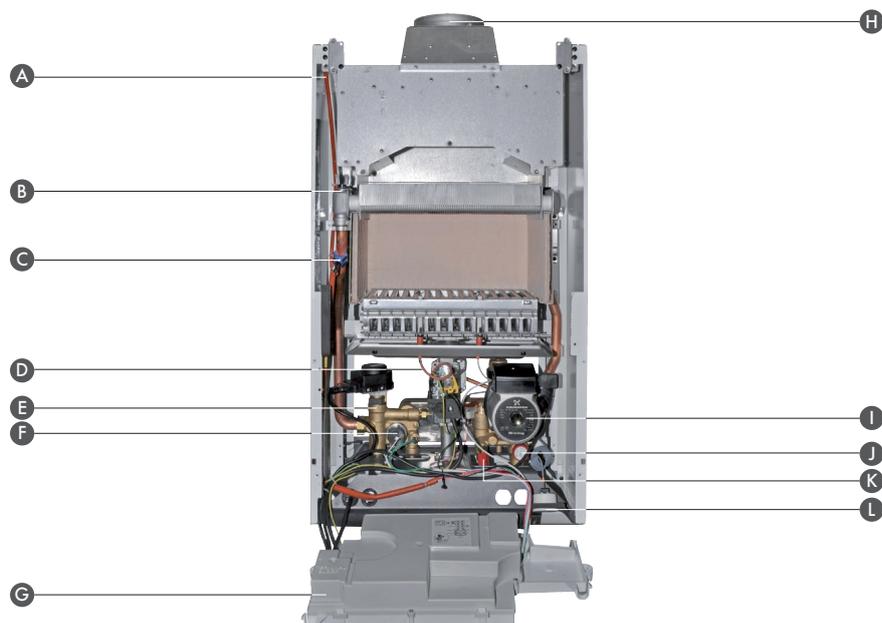


- A Extractor fan
- B Safety thermostat
- C Heating temperature sensor
- D Ignition and ionisation electrode
- E Atmospheric gas burner with stainless steel trains
- F Motorized heating/DHW reversal valve in brass

- G Stainless steel plate exchanger for instantaneous DHW production (MSL... MI only)
- H Water pressure switch
- I Air/flue gas connection Ø 60/100 mm
- J Air pressure switch
- K Primary exchanger in copper
- L Combustion chamber

- M Gas valve
- N 3-speed heating pump with air separator
- O Drain valve
- P 3 bar safety valve
- Q Filling valve
- R Pressure gauge

### MSL 24 MI (CHIMNEY VERSION)



- A Flue gas thermostat
- B Safety thermostat
- C Heating temperature sensor
- D Gas valve

- E Motorized heating/DHW reversal valve in brass
- F Water pressure switch
- G Control panel in tilted position
- H Flue gas nozzle Ø 120 mm

- I 3-speed heating pump with air separator
- J 3 bar safety valve
- K Filling valve
- L Pressure gauge

MSL\_00003A

MSL\_00005

# TECHNICAL SPECIFICATIONS

## TECHNICAL SPECIFICATIONS

### BOILER

#### Boiler type:

- low temperature

#### Energy used:

- natural gas or propane

#### Burner:

- MSL 24 MI: atmospheric without fan
- MSL 24, 28, 31 MI FF, MSL 24, 31 FF: atmospheric with fan

#### Evacuation:

- MSL 24 MI: chimney
- MSL...FF: forced flue

Minimum flow temp.: 30°C

Minimum return temp.: 20°C

### MODEL

	MSL	24 FF	31 FF	24 MI	24 MI FF	28 MI FF	31 MI FF
Nominal useful output P <sub>n</sub> (heating and DHW mode)	kW	25	31	25	25	28.1	31
Efficiency in % P <sub>ci</sub> , at load... % P <sub>n</sub> and average temp... °C	100 % P <sub>n</sub> - 70 °C	%	92.9	93.1	91.2	92.9	93.1
	30 % P <sub>n</sub> - 40 °C	%	90.2	90.8	90.3	90.2	90.8
Nominal water flow rate at P <sub>n</sub> , Δt = 20 K	m <sup>3</sup> /h	1.07	1.33	1.03	1.07	1.2	1.33
Min. useful output (heating and DHW modes)	kW	9.3	10.4	9.3	9.3	10.4	10.4
Manometric height available heating circuit	mbar	250	240	250	250	290	240
Water content	l	1.4	1.4	1.4	1.4	1.4	1.4
Gas flow rate at P <sub>n</sub>	• Natural gas H	m <sup>3</sup> /h	2.84	3.52	2.78	2.84	3.18
	• Propane	m <sup>3</sup> /h	2.09	2.59	2.04	2.09	2.34
Draught required at the nozzle	mbar	-	-	0.05 to 0.1	-	-	-
Mass flue gas flow rate at P <sub>n</sub>	kg/h	61.2	68.4	68.4	61.2	61.2	68.4
Weight empty	kg	38	38	33	38	40	40

