## ferroli

## Optimax HE Boilers

SEDBUK 'A' high efficiency condensing boilers Combi, system and regular open vented models 18 kW - 38 kW models


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## Why is it new?

- At Ferroli our motto is 'making life easier'. So we planned to upgrade our existing best-selling Band A Optimax range to make it even better
- We started by listening to our customers. We listened to merchants, installers, and specifiers for comments both good and bad about our proven range
- It was clear that the Optimax was well respected but that we could make a number of detail improvements to make life easier
- So we did


## What's new?

- Stylish boiler casing with an integral fascia
- Re-designed internal water group assembly to include a built-in automatic bypass valve
- Integral filling loop that forms part of the boiler valve assembly (combi)
- 3 Amp fused three pin plug for simple electrical connection
- New Optimax HE range of outputs:
- 31 kW and 38 kW combi models
- 18kW, 25kW and 31 kW system models
- 18 kW regular open vented model
- All models available in both natural gas and LPG versions
- All new boiler control system and liquid crystal display
- Option of a plug-in seven day digital timer (combi)
- OpenTherm compliant ready for our Romeo controller
- Built-in outside weather compensation software (combi)


## Benefits to you

- For the merchant : one range satisfies all your Band A needs
- For the installer : easiest ever to install; easy access for installation and servicing
- For the user : more power and higher efficiency from a more compact unit; super quiet operation; proven technology for greater reliabilty; 5 year parts and labour guarantee


## comb:

band A

## Optimax HE Combi

## 31 kW and 38 kW models

## Features and benefits

- Engineered to produce more power and higher efficiency
- Choice of 31 kW or 38 kW combi models to give higher DHW flow rates
- 31 kW model produces an impressive $12.6 \mathrm{I} / \mathrm{min}$ flow rate at $35^{\circ} \mathrm{C}$ rise
- 38 kW model produces an unbeatable $15.4 \mathrm{I} / \mathrm{min}$ flow rate at $35^{\circ} \mathrm{C}$ rise
- Compatible with our AquaSol solar system
- Compatible with our underfloor heating system
- New Italian-styled casing design
- High-density foam lining absorbs almost all operational sounds, making it extremely quiet during normal operation
- Built-in bypass speeds up installation and ensures the minimum flow rate through the heat exchanger at all times
- Integral filling loop that forms part of the boiler valve assembly
- 3 Amp fused three pin plug for simple electrical connection
- All models available in both natural gas and LPG versions
- All new boiler control system and liquid crystal display
- Option of a plug-in seven day digital timer
- Built-in outside weather compensation software
- Optional pre-plumb jig also available - Product Code 046006G0
- 5 year manufacturer's parts and labour guarantee


LCD diagnostic boiler fascia panel

## Optimax HE combi controls

- Liquid crystal display for simple user operation
- Full diagnostic software ensures optimum reliability
- Option of a plug-in seven day digital timer
- OpenTherm compliant ready for optional Romeo controller which modulates the room temperature by altering the boiler output ensuring maximum efficiency
- Option of outside weather compensation sensor. The Optimax HE microprocessor compares external and internal temperatures and increases or decreases the flow temperature accordingly, maximising efficiency
- Optional RF unit available


## comb:

## Optimax HE combi

WATER CIRCUIT DIAGRAM


```
Gas inlet
DHW outlet
Cold main inlet
CH flow
CH return
Heating safety valve
Premix fan assembly
Heating pump
Automatic air ven
DHW temperature sensor
Gas valve
Overheat protection and heat sensor
Expansion vessel
Ionisation probe
Motorised diverter
Flow meter
Condensate outlet pipe
Heat exchanger
Return sensor
Ignition probe
Condensate trap
Domestic plate heat exchanger
Fan ventur
Automatic bypass
System pressure sensor
```

Note: This numbering system is consistent with the installation manual.

