

# EcoSword storage-type gas-fired water heaters



- Hot water recovery rates from 210 to 540 l/hr at 50°C temperature rise
- Fully modulating pre-mix burner
- Efficiencies of up to 98.2%
- Low NO<sub>x</sub> emissions; <37mg/kWh
- Operating temperature up to 85°C
- Fully automatic ignition



UK Water Supply Compliant



**Lochinvar**<sup>®</sup>  
HIGH EFFICIENCY BOILERS & WATER HEATERS

# Lochinvar EcoSword water heaters

EcoSword fully condensing gas-fired water heaters are available in 9 models, with storage capacities ranging from 163 to 388 litres and hot water recovery rates from 210 to 540 litres per hour, based upon a temperature rise of 50°C.

Working on the principle of low storage, but fast hot water recovery, EcoSword water heaters are suitable for residential and small/ medium-sized commercial applications. All models in the EcoSword range are suitable for natural gas or LPG.



EcoSword water heater  
9 models

## Integral storage vessel with Correx protection

The EcoSword storage vessel is constructed from enamelled steel and includes a factory-fitted Correx system, to protect the vessel against the effects of electrolytic action. The Correx system provides savings on maintenance requirements when compared with traditional magnesium anodes.

The design of the storage vessel minimises the harmful effects of hard water, when compared to other Water Heater types. The storage vessel is fully insulated and has low standing losses (maintenance consumption value), includes a hand hole cleanout opening and is supported by a 3-year warranty against leakage.

## Ease of maintenance

The EcoSword range has also been designed to enable easy access and maintenance; all components can be accessed from the front of the unit.

There is no clearance required at the rear of the unit and minimal clearances of only 50mm (side) and 100mm (front), allowing for a neat, compact installation.

The data plate also includes a QR code, providing easy access to product information for Service Engineer(s).



## Integral controls

The integral controls provide a number of standard features including:

- External on/off connection
- BMS volt free alarm signal
- Status/error code display including service reminder

## Low NO<sub>x</sub> emissions

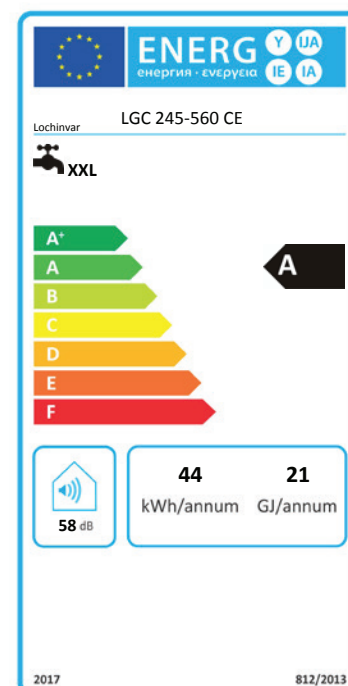
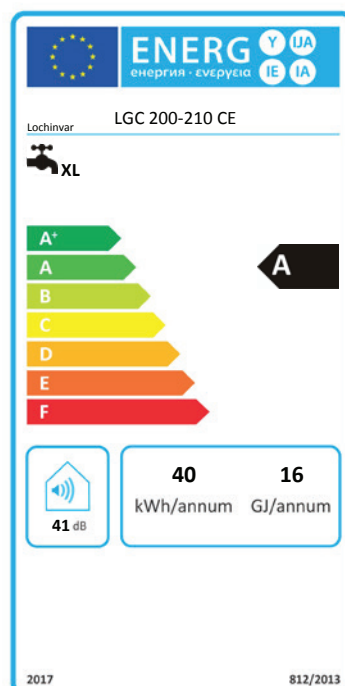
Models LGC160-210GPCE and LGC200-210GPCE have low NO<sub>x</sub> emissions of only 22 mg/kWh and therefore qualify for maximum BREEAM points on relevant projects. NO<sub>x</sub> emissions vary from 30 to 37mg/kWh on the other models within the EcoSword range.