### DOMESTIC HOT WATER PRODUCTION

MODEL	MSL	24 MI	24 MI FF	28 MI FF	31 MI FF	24 FF + BMR 80	24 FF + SRB 130	31 FF + BMR 80	31 FF + SRB 130
DHW calorifier capacity	l	-	-	-	-	75	125	75	125
Exchanged output	kW	24	25	28	31	25	25	31	31
Flow rate over 10 min at Δt = 30 K	l/10 min	-	-	-	-	215	266	240	301
Flow rate per hour at Δt = 35 K	l/h	588	612	684	762	614	614	762	762
Specific flow rate at Δt = 30 K (in accordance with EN 13203)	l/min	10.7	11.5	12.5	13.7	21.5	26.6	24	30.1
Weight empty	kg	33	38	40	40	86	106	88	108

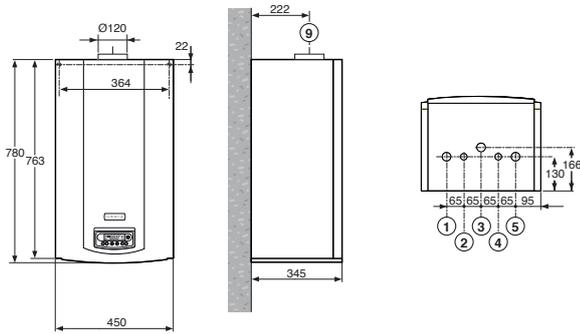
MSL...MI (FF): DHW performance at room temp. 20°C, cold water temp. 10°C, primary hot water temp. 85°C.

MSL 24 FF, MSL 31 FF: DHW performance at room temp. 20°C, cold water temp. 10°C, primary hot water temp. 80°C, storage temp. 60°C.