## 1. PRE-MIX FAN ASSEMBLY

The 24 volt pre-mix fan is extremely quiet in operation and in conjunction with our down-firing ceramic burner ensures the most efficient process of combustion possible.

## 2. CERAMIC PLAQUE BURNER

Unlike many condensing appliances the Optimax allows viewing of the flame through a conveniently positioned window within the combustion cover. The Ceramic Plaque Burner provides the optimum in clean burn technology, ultra-quiet with spark generated ignition, which being an extremely reliable and proven system gives peace of mind for the end user.

## 3. CLIP-ON SENSORS

Negative Temperature Co-efficient sensors (NTC) are dry clip-on style. This helps to prevent premature failure from system contamination. In the unlikely event of a sensor failure, they can easily be changed without draining down the boiler.

## 4. ALUMINIUM HEAT EXCHANGER

Designed and built within our "State of the Art" research and development department in San Bonifacio, Northern Italy. This aluminium heat exchanger ensures proven reliability and energy efficiency in conjunction with standard heating system design. (Typical flow and return temperature differential of $15^{\circ} \mathrm{C}$.)

## 5. GRUNDFOS PUMP

A Grundfos pump is used to ensure reliable delivery of hot water and heating.
6. STAINLESS STEEL DHW PLATE HEAT EXCHANCER (COMBI MODELS ONLY) The Stainless Steel plate heat exchanger is guaranteed for 5 years against scale build up; it allows a hot water flow rate of 15.4 litres per minute at $35^{\circ} \mathrm{C}$ for the Optimax HE 38C.
7. MULTIFUNCIIONAL USER INIERFACE All Optimax boilers are fitted with a multifunctional, simple to use interface with installer programming access.


## Optimax HE System

## 18 kW , 25 kW and 31 kW models

## Features and benefits

- Engineered to produce more power and higher efficiency
- Choice of $18 \mathrm{~kW}, 25 \mathrm{~kW}$ or 31 kW system models - ideal for most homes
- Compatible with our AquaCyl cylinder range
- Compatible with our underfloor heating system
- New Italian-styled casing design
- High-density foam lining absorbs almost all operational sounds, making it extremely quiet during normal operation
- Built-in bypass speeds up installation and ensures the minimum flow rate through the heat exchanger at all times
- 3 Amp fused three pin plug for simple electrical connection
- Factory-fitted expansion vessel and heating pump
- All models available in both natural gas and LPG versions
- All new boiler control system and liquid crystal display
- Optional pre-plumb jig also available for 25 S and 31 S models - Product Code 046006GO
- 5 year manufacturer's parts and labour guarantee



## Optimax HE System controls

- Liquid crystal display for simple user operation
- Full diagnostic software ensures optimum reliability
- Suitable for Y plan or S plan fully pumped heating systems

[^0]
## system

## Optimax HE System

## WATER CIRCUIT DIAGRAM



## KEY <br> 7 Gas inlet <br> 10 CH flow <br> 11 CH return <br> Heating safety valve <br> Premix fan assembly <br> Heating pump <br> Automatic air vent <br> Gas valve <br> Overheat protection and heat sensor <br> Expansion vessel <br> Condensate outlet pipe <br> 161 Heat exchanger <br> 186 Return sensor <br> 188 Ignition probe <br> 193 Condensate trap <br> 201 Fan venturi <br> 241 Automatic bypass <br> System pressure sensor

Note: This numbering system is consistent with the installation manual.

## PRE-MIX FAN ASSEMBLY

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## CRUNDFOS PUMP

A Grundfos pump is used to ensure reliable delivery of hot water and heating.

MULTIFUNCTIONAL USER INTERFACE
All Optimax boilers are fitted with a multifunctional, simple to use interface with installer programming access.


Optimax 25 OV (regular open vented) 25 kW model

year parts guaranter guarantee

1. PRE-MIX FAN ASSEMBLY

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5. MULTIFUNCIIONAL USER INTERFACE Fitted with a multifunctional, simple to use interface with installer programming access.


