Lochinvar®

HIGH EFFICIENCY BOILERS & WATER HEATERS

PRODUCT CATALOGUE

WATER HEATERS

BOILERS

HEAT PUMPS

SOLAR THERMAL/HYBRID WATER HEATERS

Registered office: One New Change, London EC4M 9AF | Registered number: 3453820

Contents

Lochinvar®

HIGH EFFICIENCY BOILERS & WATER HEATERS

GAS-FIRED CONDENSING WATER HEATERS


EcoCharger
p. 10


EcoCharger heatpak
p. 12


EcoSable stainless
p. 14


EcoShield
p. 16


EcoSword
p. 18


EcoForce
p. 20


EcoKnight
p. 22


TTW
p. 24

DIRECT STORAGE VESSELS


LST(R) GE
p. 28


LST 166
p. 30


SST
p. 32

GAS-FIRED LOW NO_X ATMOSPHERIC WATER HEATERS


Charger Low NO_X
p. 36


Knight Low NO_X
p. 38

ELECTRIC WATER HEATERS


Cavalier
p. 42

INDIRECT WATER HEATERS


LOK
p. 46


LOKE
p. 48


Squire 166
p. 50


Squire stainless
p. 52

GAS-FIRED CONDENSING BOILERS


CPM
p. 56


CPM SP
p. 58


EFB wall hung
p. 60


Herald
p. 62


TTB
p. 64

LOW CARBON HEATING AND HOT WATER SOLUTIONS


Amicus HT
p. 68


Amicus LT
p. 70


Amicus Boost
p. 72


EcoCharger HWHC
p. 74


EcoCharger HWH
p. 76


Optimus
p. 78


Solar thermal
p. 80

THERMAL STORES & PREHEAT VESSELS


HSV thermal store
p. 84


LBT thermal store
p. 86

Lochinvar world headquarters, Lebanon, Tennessee, USA

Lochinvar Ltd

About Lochinvar Ltd

It is safe to say that for generations, Lochinvar products have been providing reliable, energy efficient heating and hot water needs for many businesses, organisations and people.
Innovation and development have been the keys to our success over the years. Not only are our current solutions energy-efficient, many have small footprint and multiple installation and control options.

With products designed and manufactured specifically for the needs of our UK and Ireland customers, we are regarded as a key provider of high efficiency heating and hot water solutions for use in commercial and industrial applications
Based at our Banbury, Oxfordshire facility we have a team of knowledgeable staff available to help customers with specific requirements.
For details of contacts at Lochinvar Ltd please refer to page 88.

Customer service

Located in Banbury, Oxfordshire, we hold stock of most boiler and water heater products at our facility. Our reputation has been built upon our ability to respond quickly, whether the requirement is for products, spare parts or service.

Expertise

We have a team of knowledgeable and experienced staff, who are keen to assist with a wide range of enquiries. Our area sales team is supported by office-based internal sales, customer service and technical support staff.

SELECT direct gas-fired water heater sizing programme

It is often said that the sizing of water heating equipment is 'not an exact science' and that's a sentiment we would agree with to a certain extent. We have however combined our 40 years of experience in the UK water heater business along with information extracted from various Industry guides to produce our own water heater sizing programme – SELECT.
Originally launched in 2000, the programme is frequently updated and SELECT 2019 is now available to download or to use online
www.select.lochinvar.ltd.uk

Lochinvar Ltd

Our products

Our heating and hot water solutions are suitable for a wide range of commercial building types, factories and industrial processes and large residential dwellings.

Water heaters

The 'Green Knight' gas-fired water heater range, launched in 1976, was one of the first products of its type to be supplied in the UK. Working on the principles of low storage but fast recovery of hot water, the Lochinvar range of gas-fired products now includes multiple product types with hot water outputs ranging from 140 to 9,912 litres per hour.

Demand for hot water has increased over the years, and as building designs have evolved, we have added different methods of generating hot water. In addition to our gas-fired products, we also offer indirect solutions, including calorifier-type water heaters, and packaged plate heat exchangers. Finally, our Cavalier range of electric water heaters provide a further option.

Pages 8 to 53 provide further details on our water heater products.

Lochinvar®
HIGH EFFICIENCY BOILERS & WATER HEATERS

Boilers

We started supplying heating boilers in the early 1990's where our copper-fin range provided very popular, particularly when plant room space was limited. As the boiler market has developed over time so too has the Lochinvar boiler offering.

We can provide boilers with outputs ranging from 40kW up to 576Kw and we have either floor standing or wall mounted models. All of our boilers employ condensing, high efficiency technology and models of 70Kw and lower all carry 'energy label A'.

Information on our boilers can be found on pages 54 to 65.

Low carbon heating & hot water solutions

Using renewable technologies to provide heating and hot water services is gaining in popularity as we seek to combat the impact of climate change by decarbonisation.

Heat pump technologies are at the forefront of low carbon technologies and we can provide a number of different heat pump types, which can provide standalone heat pump solutions or hybrid systems where heat pumps are integrated with high efficiency boilers and water heaters.

Further details can be found on pages 66 to 87.

Gas-fired

Condensing water heaters

Whilst heating boilers saw the widespread introduction of condensing technology from the mid 1990's onwards, progress was somewhat slower with direct gas-fired water heaters. Our popular EcoCharger range is based upon a concept, which was initially brought to market in the UK in the late 1990's, and such products are now specified and installed on a growing number of commercial and industrial new build and major refurbishment projects.

Our range of condensing water heater products is one of the most comprehensive available, with product types to suit a wide range of applications. This enables us to consider all individual project requirements, and to base a proposal on the most suitable water heater type or combination.

This section of the catalogues covers the following gas-fired condensing water heater products:

Storage-type condensing water heaters

circulating-type condensing water heaters

Storage vessels for use with circulating-type water heaters

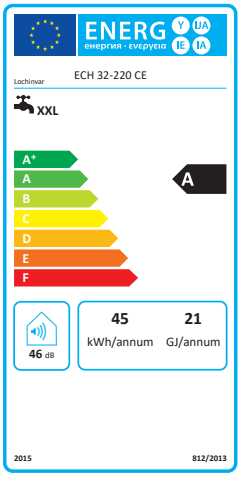
EcoCharger storage-type gas-fired water heaters

Features

- Hot water recovery rates from 540 to 2100 l/h at a 50°C temperature rise
- Fully modulating pre-mix burner
- Efficiencies of up to 98%
- Low NO_X emissions ≤37mg/kWh
- Integral controls
- Factory-fitted Correx non-sacrificial corrosion protection system
- Flue runs of up to 100m

Ancillary items - optional

- Heatpak space heating module (see pages 12 and 13)
- Remote interface display (BMS interface)
- Unvented kits
- Concentric, twin pipe and conventional flue ancillaries
- Condensate neutralisation kits
- Metal base – for models ECH32-220GCE, ECH33-370GCE, ECH52-370GCE and ECH63-370GCE (this base is supplied as standard with all other EcoCharger models)



Qualified for Energy Technology List™

UK Water Supply Compliant
WRAS recertification application pending

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
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

BMS interface module for EcoCharger

In addition to the standard connection points available such as remote on off, and fault signals EcoCharger water heaters can also be supplied with an optional BMS Interface giving the user the ability to closely monitor the hot water installation using Modbus protocol.

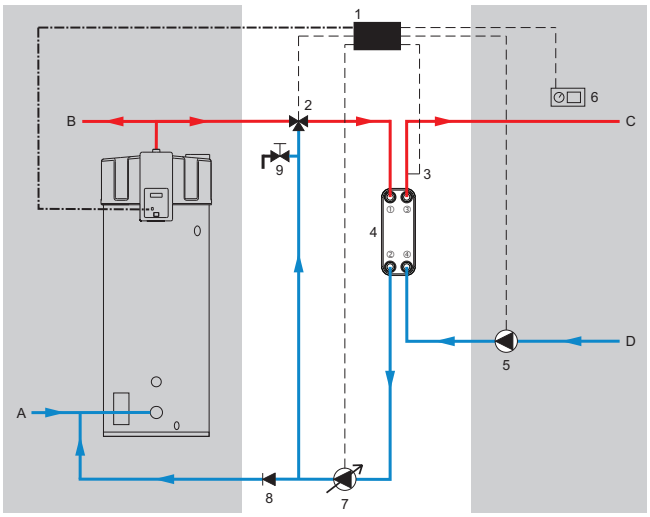
An optional BMS interface allows users to monitor water heater installation using ModBus protocol, and the following specific details can be recovered:

- Water heater status
- Upper and lower tank temperatures
- Set point temperature
- Flue temperatures
- Error codes such as flame failure, ignition failure etc

For further information please refer to BMS Interface installation, commissioning and user instructions.

EcoCharger heatpak

Modules providing up to 40kW of space heating capacity



Typcial EcoCharger heatpak schematic

Legend

1 control
2 3-way mixing valve
3 temperature sensor S5
4 plate heat exchanger
5 heating pump
6 room thermostat
7 DHW-pump
8 stop valve
9 (manual) air vent
A cold water supply
B hot water supply
C heating supply pipe
D heating return pipe

Features

- Single product provides heating and hot water
- Reduced space requirement
- Also available with EcoCharger hybrid water heaters (see pages 74 to 77)
- Can be installed with multiple water heaters

Ancillary items - optional

- BMS Interface
- Unvented kits
- Horizontal or vertical room sealed concentric flue assemblies
- Room sealed parallel (twin pipe) flue assemblies
- Steel Base *

  * for models ECH32-220GCE, ECH33-370GCE, ECH52-370GCE and ECH63-370GCE

Qualified for Energy Technology List ™

UK Water Supply Compliant
WRAS recertification application pending

Technical specification

Part no. EcoCharger water heater	kW CH capacity	ΔT CH system
HP 20 06	20	06
HP 20 10	20	10
HP 20 20	20	20
HP 30 06	30	06
HP 30 10	30	10
HP 30 20	30	20
HP 40 06	40	06
HP 40 10	40	10
HP 40 20	40	20

Please use the table below for selecting the CH pump

Part no. EcoCharger water heater	ΔT CH system	Specifications plate heat exchanger heating side	
		Flow (m^3/h)	ΔP (kPa)
HP 20 06	36-30	2,9	8
HP 20 10	40-30	1.7	9
HP 20 20	70-50	0,9	2,5
HP 30 06	36-30	4,3	10
HP 30 10	40-30	2,6	6,5
HP 30 20	70-50	1,3	5
HP 40 06	36-30	5,8	17
HP 40 10	40-30	3,5	11
HP 40 20	70-50	1,8	9

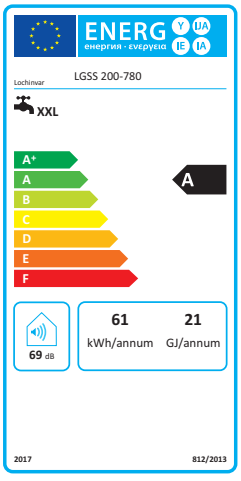
EcoSable stainless steel storage-type gas-fired water heaters

Features

- Recovery rates from 600 to 787 litres/hour
- Stainless steel storage vessel
- Efficiencies of up to 92%
- Up to 8 bar working pressure
- Small footprint
- 5-year storage vessel warranty

Ancillary items - optional

- Unvented system kits
- Condensate neutralisation kits
- Range of flue options



Technical specification

Water heater model		LGSS200-600GCE	LGSS200-780GCE
Nominal input (net)	kW	34.0	44.0
Nominal input (gross)	kW	37.8	48.9
Gas flow rate (natural gas)	m^3/hr	3.6	4.7
Nominal output	kW	34.9	45.1
Efficiency data - building regulations			
Seasonal efficiency (gross CV)	%	92.3	92.2
Maintenance consumption value	kW/24Hr	2.06	2.06
Efficiency data - ErP and energy label			
Ecodesign energy label rating		A	A
Water heater efficiency	%	93	91
NO_X emmissions			
NO_X @0%O_2 according to EU regulation 812/2013	mg/kWh	53	53
General data			
Recovery rate @ 44°C	l/hr	710	910
Recovery rate @ 50°C	l/hr	620	800
Recovery rate @ 55°C	l/hr	570	730
Dimensions (height)	mm	1655	1655
Dimensions (width)	mm	660	660
Dimensions (diameter)	mm	560	560
Storage capacity	litres	186	186
Weight (empty)	kg	79	79
Weight (full)	kg	261	261
Hot outlet connection (inches)	NPT	1"	1"
Cold feed connection (inches)	NPT	1"	1"
Gas connection (inches)	NPT	3/4"	3/4"
Flue connection (concentric)	mm	80/125	80/125
Flue connection (twin-pipe)	mm	80	80
Electrical requirements		230V /1Ph /50hz	
Power consumption (peak)	W	160	230
Sound power level	LWA(db)	63	69
Nominal flue gas temperature	°C	65	75
Max outlet temperature	°C	85	85
Maximum working pressure	bar	8	8

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

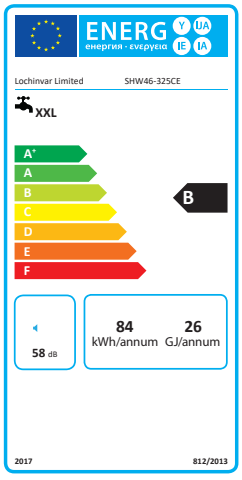
EcoShield storage-type gas-fired water heaters

Features

- Hot water recovery rates from 612 to 2436 l/hr at 50°C temperature rise
- Fully modulating pre-mix burner
- Stainless steel heat exchanger
- Efficiencies of up to 96.45%
- Low NO_x emissions ≤40mg/kWh
- 5-year storage vessel and heat exchanger warranty
- 10 bar working pressure

Ancillary items - optional

- Unvented system kits
- Concentric and twin pipe flue assemblies
- Conventional flue adaptor
- Correx non-sacrificial anode system (factory fitted)
- Condensate neutralisation kit
- Con-X-us app-based control



Con-X-us™

Con-X-us is an app-based ancillary which enables users to monitor EcoShield water heater operation from literally anywhere in the world! Settings can also be remotely adjusted and alerts can be configured for service reminders and system lockout alarms.

