



Genesis Eco

Floor standing electric boiler



MODELS

13

OUTPUT (kW)

36 - 504

Genesis Eco

The Genesis Eco range of floor standing electric boilers is an excellent option for commercial properties.

With outputs from 36 to 504kW and efficiencies up to 99.9%, the boilers can be utilised as the primary heat source or as a secondary heat source when working with heat pumps on a hybrid system. This facilitates improved system efficiencies, reduced capital investment and space requirements, plus flexible system design.

The Genesis Eco boilers are based around a pressure vessel with top-mounted immersion heaters. Connections for water flow/returns and drainage are easily accessible, while electrical equipment is installed behind a lockable hatch on the front of the boiler.

Connecting to external equipment, such as integration/control from a heat pump, is simple and only requires a separate outdoor temperature sensor for weather compensation.



SMALL (S) 36 - 50kW **MEDIUM (M)** 72 - 156kW **LARGE (L)** 204 - 504kW

2

2 Year Warranty*

- 3 models - S / M / L
- Operational history and alarm with troubleshooting guide
- Back-up via USB
- Circuit breaker as standard
- Automatic restart in case of power failure
- Ample space for electrical connections and control signals
- Possibility of Modbus communication via integrated internet module
- Alerts via relay output or BMS
- Tariff control
- Staged output and possibility to limit maximum output
- Approved for zero flow
- Internal or external control (0-10VDC) of water temperature or output
- Overheat protection as standard
- No requirement for flue
- Zero emissions
- Multiple boilers can be cascaded for greater output and redundancy
- Reliable and affordable
- Silent operation

Easy controls

The boiler features an easy-to-use touchscreen control, allowing simple installation and commissioning, as well as straightforward monitoring and servicing. This includes easy access to operational parameters such as power output and operating temperatures - all of which are also accessible via Modbus compatible connection.



Touchscreen controls

Safety equipment

The complete range are all supplied with safety system equipment as an affordable alternative for compliance with SS-EN 12828. The parts installed comprise of safety valve (3 or 6 bar depending on model), electronic pressure switch and overheat protection thermostat. The safety circuits can also be expanded with up to two manually resettable external guards, such as an emergency stop. In addition, the control system's relay card features LEDs for a visual guide of which inputs and outputs are activated.

Modulating heat output

Multiple integrated stainless steel heating elements allow variable output. Depending on the model up to 24 steps of operation can be controlled automatically by the boiler or externally via receipt of a 0-10VDC signal. A limitation on the number of steps to be operational is also possible. Modulating control is especially important on hybrid systems where electric boilers are to work together with other heat sources such as heat pumps on modern low temperature heat networks (LTHNs).

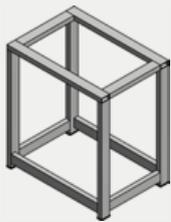


Safety Valve

Approved for zero flow

Though the boilers are designed for pumped operation, they are approved for "zero flow" so if for any reason water flow through the boiler halts then inbuilt safety guards will cut all incoming power.

Accessories



Stand
S



GSM alarm
S / M / L



BMS/internet module
S / M / L



Cable flange
L



Outdoor temperature sensor
S / M / L



Current sensors
S / M / L

Performance data

S36 S50 M72 M93 M114 M135 M156 L204 L252 L315 L378 L441 L504

Power

Max power output	kW	36	50	72	93	114	135	156	204	252	315	378	441	504
Steps		7	6	7	9	11	13	15	15	12	15	18	21	24
1st step	kW	5.2	8.3	9				15			21			