## Technical Specifications

| Optimax |  |  | COMBI |  | SYSTEM |  |  | OPEN VENTED |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 31 C | 38 C | 18 S | 25 S | 31 S | 18 OV | 25 OV |
| Output max/min |  |  |  |  |  |  |  |  |  |
| Heat input |  | kW | 25.2/5.3 | 30.8/6.5 | 18.0/3.0 | 25.2/5.3 | 30.8/6.5 | 18.0/3.0 | 28.0/8.3 |
| Useful heat output $80^{\circ} \mathrm{C}-60^{\circ}$ |  | kW | 24.6/5.2 | 30.2/6.3 | 17.7/2.9 | 24.6/5.2 | 30.2/6.3 | 17.7/2.9 | 24.7/7.3 |
| Useful heat output $50^{\circ} \mathrm{C}-30$ |  | kW | 26.6/5.7 | 32.5/6.9 | 19.0/3.2 | 26.6/5.7 | 32.5/6.9 | 19.0/3.2 | 26.4/8.0 |
| Central heating |  |  |  |  |  |  |  |  |  |
| Maximum operating temper |  | ${ }^{\circ} \mathrm{C}$ | 95 | 95 | 95 | 95 | 95 | 85 | 80 |
| Operating pressure central heating |  |  |  |  |  |  |  |  |  |
|  | Maximum | bar | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  | Minimum | bar | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.3 | 0.1 |
| Expansion vessel capacity |  | litres | 7 | 9 | 7 | 7 | 7 | N/A | N/A |
| Expansion vessel pre-fill pressure |  | bar | 1 | 1 | 1 | 1 | 1 | N/A | N/A |
| Boiler water content |  | litres | 1.5 | 2.0 | 1.0 | 1.5 | 1.5 | 1.0 | N/A |
| DHW |  |  |  |  |  |  |  |  |  |
| DHW output max/min |  | kW | 30.8/5.2 | 37.7/6.3 | N/A | N/A | N/A | N/A | N/A |
| Maximum DHW production | $\Delta \mathrm{t} 25^{\circ} \mathrm{C}$ | 1/min | 17.6 | 21.6 | N/A | N/A | N/A | N/A | N/A |
|  | $\Delta \mathrm{t} 30^{\circ} \mathrm{C}$ | 1/min | 14.7 | 18.0 | N/A | N/A | N/A | N/A | N/A |
|  | $\Delta \mathrm{t} 35^{\circ} \mathrm{C}$ | 1/min | 12.6 | 15.4 | N/A | N/A | N/A | N/A | N/A |
| Operating pressure DHW | Maximum | bar | 9 | 9 | N/A | N/A | N/A | N/A | N/A |
|  | Minimum | bar | 0.25 | 0.25 | N/A | N/A | N/A | N/A | N/A |
| DHW water content |  | litres | 0.3 | 0.5 | N/A | N/A | N/A | N/A | N/A |
| Dimensions, weights, fittings |  |  |  |  |  |  |  |  |  |
| Height |  | mm | 700 | 700 | 700 | 700 | 700 | 630 | 582 |
| Width |  | mm | 400 | 450 | 320 | 400 | 450 | 320 | 400 |
| Depth |  | mm | 330 | 330 | 300 | 330 | 330 | 280 | 306 |
| Weight (empty) |  | kg | 39 | 45 | 37 | 37 | 43 | 19 | 34 |
| Gas fitting |  | mm | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Central heating fittings |  | mm | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| DHW circuit fittings |  | mm | 15 | 15 | N/A | N/A | N/A | N/A | N/A |
| Power supply |  |  |  |  |  |  |  |  |  |
| Max power input |  |  | 135 | 145 | 120 | 120 | 130 | 50 | 50 |
| Power supply voltage/frequency Index of protection |  | V/Hz | $230 \mathrm{~V} / 50 \mathrm{~Hz}$ |  | $230 \mathrm{~V} / 50 \mathrm{~Hz}$ |  |  | $230 \mathrm{~V} / 50 \mathrm{~Hz}$ |  |
|  |  | IP | IPX5D |  | IPX5D |  |  | IPX5D | IPX4D |
| Maximum permissible flue lengths |  |  |  |  |  |  |  |  |  |
| Max horizontal flue length 60 | 00mm Ø | m | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Max vertical flue length 60/100 | mm Ø | m | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Max horizontal flue length 80 | 25mm Ø | m | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Max vertical flue length 80/125 | mm Ø | m | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Total equivalent length two | 80mm Ø | m | 75 | 55 | 95 | 95 | 55 | 75 | 75 |
| SEDBUK SAP efficiency |  | \% | 90.4 | 90.4 | 90.4 | 90.4 | 90.4 | 90.4 | 90.4 |