Technical specification

Water heater model		SHW35-245CE	SHW46-325CE	SHW61-325CE	SHW86-410CE	SHW116-410CE	SHW146-410CE
Nominal input (net)	kW	33.3	39.6	55.4	75.2	105.3	132.0
Nominal input (gross)	kW	36.6	44.0	61.5	83.5	116.9	146.5
Gas flow rate (natural gas)	m^3/hr	3.50	4.20	5.70	8.00	11.10	14.00
Nominal output	kW	35.2	41.2	58.7	79.7	110.6	141.2
Efficiency data - building regulations							
Seasonal efficiency (gross CV)	%	96.2	93.6	95.8	96.0	94.6	96.4
Maintenance consumption value	MJ/M	302	302	302	302	302	302
Efficiency data - ErP and energy label							
Ecodesign energy label rating		B	B	B	n/a	n/a	n/a
Water heater efficiency	%	76	73	81	79	78	79
NO_X emmissions							
NO_X @0%O_2 according to EU regulation 812/2013	mg/kWh	26	33	27	33	40	38
General data							
Recovery rate @ 44°C	l/hr	695	806	1153	1567	2164	2768
Recovery rate @ 50°C	l/hr	612	709	1014	1379	1904	2436
Recovery rate @ 56°C	l/hr	546	633	905	1231	1700	2175
Dimensions (height)	mm	1530	1920	1920	1920	1920	1920
Dimensions (diameter)	mm	715	715	715	865	865	930
Storage capacity	litres	248	331	332	420	423	424
Weight (empty)	kg	136	281	290	379	388	406
Weight (full)	kg	384	614	625	825	838	860
Hot outlet connection (inches)	BSP	1½"	1½"	1½"	2"	2"	2"
Cold feed connection (inches)	BSP	1½"	1½"	1½"	2"	2"	2"
Gas connection (inches)	BSP	½"	½"	½"	¾"	1"	1"
Flue connection (concentric)	mm	80/125	80/125	80/125	100/150	100/150	100/150
Flue connection (twin-pipe)	mm	80	80	80	100	100	100
Electrical requirements		230V /1Ph/ 50hz					
Power consumption (peak)	W	361	431	459	646	932	961
Sound power level	LWA(db)	56	58	60	62	64	66
Maximum flue gas temperature	°C	120	120	120	120	120	120
Max outlet temperature	°C	80	80	80	80	80	80
Maximum working pressure	bar	10	10	10	10	10	10

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

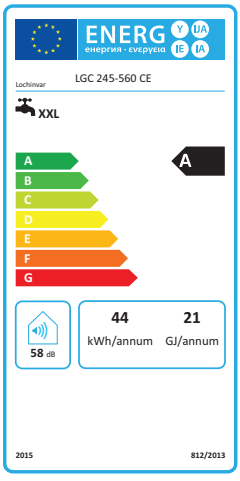
EcoSword storage-type gas-fired water heaters

Features

- 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_x emissions; <37mg/kWh
- Operating temperature up to 85°C
- Fully automatic ignition

Ancillary items - optional

- Unvented system kits
- De-stratification pump
- Condensate neutralisation kit
- Range of flue options



Qualified for Energy Technology List™

UK Water Supply Compliant
WRAS recertification application pending

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^3/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
Efficiency and NO_X data										
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
Efficiency data - ErP and energy label										
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
General data										
NO_X emission @0% O2	ppm	13	15	13	15	16	18	16	18	18
NO_X emission @0% O2	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

EcoForce wall hung circulating-type gas-fired water heaters

Features

- Recovery rates from 1312 to 2961 litres/hour
- Efficiencies up to 95.5%
- Fully modulating pre-mix burner
- Stainless steel heat exchanger
- High working pressure – up to 8 bar
- Low NO_x emissions ≤46mg/kWh
- Wall-hung space-saving design

Ancillary items - required

- Matched primary circulation pump
- Direct storage vessels

Ancillary items - optional

- Unvented/boosted water system kits
- Condensate neutralisation kit
- Range of flue options
- RCW remote controller
- Storage vessel sensor

WRAS APPROVED PRODUCT

Technical specification

Water heater model		EF80	EF100	EF120	EF150	EF180
Nominal input (net) min-max	kW	14.6 - 74.3	17.2 - 92.2	26.0 - 111	34.0 - 138	45.0 - 166
Nominal input (gross) min-max	kW	16.2 - 82.5	19.1 - 102	28.9 - 123	37.8 - 153	50.0 - 184
Gas flow rate (natural gas)	m^3/hr	7.9	9.8	11.8	14.6	17.6
Nominal output min-max	kW	14.0 - 76.3	16.5 - 94.7	24.7 - 114.1	32.6 - 141.7	43.3 - 172.2
Efficiency data - building regulations						
Heat generator seasonal efficiency (gross CV)	%	95.0	95.5	95.4	95.3	95.3
Efficiency data - ErP and energy label						
Ecodesign energy label rating		n/a	n/a	n/a	n/a	n/a
Seasonal space heating energy efficiency	%	86	86.3	85.9	89	88.6
NO_X emmissions						
NO_X emission (according to EN15502)@0% O_2	mg/kWh	46	40	45	41	44
NO_X class according to EN15502		6				
General data						
Recovery rate @ 44°C	l/hr	1491	1851	2230	2770	3365
Recovery rate @ 50°C	l/hr	1312	1629	1963	2438	2961
Recovery rate @ 56°C	l/hr	1172	1455	1752	2176	2644
Dimensions (height)	mm	842	842	842	898	898
Dimensions (width)	mm	476	476	476	476	476
Dimensions (depth)	mm	486	486	486	677	677
Water content	litres	5	6.5	8.3	10.4	12.9
Weight (empty)	kg	68	73	78	87	96
Weight (full)	kg	73	79.5	86.3	97.4	108.9
Flow connection (inches)	BSP	1½	2	2	2	2
Return connection (inches)	BSP	1½	2	2	2	2
Gas connection (inches)	BSP	R ¾	R ¾	R ¾	R 1	R 1
Flue connection (concentric)	mm	80/125	100/150	100/150	100/150	100/150
Flue connection (twin-pipe)	mm	80-80	100-100	100-100	130-130	130-130
Electrical requirements		230V /1Ph/ 50hz				
Power consumption	W	136	142	151	214	229
Sound power level	LWA(db)	67	65	62	66	69
Nominal flue gas temperature	°C	85	85	85	85	85
Max outlet temperature	°C	75	75	75	75	75
Working pressure minimum	bar	1	1	1	1	1
Working pressure maximum	bar	8	8	8	8	8

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

EcoKnight circulating-type gas-fired water heaters

Features

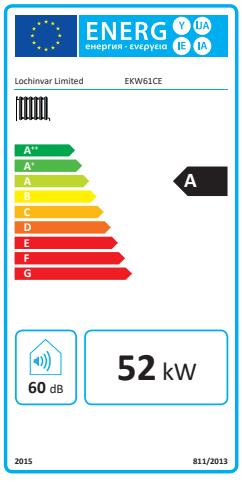
- Recovery rates from 709 to 3819 litres/hour
- Efficiencies up to 96.4%
- Fully modulating pre-mix burner
- Stainless steel heat exchanger
- High working pressure- up to 11 bar
- Low NO_x emissions ≤40mg/kWh
- Integral Controls

Ancillary items - required

- Matched primary circulation pump
- Direct storage vessels

Ancillary items - optional

- Unvented system kits
- Condensate neutralisation kit
- Range of flue options
- BMS Interface Module



Technical specification

Water heater model		EKW 46CE	EKW 61CE	EKW 86CE	EKW 116CE	EKW 146CE	EKW 176CE	EKW 206CE	EKW 236CE
Nominal input (net)	kW	39.6	55.4	75.2	105.3	132.0	158.4	184.9	211.3
Nominal input (gross)	kW	44.0	61.5	83.5	116.9	146.5	175.8	205.2	244.2
Gas flow rate (natural gas)	m^3/hr	4.2	5.9	8.0	11.1	14.0	16.8	19.6	22.3
Nominal output	kW	41.2	58.7	79.7	110.6	141.2	162.1	187.4	227.2
Efficiency data - building regulations									
Heat generator seasonal efficiency (gross CV)	%	93.6	95.4	95.4	94.6	96.4	92.2	91.3	93.0
Efficiency data - ErP and energy label									
Ecodesign energy label rating		A	A	n/a	n/a	n/a	n/a	n/a	n/a
Seasonal space heating energy efficiency	%	95	94	94	93	94	95	95	95
NO_x emmissions									
NO_x Emissions (according to EN15502)@0% O_2	mg/kWh	33.0	27.3	33.1	40.0	38.0	37.0	34.0	32.5
NO_x class according to EN15502		6							
General data									
Recovery rate @ 44°C	l/hr	806	1153	1567	2164	2768	3302	3865	4338
Recovery rate @ 50°C	l/hr	709	1014	1379	1904	2436	2905	3401	3819
Recovery rate @ 56°C	l/hr	633	906	1231	1700	2175	2595	3037	3409
Dimensions (height)	mm	840	840	1080	1080	1080	1080	1080	1080
Dimensions (width)	mm	395	395	395	395	395	395	395	395
Dimensions (depth)	mm	459	567	503	688	798	925	1024	1153
Water content	litres	4.9	6.4	9.1	12.9	15.9	15.9	18.9	21.6
Weight (empty)	kg	75	79	102	129	138	154	168	184
Weight (full)	kg	80	85	111	142	154	170	187	206
Flow connection (inches)	BSP	1¼"	1¼"	2"	2"	2"	2"	2"	2"
Return connection (inches)	BSP	1¼"	1¼"	2"	2"	2"	2"	2"	2"
Gas connection (inches)	BSP	½"	½"	¾"	1"	1"	1"	1"	1"
Flue connection (concentric)	mm	80/125	80/125	100/150	100/150	n/a	n/a	n/a	n/a
Flue connection (twin-pipe)	mm	80/80	80/80	100/100	100/100	150/150	150/150	150/150	150/150
Electrical requirements		230V/1ph/50Hz							
Power consumption	W	120	144	180	180	204	322	322	322
Sound power level	LWA(dB)	58	60	62	64	66	69	69	69
Nominal flue gas temperature	°C	120	120	120	120	120	120	120	120
Max outlet temperature	°C	88	88	88	88	88	88	88	88
Working pressure minimum	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Working pressure maximum	bar	11	11	11	11	11	11	11	11

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

TTW
circulating-type gas-fired water heaters

Features

- Recovery rates from 7188 to 9912 litres/hour
- Efficiencies up to 95.9%
- Fully modulating pre-mix burner
- Stainless steel heat exchanger
- Twin burner
- Working pressure up to 8.0 bar
- Low NO_x emissions (class 6) <44mg/kWh

Ancillary items - required

- Matched primary circulation pump
- Direct storage vessels

Ancillary items - optional

- Unvented/boosted water system kits
- Condensate neutralisation kit
- Range of flue options
- RCW remote controller
- Storage vessel sensor

Technical specification

Water heater model		TTW410	TTW580
Nominal input (net) min-max	kW	50 - 400	68 - 550
Nominal input (gross) min-max	kW	55.4 - 444.0	75.5 - 611.0
Gas flow rate (natural gas) min-max	m^3/hr	5.3 - 42.3	7.2 - 58.2
Nominal output min-max	kW	48.3 - 418.0	66.1 - 576.0
Efficiency data - building regulations			
Seasonal efficiency (gross CV)	%	95.4	95.9
Efficiency data - ErP and energy label			
Ecodesign energy label rating		n/a	n/a
Water heater efficiency	%	87.7	85.0
NO_X emmissions			
NO_X emissions (weighted)@0% O_2	mg/kWh	44	41
General data			
Recovery rate @ 44°C	l/hr	8168	11263
Recovery rate @ 50°C	l/hr	7188	9912
Recovery rate @ 56°C	l/hr	6418	8850
Dimensions (height)	mm	1638	1638
Dimensions (width)	mm	736	736
Dimensions (diameter)	mm	1095	1095
Storage capacity	litres	30	43
Weight (empty)	kg	400	450
Weight (full)	kg	430	493
Hot outlet connection (inches)	BSP	2½	2½
Gas connection (inches)	BSP	2	2
Electrical requirements		230V/1Ph/50Hz	
Power consumption	W	752	752
Sound power level	LWA(db)	74	78
Max outlet temperature	°C	70	70
Maximum working pressure	bar	8	8

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


Lochinvar
Lochinvar

Storage vessels

Direct storage vessels

These products are the perfect complement to our gas-fired circulating type water products, that is, our EcoForce, EcoKnight and TTW product ranges. Circulating-type water heaters are designed to work in conjunction with separate storage vessels; a concept that can provide a range of flexible installation options, particularly for commercial and industrial applications, which are subject to high hot water demand in peak periods.

These products can also be used to provide storage for other water heater methods, such as packaged plate heat exchangers. We can provide storage vessels constructed from enamelled steel or stainless steel, and with storage capacities ranging from 300 to 2820 litres.

