Wall mounted boiler
Output 60 – 200 kW

Rendamax
HEATNOLOGY

# R0000

## Flexibility and power combined

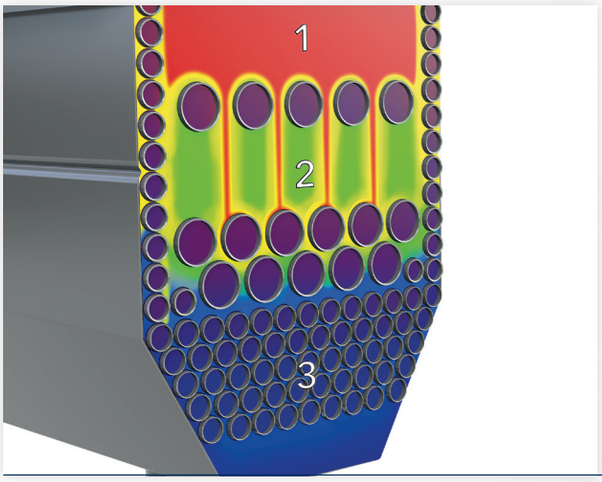
# R0000 – A new era of commercial b

## A fresh approach to boiler design

**The benefits of the new R0000 boilers ensure they are suitable for an extensive range of commercial heating systems, delivering high power in a in a compact size.**

### Built-in back-up

Thanks to a unique 'dual engine' design, R0000 boilers have built-in redundancy – creating a cascade system within one boiler. The two heat exchangers are capable of working independently from each other, ensuring that a system is never left without highly efficient heating.




### Designed for future standards

Within the R0000 is RENDAMAX's unique three zone heat exchanger technology.

**1) NOx zone:** The formation of thermal NOx is reduced to a minimum by low resistance and a short dwell time, as well as rapid cooling of the combustion gases to below 1,000 °C.

**2) CO zone:** By increasing resistance, the heat exchangers keep the combustion gas at over 600 °C for as long as possible to minimise the formation of carbon monoxide.

**3) $H_2O$ condensation zone:** With small and densely arranged heat exchanger tubes, maximium heat transfer is achieved in this zone, ensuring optimum efficiency.

### Plug & Play

By integrating main components within the boiler, such as the pump and non return valves, installation time, costs and space required are all significantly reduced. Thanks to the new HMI (Human Manual Interface) and a wide range of accessories, quick installations and commissioning become very simple.

### Simple to service

All key components are accessible from the front of the boiler, making ongoing servicing and maintenance easy, while also reducing time on site.