## Highly efficient operation

The 'cold zone' heat exchanger design, maximises the efficiency of this product, and ensures that the unit operates in condensing mode as much as possible. This alongside a fully modulating pre-mix burner, which provides modulation from 2:1 to 6:1 turndown (depending on model), allows EcoSword Water Heaters to achieve the following efficiency levels :

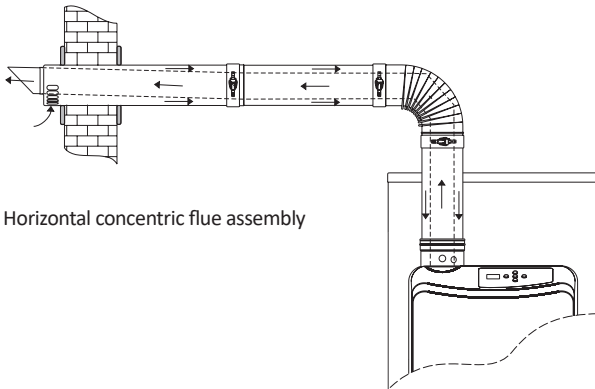
- Seasonal efficiency (building regulations) – up to 98.2%
- Water heater efficiency (ErP/ecodesign) – up to 94%

All models are within the requirement of the ErP energy labelling requirement and all models have achieved rating A.



## EcoSword flue options

EcoSword water heaters can be installed with horizontal or vertical concentric flue, twin pipe balanced flue or conventional flue.



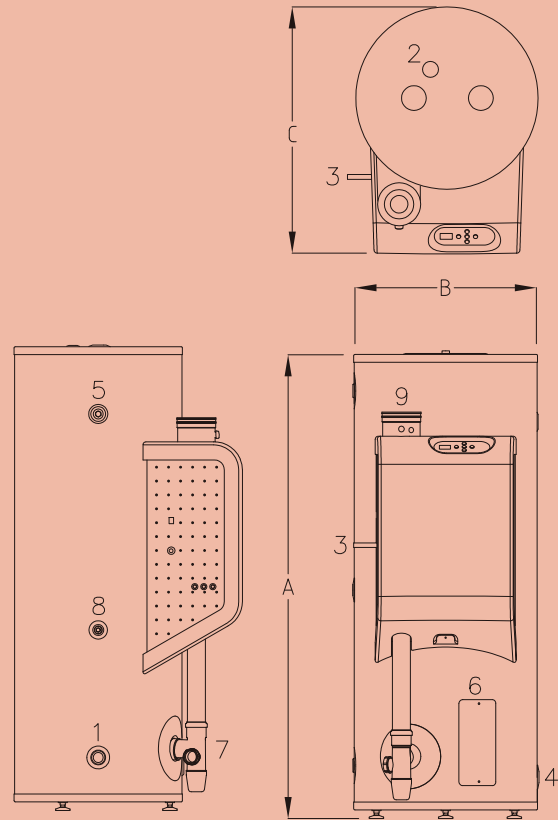
Horizontal concentric flue assembly

## Flue systems

CONCENTRIC			
Description	Unit	Models LGC160-210 to LGC200-350	Models LGC245-420 to LGC380-560
Diameter	mm	80/125	80/125
Maximum length	m	40m	40m
Max number of bends		8	8

TWIN PIPE			
Description	Unit	Models LGC160-210 to LGC200-350	Models LGC245-420 to LGC380-560
Diameter	mm	80/80	80/80
Maximum length air inlet	m	50	75
Maximum length flue outlet	m	50	75
Equivalent 45° bend	m	1.1	1.1
Equivalent 90° bend	m	3.9	3.9

## EcoSword water heater – dimensions



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			LGC 160-210 LGC 160-350	LGC 200-210 LGC 200-350	LGC 245-420 LGC 245-560	LGC 285-420 LGC 285-560	LGC 380-560
A	Height	mm	1269	1543	1543	1743	1743
B	Diameter	mm	560	560	610	610	675
C	Depth	mm	760	760	810	810	875
1	Cold feed	BSPin	Rp ¾	Rp ¾	Rp 1	Rp 1	Rp 1
2	Hot outlet	BSPin	Rp ¾	Rp ¾	Rp 1	Rp 1	Rp 1
3	Gas	mm	15	15	15	15	15
4	Drain valve	BSPin	Rp ¾	Rp ¾	Rp ¾	Rp ¾	Rp ¾
5	T&P valve	BSPin	Rp ¾	Rp ¾	Rp 1	Rp 1	Rp 1
6	Cleanout opening	mm	95x70	95x70	95x70	95x70	95x70
7	Condensate drain	mm	Ø 40	Ø 40	Ø 40	Ø 40	Ø 40
8	Secondary return	BSPin	Rp ¾	Rp ¾	Rp ¾	Rp ¾	Rp ¾
9	Flue	mm	80/125	80/125	80/125	80/125	80/125