## Pipe and flues connections

Optimax HE 31C

[^1]
## Flue terminal positions



| Flue terminal positions | mm | Notes <br> In addition, the terminal must not be nearer than 300 mm to |
| :---: | :---: | :---: |
| A Directly below an opening, air brick, opening windows etc | 300 | an opening in the building fabric formed for the purpose of accommodating a built-in element such as a window frame. |
| B Above an opening, air brick, opening windows etc | 300 | Condensing terminal positions: If the flue is to be |
| C Horizontally to an opening, air brick, opening windows etc | 300 | terminated at low level, then the potential effect of the |
| D Below gutters, soil pipes or drain pipes | 75 | The plume should not be directed: |
| E Below eaves | 200 | - across a frequently used access route |
| F Below balconies or car port | 200 | - across a neighbouring property |
| G From a vertical drain pipe or soil pipe | 150 | For more information on terminal positions please |
| H From an internal or external corner | 100 | contact our technical department on 08707282885 OPTION 1 |
| I Above ground roof or balcony level | 300 |  |
| J From a surface facing the terminal | 600 |  |
| K From a terminal facing the terminal | 1200 |  |
| L From an opening in the car port (ie door, window) into the dwelling | 1200 |  |
| M Vertically from a terminal on the same wall | 1500 |  |
| N Horizontally from a terminal on the same wall | 300 |  |
| 0 From the wall on which the terminal is mounted | N/A |  |
| P From a vertical structure on the roof | 150 |  |
| Q Above intersection with roof | 300 |  |

## Flue options



| H Vertical adaptor |
| :---: |
| $100 \mathrm{~mm}-1$ KWMA71W |
| $100 \mathrm{~mm}-041002 \mathrm{XO}$ (For 18OV/18S only) |
| $125 \mathrm{~mm}-1$ KWMA74Y |
| $125 \mathrm{~mm}-041006 \mathrm{XO}$ (For 180V/18S only) |



| N 80mm Horizontal terminals |  |
| :---: | :---: |
|  | Flue gas terminal - 1KWMA86A |
| A | Air terminal |

## Flue length reductions for bends

TWO PIPE FLUE - 80MM

| Reduction for bends | Air | Flue |
| :--- | :---: | :---: |
| $90^{\circ}$ bend | 1.5 m | 2.0 m |
| $45^{\circ}$ bend | 1.2 m | 1.8 m |
| Pipe - per metre length | 1 m | $1.6 \mathrm{~m}+/ 2 \mathrm{~m}^{++}$ |
| Horizontal terminals | 2 m | 5 m |
| Concentric vertical | - | 12 m |
| +Vertical ++Horizontal |  |  |

## CONCENTRIC FLUE

| Reduction for bends | $\mathbf{6 0 / 1 0 0}$ | $\mathbf{8 0} / \mathbf{1 2 5}$ |
| :--- | :---: | :---: |
| $90^{\circ}$ bend | 1 m | 0.5 m |
| $45^{\circ}$ bend | 0.5 m | 0.25 m |