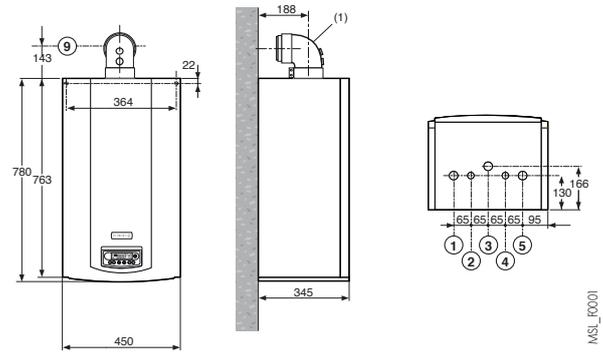
# TECHNICAL SPECIFICATIONS

## PRINCIPAL DIMENSIONS (in mm and inches)

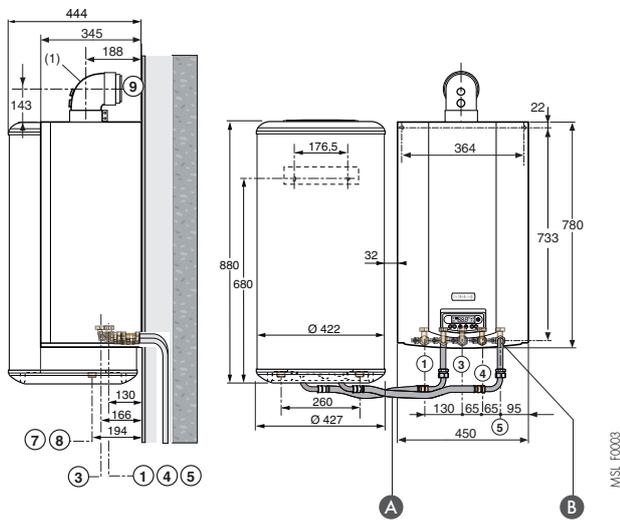
### MSL 24 MI



### MSL... FF



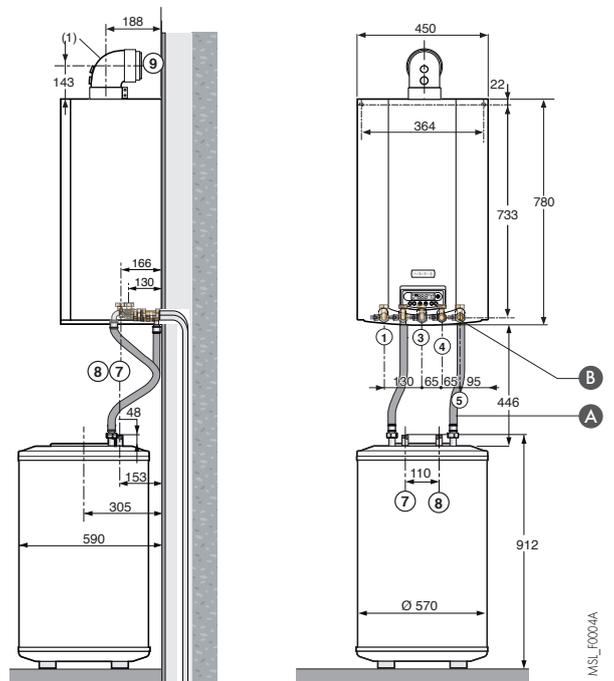
### MSL 24, 31 FF + BMR 80



A package HX33

B with hydraulic connection package HX18 + HX19

### MSL 24, 31 FF + SRB 130



A package HX32

B with hydraulic connection package HX18 + HX19

## LEGEND

- ① Heating flow G 3/4"
- ② MSL 24 MI: domestic hot water outlet G 1/2"  
MSL 24, 31 FF: primary calorifier flow (if one exists) G 3/4"  
MSL 24, 28, 31 MI FF: domestic hot water outlet G 1/2"
- ③ Gas inlet G 3/4"
- ④ MSL 24 MI: domestic cold water inlet G 1/2"  
MSL 24, 31 FF: cold water inlet (boiler filling) G 1/2"  
MSL 24, 28, 31 MI FF: domestic cold water inlet G 1/2"
- ⑤ MSL 24 MI: heating return G 3/4"  
MSL 24, 31 FF: heating return and primary calorifier return (if one exists) G 3/4"  
MSL 24, 28, 31 MI FF: heating return G 3/4"

- ⑨ Evacuation of combustion products and air inlet pipe:  
MSL 24 MI: Ø 120 mm  
MSL 24, 28, 31 MI FF: Ø 60/100 mm

(1) Shown with 90° elbow delivered with the horizontal terminal in option (see page 8)

# CONTROL PANEL

The control panel fitted to MSL... boilers is an electronic control panel with digital display, which can be accessed directly on the boiler fascia. It is used as standard for the automatic control of a direct circuit and a DHW circuit, adapting the boiler's output to the user's actual needs thanks to temperature control by two NTC sensors. It provides antifreeze protection for both circuits below a flow temperature of 5°C. It can be completed by a control system based on the outside temperature (optional sensor) and/or a room temperature thermostat (options – see below). Moreover, the control panel incorporates a complete troubleshooting system that can be viewed on the display unit, and a system to prevent gumming of the heating pump and the heating/DHW reversal valve.

LCD screen with display, as appropriate:

- of the actual or set point temperatures
- of the operating statuses
- of the «error» codes

DHW temperature adjustment

Reset button



Summer/Winter/Heating Only/Stop Button

Heating temperature adjustment

«Eco-comfort» button

MSL\_Q0002

## CONTROL PANEL OPTIONS

AD337/AD345



**PROGRAMMABLE HARD-WIRED DIGITAL ROOM TEMPERATURE THERMOSTAT - PACKAGE AD337**

AD338



**PROGRAMMABLE WIRELESS DIGITAL ROOM TEMPERATURE THERMOSTAT - PACKAGE AD338**

AD140



**PROGRAMMABLE HARD-WIRED ROOM TEMPERATURE THERMOSTAT (230V) - PACKAGE AD345**

**NON-PROGRAMMABLE ROOM TEMPERATURE THERMOSTAT - PACKAGE AD140**

The programmable thermostats handle the control and weekly programming of the heating by activating the burner in accordance with the various operating modes: «Automatic» according to the programme, «Permanent» at a set temperature or «Holidays».