## Technical specification

Water heater model		LGC 160-210 G P CE	LGC 160-350 G P CE	LGC 200-210 G P CE	LGC 200-350 G P CE	LGC 245-420 G P CE	LGC 245-560 G P CE	LGC 285-420 G P CE	LGC 285-560 G P CE	LGC 380-560 G P CE
Nominal input (net)	kW	11.0	18.2	11.0	18.2	22.2	29.3	22.2	29.3	29.3
Nominal input (gross)	kW	12.1	20.0	12.1	20.0	24.4	32.2	24.4	32.2	32.2
Gas flow rate (natural gas)	m <sup>3</sup> /hr	1.15	1.90	1.15	1.90	2.33	3.07	2.33	3.07	3.07
Nominal output	kW	11.7	19.1	11.9	19.1	23.5	30.7	23.8	31.0	31.3
<b>Efficiency and NO<sub>x</sub> data</b>										
Seasonal efficiency (building regulations gross CV)	%	96.4	95.5	98.2	95.5	96.4	95.5	97.3	96.4	97.3
Maintenance consumption value	MJ/M	236.5	236.5	252.3	252.3	289.1	289.1	325.9	325.9	318.0
<b>Efficiency data - ErP and energy label</b>										
Ecodesign energy label rating		A	A	A	A	A	A	A	A	A
Water heater efficiency	%	92	92	94	91	92	92	91	90	90
<b>General data</b>										
NO <sub>x</sub> emission @0% O <sub>2</sub>	ppm	13	15	13	15	16	18	16	18	18
NO <sub>x</sub> emission @0% O <sub>2</sub>	mg/kWh	22	30	22	30	33	37	33	37	37
Recovery rate @ 44°C	l/hr	239	375	239	375	466	602	466	614	614
Recovery rate @ 50°C	l/hr	210	330	210	330	410	530	410	540	540
Recovery rate @ 56°C	l/hr	188	295	188	295	366	473	366	482	482
Dimensions (height)	mm	1269	1269	1543	1543	1543	1543	1743	1743	1743
Dimensions (width)	mm	560	560	560	560	610	610	610	610	675
Dimensions (depth)	mm	760	760	760	760	810	810	810	810	875
Storage capacity	litres	163	163	204	204	250	250	291	291	388
Weight (empty)	kg	95	95	106	106	120	120	136	136	155
Weight (full)	kg	258	258	310	310	370	370	427	427	543
Insulation thickness	mm	50	50	50	50	50	50	50	50	50
Insulation material		Polyurethane								
Hot outlet connection	BSPin	¾"	¾"	¾"	¾"	1"	1"	1"	1"	1"
Cold feed connection	BSPin	¾"	¾"	¾"	¾"	1"	1"	1"	1"	1"
Gas connection	mm	15	15	15	15	15	15	15	15	15
Electrical requirements		230V/1ph/50Hz								
Power consumption (peak)	W	85	85	85	85	105	105	105	105	105
Sound power level	LWA(db)	41	52	41	52	53	58	53	58	58
Maximum flue gas temperature	°C	42	61	42	61	57	65	57	65	65
Max outlet temperature	°C	85	85	85	85	85	85	85	85	85
Maximum working pressure	bar	8	8	8	8	8	8	8	8	8

Energy label, product fiche and ErP data table are available at [www.lochinvar.ltd.uk](http://www.lochinvar.ltd.uk)

### Ancillary options

- Unvented system kits
- De-stratification pump
- Condensate neutralisation kit
- Range of flue options (see page 3)

For further information on the EcoSword water heaters, including ICM & user instructions and our full warranty terms and conditions, please visit our website: [www.lochinvar.ltd.uk](http://www.lochinvar.ltd.uk)