Direct storage vessels

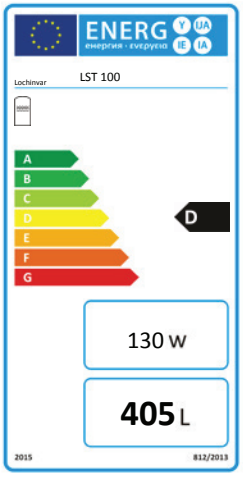
LST(R) GE
direct storage vessels

Features

- Storage capacities from 312 to 2820 litres
- Up to 10 bar working pressure
- Cleanout opening for inspection and maintenance
- A-rated fire resistant insulation and jacket
- For use with circulating-type water heaters and packaged plate heat exchangers

Ancillary items - optional

- Correx non sacrificial protection system (models LSTR66 to 220GE only)
- Destratification Pump sets
- Unvented system kits
- Thermometer kits



UK Water Supply Compliant
WRAS recertification application pending

Technical specification

Direct storage vessel model		LSTR66GE	LSTR100GE	LSTR110GE	LSTR130GE	LSTR165GE	LSTR220GE	LST330GE	LST440GE	LST550GE	LST660GE
Storage capacity	litres	312	405	499	678	763	1055	1550	1880	2500	2820
Efficiency data - building regulations											
Heat loss	Kw/24 hr	1.3	1.6	1.9	1.9	2.0	2.2	4.7	7.3	7.8	8.6
Efficiency data - ErP											
Ecodesign energy label rating		C	C	C	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standing loss	W	55	67	78	77	85	91	154	171	232	243
General data											
Dimensions (height)	mm	1370	1710	2045	1840	2035	2005	1930	2118	2000	2128
Dimensions (width)	mm	740	740	760	910	930	1100	1200	1200	1500	1500
Hot outlet connection (inches)	BSP	R 1½	R 1½	R 1½	R 1½	R 1½	R 1½	R 2	R 2	R 2	R 2
Drain connection (inches)	BSP	R 1½	R 1½	R 1½	R 1½	R 1½	R 1½	R 2	R 2	R 2	R 2
Flow/return connection (inches)	BSP	Rp 2	Rp 1½	Rp 1½	Rp 1½	Rp 1½	Rp 1½	Rp 2	Rp 2	Rp 2	Rp 2
Weight (empty)	kg	81	99	131	179	201	262	325	350	485	520
Weight (full)	kg	393	504	630	857	964	1317	1875	2230	2985	3340
Minimum working pressure	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Maximum working pressure	bar	10	10	10	10	10	10	7	7	7	7

Note. LSTR66GE to LSTR110GE models are supplied with a pre-fitted insulation jacket.
The insulation jacket for the LSTR130GE to LST660GE models are supplied separately for fitting on site.

LST 166
direct storage vessel

Features

- Storage capacity – 685 litres
- Up to 10 bar working pressure
- Insulated and jacketed
- 5-year warranty against leakage
- For use with circulating-type water heaters and packaged plate heat exchangers

Ancillary Options

- Correx non-sacrificial protection system
- Unvented system kits

Technical specification

Model		LST166
Storage capacity	litres	685
Efficiency data - building regulations		
Heat loss	KWh/24 hr	3.0
Efficiency data - ErP and energy label		
Ecodesign energy label rating		n/a
Standing loss	W	124
General data		
Dimensions (height)	mm	1955
Dimensions (width)	mm	863
Hot outlet connection (inches)	NPT	Rp 2
Drain connection (inches)	NPT	R ¾
Flow/return connection (inches)	NPT	Rp 2½
Weight (empty)	kg	295
Weight (full)	kg	980
Minimum working pressure	bar	0.5
Maximum working pressure	bar	10

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

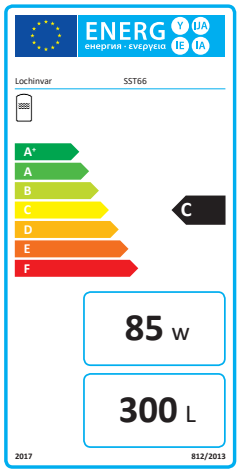
SST
stainless steel direct storage vessels

Features

- Storage capacities from 300 to 1000 litres
- Stainless steel construction
- Low standing losses
- 5-year storage vessel warranty
- For use with circulating-type water heaters and package plate heat exchangers

Ancillary items - optional

- Unvented system kits
- Additional connections (factory-fitted)



Technical specification

Model		SST66	SST110	SST165	SST220
Storage capacity	litres	300	500	700	1000
Efficiency data - building regulations					
Heat loss	Kw/24 hr	2.0	2.8	3.0	3.4
Efficiency data - ErP					
Ecodesign energy label rating		C	C	n/a	n/a
Standing loss	W	85	116	123	143
General data					
Dimensions (height)	mm	1170	1750	2320	1907
Dimensions (width)	mm	750	750	750	1080
Hot outlet connection (inches)	BSP	2	2	2½	2½
Flow/return connection (inches)	BSP	1½	1½	1½	1½
Weight (empty)	kg	55	95	140	175
Weight (full)	kg	355	595	840	1175
Maximum working temperature	°C	100	100	100	100
Minimum working pressure	bar	0.5	0.5	0.5	0.5
Maximum working pressure	bar	6.0	6.0	6.0	6.0

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


Lochinvar
M.C.W.
CHL

Gas-fired

Low NO_X atmospheric water heaters

Lochinvar Knight and Charger atmospheric water heaters were among the first of their kind supplied in the UK and Ireland, and since the initial launch in 1976, these products have been providing economical and reliable supplies of hot water for many building types.

Although condensing water heaters are usually specified and installed on new build and refurbishment projects, there is still a requirement for replacement atmospheric gas water heaters, where replacing with condensing equivalents can be impractical.

We would usually encourage customers towards high efficiency condensing water heater options, but for applications where like for like replacement is the requirement, our current range of Low NO_X atmospheric water heaters models are an alternative.

Legislation

In September 2018, new ErP legislation for gas-fired water heaters was implemented; with the main change being new maximum levels of NO_X emissions of 56mg/kWh. Most of the atmospheric water heaters on the market pre September 2018 were subsequently withdrawn, but our Knight and Charger ranges were modified and upgraded to include Low NO_X burners and can provide an ideal solution for water heater replacements

Water heater replacements

Most new-build or major refurbishment projects would specify gas-fired condensing water heaters, but replacing an old atmospheric gas water heater installation will usually mean that a new flue installation is required. This can present a practical and costly challenge particularly on multiple water heater installations, or installations that include lengthy flue runs.

Charger Low NO_X water heaters can usually be installed on the existing flue installation and can provide a cost-effective and efficient replacement option. All models are held in stock and can normally be delivered to most UK locations within 2 working days.

Details on such products can be found on the following pages:

Storage-type atmospheric Low NO_X water heaters

- Charger Low NO_X page 36
- Knight Low NO_X page 38

Charger Low NOx storage-type gas-fired water heaters

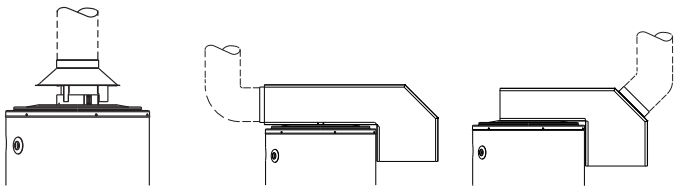
Features

- Recovery rates from 844 to 1,453 litres per hour
- ErP compliant
- Up to 8 bar working pressure
- Low NO_x emissions <45mg/kWh
- Small footprint
- Suitable for Natural gas only

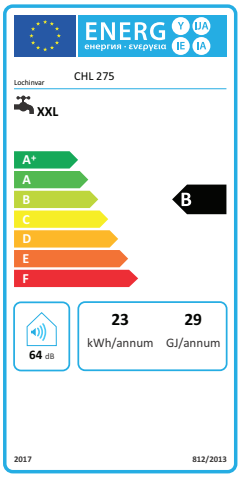
Ancillary items - optional

- Unvented system kits
- De-stratification pump sets

Low-level draught diverter options



Ideal replacement solution – *with hot water recovery rates of up to 1,453 litres per hour (84.4kW output), Charger low NOx water heaters are a practical, cost-effective replacement option for pre-2019 gas-fired storage water heaters.*
Low-level draught diverter options are designed for easy replacement of Lochinvar and other branded water heaters, and provide further installation flexibility especially where plant room height is restricted.



Technical specification

Water heater model		CHL 275 GCE	CHL 375 GCE	CHL 550 GCE
Nominal input (net)	kW	54	73	93
Nominal input (gross)	kW	60.0	81.1	103.3
Gas flow rate (natural gas)	m^3/hr	5.7	7.7	9.8
Nominal output	kW	49.1	66.4	84.4
Efficiency data - building regulations				
Heat generator seasonal efficiency (gross CV)	%	82	81	82
Maintenance consumption value	MJ/M	728	809	770
Maintenance consumption value	kWh/24 Hr	6.7	7.5	7.1
Efficiency data - ErP and energy label				
Ecodesign energy label rating		B	B	n/a
Water heater efficiency	%	66	66	71
NO_x emmissions				
NO_x emission according to EN89 @0% O_2	mg/kWh	45	35	40
General data				
Recovery rate @ 44°C	l/hr	960	1299	1651
Recovery rate @ 50°C	l/hr	844	1143	1453
Recovery rate @ 56°C	l/hr	754	1020	1297
Dimensions (height)	mm	1740	1995	1965
Dimensions (width)	mm	705	705	705
Dimensions (depth)	mm	960	960	960
Storage capacity	litres	294	351	328
Weight (empty)	kg	245	272	308
Weight (full)	kg	533	616	630
Hot outlet connection (inches)	BSP	R 1½	R 1½	R 1½
Cold feed connection (inches)	BSP	R 1½	R 1½	R 1½
Gas connection (inches)	BSP	Rp ¾	Rp ¾	Rp ¾
Flue connection	mm	150	180	200
Electrical requirements		230V /1Ph/ 50hz		
Power consumption (peak)	W	110	120	130
Sound power level	LWA(dB)	64	68	70
Nominal flue gas temperature	°C	161	172	125
Max outlet temperature	°C	80	80	80
Maximum working pressure	bar	8	8	8

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

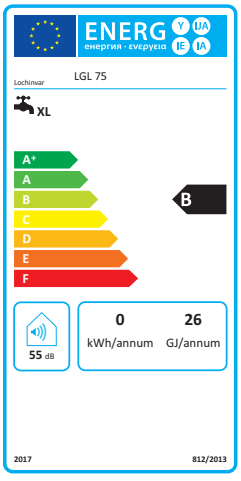
Knight Low NOx storage-type gas-fired water heaters

Features

- Recovery rates from 140 to 290 litres/hour
- ErP compliant
- Up to 8 bar working pressure
- Low NO_x emissions <48mg/kWh
- Small footprint
- Natural gas or LPG

Ancillary items - optional

- Unvented system kits
- De-stratification pump sets



Technical specification

Water heater model		LGL30	LGL40	LGL75	LGL85
Nominal input (net)	kW	8.6	10.1	19.9	18.9
Nominal input (gross)	kW	9.6	11.2	22.1	21.0
Gas flow rate (G20)	m^3/hr	0.9	1.1	2.1	2.0
Nominal output	kW	7.6	8.6	16.8	16.6
Efficiency data - building regulations					
Seasonal efficiency (gross CV)	%	79	77	76	79
Efficiency data - ErP and energy label					
Ecodesign energy label rating		B	B	B	C
Water heater efficiency	%	62	65	58	58
NO_X emmissions					
NO_X emission according to EN89 @0% O2	mg/kWh	35	48	22	30
General data					
Recovery rate @ 44°C	l/hr	150	170	328	324
Recovery rate @ 50°C	l/hr	140	150	290	290
Recovery rate @ 56°C	l/hr	117	137	258	258
Dimensions (height to top of draft diverter)	mm	1635	1380	1595	1780
Dimensions (width)	mm	405	560	645	705
Dimensions (diameter)	mm	495	650	735	795
Storage capacity	litres	108	144	268	358
Weight (empty)	kg	49	56	124	151
Weight (full)	kg	157	200	392	509
Hot outlet connection (inches)	NPT	¾	¾	1	1¼
Cold feed connection (inches)	NPT	¾	¾	1	1¼
Gas connection (inches)	BSP	½	½	½	½
Flue connection	mm	80	80	130	130
Electrical requirements		n/a			
Power consumption (peak)	W	n/a	n/a	n/a	n/a
Sound power level	LWA(db)	55	55	55	55
Maximum flue gas temperature	°C	122	188	142	125
Max outlet temperature	°C	71	71	80	80
Maximum working pressure	bar	8	8	8	8

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


Lochinvar
Lochinvar

Electric

Electric water heaters

In recent years, the UK has seen a marked increase in the use of renewable technologies to generate the nation's electricity. With our ongoing commitment to reduce carbon emissions, the proportion of renewables will increase and at some point almost all electricity will be generated these carbon neutral technologies.

As a result, the use of electricity to provide heating and hot water for buildings has started to become popular. Our range of Cavalier water heaters are suitable for a range of small to medium-sized hot water requirements and can be integrated with our Amicus range of heat pumps.

For further information, please see the following pages

- Cavalier electric water heaters page 42
- Heat pumps page 68 to 73

Cavalier storage-type electric water heaters

Features

- Recovery rates from 155 to 930 litres/hour
- Multiple immersion elements for greater efficiency
- ErP tested and certified
- Up to 8 bar working pressure
- 3-phase electric water heater
- Zero on-site emissions
- Integral safety switch to prevent dry-firing

Ancillary items - optional

- Correx non-sacrificial anode kit
- De-stratification pump sets
- Unvented system kits

Technical specification

Water heater model		AMP 200-9	AMP 200-18	AMP 200-36	AMP 300-9	AMP 300-18	AMP 300-36	AMP 300-54
Input	kW	9	18	36	9	18	36	54
Efficiency data - Building regulations								
Efficiency	%	100	100	100	100	100	100	100
Storage vessel heat loss	kWh/24 Hr	1.5	1.5	1.5	1.9	1.9	1.9	1.9
Efficiency data - ErP and energy label								
Ecodesign energy label rating		C	C	C	C	C	C	C
Water heater efficiency	%	38	38	38	38	38	38	38
Electrical data								
Input	kW	9	18	36	9	18	36	54
Number of elements	-	3	3	6	3	3	6	9
Electrical requirements	VAC/Hz/Phase	400 (-15%, +10%) / 50 / 3						
Electric current	A	11-13	23-25	46-50	11-13	23-25	46-50	69-75
General data								
Recovery rate @ 44°C	l/hr	176	352	703	176	352	703	1056
Recovery rate @ 50°C	l/hr	155	310	619	155	310	619	930
Dimensions (height)	mm	1420	1420	1420	1540	1540	1540	1540
Dimensions (width)	mm	560	560	560	640	640	640	640
Dimensions (depth)	mm	690	690	690	790	790	790	790
Storage capacity	litres	173	173	173	264	264	264	264
Weight (empty)	kg	73	73	73	110	110	110	110
Weight (full)	kg	273	273	273	410	410	410	410
Hot outlet connection (inches)	NPT	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"
Cold feed connection (inches)	NPT	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"
Sound power level	LWA(dB)	15	15	15	15	15	15	15
Max outlet temperature	°C	82	82	82	82	82	82	82
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

Indirect

Indirect water heaters

Lochinvar is a company, which is well known for its range of direct gas-fired water heaters, but we can also provide a range of solutions where hot water is generated indirectly.