The «wireless» versions are delivered with a receiver box to be affixed to the wall close to the boiler. The non-programmable thermostat is used to regulate the room temperature according to the instruction given by activating the burner.

880/Q003/TH\_Q0002/TH\_Q0001

### RELAY CARD - PACKAGE HX61



Configurable relay card to connect to the control panel interface. It is equipped with two relay outputs and an ON / OFF input.

MSL\_Q0007

### DOMESTIC HOT WATER SENSOR - PACKAGE HX52



The domestic hot water sensor is used to apply priority regulation to DHW production by an independent calorifier.

MSL\_Q0015

### OUTSIDE SENSOR - PACKAGE HX31



The outside sensor can be used alone or in combination with the room temperature thermostats.

MSL\_Q0005

# OTHER OPTIONS

## HYDRAULIC CONNECTION ACCESSORIES: FOR A NEW INSTALLATION

### PACKAGE TO ORDER:

- **for MSL 24, 31 FF:**

Hydraulic connection kit: Package HX18  
 or  
 Complete hydraulic kit HX18 + HX19  
 (with water and gas valves)  
 or  
 Hydraulic connection plate: Package HX62

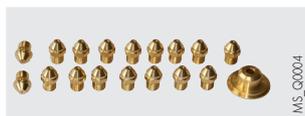


- **for MSL... MI (FF):**

Hydraulic kit HX19 (with water and gas valves)  
 or  
 Hydraulic connection plate: Package HX62



The hydraulic connection plate can be pre-installed and thus enable the installer to make all hydraulic connections, prime the installation with water and check for tightness in advance and only put the boiler in place at the last moment.



### PROPANE CONVERSION KIT

- FOR MSL 24... - PACKAGE HX53
- FOR MSL 28/31... - PACKAGE HX54



### BMR 80 DOMESTIC HOT WATER CALORIFIER - PACKAGE EE53

### BMR 80/MSL... CONNECTING KIT - PACKAGE HX33

### SRB 130 DOMESTIC HOT WATER CALORIFIER - PACKAGE EE81

### SRB 130/MSL... CONNECTING KIT - PACKAGE HX32

BMR 80 and SRB 130 domestic hot water calorifiers are high performance calorifiers. They are protected inside by food quality standard high quartz content vitrified enamel and by a magnesium anode.

The specifications of these calorifiers combined with MSL... boilers are given on page 4.

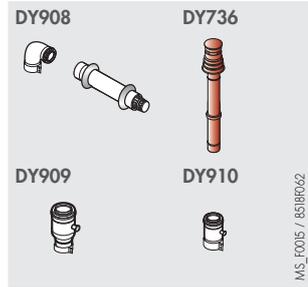
The boiler/water calorifier connection kit available include rigid and/or flexible connection pipes between the boiler and the calorifier.

# INFORMATION REQUIRED

FOR INSTALLATION

## FLUE SYSTEM ACCESSORIES SPECIFIC TO MSL... FF

### FLUE SYSTEM ALU/ ALU



- ALUMINIUM HORIZONTAL FLUE GAS TERMINAL:
  - Ø 60/100 mm - PACKAGE DY908
  - Ø 80/125 mm - PACKAGE CX119
  - Ø 80/125 mm - PACKAGE DY735 (BLACK) OR DY736 (RED)
- ALUMINIUM ADAPTER/CONDENSATES RECUPERATOR Ø 60/100 TO Ø 80/125 mm - PACKAGE DY909
- ALUMINIUM CONDENSATES RECUPERATOR Ø 60/100 mm - PACKAGE DY910

### FLUE SYSTEM ALU/COATED SHEET METAL



- HORIZONTAL TERMINAL+ELBOW Ø 60/100 - PACKAGE DY448 (ONLY FOR 24 KW EXECUTIONS)
- HORIZONTAL TERMINAL Ø 60/100 mm - PACKAGE HX55
- START ELBOW 90° Ø 60/100 mm - PACKAGE HX58
- CONCENTRIC EXTENSION Ø 60/100, LENGTH 1000 mm - PACKAGE HX56
- CONCENTRIC EXTENSION Ø 60/100, LENGTH 500 mm - PACKAGE HX57
- CONCENTRIC ELBOW 90° Ø 60/100 - PACKAGE HX59
- CONCENTRIC ELBOW 45° Ø 60/100 - PACKAGE HX60

### BI-FLOW BOILER CONNECTION KIT - PACKAGE HX30

Used to connect the chimney in configuration C52.



