

# Charger Low NO<sub>x</sub> storage-type gas-fired water heaters



- Recovery rates from 844 to 1453 litres/hour
- ErP compliant
- Up to 8 bar working pressure
- Low NO<sub>x</sub> emissions  $\leq 45\text{mg/kWh}$
- Small footprint
- Natural gas

# Lochinvar Charger Low NO<sub>x</sub> storage-type water heaters

Charger Low NO<sub>x</sub> water heaters are available in 3 models, with storage capacities ranging from 294 to 328 litres, and with hot water recovery rates ranging from 844 to 1453 litres/hour. These recovery rates are based upon a temperature rise of 50°C.

This type of water heater has been established in the UK since 1976, when Lochinvar was one of the first companies to offer these products. The Charger Low NO<sub>x</sub> range is based upon proven design which has been satisfying many hot water requirements for a wide range of commercial and industrial applications.



Charger Low NO<sub>x</sub>  
3 models



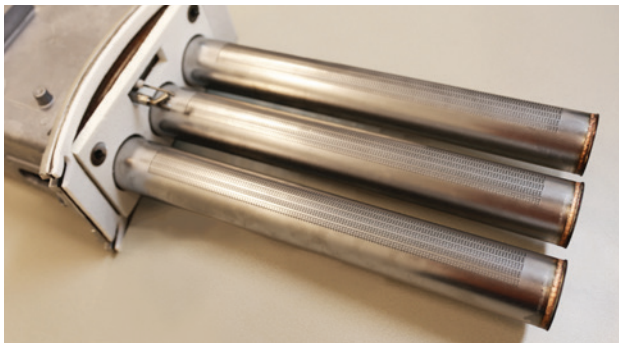
## Energy-related products directive (ErP)

This legislation covers a wide range of heating and hot water products, including gas-fired water heaters and was first introduced in September 2015. The overall aim of the legislation is to improve efficiency, reduce carbon, and conserve energy. The most recent update increased minimum levels of operating efficiency, but for the first time maximum levels of NO<sub>x</sub> emissions were introduced.

## New burner design / Low NO<sub>x</sub> emissions

The significant change to our established Charger range of water heaters, is in the new burner design, which helps these products provide Low NO<sub>x</sub> emissions, ranging from 35mg/kWh to 45mg/kWh depending upon model.

NO<sub>x</sub> emissions on the Charger Low NO<sub>x</sub> range are well within the maximum 56mg/kWh stipulated by the most recent ErP legislation.



Low NO<sub>x</sub> burner assembly

## Replacement water heaters

Charger water heaters were originally launched in the early 1980's, since when these products have been a popular water heater choice for many buildings. Our normal approach would be to encourage users to replace such installed models with higher efficiency condensing water heaters, but there are certain instances where this may not be practical.

For these reasons we have developed this Low NO<sub>x</sub> range; they meet the most recent requirements of the Energy-related products directive and they provide installers and end users with a convenient and cost-effective option, when existing water heaters need replacement.



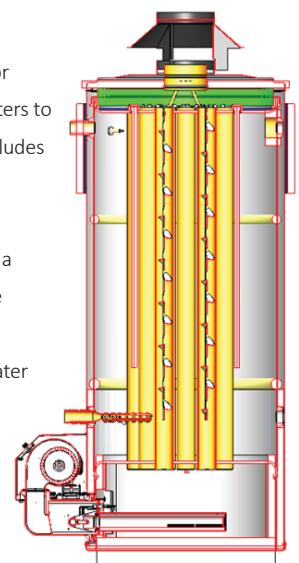
Typical pre-2019  
installation

## Water heater construction

Enamel-lined steel is a tried and tested material for water heater products and enables the water heaters to operate at pressures of up to 8bar. Each vessel includes a sacrificial magnesium anode to provide cathodic protection.