Indirect water heaters or calorifiers as they are often referred to, need a separate, primary heat source and this is usually a suitably sized heating boiler. One of the main benefits of a boiler/calorifier system is that it eliminates the requirement for a separate water heater flue installation.

Indirect hot water systems can also be easier to integrate with renewable technologies and in particular the Squire and Stainless ranges, both of which include 'twin coil' models.

Our indirect water heater solutions can be found at the following pages:

Indirect / instantaneous-type water heaters

Indirect / calorifier-type water heaters

LOK
packaged
plate heat exchangers

Features

- Hot water outputs from 864 to 9504 l/hr at a 50°C temperature rise
- Plates constructed from 316l stainless steel
- Compact footprint
- Single and twin pump models
- Working pressure up to 10bar – DHW and LTHW

Ancillary items - optional

- Insulation jackets
- Direct storage vessels
- Primary pumps for use with direct storage vessels
- BMS connection
- Internal pasteurisation cycle

WRAS APPROVED PRODUCT

Technical specification

Model		LOK8/ LOKT8 50	LOK8/ LOKT8 100	LOK8/ LOKT8 150	LOK8/ LOKT8 200	LOK8/ LOKT8 250	LOK8/ LOKT8 300	LOK8/ LOKT8 350	LOK8/ LOKT8 400	LOK14/ LOKT14 450	LOK14/ LOKT14 500	LOK14/ LOKT14 550
Heat transfer duty	kW	50	100	150	200	250	300	350	400	450	500	550
Thermal efficiency	%	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5
primary side												
Inlet temperature	°C	82	82	82	82	82	82	82	82	82	82	82
Outlet temperature	°C	Varies Depending On Demand (between 40 and 50 At Full Demand)										
Fluid flow rate	litre/sec	0.38	0.76	1.14	1.32	1.47	2.00	2.20	2.36	3.33	3.58	3.83
Connection size and type	Inch	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	DN40 PN6 Flange		
Max working temperature	°C	99	99	99	99	99	99	99	99	99	99	99
Maximum working pressure	bar	10	10	10	10	10	10	10	10	6	6	6
Secondary side												
Inlet temperature	°C	Variable Depending On Demand (10 At Full Demand)										
Outlet temperature	°C	65	65	65	65	65	65	65	65	65	65	65
Fluid flow rate	litre/sec	0.22	0.44	0.66	0.88	1.09	1.31	1.53	1.75	1.97	2.19	2.41
Connection size and type	Inch	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	2"	2"	2"
Max working temperature	°C	85	85	85	85	85	85	85	85	85	85	85
Maximum working pressure	bar	10	10	10	10	10	10	10	10	6	6	6
General data												
Recovery rate @ 50°C	l/hr	864	1728	2628	3492	4320	5184	6048	6948	7812	8676	9504
Recovery rate @ 55°C	l/hr	792	1584	2376	3168	3924	4716	5508	6300	7092	7884	8640
Dimensions (height)	mm	1445								1541		
Dimensions (width)	mm	643								643		
Dimensions (depth)	mm	1023								964		
Empty weight LOK	kg	110	113	116	119	122	124	127	127	189	191	194
Empty weight LOKT	kg	128	131	135	137	140	142	145	145	210	212	214
Electrical requirements		230V /1Ph/ 50hz										

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

LOKE
packaged plate heat exchangers

Features

- Hot water recovery rates up to 4316 litres/hour at a 50°C temperature rise
- Designed for instantaneous production of hot water
- Plates constructed from 316l stainless steel
- Simple plug and play control
- Compact footprint
- Working with a 75/40 flow/return temperature during demand keeps the associated Boiler(s) in condensing mode for as long as possible

Ancillary items - optional

- Steel base
- Flexiwrap insulation jacket
- Unvented system kits
- Direct storage vessel with matched circulating pump

Technical specification

Model		LOKE8-50	LOKE8-75	LOKE8-100	LOKE8-125	LOKE8-150	LOKE8-175	LOKE8-200	LOKE8-225	LOKE8-250
Heat transfer duty	kW	50	75	100	125	150	175	200	225	250
Thermal efficiency	%	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5
Primary side										
Inlet temperature	°C	75	75	75	75	75	75	75	75	75
Outlet temperature	°C	Variable (40 at full demand)								
Fluid flow rate	litre/sec	0.34	0.51	0.68	0.85	1.03	1.2	1.37	1.54	1.71
Pressure drop	bar	0.21	0.28	0.27	0.31	0.28	0.3	0.33	0.35	0.38
Connection size	Inch	1"	1"	1"	1"	1¼"	1¼"	1¼"	1¼"	1¼"
Max working temperature	°C	100	100	100	100	100	100	100	100	100
Maximum working pressure	bar	10	10	10	10	10	10	10	10	10
Secondary side										
Inlet temperature	°C	Variable (10 At Full Demand)								
Outlet temperature	°C	65	65	65	65	65	65	65	65	65
Fluid flow rate	litre/sec	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.09
Pressure drop	bar	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.11
Connection size and type	Inch	1"	1"	1"	1"	1¼"	1¼"	1¼"	1¼"	1¼"
Max working temperature	°C	95	95	95	95	95	95	95	95	95
Maximum working pressure	bar	10	10	10	10	10	10	10	10	10
General data										
Recovery rate @ 50°C	l/hr	871	1307	1703	2138	2574	3010	3445	3881	4316
Recovery rate @ 55°C	l/hr	792	1188	1548	1944	2340	2736	3132	3528	3924
Dimensions (height without base)	mm	835	835	835	835	835	835	835	835	835
Dimensions (width without base)	mm	196	196	196	196	196	196	196	196	196
Dimensions (depth without base)	mm	710	710	710	710	710	710	710	710	710
Empty weight	kg	53	65	67	69	70	72	74	77	79
Electrical requirements		230V /1Ph/ 50hz								

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

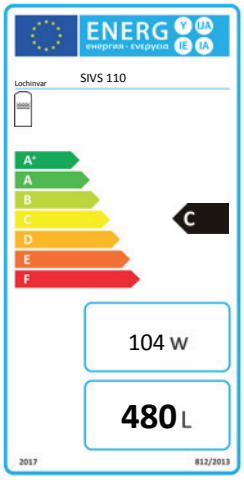
Squire calorifier-type indirect water heaters

Features

- Peak draw-off capacities up to 5,456 litres in first hour at 50°C temperature rise
- Storage capacities from 300 to 2,820 litres
- Single and twin coil models
- Working pressure up to 10 bar
- Clean-out access for maintenance and inspection
- 3-year storage vessel warranty

Ancillary items - optional

- De-stratification pump sets
- Unvented system kits
- Correx non-sacrificial protection
- Immersion heater elements



UK Water Supply Compliant
WRAS recertification application pending

Technical specification

Indirect storage vessel model		SIVS66GE	SIVS100GE	SIVS110GE	SIVS130GE	SIVS165GE	SIVS220GE	SIVS330GE	SIVS440GE	SIVS550GE	SIVS660GE	SIVT100GE	SIVT110GE	SIVT130GE	SIVT165GE	SIVT220GE
		SINGLE COIL MODELS										TWIN COIL MODELS				
Storage capacity	litres	300	390	480	650	730	1020	1580	1830	2600	2820	388	475	650	730	1020
Efficiency data - building regulations																
Heat loss	Kw/24 hr	2.2	2.4	2.5	3.0	3.0	3.5	3.7	4.1	5.6	5.8	2.4	2.5	3.0	3.0	3.5
Efficiency data - ErP																
Ecodesign energy label rating		C	C	C	n/a	n/a	n/a	n/a	n/a	n/a	n/a	C	C	n/a	n/a	n/a
Standing loss	W	92	100	104	126	126	146	154	171	232	243	100	104	126	126	146
Coil and performance data																
Dimensions (height)	mm	1650	1710	2045	1840	2035	2005	1930	2118	1989	2118	1710	2045	1840	2035	2005
Dimensions (width)	mm	750	740	760	910	930	1100	1300	1300	1600	1600	740	760	910	930	1100
Hot outlet connection (inches)	BSP	R 1	R 1½	R 1½	R 1½	R 1½	R 1½	R 2	R 2	R 2	R 2	R 1½	R 1½	R 1½	R 1½	R 1½
Cold feed connection (inches)	BSP	R 1	R 1½	R 1½	R 1½	R 1½	R 1½	R 2	R 2	R 2	R 2	R 1½	R 1½	R 1½	R 1½	R 1½
Flow/return connection (inches)	BSP	R 1	Rp 1	Rp 1	Rp 1¼	Rp 1¼	Rp 1¼	Rp 1¼	Rp 1¼	Rp 1¼	Rp 1¼	Rp 1	Rp 1	Rp 1¼	Rp 1¼	Rp 1¼
Weight (empty)	kg	136	139	180	241	254	336	398	426	576	600	145	196	246	262	340
Weight (full)	kg	436	529	660	891	984	1356	1978	2256	3176	3450	533	671	896	992	1360
Minimum working pressure	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Maximum working pressure	bar	10	10	10	10	10	10	7	7	7	7	10	10	10	10	10
Maximum working temperature	°C	95	95	95	95	95	95	85	85	85	85	95	95	95	95	95
Electrical requirements (for thermostat only)		230V /1Ph/ 50hz*										230V /1Ph/ 50hz*				
Coil and performance data																
Coil output (80/60°C) bottom/top	kW	46	79	102	106	114	147	149	149	159	159	52/37	68/42	73/40	81/57	88/59
Coil surface area bottom	m2	1.4	2.45	3.11	3.45	3.72	4.82	5.2	5.2	6	6	1.64	2.13	2.39	2.66	2.89
Coil surface area top	m2											1.15	1.31	1.33	1.86	1.93
Flow rate (80/60°C) bottom	l/sec	0.52	0.93	1.19	1.24	1.34	1.73	1.8	1.8	1.9	1.9	0.62	0.81	0.86	0.96	1.04
Flow rate (80/60°C) top	l/sec											0.44	0.50	0.48	0.67	0.69
Pressure loss bottom	kPa	8	24.4	48.9	10.4	12.8	25.9	83	83	69.5	69.5	7.8	16.6	3.7	5	6.1
Pressure loss top	kPa											3	4.3	0.7	1.8	2
Maximum coil temperature	°C	160	110	110	110	110	110	90	90	90	90	110	110	110	110	110
Maximum coil pressure	bar	25	16	16	16	16	16	6	6	6	6	16	16	16	16	16
Max draw off capacity (1st hour) at 50°C temperature rise (top coil only)	l/hr	1031	1473	2138	2343	2545	3344	3827	4027	4815	4991	830	960	1013	1345	1525
Heat up time at 50°C Temperature rise (top coil only)	min	23	17	16	22	23	24	37	43	57	62	18	20	28	22	30
Max draw off capacity (1st hour) at 50°C temperature rise (both coils)	l/hr											1841	2272	2464	2958	3344
Heat up time at 50°C temperature rise (both coils)	min											15	15	20	18	24

* For thermostat
Energy Label, product fiche and ErP data table are available at www.lochinvar.ltd.uk

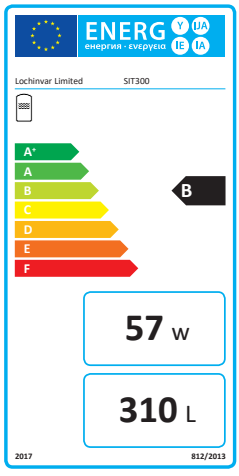
Squire stainless calorifier-type indirect water heaters

Features

- Storage capacities from 299 to 3,000 litres
- Single and twin coil models
- Stainless steel construction
- High capacity stainless steel coils
- Up to 10.0 bar working pressure

Ancillary items - optional

- Unvented system kits
- De-stratification pump sets
- High limit thermostat
- Immersion heater elements



Technical specification – SIT single coil models

Water heater model		SIT300	SIT450	SIT600	SIT900	SIT1100	SIT1400	SIT1900	SIT2500	SIT3000
Storage capacity	litres	310	427	575	840	1125	1380	1875	2500	3000
Efficiency data - building regulations										
Heat loss	kWh/24hr	0.62	0.85	2.88	3.36	3.38	4.14	3.75	5.00	6.00
Efficiency data - ErP and energy label										
Ecodesign energy label rating		B	B	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standing loss	W	57.4	67.7	120	137	150	160	172	190	203
General data										
Dimensions (height)	mm	1765	1734	1978	1600	2100	2120	2050	2600	3040
Dimensions (width)	mm	609	711	740	1080	1080	1180	1380	1380	1380
Hot outlet connection (inches)	BSP	1½"	1½"	2	2	2	2	2	2	2
Cold feed connection (inches)	BSP	1½"	1½"	2	2	2	2	2	2	2
Flow/return connection (inches)	BSP	1"	1"	1	1	1	1	1½	1½	1½
Weight (empty)	kg	80	96.5	114	162	195	241	291	370	427
Weight (full)	kg	390	523.5	689	1002	1320	1621	2166	2870	3427
Minimum working pressure	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Maximum working pressure	bar	10.0	10.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Electrical requirements		230V /1Ph/ 50hz*								

Water heater model		SIT300	SIT450	SIT600	SIT900	SIT1100	SIT1400	SIT1900	SIT2500	SIT3000
Coil and performance data										
Coil output (80/60°C)	kW	34	56	54	81	108	108	162	162	162
Coil surface area	m^2	1.25	2.05	2	3	4	4	6	6	6
Flow rate (80/60°C)	l/sec	0.41	0.68	0.66	0.99	1.32	1.32	1.98	1.98	1.98
Pressure loss	kPa	6.4	14	27.4	33.2	21.1	21.1	21.1	21.1	21.1
Maximum coil temperature	°C	110	110	110	110	110	110	110	110	110
Maximum coil pressure	bar	10	10	6	6	6	6	6	6	6
Max draw off capacity (1st hour) at 50°C temperature rise	l/hr	828	1289	1389	2065	2758	2962	4286	4786	5186
Heat up time at 50°C temperature rise	min	32	27	37	36	36	45	40	54	65