**IMPORTANT NOTE :** Alu/ Alu Flue system and Alu/coated sheet metal flue system cannot be mixed in a installation

## STATUTORY INSTRUCTIONS ON INSTALLATION AND MAINTENANCE

Installation and maintenance of the appliance, whether in a residential building or in a building open to the public, must be carried out by a qualified professional in compliance with the statutory texts and codes of practice in force.

### IMPLANTATION

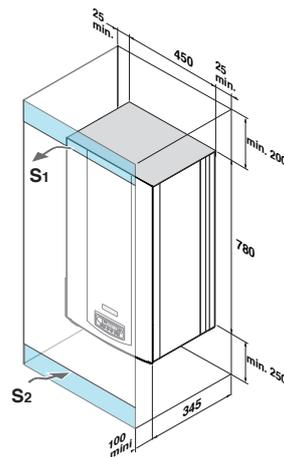
Installation must be done in accordance with the prevailing codes of practice, orders and standards.

MSL boilers can be installed at any point in a housing unit (even on a balcony) protected from frost, which can be ventilated. They must in no event be installed above a heat source or a cooking appliance. The IP X5D protection rating means that they can be installed in a kitchen or bathroom. The wall to which the boiler is secured must be capable of bearing the weight of the boiler when full of water. In order to ensure adequate accessibility around the boiler, we recommend that you respect the minimum dimensions given opposite.

### VENTILATION (MSL 24 MI ONLY)

This must comply with prevailing regulations.

### MINIMUM DIMENSIONS



MSL\_F000



In order to avoid damage to boilers, it is necessary to prevent the contamination of combustion air by chloride and/or fluoride compounds, which are particularly corrosive.

These compounds are present, for example, in aerosol spray cans, paints, solvents, cleaning products, washing powders/liquids, detergents, glues, snow clearing salts, etc.

It is therefore necessary:

- To avoid taking in air discharged from premises using such products: hairdressers, dry cleaners, industrial premises (solvents), premises containing refrigeration systems (risk of leaking refrigeration fluid), etc.
- To avoid the storage of such products close to the boiler.

**Please note that, if the boiler and/or its peripherals become corroded by chloride and/or fluoride compounds, our contractual warranty cannot be invoked.**

# INFORMATION REQUIRED

FOR INSTALLATION

## AIR/FLUE GAS CONNECTION (MSL... FF ONLY)

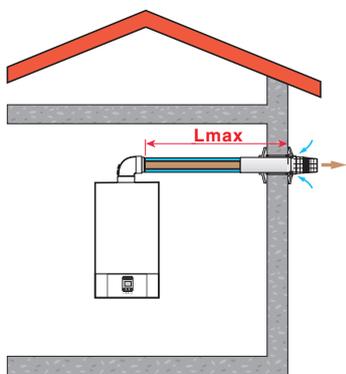
For the installation of the air/flue gas pipes and the rules on installation, see the «Flue Systems» booklet. For details of the various configurations, see the «Flue Systems» booklet or the current Product Catalogue.

### CLASSIFICATION

MSL... FF wall-hung gas boilers are forced flue appliances to be connected according to one of the following suggested configurations:

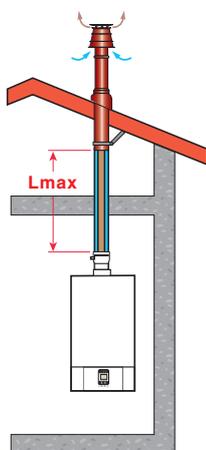
#### CONFIGURATION C<sub>12X</sub>

L <sub>max</sub> (m)	∅ 60/100 mm	∅ 80/125 mm
MSL 24 (MII) FF	5	9
MSL 28 MI FF	4	8
MSL 31 (MII) FF	3	7