# boiler design



**Stay connected and in control**

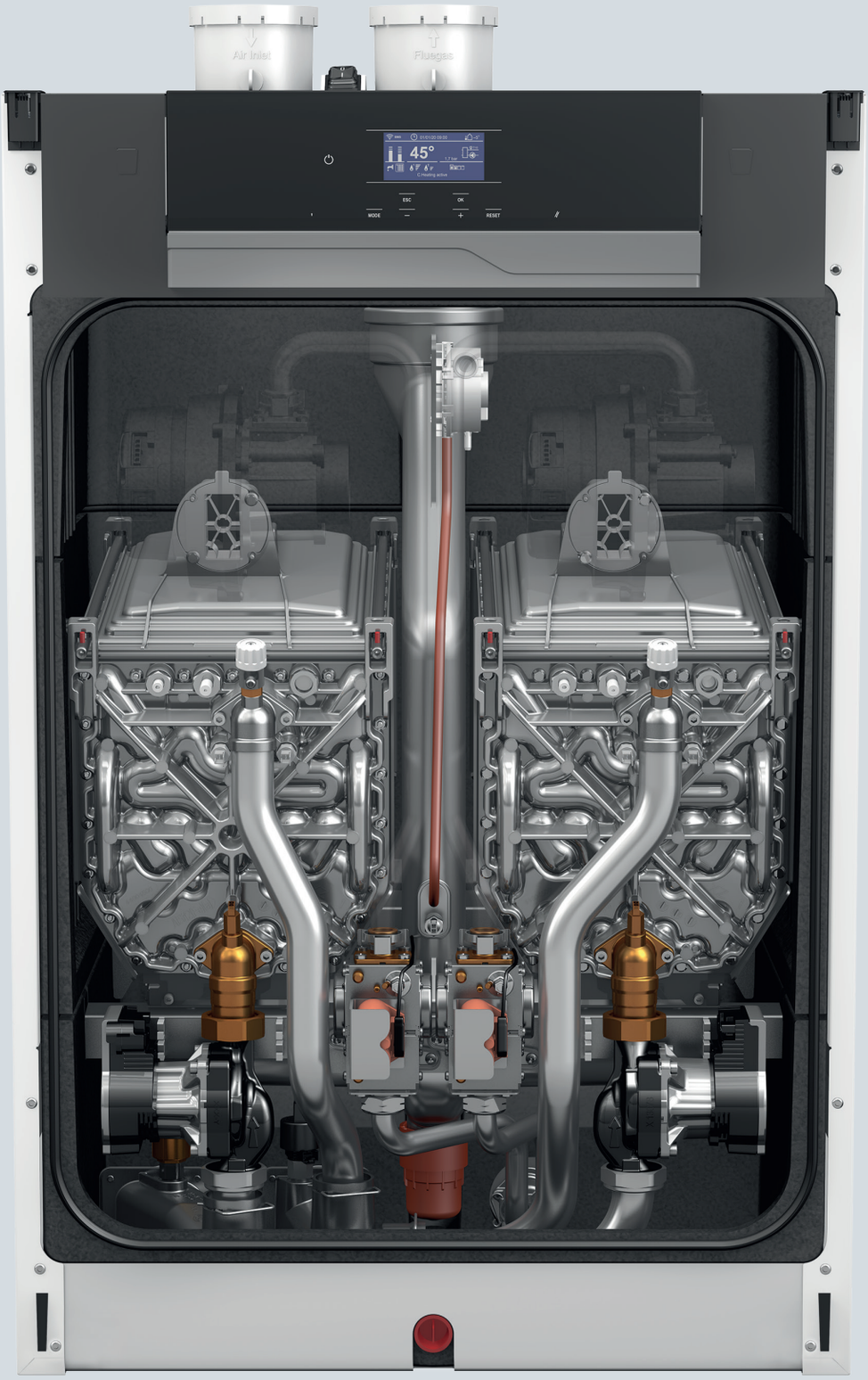
R0000 is compatible with building management system protocols, including all common industry standards. This allows the boiler to be easily customised to a property's requirements, while still delivering optimal efficiencies.

Modbus LonWorks KNX ASHRAE BACnet

# R0000 – Exceeding expectations

## Engineered to excel

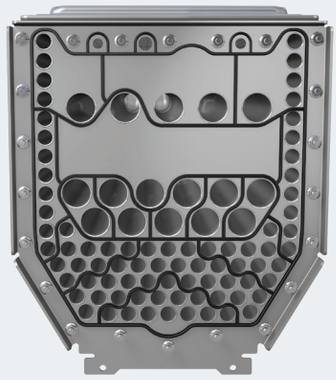
**The R0000 delivers features that are unmatched in the market, thanks to a unique design and careful consideration of every detail.**



# Key features

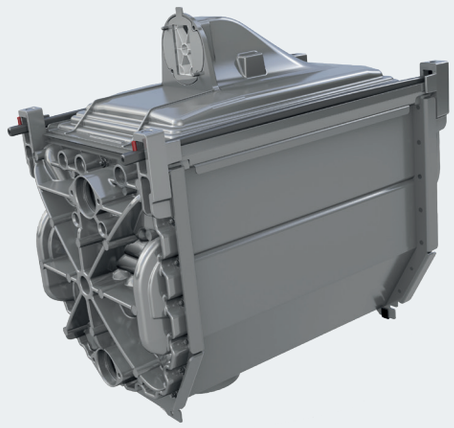
## Designed to deliver

**R0000 has been manufactured to ensure its fundamental components operate to their maximum throughout the entire lifecycle of the unit.**



### Efficient heat transfer

With specially designed hydraulic chambers, water turbulence within the boiler is optimised to ensure maximum heat transfer, while maintaining the lowest possible pressure drop.