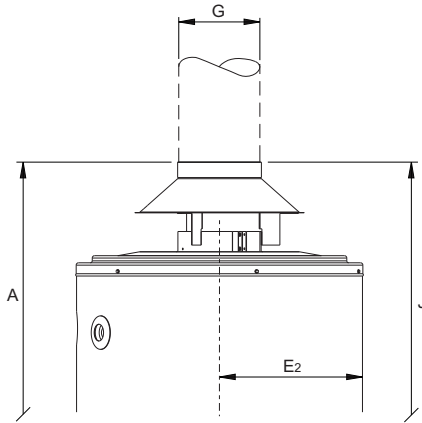
The burner is situated at the base of the unit with a number of flueways running vertically through the centre of the vessel. These flueways are baffled, increasing the amount of heat transfer into the water and providing fast hot water recovery.

The multifunctional control valve incorporates flame failure safety, operating thermostat and high limit thermostat.

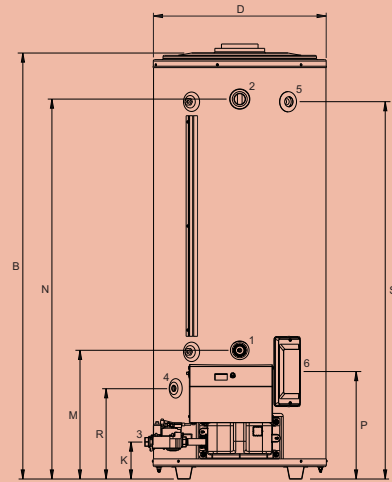
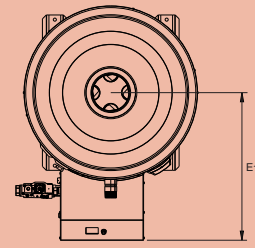


Cutaway view

## Dimensional drawings



IMD-1374a R0



IMD-1371a R0

Model			CHL 275	CHL 375	CHL 550
A	Device height	mm	1740	1995	1965
B	Device height	mm	1560	1740	1740
D	Device diameter	mm	705	705	705
E1	Depth	mm	605	605	605
E2	Depth	mm	355	355	355
	Total depth	mm	960	960	960
F	Device width	mm	705	705	705
G	Flue gas outlet Ø	mm	150	180	200
J	Height flue gas outlet connection	mm	1740	1995	1965
K	Height gas valve connection	mm	155	155	155
M	Height cold water supply connection	mm	525	520	520
N	Height hot water outlet connection	mm	1345	1550	1550
P	Height clean out	mm	455	455	455
R	Height drain valve connection	mm	370	370	370
S	T&P-valve connection	mm	1340	1545	1545
1	Cold water supply connection	BSP	R 1½	R 1½	R 1½
2	Hot water outlet connection	BSP	R 1½	R 1½	R 1½
3	Gas control valve connection	BSP	Rp ¾	Rp ¾	Rp ¾
4	Drain valve connection	NPT	1"	1"	1"
5	T&P-valve connection	NPT	R ¾ "	R 1"	R 1"
6	Inspection opening	mm	95x70	95x70	95x70

## Flue installation

Charger Low NO<sub>x</sub> water heaters can be installed on conventional/ open flue systems only.

## 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 <sup>3</sup> /hr	5.7	7.7	9.8
Nominal output	kW	49.1	66.4	84.4
<b>Efficiency data - Building regulations</b>				
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
<b>Efficiency data - ErP and energy label</b>				
Ecodesign energy label rating		B	B	n/a
Water heater efficiency	%	66	66	71
<b>NO<sub>x</sub> emissions</b>				
NO <sub>x</sub> emissions (According to EN89) @0% O <sub>2</sub>	mg/kWh	45	35	40
<b>General Data</b>				
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	233	258	288
Weight (full)	kg	521	602	609
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](http://www.lochinvar.ltd.uk)

### Ancillary options

- Unvented system kits
- De-stratification pump sets
- Optional low level draught diverters



For further information on the Charger Low NO<sub>x</sub> water heater, including ICM & user instructions and our full warranty terms and conditions, please visit our website: [www.lochinvar.ltd.uk](http://www.lochinvar.ltd.uk)