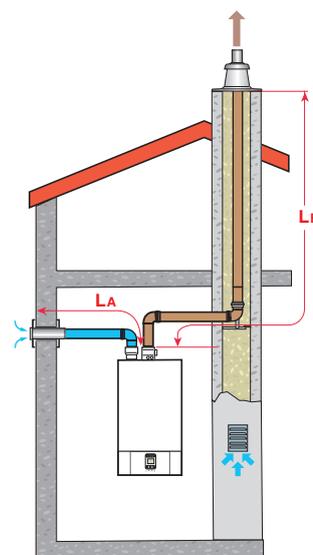
#### CONFIGURATION C<sub>32X</sub>

L <sub>max</sub> (m)	∅ 80/125 mm
MSL 24, 28, 31 FF	8



#### CONFIGURATION C<sub>52</sub>

L <sub>max</sub> (m)	∅ 80 mm
MSL 24 FF	40
MSL 28, 31 FF	25



$$L_{max} = L_A + L_f$$

$$L_A \text{ max} = 10 \text{ m}$$

MS\_F0014A

## GAS CONNECTION

Compliance with prevailing instructions and regulations is mandatory. In all cases, a sectional valve is fitted as close as possible to the boiler. This sectional valve is fitted with the package HX19 available in option. A gas filter must be fitted to the boiler inlet.

Gas supply pressure:

- 20 mbar on natural gas H, 25 mbar on natural gas L,
- 37 mbar on propane.

## ELECTRICAL CONNECTION

MSL... boilers are delivered pre-fitted with a mains connection cable. The electrical connection must comply with the relevant standard. The boiler must be powered by an electrical circuit comprising an omnipolar switch with an opening gap > 3 mm. Protect the connection to the mains with a 6A fuse.

**Note:**

- The sensor cables must be separated from the 230 V circuits by at least 10 cm;
- In order to protect the pump antifreeze and cleaning functions, we recommend not switching off the boiler at the mains switch.

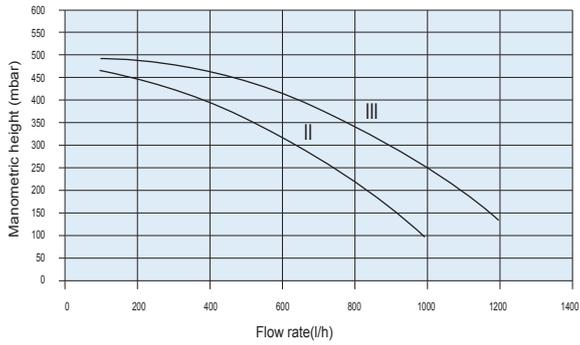
## HYDRAULIC CONNECTION

MSL boilers must only be used in closed circuit heating installations. The central heating systems must be cleaned to eliminate the debris (copper, strands, brazing flux) linked to the installation of the system and deposits that can cause malfunctions (noise in the system, chemical reaction between metals). More particularly, if a boiler is added to an existing installation, it is necessary to rinse this installation thoroughly to prevent sludge being transferred into the new boiler. Furthermore, it is important to protect central heating systems against corrosion, scaling and microbiological growth by using a corrosion inhibitor suitable for all types of system (steel, cast iron radiators, underfloor heating, PERI). The treatment products used in the heating water must be approved.