## New accessories for the Optimax HE

Plume management kit

For use with all Optimax HE Models except the 180V \& 18S. For the 180 V \& 18 S please use standard flue kit (041025G0) \& retro plume kit (041003G0)

- Kit Part No: 041004G0 includes 1x appliance bend, 1x horizontal terminal, 1 x wall bracket, 1 x extension and $1 \times 90^{\circ}$ terminal bend
- Additional extensions, bends and brackets are available. Please contact Ferroli for details



## Space frame kit

- Allows piping to run vertically behind the boiler
- Part No: 046007G0 for Optimax HE 25S and 31C
- Part No: 046008G0 for Optimax HE 31 S and 38C



## Brochure request



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08707282883


## Ferroli Limited

Ferroli began producing heating appliances and equipment in Italy during the 1950s. Today the company is still family-owned but now operates ten ultra-modern factories in Europe and is developing new production sites and offices in China, Russia and the Ukraine. The Group employs over 2,200 people and produces more than 500,000 boilers per year in addition to its growing business in water heaters and air conditioners.


## Ferrolii Domestic Heating Tel: $08707 \mathbf{2 8 2} \mathbf{8 8 2}$

Offering gas wall mounted units with outputs from 5 kW to 50 kW , Ferroli's stylish, compact domestic boilers provide maximum comfort with minimal fuel usage. With a choice of conventional, condensing and combi technologies, there's a boiler to match the heating and hot water requirements of every home. In recent years Ferroli has also become a Northern European leader in solar heating, and has developed underfloor heating systems for the UK market.


Ferrolii Commerciall and Industrial Heating Tel: 08707272755
Ferroli commercial boilers for pressure jet oil, forced air gas or dual fuel are factory matched with high efficiency burners to provide outputs up to $14,000 \mathrm{~kW}$, while meeting the strictest emissions demands. Our range includes high efficiency aluminium, cast iron, steel and stainless steel boilers as well as stainless steel unvented hot water cylinders, pressurisation units and plate heat exchangers. We are also taking a lead in developing underfloor and solar heating solutions.


Ferrrolii Technicall Helpline and Service Tel: $08707 \mathbf{2 8 2} \mathbf{8 8 5}$
The Ferroli technical help desk is able to assist heating engineers at the time of specifying, installing and in-guarantee servicing any of our products. Once the normal guarantee period on our boilers has expired, coverage can be extended cost-effectively with a choice of Ferroli service contracts. All Ferroli service engineers work to Benchmark standards and the Benchmark Code of Practice for the installation, commissioning and servicing of central heating systems.


## Ferrolii Spares Tel: $08707 \mathbf{2 8 2} \mathbf{8 8 2}$

The rapidly growing popularity of Ferroli as first choice for both domestic and commercial installations means that heating parts stockists offer readily available spares for Ferroli boilers. For less frequently needed items, we maintain a fully-stocked warehouse located centrally in the UK, enabling same-day despatch of just about any part needed to keep your Ferroli boiler running at optimum efficiency.


## Ferrolii Training Tel: 08707282891

Ferroli understands that well-trained installers are the key to a safe and efficient heating system. That's why we run comprehensive training courses in our purpose-built facilities for everyone concerned in the installation and servicing of Ferroli's range of boilers. We also offer a solar appreciation training day at Burton-upon-Trent or a three day BPEC accredited course. These courses improve installers' knowledge and skills by providing both the theory and the hands-on practical experience essential to maintaining heating system performance and safety.

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(1) ICOM

All the information in this brochure was correct at the time of printing, specifications and designs may be changed owing to Ferroli's policy of continuous product research and development. The statutory rights of the consumer are not affected.


[^0]:    LCD diagnostic boiler fascia panel

[^1]:    Please consult Ferroli for details of the new Optimax HE 18 S and Optimax HE 18 OV

