

EcoCharger storage-type gas-fired water heaters



- Recovery rates from 540 to 2100 litres/hour
- Fully modulating pre-mix burner
- Efficiencies of up to 98%
- Low NO_x emissions $\leq 37\text{mg/kWh}$
- Integral controls
- Factory-fitted correx non sacrificial protection system



UK Water Supply Compliant



Lochinvar EcoCharger water heaters

EcoCharger is a range of fully condensing gas-fired water heaters, available in 7 models, with storage capacities ranging from 220 to 488 litres, and hot water recovery rates from 540 to 2100 litres per hour, based upon a temperature rise of 50°C.

Designed on the principles of low storage, and fast hot water recovery, EcoCharger water heaters are suitable for a wide range of commercial and industrial applications. The use of condensing technology enables EcoCharger water heaters to operate at high efficiencies and can help to save on energy consumption and carbon emissions. They are suitable for use on natural gas or lpg and have ultra-quiet operation.



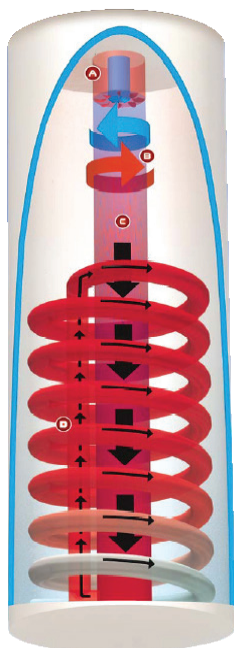
EcoCharger water heater
7 models available

Coil-type heat exchanger design

EcoCharger water heaters are designed with a premix, down-fired, Low NO_x burner and a coil-type heat exchanger design. This helps to ensure that heat transfer takes place in the upper part of the storage vessel, and in the lower part of the storage vessel, towards the end of the heat exchanger, the temperature of the gases reduce and condensation occurs.

This design also helps to minimise problems caused by scale formation in hard water areas. Any scale present will form in the hot area of the vessel/heat exchanger and will drop into the cold base of the storage vessel. A small collection of scale at the base of the unit will not have an adverse effect upon performance or efficiency, unlike other water heaters where the burner is situated at the base. Any scale build-up at the base of the unit can be easily removed via the cleanout opening during periodical maintenance.

The negative influence of scale on water heater efficiency is significantly lower with an EcoCharger when compared to alternative gas water heater products, and a thorough maintenance regime will provide end users with high levels of operational efficiency and maximum life time expectancy.



Integral controls

EcoCharger can easily be connected to a BMS system, and incorporates its own on-board controls, which can be viewed on the display fascia or remotely when using the BMS/control interface ancillary option. The controls include the following functions:

- Temperature control – up to 80°C
- Weekly programme
- Anti-legionellae programme
- Fault logging
- Volt-free contact

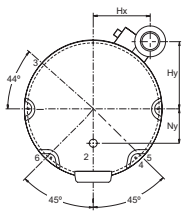


Heatpak space heating ancillary module

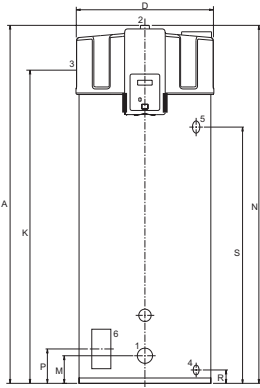
The EcoCharger water heater can also provide up to 40kW of heating capacity, when using the heatpak ancillary module. This option is particularly suitable on buildings, which are subject to high peak demands on hot water, but lower, constant demands for space heating. Typical applications would be sports changing facilities and shower blocks on caravan/camping sites.