# INFORMATION REQUIRED

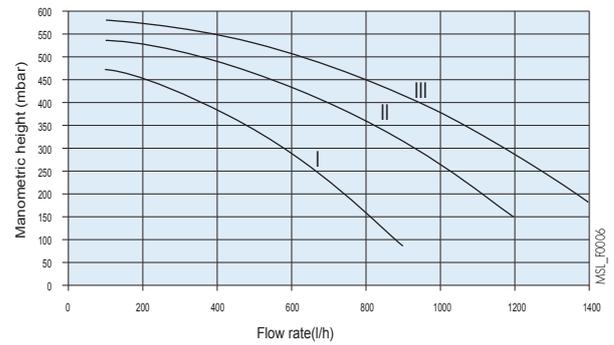
FOR INSTALLATION

## MANOMETRIC HEIGHT OF THE HEATING CIRCULATOR PUMP FITTED TO MSL 24 MI FF/MSL 24 FF/MSL 24 MI BOILERS



MSL\_F0006

## MANOMETRIC HEIGHT OF THE HEATING CIRCULATOR PUMP FITTED TO MSL 28 MI FF/MSL 31 FF/MSL 31 MI FF BOILERS



MSL\_F0006

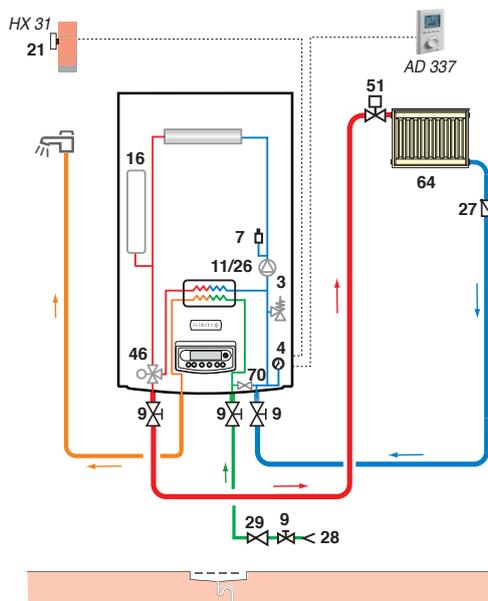
# EXAMPLES OF INSTALLATIONS

## EXAMPLES OF INSTALLATIONS

The examples presented below cannot cover the full range of installation scenarios which may be encountered. Their purpose is to draw your attention to the basic rules to be followed. A certain number of control and safety devices (some of which are already integrated as standard in MSL boilers) are represented but it is ultimately up to the installers, experts, consultant engineers and design departments to take the final decision on the safety and control devices to be used in the boiler room according to its specificities. In all cases, it is necessary to abide by the codes of practice and prevailing regulations.

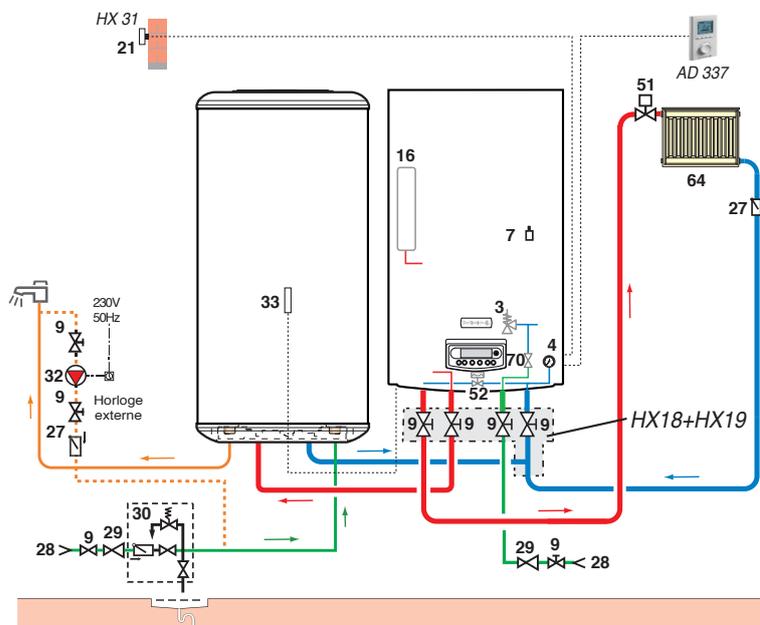
**Attention:** For the connection of domestic hot water, a sleeve made of steel, cast iron or any other insulating material must be interposed between the hot water outlet and these pipes to prevent any corrosion to the connections, if the distribution pipes are made of copper.

### MSL 24 MI (FF) WITH 1 DIRECT CIRCUIT, CONTROLLED BY 1 ROOM THERMOSTAT + OUTSIDE SENSOR



MSL\_15001

### MSL 24 (FF) + BMR 80 WITH 1 DIRECT CIRCUIT + 1 DOMESTIC HOT WATER CIRCUIT, CONTROLLED BY A HARD-WIRED ROOM TEMPERATURE THERMOSTAT + OUTSIDE SENSOR



MSL\_15000

#### LEGEND

- |                              |   |  |
|------------------------------|---|--|
| 3 3-bar heating safety valve | 21 Outside sensor                           | 46 2-position 3-way directional valve                    |
| 4 Pressure gauge             | 26 Domestic water load pump                 | 51 Thermostatic valve                                    |
| 7 Automatic air vent         | 27 Non-return valve                         | 52 Differential safety valve                             |
| 8 Manual air vent            | 28 Domestic cold water inlet                | 55 DHW safety valve calibrated and sealed to 7 bar       |
| 9 Isolation valve            | 29 Pressure reducer                         | 64 Radiator circuit (gentle heat radiators, for example) |
| 10 3-way mixing valve        | 30 Sealed safety device calibrated to 7 bar | 70 Filling tap   |
| 11 Heating pump              | 32 (Optional) DHW looping pump              |  |
| 16 Expansion vessel          | 33 DHW temperature sensor                   |  |