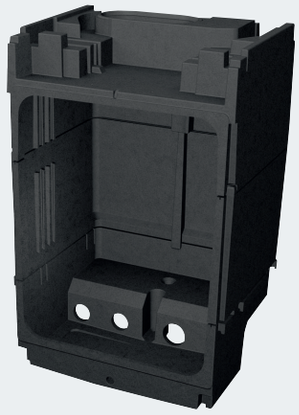


### Robust and durable stainless-steel heat exchanger

By combining the highest quality materials with an improved heat exchanger design, which is based on 30 years of experience with the OSS heat exchanger, the R0000 delivers excellent efficiencies for the lifetime of the boiler, as well as incredibly low maintenance schedules. Specially designed smooth tubes ensure direct heat transfer, plus a down-firing arrangement avoids contamination of the heat exchanger.

### High modulation range

A wide modulation range of up to 1:10 allows the R0000 to adapt to system requirements and maximise boiler efficiency.



### Low heat loss and noise emissions

A completely expanded polypropylene insulated body encases the boiler to keep heat loss to an absolute minimum for improved boiler efficiency. Plus, the high quality casing minimises noise emissions to industry leading standards.

# Cascade portfolio

**Extensive accessories with plug & play functionality**

**The R0000 is incredibly flexible and is available in either in-line or back-to-back configurations for up to eight boilers, delivering heat outputs up to 1,6 MW. The systems include all the components necessary to complete the primary heating circuit, with the cascade system specifically designed for quick, simple and effective installation.**

## In-line cascades

| Max. Boilers in cascade | Max. Output |
|---|---|
| **6** In-line | **1** MW |

| Max. Dimensions | | |
|---|---|---|
| Width mm | Height mm | Depth mm |
| 4230 | 1700 | 755 |

| Max. Boilers in cascade | Max. Output |
|---|---|
| **8** In-line DUO | **1,6** MW |

| Max. Dimensions | | |
|---|---|---|
| Width mm | Height mm | Depth mm |
| 6520 | 1700 | 755 |

## Back-to-back cascades

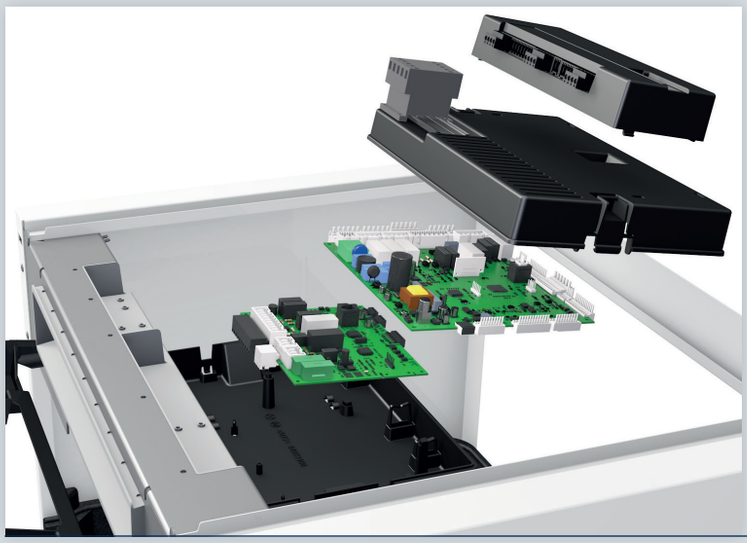
| Max. Boilers in cascade | Max. Output |
|---|---|
| **4+4** B2B | **1** MW |

| Max. Dimensions | | |
|---|---|---|
| Width mm | Height mm | Depth mm |
| 2830 | 1700 | 1510 |