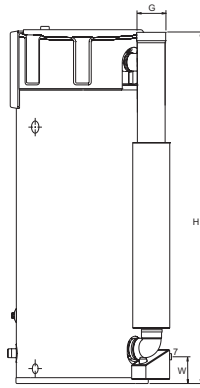
Dimensional drawings



Top view

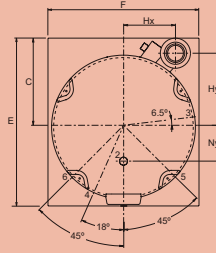


Front view

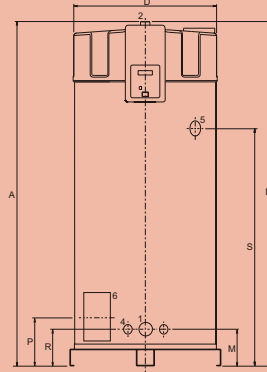


Side view

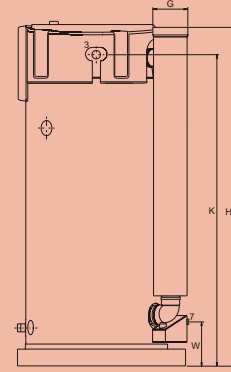
ECH33-370GCE, ECH52-370GCE, ECH63-370GCE



Top view

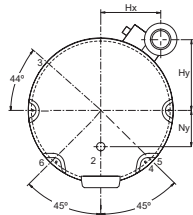


Front view

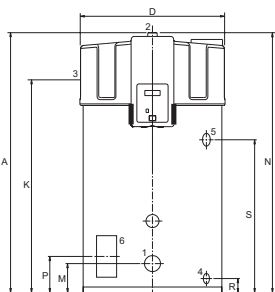


Side view

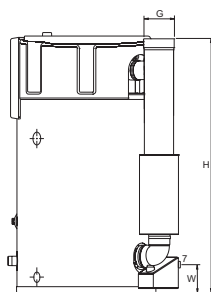
ECH87-480GCE, ECH106-480CE, ECH129-480GCE



Top view



Front view



Side view

ECH32-220GCE

EcoCharger Water Heater- Dimensions (mm)

Water Heater Model	ECH32-220GCE	ECH33-370GCE	ECH52-370GCE	ECH63-370GCE	ECH87-480GCE	ECH106-480GCE	ECH129-480GCE
A	1390	1925	1925	1925	2060	2060	2060
*C	N/A	N/A	N/A	N/A	530	530	530
D	705	705	705	705	850	850	850
*E	N/A	N/A	N/A	N/A	1000	1000	1000
*F	N/A	N/A	N/A	N/A	900	900	900
G	100/150	100/150	100/150	100/150	130/200	130/200	130/200
H	1365	1890	1890	1890	1995	1995	1995
HX	265	265	265	265	310	310	310
HY	375	375	375	375	440	440	440
K	1285	1815	1815	1815	1855	1855	1855
M	170	160	160	160	225	225	225
N	1390	1925	1925	1925	2060	2060	2060
NY	205	205	205	205	205	205	205
P	170	175	175	175	290	290	290
R	85	75	75	75	225	225	225
S	900	1410	1410	1410	1425	1425	1425
W	150	150	150	150	240	240	240

* Dimensions C, E and F correspond to the factory fitted metal base on models ECH87-480GCE, ECH106-480, ECH129-480GCE

Maximum equivalent flue runs

Concentric flue

Water Heater Model	Diameter (mm)	Max. Length (meters)	Max. Number of Bends
ECH32-220GCE	100/150	40	7
ECH33-370GCE	100/150	40	7
ECH52-370GCE	100/150	40	7
ECH63-370GCE	100/150	40	7
ECH87-480GCE	130/200	15	4
ECH106-480GCE	130/200	15	4
ECH129-480GCE	130/200	15	4

Note. Even if you use less than the stated maximum number of bends, the maximum length in the table still may not be exceeded.

Further details of standard component assemblies for all models are available in our flue specifications guide.