# TECHNICAL DESCRIPTION

## ZENA MSL...

Brand: De Dietrich  
Range: Zena PLUS  
Model:

- **MSL 24 MI** for heating and instantaneous DHW and connecting to a chimney
- **MSL 24, 31 FF** for heating only with integrated heating/DHW reversal valve and connecting to a forced flue
- **MSL 24, 28, 31 MI FF** for heating and instantaneous DHW and connecting to a forced flue
- **MSL 24/31 FF + BMR 80/SRB 130** for heating and DHW by 80-l juxtaposed calorifier/130-l calorifier placed under the boiler

Nominal heating output at 80/60 C: 24 kW

Min. heating output at 80/60°C: 9.3 kW (10.4 kW with MSL 28 MI and 31 MI)

Gas used: natural gases - propane (with optional conversion kit)

Gas pressure: \_\_\_\_\_ mbar  
Gas flow rate: \_\_\_\_\_ m<sup>3</sup>/h  
Max. operating temperature: 85°C  
Max. operating pressure: 3 bar  
Water content: 1.4 litres  
Safety thermostat: 105°C  
Dimensions (L x l x p): 450 x 780 x 345 mm  
Gas inlet: G 3/4  
Ø Heating flow/return: G 3/4  
Ø DHW flow/return: G 1/2  
Ø chimney flue gas nozzle: Ø 120 mm  
Ø air/flue gas FF: Ø 60/100 mm  
Shipping weight: \_\_\_\_\_ kg

## DESCRIPTION

- Complies with the requirements of European Directives
- Homologation: B22-C12x-C32x-C42x-C52-C82x (FF versions)
- Type: B11BS («chimney» version)
- Chimney and forced flue model
- Protection rating IP X5D
- Heating body in finned copper
- Modulation from 9.3 (10.4) to 24 (31) kW
- 8-litre expansion vessel for MSL 24... and 10-litre for MSL 28/31... versions
- Integrated flow/return by-pass
- Ignition and flame monitoring by ionisation electrode
- LCD control panel, troubleshooting system
- Mechanical pressure gauge and low water pressure switch
- Control according to outside conditions available as optional
- Hydroblock in brass
- Full equipment: safety valve, 3-speed circulating pump, disconnecter, automatic vent
- MSL...MI (FF):
  - Over-sized plate exchanger for the preparation of domestic hot water
  - Specific flow rate at ΔT 30 K: 13.7 l/min (MSL 31 MI FF)

### COLIS RÉF.

#### Combi boilers for Chimney connection:

• MSL 24 MI	HX42	7116254
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#### Combi boilers for forced flue connection:

• MSL 24 MI FF	HX41	7116249
• MSL 28 MI FF	HX43	7116250
• MSL 31 MI FF	HX44	7116251
• MSL 24 MI FF LPG	HX136	7735773
• MSL 28 MI FF LPG	HX137	7735774
• MSL 31 MI FF LPG	HX138	7735775

#### Solo boilers for forced flue connection:

• MSL 24 FF	HX40	7116252
• MSL 31 FF	HX45	7116253

## HYDRAULIC CONNECTION ACCESSORIES AND OPTIONS

To be chosen depending on whether it is a standard new installation, with mounting column, or replacement of an existing boiler:

- Complete hydraulic connection plate
- Basic hydraulic kit

## BOILER OPTIONS

- Propane conversion kit

## FLUE SYSTEM OPTIONS FOR MSL... FF

- Aluminium horizontal flue gas terminal Ø 60/100 mm
- Aluminium horizontal flue gas terminal Ø 80/125 mm
- Aluminium vertical flue gas terminal Ø 80/125 mm
- Aluminium adapter/condensates recuperator Ø 60/100 mm to Ø 80/125 mm
- Condensates recuperator Ø 60/100 mm
- Bi-flow connection kit

## CONTROL SYSTEM OPTIONS

- Non-programmable room temperature thermostat
- Programmable hard-wired or radio-controlled room temperature thermostats
- Outside sensor
- DHW sensor
- Relay card



BDR THERMEA France

SAS with corporate capital of 229 288 696 €

57, rue de la Gare - 67580 Mertzwiller

Tel. +33 3 88 80 27 00 - Fax +33 3 88 80 27 99

www.dedietrich-heating.com