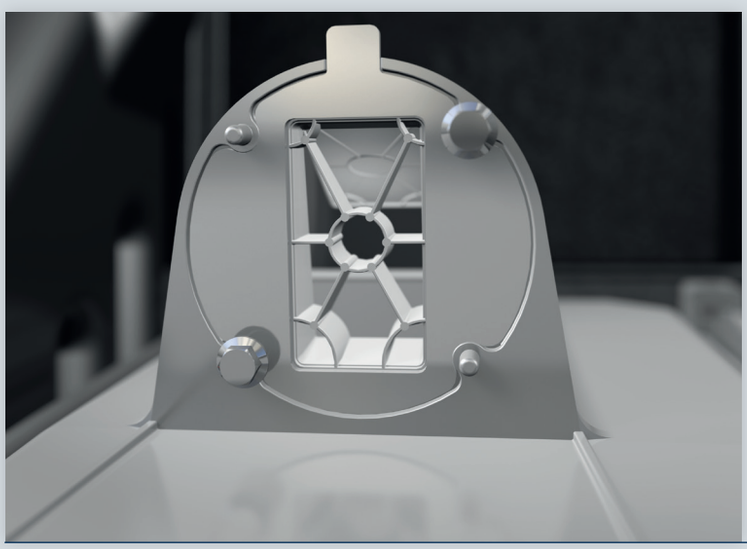
| Max. Boilers in cascade | Max. Output |
|---|---|
| **4+4** B2B DUO | **1,6** MW |

| Max. Dimensions | | |
|---|---|---|
| Width mm | Height mm | Depth mm |
| 3880 | 1700 | 1510 |

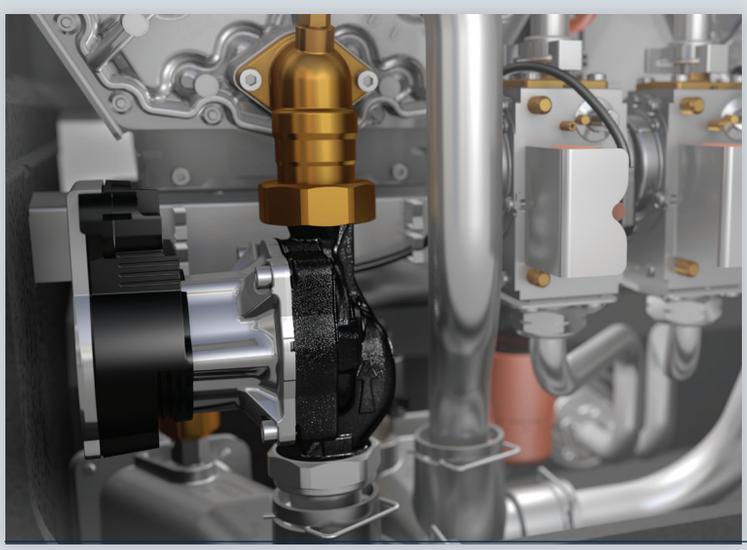
# High quality components



**Smart interface with integrated cascade manager**
The new control panel is positioned at the top of the boiler to guarantee maximum durability of electronic components, while also provide easy access to all boiler parameters. With a built-in cascade controller, the R0000 also allows quick and simple system optimisation, intuitive programming and full diagnostic capabilities. The cascade manager can support up to six mixed heating zones, thanks to two, three-zone clip-ins.



**Integrated non-return valve**
Built-in as standard, a non-return valve allows easy connection of the flue system, without loss of residual fan pressure.



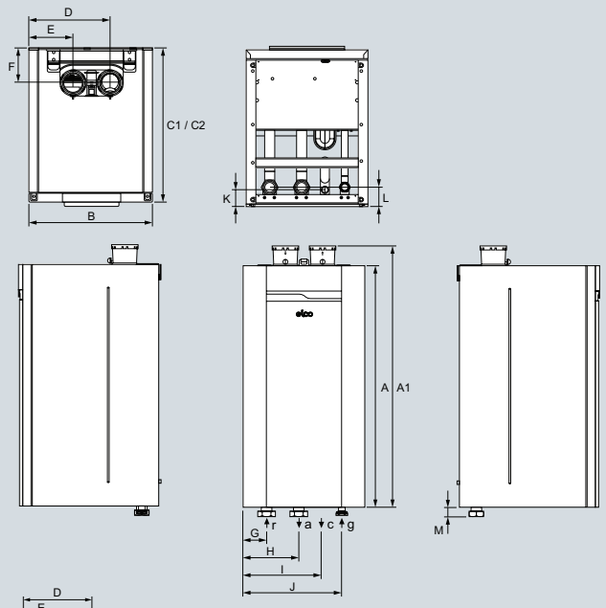
**Smart and efficient built-in pump**
Furthermore, the R0000 is able to communicate with the pump and receive feedback on its operation status. This built-in modulating pump is constantly monitoring the minimum flow rate through the boiler and is able to recognise sudden blockages, preventing damage, guaranteeing optimal working conditions and improving boiler efficiency.