Hydraulic

Max water flow rate ($\Delta T 5^{\circ}\text{C}$)	l/s	1.72	2.40	3.44	4.44	5.46	6.46	7.46	9.76	12.06	15.08	18.08	21.10	24.12
Nom water flow rate ($\Delta T 10^{\circ}\text{C}$)	l/s	0.86	1.20	1.72	2.22	2.73	3.23	3.73	4.88	6.03	7.54	9.04	10.55	12.06
Min water flow rate ($\Delta T 30^{\circ}\text{C}$)	l/s	0.29	0.40	0.57	0.74	0.91	1.08	1.24	1.63	2.01	2.51	3.01	3.52	4.02
Water pressure loss ($\Delta T 5^{\circ}\text{C}$)	kPa	6.0	6.8	13.4	14.3	15.3	16.6	18.0	16.1	16.3	16.7	17.1	17.5	18.1
Water pressure loss ($\Delta T 10^{\circ}\text{C}$)	kPa	5.4	5.7	12.3		12.4	12.5	12.6	15.9	16.0	16.2	16.5	16.7	17.0
Water pressure loss ($\Delta T 30^{\circ}\text{C}$)	kPa	3.5	3.6	12.2				15.7				15.8		
Water test Pressure	bar	6			6				9					
Min water pressure	bar	0.25			0.25				0.25					
Max water pressure	bar	3			3				6					
Safety valve rating	bar	3			3				6					
Pressure switch setting	bar	2.85			5.85				5.85					
Max flow temp	$^{\circ}\text{C}$	100			100				100					
Overheat stat temp	$^{\circ}\text{C}$	105			105				105					
Design temp	$^{\circ}\text{C}$	110			110				110					
Water content	litres	24			110				372					

Electric

Main electrical supply		415-3-50			415-3-50				415-3-50					
Main fuse rating	A	63	80	125	160	200		250	315	400	500	630	800	800
Current	A	52	72	104	134	164	195	225	310	382	477	573	668	763
Controls electrical supply		230-1-50			230-1-50				230-1-50					
Controls fuse rating	A	16			16				16					
External control	VDC	0-10			0-10				0-10					
Cable connection	mm ²	95			2 x 150				2 x 240					

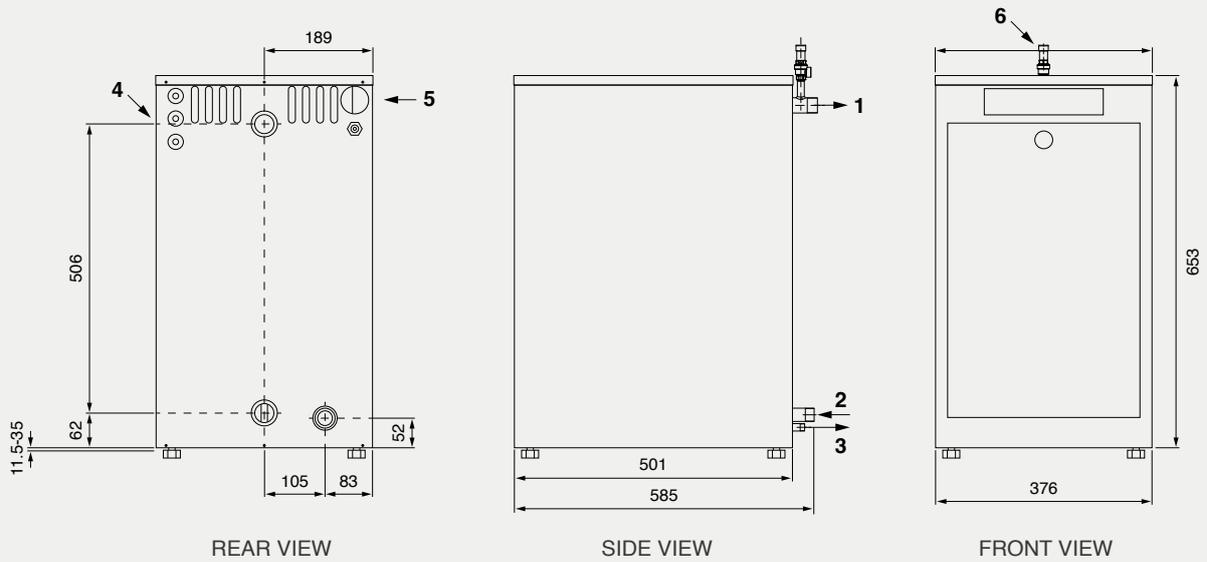
Other

Weight (empty)	kg	40		175		185		380		390	400	405	410	
Weight (full)	kg	64		285		295		752		762	772	777	782	
Protection Class		IP21			IP21				IP21					

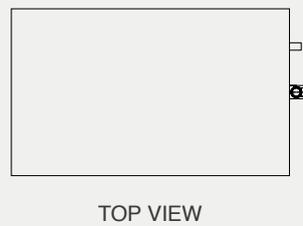
Note: The nominal water flow rate ($\Delta T 10^{\circ}\text{C}$) is recommended | Good practice advises that the boiler circulation pump (not supplied with boiler) is installed on the return pipe and be speed controlled in line with the output required of the boiler, in order that the design delta T is maintained. The minimum output of the boiler can be fixed to match the modulation capability of the pump which is usually not as low as the boiler is designed to achieve. The boiler is not able to control the pump speed so the BMS or other should provide the facility.