Flue options

EcoCharger water heaters can be installed with a range of flue types including:

- Room sealed concentric
- Room sealed parallel (twin pipe)
- Traditional conventional flue

The ability to install long flue runs (up to 100m equivalent on twin pipe systems) provides a great deal of siting and installation flexibility.

For further information refer to the EcoCharger Flue Assemblies and Ancillaries document, which is available at www.lochinvar.ltd.uk

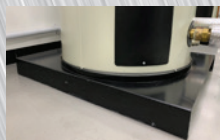
Technical specification

Water heater model		ECH32-220GCE	ECH33-370GCE	ECH52-370GCE	ECH63-370GCE	ECH87-480GCE	ECH106-480GCE	ECH129-480GCE
Nominal Input (Net)	kW	29.4	30.5	47.8	57.9	79.3	96.6	117.9
Nominal Input (Gross)	kW	32.7	33.9	53.1	64.4	88.1	107.3	131.0
Gas Flow Rate (Natural Gas)	m ³ /hr	3.1	3.2	5.0	6.0	8.3	10.1	12.3
Nominal Output	kW	31.5	33.3	51.2	61.5	85.7	102.4	123.9
Efficiency and NO_x Data								
Seasonal efficiency (building regulations gross CV)	%	96	98	96	95	97	95	95
Maintenance consumption value	MJ/M	459.9	515.1	515.1	515.1	733.2	733.2	733.2
Maintenance consumption value	kW/24Hr	4.2	4.7	4.7	4.7	6.7	6.7	6.7
Efficiency Data - ErP and Energy Label								
Ecodesign energy label rating		A	A	A	A	N/A	N/A	N/A
Water heater efficiency	%	91	91	91	90	93	93	92
NO_x Emissions								
NO _x emission (weighted)@0% O ₂	mg/kWh	24	32	36	37	34	36	37
General Data								
Recovery rate @ 44°C	l/hr	610	640	990	1200	1700	2000	2400
Recovery rate @ 50°C	l/hr	540	570	870	1100	1500	1800	2100
Recovery rate @ 56°C	l/hr	480	510	780	930	1300	1600	1900
Dimensions (height)	mm	1390	1925	1925	1925	2060	2060	2060
Dimensions (width)	mm	N/A	N/A	N/A	N/A	900	900	900
Dimensions (diameter)	mm	705	705	705	705	850	850	850
Storage capacity	litres	220	374	374	374	488	488	488
Weight (empty)	kg	177	214	214	214	405	405	405
Weight (full)	kg	397	588	588	588	968	968	968
Hot outlet connection (inches)	BSP	R1 ½	R1 ½	R1 ½	R1 ½	R1 ½	R1 ½	R1 ½
Cold feed connection (inches)	BSP	R1 ½	R1 ½	R1 ½	R1 ½	R1 ½	R1 ½	R1 ½
Gas connection (inches)	BSP	R ¾	R ¾	R ¾	R ¾	R ¾	R ¾	R ¾
Electrical requirements		230V /1Ph/ 50hz						
Power consumption (peak)	W	45	45	75	115	95	145	240
Sound power level	LWA(db)	46	47	55	59	54	59	62
Nominal flue gas temperature	°C	45	50	60	65	50	55	60
Max outlet temperature	°C	80	80	80	80	80	80	80
Maximum working pressure	bar	8	8	8	8	8	8	8

Energy label, product fiche and ErP data table are available at www.lochinvar.ltd.uk

Metal base

A metal base is supplied as standard with models ECH87-480GCE, ECH106-480GCE and ECH129-480GCE, and is available as an optional ancillary with all other models



Ancillary options

- Heatpak space heating module
- Remote interface display (BMS interface)
- Unvented kits
- Concentric, Twin pipe and Conventional flue ancillaries

For further information on the EcoCharger gas-fired condensing water heater, including ICM & user instructions and our full warranty terms and conditions, please visit our website: www.lochinvar.ltd.uk