# Technical data

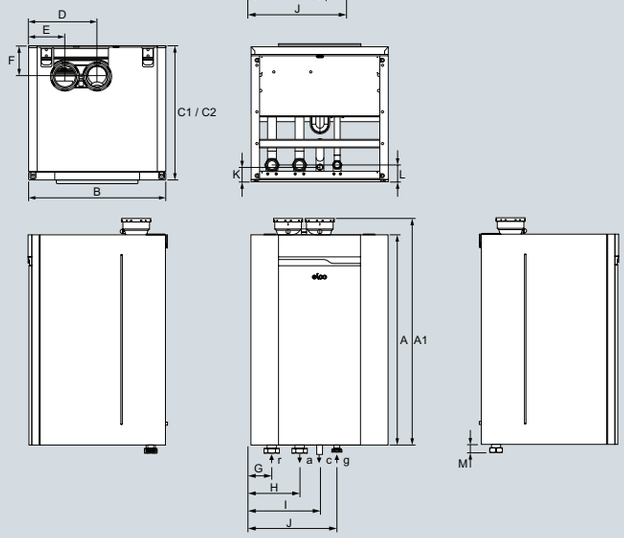
| R0000 | | R0060 | R0070 | R0100 | R0120 | R0140 | R0170 | R0200 |
|---|---|---|---|---|---|---|---|---|
| Nominal heat output at 80/60°C | kW | 56,9 | 65,4 | 90,2 | 110,8 | 130,5 | 155,5 | 180,3 |
| Minimum heat output at 80/60°C | kW | 14,7 | 14,6 | 18,1 | 14,7 | 14,6 | 14,6 | 18,1 |
| Nominal heat output at 50/30°C | kW | 62,5 | 71,9 | 98,8 | 121,9 | 142,1 | 170,4 | 196,9 |
| Minimum heat output at 50/30°C | kW | 16,1 | 16,1 | 19,8 | 16,1 | 15,9 | 16,0 | 19,7 |
| Nominal heat input Hi full load | kW | 57,9 | 66,7 | 92,3 | 112,8 | 133,2 | 158,8 | 184,5 |
| Minimum heat input Hi min. load | kW | 14,88 | 14,88 | 18,45 | 14,88 | 14,88 | 14,88 | 18,45 |
| Efficiency at 80/60°C Hi full load | % | 98,2 | 98 | 97,7 | 98,2 | 98 | 97,9 | 97,7 |
| Efficiency at 50/30°C Hi min. load | % | 108,3 | 108,15 | 107,3 | 108,5 | 107,1 | 107,6 | 107 |
| Efficiency at 40/30°C Hi min. load | % | 108,5 | 108,35 | 107,6 | 108,7 | 107,3 | 107,9 | 107,3 |
| Annual efficiency (NNG 40/30°C) | % | 110,8 | 110,6 | 111,4 | 111 | 110,7 | 111,5 | 111,7 |
| NOx class | - | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| NOx level (EN 15502) GCV | mg/kWh | 21,7 | 22,4 | 22,7 | 22,7 | 23,7 | 22,6 | 23,6 |
| Flue gas temperature at 80/60°C full load | °C | 61,63 | 60,91 | 71,19 | 62 | 61 | 72,26 | 71 |
| Max. permissible flue resistance | Pa | 161 | 156 | 243 | 143 | 200 | 215 | 265 |
| Water pressure max./min. | bar | 6,0 / 0,7 | 6,0 / 0,7 | 6,0 / 0,7 | 6,0 / 0,7 | 6,0 / 0,7 | 6,0 / 0,7 | 6,0 / 0,7 |
| Maximum temperature setpoint | °C | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Maximum available head for system (ΔT 20K) | kPa | 29,6 | 14,8 | - | 26,2 | 6,5 | 8,0 | - |
| Maximum available head for system (ΔT 25K) | kPa | 49,5 | 37,3 | 16,7 | 47,5 | 32,1 | 34,4 | 15,7 |
| Water flow at ΔT=20K | $m^3/h$ | 2,4 | 2,8 | 3,9 | 4,8 | 5,6 | 6,7 | 7,8 |
| Nominal water flow at ΔT=25K | $m^3/h$ | 2,0 | 2,3 | 3,1 | 3,8 | 4,5 | 5,4 | 6,2 |
| Electrical connection | V | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| Power consumption speed controlled pump max. | W | 75 | 75 | 87 | 150 | 150 | 174 | 174 |
| Power consumption boiler max ErP (including pump) | W | 126 | 137 | 120 | 314 | 418 | 464 | 450 |
| Water content | l | 9,3 | 9,3 | 13,9 | 16,8 | 16,8 | 21,3 | 25,8 |
| Sound pressure level | dB(A) | 50,5 | 54 | 49,3 | 56,3 | 59,3 | 56 | 52,4 |
| Sound power level | dB(A) | 61,5 | 65 | 60,3 | 67,3 | 70,3 | 67 | 63,4 |
| Dimensions - Height x Width | mm | 1050x530 | | | 1050x690 | | | |
| Dimensions - Depth | mm | 595 | | 675 | 595 | | 675 | |
| Weight (empty) | kg | 73 | 73 | 80 | 127 | 127 | 132 | 140 |
| Energy efficiency class | - | A | A | - | - | - | - | - |

# Technical drawings

**Single engine**




**Double engine**




| R0000 | | R0060 | R0070 | R0100 | R0120 | R0140 | R0170 | R0200 |
|---|---|---|---|---|---|---|---|---|
| **Dimensions** | | | | | | | | |
| Boiler height (A) | mm | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 |
| Boiler height with flue connection (A1) | mm | 1135 | 1135 | 1135 | 1135 | 1135 | 1135 | 1135 |
| Boiler width (B) | mm | 530 | 530 | 530 | 690 | 690 | 690 | 690 |
| Boiler depth (C1/C2) | mm | 595 | 595 | 675 | 595 | 595 | 675 | 675 |
| Flue gas nozzle parallel (D) | mm | 345 | 345 | 345 | 345 | 345 | 345 | 345 |
| Air intake parallel (E) | mm | 185 | 185 | 185 | 185 | 185 | 185 | 185 |
| Flue gas nozzle (F) | mm | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| Boiler return connection (G) | mm | 103 | 103 | 103 | 103 | 103 | 103 | 103 |
| Boiler flow connection (H) | mm | 243 | 243 | 243 | 243 | 243 | 243 | 243 |
| Condensate connection (I) | mm | 345 | 345 | 345 | 345 | 345 | 345 | 345 |
| Gas connection (J) | mm | 430 | 430 | 430 | 430 | 430 | 430 | 430 |
| Condensate connection (K) | mm | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Boiler return-flow-gas (L) | mm | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Boiler return-flow-gas (M) | mm | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Condensate connection (c) | mm | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Parallel connection | mm | 2x100 | 2x100 | 2x100 | 2x100 | 2x100 | 2x130 | 2x130 |
| Boiler Flow (a) / Return (r) connection | - | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Gas connection (g) | - | 1 ¼" | 1 ¼" | 1 ¼" | 1 ¼" | 1 ¼" | 1 ¼" | 1 ¼" |

# Rendamax – quality comes first

**Rendamax is a leading manufacturer of high quality central heating and hot water equipment. Represented by dedicated companies/distributors worldwide, all products in the company's range offer substantial benefits, including superb efficiencies, ultra-low energy consumption and the lowest environmental impact.**

**By creating long-term relationships and remaining at the forefront of boiler technology, Rendamax is committed to adding value for its customers, employees and shareholders alike.**

## Discover the full range of gas condensing commercial boilers

### R40 EVO

- Wall mounted
- 6 models (60 - 140 kW)
- Cascade up to 1,1 MW
- Pre-mix modulating
- Highly efficient (up to 110 %)

### R600 EVO

- Floor standing
- 7 models (150 - 570 kW)
- Pre-mix modulating
- Highly efficient (up to 110 %)
- Stainless steel heat exchangers

### R3456 EVO

- Floor standing
- 29 models (650 - 2.000 kW)
- Highly efficient (up to 109,7 %)
- Stainless steel heat exchangers

## More information

www.rendamax.com

Rendamax HEATNOLOGY

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