Dimensions

SMALL (S)



- 1 Flow
DN32 (external thread)
- 2 Return
DN32 (external thread)
- 3 Drain
R1" (external thread)
- 4 Cable entry
3 x PG11
- 5 Mains connection
1 x Ø48mm
- 6 Safety valve
DN20/25

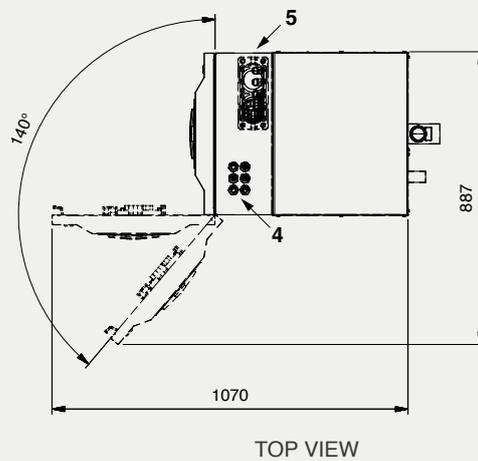
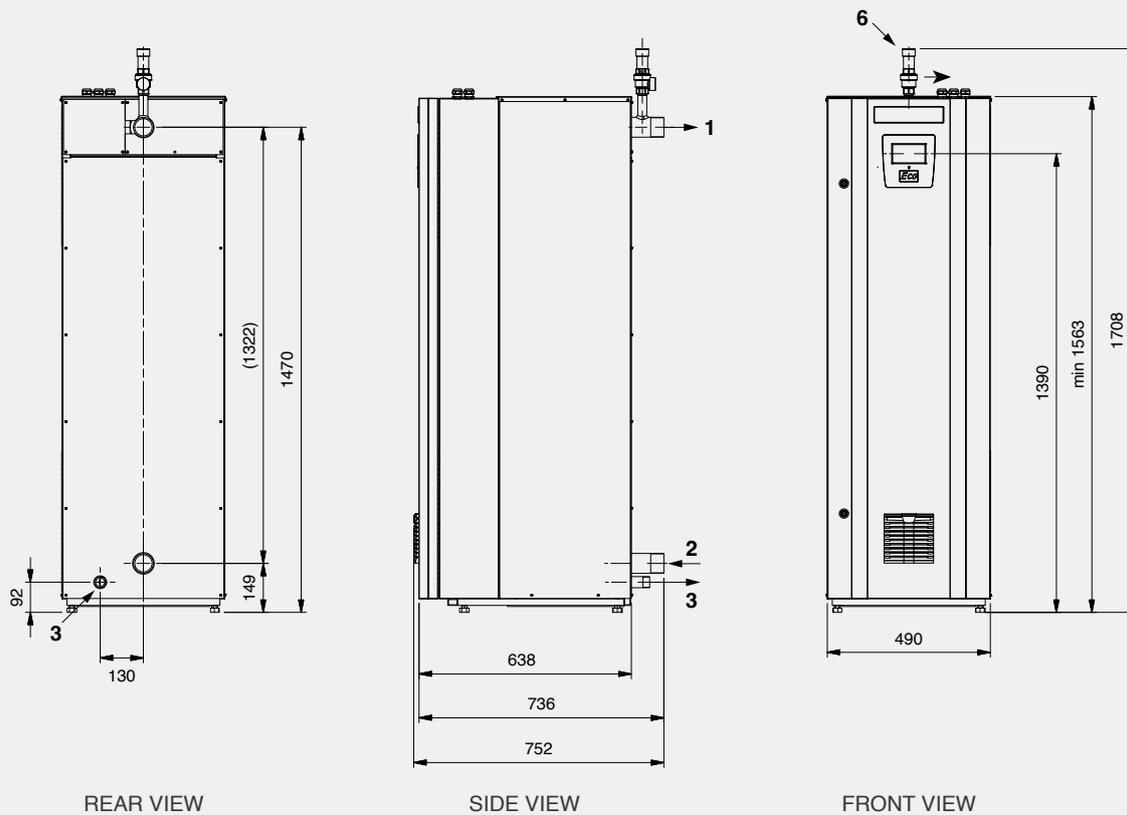