Technical specification – SDT Twin coil models

Water heater model		SDT300	SDT450	SDT600	SDT900	SDT1100	SDT1400	SDT1900	SDT2500	SDT3000
Storage capacity	litres	299	416	575	840	1125	1380	1875	2500	3000
Efficiency data - building regulations										
Heat loss	kWh/24hr	0.60	0.83	2.88	3.29	3.60	3.84	4.13	4.56	4.87
Efficiency data - ErP and energy label										
Ecodesign energy label rating		B	B	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standing loss	W	57.4	67.7	120	137	150	160	172	190	203
General data										
Dimensions (height)	mm	1765	1734	1978	1595	2100	2120	2050	2600	3040
Dimensions (width)	mm	609	711	740	1080	1080	1180	1380	1380	1380
Hot outlet connection (inches)	BSP	1½"	1½"	2	2	2	2	2	2	2
Cold feed connection (inches)	BSP	1½"	1½"	2	2	2	2	2	2	2
Flow/return connection (inches)	BSP	1"	1"	1	1	1	1	1	1	1
Weight (empty)	kg	85	101	114	162	195	241	291	370	427
Weight (full)	kg	384	517	689	1002	1320	1621	2166	2870	3427
Minimum working pressure	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Maximum working pressure	bar	10.0	10.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Electrical requirements		230V /1Ph/ 50hz*								
Coil and performance data										
Coil output (80/60°C) - lower / upper	kW	34/23	56/40	27/27	27/40	54/40	54/54	81/67	81/81	81/67
Coil surface area - lower / upper	m^2	1.25/0.85	2.05/1.50	1.0/1.0	1.0/1.5	2.0/1.5	2.0/2.0	3.0/2.5	3.0/3.0	3.0/2.5
Flow rate (80/60°C) - lower / upper	l/sec	0.41/0.28	0.68/0.5	0.33/0.33	0.33/0.495	0.66/0.495	0.66/0.66	0.99/0.825	0.99/0.99	0.99/0.825
Pressure loss - lower / upper	kPa	6.4/1.55	14/7.12	12.2/12.2	12.2/14.3	19.7/14.3	19.7/19.7	28.1/23.4	28.1/28.1	28.1/23.4
Maximum coil temperature	°C	110	110	100	100	100	100	100	100	100
Maximum coil pressure	bar	10	10	6	6	6	6	6	6	6
Max draw off capacity (1^{st} hour) at 50°C temperature rise (top coil only)	l/hr	537	901	924	1360	1588	2033	2652	3393	3552
Heat up time at 50°C temperature rise (top coil only)	min	23	18	50	37	59	53	49	65	104
Max draw off capacity (1^{st} hour) at 50°C temperature rise (both coils)	l/hr	1220	1985	1389	1824	2517	2962	4046	4786	4969
Heat up time at 50°C temperature rise (both coils)	min	19	16	37	44	42	45	44	54	42

*For use of 230v thermostats only
Energy Label, product fiche and ErP data table are available at www.lochinvar.ltd.uk


Lochinvar

Gas-fired

Condensing boilers

Lochinvar has been involved in the commercial boiler business since the early 1990's, when our highly successful copper-fin and power-fin high efficiency products were introduced.

Since the early 2000's there has been a stronger emphasis on higher boiler efficiencies, and as a result almost all commercial gas fired boiler products employ condensing technology, which typically provides seasonal efficiencies of up to 96%.

At the same time, there has been considerable growth in the demand for wall-hung products, often installed in multiples. We have responded to these market trends by developing our boiler offering and we can now provide both wall hung and floor-standing models, which provides an excellent range of choice for those involved in specification or installation of commercial and industrial heating systems.

Our boiler product details can be found on the following pages:

Wall-hung or frame mounted condensing boilers

Floor standing condensing boilers

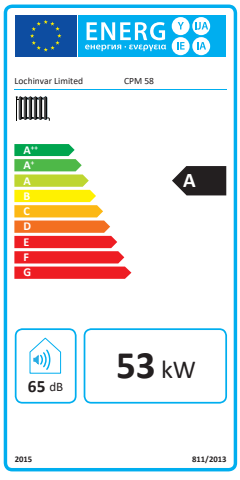
CPM wall hung gas-fired Condensing boilers

Features

- Outputs from 58 to 175kW @ 50/30°C
- High efficiency condensing technology
- Stainless steel heat exchanger
- Low NO_x emissions
- Integral A-rated fully modulating pump
- Integral controls

Ancillary items - optional

- Pressurisation units – with single or twin pump
- Manifold pipework assemblies
- Mounting frames
- Heating system separators
- Factory-fitted 6 bar pressure switch
- Boiler expansion kits
- Range of flue options



Technical specification

Boiler model		CPM 58	CPM 77	CPM 96	CPM 116	CPM 144	CPM 175
Nominal input (gross) min-max	kW	13.9-61.8	16.2-82.5	19.1-102	28.9-123	37.8-153	50.0-184
Nominal input (net) min-max	kW	12.5-55.6	14.6-74.3	17.2-92.2	26.0-111	34.0-138	45.0-166
Gas flow rate (G20)	m^3/hr	1.32-5.88	1.54-7.86	1.82-9.76	2.75-11.8	3.6-14.6	4.76-17.6
Output @50/30°C min-max	kW	12.9-57.4	15.2-77.5	18.0-96.2	27.2-116	35.5-144	47.3-175
Output @80/60°C min-max	kW	12.0-53.5	14.0-71.2	16.5-88.4	24.7-106	32.6-132	43.3-160
Efficiency data - building regulations							
Seasonal efficiency (gross CV)	%	95.2	95.2	95.2	95.4	95.1	95.1
Efficiency data - ErP and energy label							
Ecodesign energy label rating		A	n/a	n/a	n/a	n/a	n/a
Seasonal space heating energy efficiency	%	91.9	92.3	92.4	92.6	92.3	92.3
NO_X emmissions							
NO_X emission (according to EN15502)@0% O_2	mg/kWh	38	46	40	45	41	44
NO_X class according to EN15502		6					
General data							
Dimensions (height to flue)	mm	967	967	967	967	1023	1023
Dimensions (width)	mm	460	460	460	460	460	460
Dimensions (depth)	mm	486	486	486	486	677	677
Water content	litres	3.9	5	6.5	8.3	10.4	12.9
Weight (empty)	kg	46	73	78	83	92	101
Weight (full)	kg	50	78	85	91	102	114
Flow connection (inches)	BSP	R 1¼"	R 1¼"	R 1¼"	R 1¼"	R 1½"	R 1½"
Return connection (inches)	BSP	R 1¼"	R 1¼"	R 1¼"	R 1¼"	R 1½"	R 1½"
Gas connection (inches)	BSP	R ¾"	R ¾"	R ¾"	R ¾"	R 1	R 1
Flue connection (concentric)	mm	80/125	80/125	100/150	100/150	100/150	100/150
Flue connection (twin-pipe)	mm	80-80	80-80	100-100	100-100	130-130	130-130
Electrical requirements		230V /1Ph/ 50hz					
Maximum power consumption	W	240	265	270	280	505	520
Sound power level	LWA(db)	65	67	65	62	66	69
Maximum flue gas temperature	°C	120	120	120	120	120	120
Max flow temperature	°C	90	90	90	90	90	90
Working pressure minimum	bar	1.0	1.0	1.0	1.0	1.0	1.0
Working pressure maximum	bar	4.0*	4.0*	4.0*	4.0*	4.0*	4.0*

* CPM SP models can operate at up to 6 bar working pressure (see ancillary options)
Energy Label, product fiche and ErP data table are available at www.lochinvar.ltd.uk

CPM SP frame mounted gas-fired condensing boilers

Features

- Outputs from 232 to 464kW at 50/30°C
- High efficiency condensing technology
- Stainless steel heat exchanger
- Low NO_x emissions
- Integral Controls

Ancillary items - optional

- Heating system separators
- Condensate neutralisation kits
- Pressurisation units
- External temperature sensor for weather compensation control
- Cascade flue assemblies
- Factory-fitted 6 bar pressure switch
- Boiler expansion kits

Technical specification

Boiler model		CPM SP232	CPM SP348	CPM SP464
Number of boilers in the cascade		2	3	4
Nominal input (gross) min-max	kW	28.9-246	28.9-369	28.9-492
Nominal input (net) min-max	kW	26-222	26-333	26-444
Gas flow rate (G20) min-max (in cascade)	m^3/hr	2.75-23.6	2.75-35.4	2.75-47.2
Output @50/30°C min-max (in cascade)	kW	27.2-232	27.2-348	27.2-464
Output @80/60°C min-max (in cascade)	kW	24.7-212	24.7-318	24.7-424
Cascade turndown ratio		8.1	12.1	16.1
Efficiency data - building regulations				
Seasonal efficiency (gross CV)	%	95.4	95.4	95.4
Efficiency data - ErP and energy label				
EcoDesign energy label rating		n/a	n/a	n/a
Seasonal space heating energy efficiency	%	92.6	92.6	92.6
NO_X emmissions				
NO_X emissions (according to EN15502)@0% O_2	mg/kWh	45	45	45
NO_X class according to EN15502		6		
General data				
Dimensions cascade height	mm	1948	1948	1948
Dimensions cascade width (with LLH)	mm	1358	1914	2393
Dimensions cascade depth	mm	610	610	610
Water content (per boiler)	litres	8.3	8.3	8.3
Weight (empty per boiler)	kg	83	83	83
Weight (full per boiler)	kg	91.3	91.3	91.3
Flow connection - header (inches)	BSP	1½"	2½" PN6	3" PN6
Return connection - header (inches)	BSP	1½"	2½" PN6	3" PN6
Gas connection - header (inches)	BSP	1¼	1½"	2"
Flue connection (concentric)	mm	100/150	100/150	100/150
Flue connection (twin-pipe)	mm	100-100	100-100	100-100
Electrical requirements		230V /1Ph/ 50hz		
Maximum power consumption (per boiler)	W	280	280	280
Sound power level (per boiler)	LWA(db)	62	62	62
Nominal flue gas temperature	°C	85	85	85
Max flow temperature	°C	90	90	90
Working pressure minimum	bar	1.0	1.0	1.0
Working pressure maximum	bar	4.0*	4.0*	4.0*

* CPM SP models can operate at up to 6 bar working pressure (see ancillary options)
Energy Label, product fiche and ErP data table are available at www.lochinvar.ltd.uk

EFB wall hung gas-fired condensing boilers

ULTRA LOW NO_X EMISSIONS

EFB boilers qualify for maximum credits on BREEAM projects

Features

- Outputs from 85 to 151kW at 50/30°C system design
- High efficiency condensing technology
- Stainless steel heat exchanger
- Ultra Low NO_X emissions ≤24mg/kWh
- Integral controls

Ancillary items - optional

- Pressurisation units
- Heating system separators
- Outdoor temperature sensor
- Flow temperature sensor
- Matched primary circulation pumps
- Mounting frame and pipework assemblies
- Boiler expansion kits
- Range of flue options

Technical specification

Boiler model		EFB85	EFB105	EFB125	EFB155
Nominal input (gross) min-max	kW	17.1 - 90.7	20.7 - 108.1	26.2 - 132.6	38.9 - 161.4
Nominal input (net) min-max	kW	15.4 - 81.7	18.6 - 97.3	23.6 - 119.4	35.0 - 145.3
Gas flow rate (natural gas)	m^3/hr	1.6 - 8.5	1.9 - 10.2	2.5 - 12.5	3.7 - 15.3
Output @50/30°C min-max	kW	16.0 - 85.1	19.5 - 101.8	24.7 - 124.7	36.4 - 151
Output @80/60°C min-max	kW	14.9 - 79.1	18.0 - 94.2	22.9 - 115.7	33.9 - 140.9
Efficiency data - building regulations					
Seasonal efficiency (gross CV according EN15502)	%	96	96	96	96
Efficiency data - ErP and energy label					
Ecodesign energy label rating		n/a	n/a	n/a	n/a
Seasonal space heating energy efficiency	%	92.4	92.6	92.7	92.9
NO_x emmissions					
NO_x emissions (according to EN15502)@0% O_2	mg/kWh	23.1	21.3	23.9	20.1
NO_x class according to EN15502		6			
General data					
Dimensions (height)	mm	845	845	845	845
Dimensions (width)	mm	440	440	440	440
Dimensions (depth)	mm	539	539	539	539
Water content	litres	5	6.5	8.3	10.4
Weight (empty)	kg	77	79	83	86
Weight (full)	kg	82	85.5	91.3	96.4
Flow connection (inches)	BSP	R 1"	R 1"	R 1"	R 1¼"
Return connection (inches)	BSP	R 1"	R 1"	R 1"	R 1¼"
Gas connection (inches)	BSP	R ¾"	R ¾"	R ¾"	R 1"
Flue connection (concentric)	mm	100/150	100/150	100/150	n/a
Flue connection (twin-pipe)	mm	100/100	100/100	100/100	150/150
Electrical requirements		230V /1Ph/ 50hz			
Maximum power consumption	W	190	280	280	280
Sound power level	LWA(db)	65.8	68	67.8	73
Nominal flue gas temperature	°C	60-90	60-90	60-90	60-90
Max flow temperature	°C	90	90	90	90
Working pressure minimum	bar	1	1	1	1
Working pressure maximum	bar	6	6	6	6

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

Herald floor standing gas-fired condensing boilers

Features

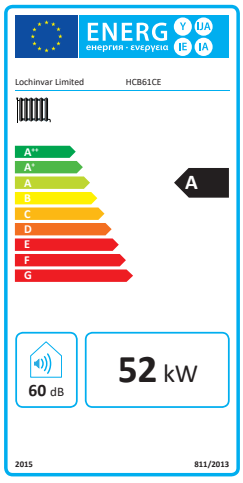
- Outputs from 41 to 228kW at 50/30°C system design
- Stainless steel heat exchanger
- High working pressure- up to 11 bar
- Low NO_x emissions ≤40mg/kWh
- Integral SMART system controls compatible with MODBUS or BACNET
- Con-X-us, app-based control ancillary

Ancillary items - optional

- Matched primary circulation pump
- Pipework header assemblies
- Heating system separators
- Condensate neutralisation kit
- Pressurisation units
- Range of flue options

Ancillary control options

- BACnet interface module
- MODBUS interface module
- Con-X-us app-based remote control
- Outside air sensor for weather compensation control
- DHW vessel sensor



Con-X-us™

Con-X-us is an app-based ancillary which enables users to monitor Herald boiler operation from literally anywhere in the world! Settings can also be remotely adjusted and alerts can be configured for service reminders and system lockout alarms.

Technical specification

Boiler model		HCB 46CE	HCB 61CE	HCB 86CE	HCB 116CE	HCB 146CE	HCB 176CE	HCB 206CE	HCB 236CE
Nominal input (gross)	kW	44.0	61.5	83.5	116.9	146.5	175.8	205.2	244.2
Nominal input (net)	kW	39.6	55.4	75.2	105.3	132.0	158.4	184.9	220.0
Gas flow rate (G20)	m^3/hr	4.2	5.9	8.0	11.1	14.0	16.8	19.6	22.3
Output @50/30°C	kW	41.2	58.7	79.7	110.6	141.2	162.1	187.4	227.2
Output @80/60°C	kW	38.5	52.0	74.0	105.0	131.3	154.0	180.0	205.0
Efficiency data - building regulations									
Seasonal efficiency (gross CV according EN15502)	%	95	94	94	93	94	95	95	95
Efficiency data - ErP and energy label									
Ecodesign energy label rating		A	A	n/a	n/a	n/a	n/a	n/a	n/a
Seasonal space heating energy efficiency	%	95	94	94	93	94	95	95	95
NO_X emmissions									
NO_X Emissions (according to EN15502)@0% O_2	mg/kWh	38.1	32.0	34.4	40.0	40.0	36.0	36.2	35.0
NO_X class according to EN15502		6							
General data									
Dimensions (height)	mm	840	840	1080	1080	1080	1080	1080	1080
Dimensions (width)	mm	395	395	395	395	395	395	395	395
Dimensions (depth)	mm	459	567	503	688	798	925	1024	1153
Water content	litres	4.9	6.4	9.1	12.9	15.9	15.9	18.9	21.6
Weight (empty)	kg	75	79	102	129	138	154	168	184
Weight (full)	kg	80	85	111	142	154	170	187	206
Flow connection (inches)	BSP	1¼"	1¼"	2"	2"	2"	2"	2"	2"
Return connection (inches)	BSP	1¼"	1¼"	2"	2"	2"	2"	2"	2"
Gas connection (inches)	BSP	½"	½"	¾"	1"	1"	1"	1"	1"
Flue connection (concentric)	mm	80/125	80/125	100/150	100/150	n/a	n/a	n/a	n/a
Flue connection (twin-pipe)	mm	80/80	80/80	100/100	100/100	150/150	150/150	150/150	150/150
Electrical requirements		230V/1ph/50Hz							
Maximum power consumption	W	120	144	180	180	204	322	322	322
Sound power level	LWA(db)	58	60	62	64	66	69	69	69
Maximum flue gas temperature	°C	120	120	120	120	120	120	120	120
Max flow temperature	°C	88	88	88	88	88	88	88	88
Working pressure minimum	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Working pressure maximum	bar	11	11	11	11	11	11	11	11

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

TTB floor standing gas-fired condensing boilers

Features

- Outputs from 418 to 576kW at 50/30˚C system design
- High efficiency condensing technology
- Stainless steel heat exchanger
- Twin burner with 8:1 turndown
- Low NO_X emissions (class 6) <44mg/kWh

Ancillary items - optional

- External weather sensor
- Flow sensor
- Calorifier sensor
- Matched primary pump
- Low velocity headers
- Pressurisation sets

Technical specification

Boiler model		TTB410	TTB580
Nominal input (gross) min-max	kW	55.4 - 444	75.5 - 611
Nominal input (net) min-max	kW	50 - 400	68 - 550
Gas flow rate (G20)	m^3/hr	5.3 - 42.3	7.2 - 58.2
Output @50/30°C min-max	kW	52.2 - 418	71.2 - 576
Output @80/60°C min-max	kW	48.3 - 386	66.1 - 535
Efficiency data - building regulations			
Seasonal efficiency (gross CV)	%	96.0	96.0
Efficiency data - ErP and energy label			
Ecodesign energy label rating		n/a	n/a
Seasonal space heating energy efficiency	%	92.5	92.9
NO_X emmissions			
NO_X emissions (weighted)@0% O_2	mg/kWh	44	41
NO_X class according to EN15502		6	
General data			
Dimensions (height)	mm	1638	1638
Dimensions (width)	mm	736	736
Dimensions (depth)	mm	1225	1225
Water content	litres	30	43
Weight (empty)	kg	400	450
Weight (full)	kg	430	493
Flow connection (inches)	BSP	2 ½	2 ½
Return connection (inches)	BSP	2 ½	2 ½
Gas connection (inches)	BSP	2	2
Flue connection (concentric)	mm	180	180
Flue connection (twin-pipe)	mm	180	180
Electrical requirements		230V/1Ph/50Hz	
Maximum power consumption	W	960	960
Sound power level	LWA(db)	74	78
Maximum flue gas temperature	°C	90	90
Max flow temperature	°C	85	85
Working pressure minimum	bar	1.0	1.0
Working pressure maximum	bar	4.0	4.0

Energy Label, product fiche and ErP data table are available at www.lochinvar.ltd.uk
* Using standard internal pressure switch, the working pressure can be extended to 6 bar if an optional 6 bar external pressure switch is used.

Low carbon

Heating and hot water solutions

As the move towards the decarbonisation of heating and hot water services gains momentum and heat pump technology, in particular, is rapidly growing in popularity.

Standalone heat pump installations are becoming the heating/hot water system of choice on new buildings. They provide an efficient, effective system with zero on-site emissions. Heat pump types can be combined to provide a solution that is also cost-effective from the capital viewpoint.

Hybrid systems provide a good solution for retrofit projects; where heat pumps can be combined with other technologies, including high efficiency gas-fired boilers and water heaters. In these situations, the heat pump(s) are usually sized to cope with the majority of heating/hot water demand, with the boilers/water heaters providing back-up when required.

Details the renewable solutions we currently offer are:

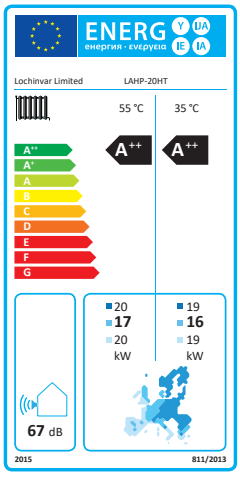
Amicus HT
air source heat pumps

Features

- Heating capacity ranging from 7.7 to 100.7kW
- Suitable for LTHW and DHW applications
- Low Noise Levels
- Operates at up to 63˚C water temperature
- COP up to 4.64
- SCOP up to 4.20
- Scroll compressors equipped with “Economised Vapour Injection”
- Integral controls including:
  - BMS fault and remote on/off signal
  - Indirect water heater control / hot water priority
  - Anti-legionella programme

Ancillary items - optional

- Anti-vibration dampers
- Remote control panel
- Electronic soft start
- Interface card for Modbus control
- Thermal stores
- Pre-plumbed hydraulic kit – including primary circulating pump and safety valve
- Cascade control



Technical specification

Model		LAHP-8HT	LAHP-10HT	LAHP-15HT	LAHP-20HT	LAHP-252HT	LAHP-302HT	LAHP-432HT	LAHP-492HT
Efficiency data - Part L2									
Heating capacity (EN14511)[1]	kW	7.7	9.6	15	19	24	30	41.2	49.2
Total power input (EN14511)[1]	kW	1.8	2.3	3.4	4.5	5.2	6.8	9.2	11.8
COP (EN14511)[1]	W/W	4.28	4.17	4.41	4.22	4.64	4.39	4.49	4.16
Efficiency data - ErP and energy Label									
Energy label rating low temperature		A++	A++	A++	A++	A++	A++	A++	A++
SCOP low temperature		3.92	3.97	4.01	4.02	4.10	3.87	4.00	3.84
Seasonal efficiency low temperature	%	153.8	155.8	157.3	157.8	161.0	151.8	157.1	150.6
Energy label rating high temperature		A+	A+	A++	A++	A++	A+	A++	A++
SCOP high temperature		3.22	3.32	3.37	3.42	3.24	3.14	3.24	3.16
Seasonal efficiency high temperature	%	125.6	129.8	131.6	133.8	126.5	122.7	126.6	123.4
General data									
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Power supply	V/Ph/Hz	230/1/50		400/3+N/50					
Maximum input current standard unit	A	17.1	17.1	15.0	15.0	20.6	24.0	34.2	39.4
Peak input current standard unit	A	17.1	17.1	15.0	15.0	62.9	83.1	119.0	149
Fans	N°	1	1	2	2	2	2	2	2
Compressors/refrigerant circuits	N°	1 E.V.I. DC inverter				2/1			
Sound power level[2]	dB(A)	65	65	67	67	70	72	73	74
Sound pressure level[3]	dB(A)	33.6	33.6	35.5	35.5	38.0	40.0	41.0	42.0

Model		LAHP-602HT	LAHP-752HT	LAHP-852HT	LAHP-1002HT	LAHP-1202HT
Efficiency data - Part L2						
Heating capacity (EN14511)[1]	kW	57.4	65.6	79.9	87.2	100.7
Total power input (EN14511)[1]	kW	12.9	15.1	17.8	19.4	23.5
COP (EN14511)[1]	W/W	4.57	4.35	4.49	4.49	4.29
Efficiency data - ErP and energy Label						
Energy label rating low temperature		A++	A++	A++	A++	A++
SCOP low temperature		4.21	4.16	4.04	4.06	3.93
Seasonal efficiency low temperature	%	165.4	163.4	158.7	159.5	154.0
Energy label rating high temperature		A++	A++	A++	A++	A++
SCOP high temperature		3.38	3.29	3.26	3.33	3.25
Seasonal efficiency high temperature	%	132.0	128.6	127.3	130.0	126.9
General data						
Refrigerant		R410A	R410A	R410A	R410A	R410A
Power supply	V/Ph/Hz	400/3+N/50				
Maximum input current standard unit	A	44.2	54.2	67.6	68.6	77.4
Peak input current standard unit	A	141	168	209	210	208
Fans	N°	2	2	2	2	2
Compressors/refrigerant circuits	N°	2/1	2/1	2/1	2/1	2/1
Sound power level[2]	dB(A)	73	73	74	75	75
Sound pressure level[3]	dB(A)	41	41	42	43	43

1) External air+7C 30/35 flow
2) Average conditions according to EU/811/2013
3) Sound power level in accordance with ISO3744
4) Sound pressure level at 10mtr from the unit in free field conditions in accordance with ISO 3744

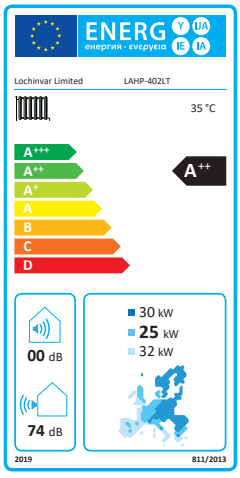
Amicus LT
air source heat pumps

Features

- Heating capacity ranging from 22 to 464kW
- Designed to supply low temperature heating systems
- Suitable for hybrid systems including LTHW and DHW applications
- COP up to 4.61
- SCOP up to 4.13
- Stage compressors
- Integral controls including:
  - BMS fault and remote on/off signal
  - MODBUS protocol compatibility
  - Indirect water heater control with DHW priority
  - Anti-legionella programme

Ancillary items - optional

- Anti-vibration dampers
- Remote control panel
- Electronic soft start
- Thermal stores



Technical specification

Model		LAHP 252LT	LAHP 302LT	LAHP 412LT	LAHP 432LT	LAHP 492LT	LAHP 602LT	LAHP 702LT	LAHP 802LT
Efficiency data - Part L2									
Heating capacity (EN14511)[1]	kW	22.2	29.6	37.3	47.1	50.8	61.2	67.3	74.9
Total power input (EN14511)[1]	kW	5.3	7.1	8.8	11.5	11.8	13.3	15.1	17.2
COP (EN14511)[1]	W/W	4.11	4.16	4.23	4.11	4.32	4.61	4.46	4.36
Efficiency data - ErP and energy Label									
EcoDesign energy label rating	LT/HT	A++	A++	A++	A++	A++	A++	A++	A++
Seasonal efficiency low temperature	%	150.1	151.4	150.9	151.1	153.6	162	158.4	155.8
SCOP low temperature		3.83	3.86	3.85	3.85	3.92	4.13	4.04	3.97
General data									
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Power supply	V/Ph/Hz	400/3+N/50							
Fans	N°	2	2	2	2	2	2	2	2
Compressors/circuits	N°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Sound power level[2]	dB(A)	73	74	74	75	76	76	77	78
Sound pressure level[3]	dB(A)	41	42	42	43	44	44	45	46
Weight	Kg	560	560	670	690	720	1060	1060	1070

Model		LAHP 902LT	LAHP 1002LT	LAHP 1202LT	LAHP 1402LT	LAHP 1602LT	LAHP 1802LT	LAHP 2002LT	LAHP 2302LT
Efficiency data - Part L2									
Heating capacity (EN14511)[1]	kW	93.2	104.9	114.9	137.1	151	167.9	182.8	210.6
Total power input (EN14511)[1]	kW	21.2	24.5	27.8	30.9	34.4	40.2	45.5	49.4
COP (EN14511)[1]	W/W	4.4	4.29	4.13	4.44	4.39	4.18	4.02	4.26
Efficiency data - ErP and energy Label									
EcoDesign energy label rating	LT/HT	A++	A++	A++	A++	A++	A++	A++	A++
Seasonal efficiency low temperature	%	151.7	150.8	150.2	151	151.3	150.9	150.4	153.6
SCOP low temperature		3.87	3.85	3.83	3.85	3.86	3.85	3.84	3.92
General data									
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Power supply	V/Ph/Hz	400/3+N/50							
Fans	N°	2	2	2	3	3	3	3	3
Compressors/circuits	N°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Sound power level[2]	dB(A)	82	83	85	86	87	87	87	89
Sound pressure level[3]	dB(A)	50	51	53	54	55	55	55	57
Weight	Kg	1120	1160	1240	1560	1580	1600	1620	1790

Model		LAHP 2502LT	LAHP 2504LT	LAHP 3004LT	LAHP 3204LT	LAHP 3504LT	LAHP 4004LT	LAHP 4504LT	LAHP 5004LT
Efficiency data - Part L2									
Heating capacity (EN14511)[1]	kW	241.3	229.4	271.4	296.7	339	364.9	407	463.7
Total power input (EN14511)[1]	kW	54.8	55.8	63.90	71.5	83.7	88.8	104.1	115.1
COP (EN14511)[1]	W/W	4.4	4.11	4.25	4.15	4.05	4.11	3.91	4.03
Efficiency data - ErP and energy Label									
EcoDesign energy label rating	LT/HT	A++	A++	A++	A++	A++	A++	A++	A++
Seasonal efficiency low temperature	%	155.6	150.2	151.1	150.3	153.5	152.4	151.9	151.5
SCOP low temperature		3.97	3.83	3.85	3.83	3.91	3.89	3.87	3.86
General data									
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Power supply	V/Ph/Hz	400/3+N/50							
Fans	N°	3	4	6	6	6	6	8	8
Compressors/circuits	N°	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Sound power level[2]	dB(A)	91	88	89	90	90	90	92	92
Sound pressure level[3]	dB(A)	59	56	57	58	58	58	60	60
Weight	Kg	1820	3170	3220	3270	3320	3660	3720	3780

Performance data is based upon the following conditions:
1) heating: user water temperature 30/35°C, source water temperature 10/7°C.
2) Average conditions, variable- Reg EU 811/2013
3) Sound power level in accordance with ISO 3744.
4) Sound pressure level at 1 mt from the unit in free field conditions direction factor Q=2, calculated in accordance with ISO 3744.

Amicus Boost water source heat pumps

Features

- Heating capacity up to 496kW
- Designed for use with heat recovery/reclaim systems
- Operates at temperatures of up to 78°C
- COP up to 5.14
- SCOP up to 4.47
- Stage compressors
- Integral controls including:
  - BMS fault and remote on/off signal
  - Indirect water heater control with

Ancillary items - optional

- Anti-vibration mountings
- Soft start
- Remote control

Technical specification

Model		LAHP302WW	LAHP402WW	LAHP602WW	LAHP702WW	LAHP902WW
Efficiency data - Part L2						
Heating capacity (EN14511)[1]	kW	38.8	46.0	58.4	70.3	88.4
Total power input (EN14511)[1]	kW	8.20	9.40	11.80	14.80	18.80
COP (EN14511)[1]	W/W	4.73	4.85	4.93	4.76	4.70
Heating capacity (EN14511)[2]	kW	62.17	72.35	105.30	122.00	161.40
Total power input (EN14511)[2]	kW	12.90	14.05	21.54	26.21	34.13
COP (EN14511)[2]	W/W	4.819	5.149	4.889	4.655	4.730
Efficiency data - ErP and energy label						
EcoDesign energy label rating	LT/HT	A++/A++	A++/A++	A++/A++	A++/A++	A++/A++
Seasonal efficiency low temperature[3]	%	185.9	192.1	198.2	191.8	195.3
Seasonal efficiency high temperature[3]	%	154.8	159.6	163.0	159.0	158.3
SCOP low temperature		4.85	5.00	5.16	5.00	5.08
SCOP high temperature		4.07	4.19	4.28	4.18	4.16
General data						
Refrigerant		R134A	R134A	R134A	R134A	R134A
Power supply	V/Ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Compressors/circuits	N°	2/1	2/1	2/1	2/1	2/1
Sound power level[4]	dB(A)	65	65	70	73	74
Sound pressure level[5]	dB(A)	49	49	54	57	58
Weight	Kg	660	680	700	730	740

Model		LAHP1202WW	LAHP1402WW	LAHP1804WW	LAHP2304WW	LAHP2604WW
Efficiency Data - Part L2						
Heating capacity (EN14511)[1]	kW	109.9	136.5	176.9	219.5	273.2
Total power input (EN14511)[1]	kW	23.1	27.9	37.2	45.7	55.3
COP (EN14511)[1]	W/W	4.75	4.88	4.75	4.80	4.94
Heating capacity (EN14511)[2]	kW	200.3	248.0	322.7	401.0	496.1
Total power input (EN14511)[2]	kW	41.61	51.24	67.89	82.97	102.20
COP (EN14511)[2]	W/W	4.810	4.840	4.753	4.834	4.854
Efficiency data - ErP and energy label						
EcoDesign energy label Rating	LT/HT	A++/A++	A++/A++	A++/A++	A++/A++	A++/A++
Seasonal efficiency low temperature[3]	%	198.9	206.3	203.4	207.0	214.4
Seasonal efficiency high temperature[3]	%	160.9	165.9	162.8	165.6	170.7
SCOP low temperature		5.17	5.36	5.29	5.38	5.56
SCOP high temperature		4.22	4.35	4.27	4.34	4.47
General data						
Refrigerant		R134A	R134A	R134A	R134A	R134A
Power supply	V/Ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Compressors/Circuits	N°	2/1	2/1	4/2	4/2	4/2
Sound power level[4]	dB(A)	76	78	88	89	91
Sound pressure level[5]	dB(A)	60	62	72	73	75
Weight	Kg	760	790	1320	1390	1430

1) Heating: user water temperature 30/35°C, source water temperature 10/7°C
2) Heating: user water temperature 60/65°C, source water temperature 35/30°C
3) Average conditions, variable- Reg EU 811/2013
4) Sound power level in accordance with ISO 3744
5) Sound pressure level at 1 mt from the unit in free field conditions direction factor Q=2, calculated in accordance with ISO 3744

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

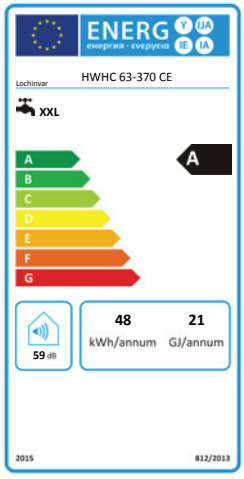
EcoCharger hybrid HWHC water heaters

Features

- Hot Water recovery rates from 740 to 1100 l/h at a 50°C temperature rise
- Integral solar coil
- Integral water heater/solar controller to maximise solar output
- Suitable for use with high efficiency flat plate solar collectors
- Natural gas and LPG models available
- HeatPak option; can provide up to 40kW space heating
- BMS interface option; for detailed information on system parameters
- Remote display available
- Built in legionella cycle
- Reduced footprint as no pre-heat vessel required

Ancillary items - optional

- Unvented system kits
- BMS Interface
- Heatpak- space heating module
- Solar Remote display
- Range of flue options



UK Water Supply Compliant
WRAS recertification application pending

Technical specification

Water heater model		HWHC 44-370GCE	HWHC 63-370GCE
Nominal input (net)	kW	40.7	58
Nominal input (gross)	kW	45.2	64.4
Gas flow rate (natural gas)	m^3/hr	4.2	6.0
Nominal output	kW	43.5	61.5
Efficiency data - Part L2			
Seasonal efficiency (Part L2 Gross CV)	%	96	96
NO_x emission @0% O_2	ppm	16	18
NO_x emission @0% O_2	mg/kWh	29	31
Efficiency data - ErP and energy label			
Ecodesign energy label rating		A	A
Water heater efficiency	%	90	92
General data			
Recovery rate @ 44°C	l/hr	840	1200
Recovery rate @ 50°C	l/hr	740	1100
Dimensions (height)	mm	2055	2055
Dimensions (diameter)	mm	705	705
Storage capacity	litres	377	377
Weight (empty)	kg	245	245
Weight (full)	kg	622	622
Insulation thickness	mm	50	50
Insulation material		Polyurethane	
Hot outlet connection (inches)	BSP	R 1½	R 1½
Cold feed connection (inches)	BSP	R 1½	R 1½
Coil connections	BSP	Rp1"	Rp1"
Gas connection (inches)	BSP	R ¾	R ¾
Electrical requirements		230V/1ph/50Hz	
Power consumption	W	60	120
Sound power level	LWA(db)	51	59
Maximum flue gas temperature	°C	50	60
Max outlet temperature	°C	80	80
Minimum working pressure	bar	0.5	0.5
Maximum working pressure	bar	8.0	8.0

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

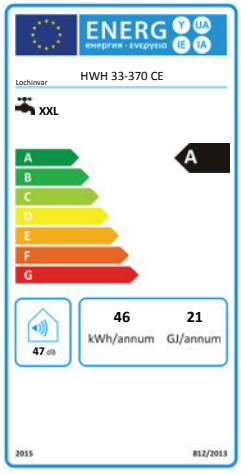
EcoCharger hybrid HWH
water heaters

Features

- Hot water recovery rates from 540 to 2100 l/h at a 50°C temperature rise
- Integral water heater/solar controller to maximise solar output
- Suitable for use with high efficiency flat plate solar collectors
- Natural gas and LPG models available
- HeatPak option; can provide up to 40kW space heating
- BMS interface option; for detailed information on system parameters
- Remote Display available
- Built in legionella cycle

Ancillary items - optional

- Unvented system kits
- BMS Interface
- Heatpak – space heating module
- Solar Remote display
- Range of flue options



UK Water Supply Compliant
WRAS recertification application pending

Technical specification

Water heater model		HWH 32-220 GCE	HWH 33-370 GCE	HWH 52-370 GCE	HWH 63-370 GCE	HWH 87-480 GCE	HWH 106-480 GCE	HWH 129-480 GCE
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
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 data - Part L2								
Seasonal efficiency (Part L2 Gross CV)	%	96	98	96	95	97	95	95
NO_x emission @0% O_2	ppm	30	29	29	27	31	30	29
NO_x emission @0% O_2	mg/kWh	24	32	36	37	34	36	37
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
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
Dimensions (height)	mm	1485	2015	2015	2015	2060	2060	2060
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	480	480	480
Weight (full)	kg	397	588	588	588	968	968	968
Insulation thickness	mm	50	50	50	50	50	50	50
Insulation material		Polyurethane						
Hot outlet connection (inches)	BSP	R1½	R1½	R1½	R1½	R1½	R1½	R1½
Cold feed connection (inches)	BSP	R1½	R1½	R1½	R1½	R1½	R1½	R1½
Gas connection (inches)	BSP	R¾	R¾	R¾	R¾	R¾	R¾	R¾
Electrical requirements		230V/1ph/50Hz						
Power consumption	W	45	45	75	115	95	145	240
Sound power level	LWA(db)	46	47	55	59	54	59	62
Maximum flue gas temperature	°C	45	50	60	65	50	55	60
Max outlet temperature	°C	80	80	80	80	80	80	80
Minimum working pressure	bar	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Maximum working pressure	bar	8.0	8.0	8.0	8.0	8.0	8.0	8.0

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

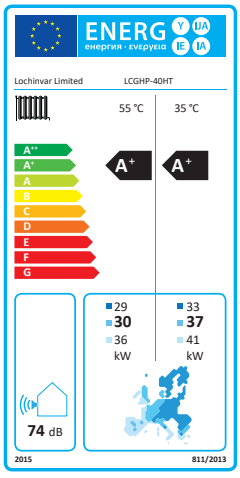
Optimus
gas absorption heat pump

Features

- Low carbon renewable technology
- Gas efficiencies up to 152% gross
- Low noise levels
- Low NO_x emissions
- Continuous operation even in defrost mode
- Low electrical input
- Indoor and outdoor models available

Ancillary items - optional

- External temperature sensor
- Single unit primary pump 2m head
- Single unit primary pump 5m head
- LCGHP cascade control
- LCGHP DHW control
- Lochinvar boiler Interface
- Anti-vibration mountings single unit
- Buffer vessel temperature probe
- Adjustable flat roof mounting frame



Technical specification

Heat Pump Model			LSGHP-40HT Standard Outdoor Unit	LCGHP-40HT Low Noise Outdoor Unit	LCGHPi-40HT Indoor Unit
Nominal input (gross)		kW	25.2	25.2	25.2
Gas flow rate		m^3/hr	2.72	2.72	2.72
Efficiency data - Part L2					
Nominal output 1*		kW	38.3	38.3	38.3
GUE (gas usage efficiency) 1*		%	152	152	152
Nominal output 2**		kW	31.1	31.1	31.1
GUE (gas usage efficiency) 2**		%	124	124	124
Nominal output 3***		kW	32	32	32
GUE (gas usage efficiency) 3***		%	127	127	127
Efficiency data - ErP and energy label					
EcoDesign energy label rating			A+	A+	A+
Seasonal space heating energy efficiency (Average climate conditions)		%	111	113	113
NO_x emissions (corrected to 0% 0_2)		ppm	23	23	23
NO_x emissions (corrected to 0% 0_2)		mg/kWh	40	40	40
General data					
Dimension (height)		mm	1281	1537	1580
Dimension (width)		mm	848	848	848
Dimension (depth)		mm	1258	1258	1258
Weight full		kg	390	400	405
Flow connection		BSP Rp	1¼"	1¼"	1¼"
Return connection		BSP Rp	1¼"	1¼"	1¼"
Gas connection		BSP Rp	¾"	¾"	¾"
Electrical requirements			230v/1ph/50hz		
Power consumption		W	90	83	93
Maximum outlet temperature		°C	70	70	70
Maximum return temperature		°C	60	60	60
Refrigerant fluid	Ammonia R717	kg	7	7	7
	Water H_20	kg	10	10	10
Sound pressure level indoor		db	n/a	n/a	n/a
Sound pressure level outdoor		db	80	74	74

* At operating conditions ambient 7°C flow temperature 50°C
** At operating conditions ambient 7°C flow temperature 65°C
*** At operating conditions ambient -7°C flow temperature 50°C

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

Solar thermal
integrated packages

Features

- High efficiency flat plate collectors
- Low stagnation temperatures
- Compatible pump stations and controls
- Range of roof mounting options
- Pre-heat storage vessels and thermal stores
- Bespoke or packaged solutions

Ancillary items - optional

- Pre-heat vessels - 300 to 2850 litres capacity
- Thermal stores - 517 to 1942 litres capacity
- EcoCharger hybrid water heaters
- Solar thermal remote display
- Heatpak - space heating module

solar keymark

LSP20+ flat plate collector packages
Flat roof with A frame

Item reference	Number of Collectors	Gross surface area – m²	Net surface area – m²
LSPA02	2	4.06	3.58
LSPA03	3	6.09	5.37
LSPA04	4	8.12	7.16
LSPA05	5	10.15	8.95
LSPA06	6	12.18	10.74
LSPA07	7	14.21	12.53
LSPA08	8	16.24	14.32
LSPA09	9	18.27	16.11
LSPA10	10	20.3	17.9
LSPA11	11	22.33	19.69
LSPA12	12	24.36	21.48
LSPA13	13	26.91	23.27
LSPA14	14	28.42	25.06
LSPA15	15	30.45	26.85

Roof mounting or roof-integrated options are also available

Renewable technology

Solar thermal is a renewable technology and is an ideal method of providing pre-heated feed water to a primary method of hot water generation eg gas-fired water heater or indirect/calorifier-type water heater.

Solar thermal packages

These typically provide a range of items and components, which will enable the Solar thermal system to integrate with a primary water heating system and can help to improve fuel efficiency and reduce carbon emissions.
Package components include:

- Flat plate solar collectors
- Roof fixing options including A-frame for flat roof installation and 'in-roof' or 'on-roof' mountings
- Controls package which includes pump station, solar controller, flow sensor, expansion vessel, rhi compliant heat meter, discharge collection vessel, glycol heat transfer fluid, two port valve and BMS alarm module


P12
P9
SOLAR

Storage Vessels

Thermal stores and pre-heat vessels

In order to maximise the energy gained from renewable technologies, most projects use thermal stores, pre-heat vessels or a combination of both.

Thermal stores

Thermal stores are typically used as part of heat pump or solar thermal, where the energy gained provides a hydronic heating or hot water system, or both. These technologies are often integrated with a primary system such as high efficiency gas-fired boilers or water heaters.
We can provide bespoke thermal stores, specifically selected for each project.

Details on our Thermal store products can be found at the following pages:

- HSV Thermal stores page 84
- LBT Thermal stores page 86

Pre-heat vessels

This would be a more appropriate option where a renewable technology is being used to provide hot water services in conjunction with a gas-fired water heater or indirect water heater installation. The hot water gain from the renewable source provides pre-heated feed water to the primary water heating system.

Our Squire and Squire stainless indirect water heater product ranges can be used for pre-heat purposes; further details can be found on the following pages:

- Squire page 50
- Squire stainless page 52

Both Squire and Squire stainless ranges include twin coil models, where the lower coil is used to provide pre-heated water from the renewable source and the upper coil is connected to the heating system circuit.

HSV
thermal store

Features

- Capacities ranging from 600 to 2,000 litres
- Provides pre-heat for DHW applications
- Stainless steel DHW coil
- Optimum performance through improved stratification
- Limited legionellae risk
- Integration with up to 3 different heat inputs

Technical specification

Model		HSV601	HSV801	HSV1001	HSV1501	HSV2001
Storage capacity	litres	600	800	1000	1500	2000
Efficiency data - Building regulations						
Heat loss	KWh/24 hr	2.5	2.8	3.1	3.7	4.5
Efficiency data - ErP and energy label						
Ecodesign energy label rating		C	C	C	n/a	n/a
Standing loss	W	103	117	131	155	186
General data						
Dimensions (height including insulation)	mm	1900	1880	2270	2665	2500
Dimensions (width including insulation)	mm	850	990	1050	1200	1300
Cold inlet connection	BSP	1¼"	1¼"	1¼"	1¼"	1¼"
Hot outlet connection	BSP	1¼"	1¼"	1¼"	1¼"	1¼"
Drain connection	BSP	½"	½"	½"	½"	½"
ASHP connection	BSP	1½"	1½"	1½"	1½"	1½"
Tank connection	BSP	1"	1"	1"	1"	1"
Sensor connection	BSP	½"	½"	½"	½"	½"
Solar connection	BSP	n/a	n/a	n/a	n/a	n/a
Weight (empty)	kg	205	210	238	330	378
Weight (full)	kg	805	1010	1238	1830	2378
Minimum working pressure vessel	bar	3	3	3	3	3
Maximum working pressure DHW coil	bar	6	6	6	6	6
Maximum working pressure solar coil	bar	n/a	n/a	n/a	n/a	n/a

Model		HSV602	HSV802	HSV1002	HSV1502	HSV2002
Storage capacity	litres	600	800	1000	1500	2000
Efficiency data - Building regulations						
Heat loss	KWh/24 hr	2.5	2.8	3.1	3.7	4.5
Efficiency data - ErP and energy label						
Ecodesign energy label rating		C	C	C	n/a	n/a
Standing loss	W	103	117	131	155	186
General data						
Dimensions (height including insulation)	mm	1900	1880	2270	2665	2500
Dimensions (width including insulation)	mm	850	990	1050	1200	1300
Cold inlet connection	BSP	1¼"	1¼"	1¼"	1¼"	1¼"
Hot outlet connection	BSP	1¼"	1¼"	1¼"	1¼"	1¼"
Drain connection	BSP	½"	½"	½"	½"	½"
ASHP connection	BSP	1½"	1½"	1½"	1½"	1½"
Tank connection	BSP	1"	1"	1"	1"	1"
Sensor connection	BSP	½"	½"	½"	½"	½"
Solar connection	BSP	1"	1"	1"	1"	1"
Weight (empty)	kg	205	210	238	330	378
Weight (full)	kg	805	1010	1238	1830	2378
Minimum working pressure vessel	bar	3	3	3	3	3
Maximum working pressure DHW coil	bar	6	6	6	6	6
Maximum working pressure solar coil	bar	16	16	16	16	16

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

LBT
thermal store

Features

- Capacities ranging from 300 to 10,000 litres
- Mild steel construction
- Ideal component for Heat pump / hybrid heating systems
- Provides thermal store for heating systems
- Low standing losses

Technical specification

Model		LBT300	LBT500	LBT800	LBT1000	LBT1500	LBT2000
Storage capacity	litres	300	500	800	1000	1500	2000
Efficiency data - Building regulations							
Heat loss	KWh/24 hr	1.6	2.7	3.2	3.0	3.5	4.5
Efficiency data - ErP and energy label							
Ecodesign energy label rating		B	C	C	C	C	C
Standing loss	W	68	114	133	125	147	190
General data							
Dimensions (height including insulation)	mm	1680	1735	1765	2075	2245	2565
Dimensions (width including insulation)	mm	610	760	910	1010	1220	1320
Drain connection	BSP	1¼"	1¼"	1½"	1½"	2"	2"
ASHP connection	BSP	2"	3"	3"	3"	3"	3"
Tank connection	BSP	1½"	2"	2"	2"	2"	2"
Sensor connection	BSP	½"	½"	½"	½"	½"	½"
Weight (empty)	kg	55	77	109	125	194	263
Weight (full)	kg	355	577	909	1125	1694	2263
Maximum working pressure vessel	bar	6	6	6	6	6	6

Model		LBT2500	LBT3000	LBT4000	LBT5000	LBT6000	LBT8000	LBT10000
Storage capacity	litres	2500	3000	4000	5000	6000	8000	10000
Efficiency data - Building regulations								
Insulation thickness	mm	100	100	100	100	100	100	100
Insulation material	-	Polyethylene				ECOZERO+ 1900		
Efficiency data - ErP and energy label								
Ecodesign energy label rating		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standing loss	W	n/a	n/a	n/a	n/a	n/a	n/a	n/a
General data								
Dimensions (height including insulation)	mm	2360	2860	2930	2970	2790	3490	4240
Dimensions (width including insulation)	mm	1470	1470	1620	1820	2000	2000	2000
Drain connection	BSP	2"	2"	2"	2"	2"	2"	2"
ASHP connection	BSP	4"	4"	4"	4"	2"	2"	2"
Tank connection	BSP	2"	2"	2"	2"	2"	2"	2"
Sensor connection	BSP	½"	½"	½"	½"	½"	½"	½"
Weight (empty)	kg	296	346	492	582	684	823	973
Weight (full)	kg	2796	3346	4492	5582	6684	8823	10973
Maximum working pressure vessel	bar	6	6	6	6	5	5	5

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

Customer service & contacts

CUSTOMER SUPPORT

We aim to provide our customers with the best possible service at all stages ; and our knowledgeable and experienced staff are keen to assist. For further information please contact the most appropriate department, from the following details:

AREA SALES

See page 89

CUSTOMER SERVICE

info@lochinvar.ltd.uk

- Product and ancillary item order status / deliveries
- Spare parts enquiries and sales
- Spare parts deliveries

FINANCE

accounts@lochinvar.ltd.uk

- All enquires relating to accounts

INTERNAL SALES

info@lochinvar.ltd.uk

- General product information and enquires
- Quotation requests

TECHNICAL SUPPORT

technicalsupport@lochinvar.ltd.uk

- After-sales service
- Pre-sales technical information

CONTACT

Lochinvar Ltd
8 Lombard Way
The MXL Centre
Banbury, Oxon
OX16 4TJ

Tel: +44 (0) 1295 269 981
Fax: +44 (0) 1295 271 640
Email: info@lochinvar.ltd.uk
www.lochinvar.com

Registered office: One New Change, London EC4M 9AF | Registered number: 3453820

Area sales contacts

SALES MANAGEMENT TEAM

SALES DIRECTOR
LIAM ELMORE
Mobile: 07970 954659

NORTHERN REGIONAL SALES MANAGER
DAVE SLEVIN
Mobile: 07929 027216

SOUTHERN REGIONAL SALES MANAGER
SCOTT MASON
Mobile: 07813 521654

BUSINESS DEVELOPMENT MANAGER – HEAT PUMP TECHNOLOGY
JAMES COOPER
Mobile: 07973 803401

CRAIG JEFFREY
Mobile: 07972 303622

(All sales)
JOHN McERLEAN
Mobile: 07800 911789

MARK HOWARD
Mobile: 07966 288781

GARY WEBSTER
Mobile: 07764 773435

TREVOR TAYLOR
Mobile: 07896 780786

PETER WINFIELD
Mobile: 07971 962411

STEVE INGRAM
Mobile: 07966 288780

DISTRIBUTORS
REPUBLIC OF IRELAND

EURO GAS Ltd
Tel (01) 286 8244
Email sales@eurogas.ie

HEVAC Ltd
Tel (01) 419 1970
Email info@hevac.ie

DAVE ASHPLANT
Mobile: 07966 223280

WILL BROOK
Mobile: 07966 392415

DEAN THORNTON
Mobile: 07973 924157

Product & application training

We have a purpose-built product training room at our Banbury facility, which includes a wide range of boiler and water heater products, most of which are operational.

Training courses are held monthly and typically focus upon our popular ranges of gas-fired condensing boilers and direct gas-fired water heaters. The training day includes both theoretical and practical sessions and includes the following topics:

- **Product application and installation**
- **Commissioning**
- **Maintenance**
- **Trouble-shooting**

We can also provide tailored training courses on more specific product types or product ranges.

For further information please visit our webpage here ***www.lochinvar.ltd.uk/training/product-training***

CIBSE accredited CPD seminars

Continuing Professional Development is of particular importance to a wide range of industry professionals and particularly those involved in the selection and design of commercial heating and hot water systems. CIBSE, as a leading Professional Engineering institution, includes a CPD requirement for their members.

Lochinvar has been providing CPD Seminars for many years on various subjects relating to heating and hot water systems for commercial and industrial applications. Our current seminars include the following:

- **Heat pumps for commercial heating and hot water applications**
  An overview of how this technology can help towards achieving a low carbon future. The seminar reviews specific applications including heating only, hot water only or heating and hot water, and also includes monovalent and bivalent systems.

- **Integrating renewable technologies with high efficiency boilers and water heaters**
  The seminar covers solar thermal, air source and gas absorption heat pump technologies, and how they can integrate with high efficiency gas-fired boilers and water heaters.

- **Sizing and selection of direct gas-fired water heaters**
  Selecting equipment for hot water generation depends upon many project-related factors. This seminar covers the range of criteria required and demonstrates sizing via purpose-designed software.

- **Boiler controls**
  For many years, manufacturers have been producing boilers that can achieve efficiencies in the high 90's. System design and control are key factors in ensuring that such performance levels are achieved operationally and the subject of boiler/heating system controls is the focus of this seminar.

Seminars are usually conducted at the offices of building Service Engineers and Contractors, and a CPD certificate is issued to each attendee.

For further information or to register interest please complete our online enquiry form ***www.lochinvar.ltd.uk/training/cpd-seminars***

Heat Pumps for Commercial Heating and Hot Water applications

Time :
Date :
Venue :

delivered by Scott Mason
Regional Sales Manager
Lochinvar Ltd

Attendees will receive CPD certificate by email

Lochinvar Ltd reserves the right to change specifications without prior notice

CATALOGUE | All products | 22_001 | |February 2022

Lochinvar®
HIGH EFFICIENCY BOILERS & WATER HEATERS

Lochinvar Ltd
8 Lombard Way
The MXL Centre, Banbury
Oxon, OX16 4TJ

+44 (0) 1295 269981
info@lochinvar.ltd.uk
www.lochinvar.ltd.uk