Clearances (mm)

Front	500
Rear	800
Sides	600
Top	300

Dimensions

MEDIUM (M)



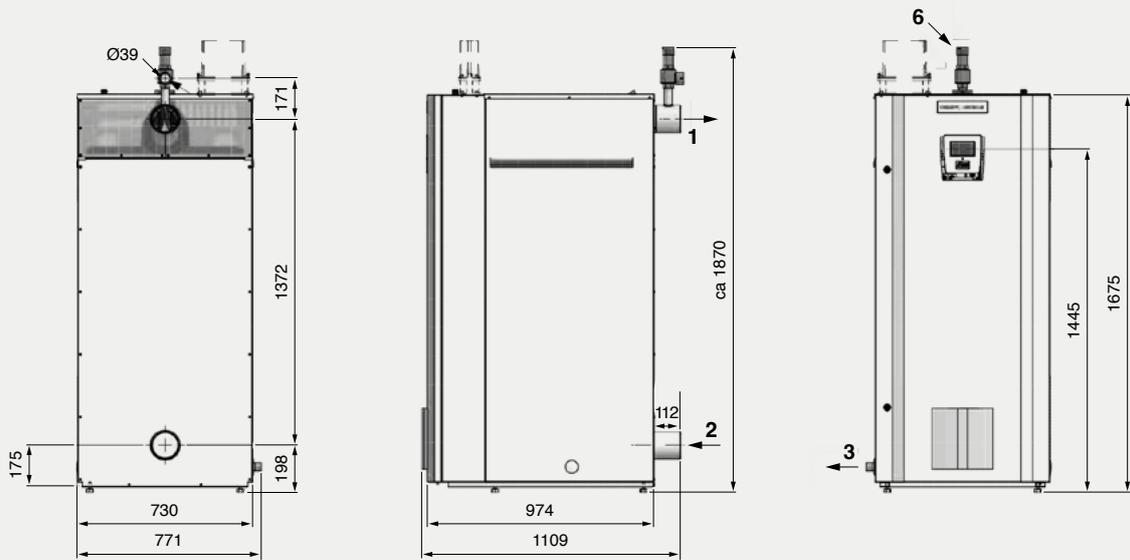
- 1 Flow
DN80 (external thread)
- 2 Return
DN80 (external thread)
- 3 Drain
R1" (external thread)
- 4 Cable entry
4 x PG11
- 5 Mains connection
1 x Flange FL21
- 6 Safety valve
DN20/25

Clearances (mm)

Front	900
Rear	800
Sides	600
Top	300

Dimensions

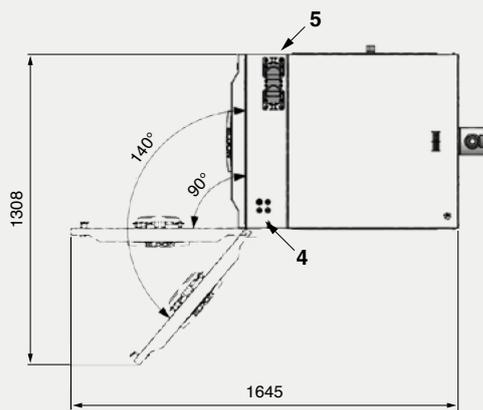
LARGE (L)



REAR VIEW

SIDE VIEW

FRONT VIEW



TOP VIEW

- 1 Flow
DN100 (welding)
- 2 Return
DN100 (welding)
- 3 Drain
R1" (external thread)
- 4 Cable entry
4 x PG11
- 5 Mains connection
2 x Flange FL21
- 6 Safety valve
DN25/32

Clearances (mm)

Front	900
Rear	1000
Sides	600
Top	600

Modutherm Limited
Unit 4 Genesis
Endeavour Drive
Basildon, SS14 3WF

Modutherm® Limited
modutherm.co.uk
Tel: 0345 521 5666
modutherm@modularhg.co.uk

Your local contact is:

