Charger Low NOx Storage-type Gas-fired Water Heaters

- Recovery rates from 850 to 1600 litres/hour
- ErP compliant
- Up to 8 bar working pressure
- Low NOx emissions ≤ 45mg/kWh
- Small footprint
- Natural Gas
Lochinvar
Charger Low NOx Storage-type Water Heaters

Charger Low NOx Water Heaters are available in 3 models, with storage capacities ranging from 294 to 328 litres, and with hot water recovery rates ranging from 850 to 1600 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 NOx range is based upon proven design which has been satisfying many hot water requirements for a wide range of commercial and industrial applications.

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 NOx emissions were introduced.

New Burner Design / Low NOx Emissions
The significant change to our established Charger range of water heaters, is in the new burner design, which helps these products provide Low NOx emissions, ranging from 33mg/kWh to 45mg/kWh depending upon model. NOx emissions on the Charger Low NOx range are well within the maximum 56mg/kWh stipulated by the most recent ErP legislation.

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 NOx 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.

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.
### Dimensional Drawings

**Model**

<table>
<thead>
<tr>
<th></th>
<th>CHL 275 GCE</th>
<th>CHL 375 GCE</th>
<th>CHL 550 GCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Device height</td>
<td>mm</td>
<td>1740</td>
</tr>
<tr>
<td>B</td>
<td>Device height</td>
<td>mm</td>
<td>1540</td>
</tr>
<tr>
<td>D</td>
<td>Device diameter</td>
<td>mm</td>
<td>705</td>
</tr>
<tr>
<td>E1</td>
<td>Depth</td>
<td>mm</td>
<td>605</td>
</tr>
<tr>
<td>E2</td>
<td>Depth</td>
<td>mm</td>
<td>355</td>
</tr>
<tr>
<td></td>
<td>Total depth</td>
<td>mm</td>
<td>955</td>
</tr>
<tr>
<td>F</td>
<td>Device width</td>
<td>mm</td>
<td>705</td>
</tr>
<tr>
<td>G</td>
<td>Flue gas outlet Ø</td>
<td>mm</td>
<td>150</td>
</tr>
<tr>
<td>J</td>
<td>Height flue gas outlet connection</td>
<td>mm</td>
<td>1740</td>
</tr>
<tr>
<td>K</td>
<td>Height gas valve connection</td>
<td>mm</td>
<td>155</td>
</tr>
<tr>
<td>M</td>
<td>Height cold water supply connection</td>
<td>mm</td>
<td>525</td>
</tr>
<tr>
<td>N</td>
<td>Height hot water outlet connection</td>
<td>mm</td>
<td>1345</td>
</tr>
<tr>
<td>P</td>
<td>Height clean out</td>
<td>mm</td>
<td>455</td>
</tr>
<tr>
<td>R</td>
<td>Height drain valve connection</td>
<td>mm</td>
<td>370</td>
</tr>
<tr>
<td>S</td>
<td>T&amp;P-valve connection</td>
<td>mm</td>
<td>1340</td>
</tr>
</tbody>
</table>

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 | BSP | R 1" | R 1" | R 1" |
6. Inspection opening | mm | 95x60 | 95x60 | 95x60 |

**Flue installation**

Charger Low NOx water heaters can be installed on conventional/open flue systems only.

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Lochinvar®
HIGH EFFICIENCY BOILERS & WATER HEATERS
## Technical Specification

<table>
<thead>
<tr>
<th>Water Heater Model</th>
<th>CHL 275 GCE</th>
<th>CHL 375 GCE</th>
<th>CHL 550 GCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Input (Net) kW</td>
<td>54</td>
<td>73</td>
<td>99</td>
</tr>
<tr>
<td>Nominal Input (Gross) kW</td>
<td>60.0</td>
<td>81.1</td>
<td>109.9</td>
</tr>
<tr>
<td>Gas Flow Rate (Natural Gas) m³/hr</td>
<td>5.7</td>
<td>1.1</td>
<td>10.5</td>
</tr>
<tr>
<td>Nominal Output kW</td>
<td>49.1</td>
<td>66.4</td>
<td>89.9</td>
</tr>
</tbody>
</table>

### Efficiency Data - Building Regulations

- **Seasonal Efficiency (Gross CV) %**
  - CHL 275 GCE: 82
  - CHL 375 GCE: 81
  - CHL 550 GCE: 82

### Efficiency Data - ErP and Energy Label

- **Ecodesign Energy Label rating**
  - CHL 275 GCE: B
  - CHL 375 GCE: B
  - CHL 550 GCE: n/a
- **Water Heater Efficiency %**
  - CHL 275 GCE: 66
  - CHL 375 GCE: 66
  - CHL 550 GCE: 71
- **NOx Emissions**
  - NOx emission According to EN89 @0% O2 mg/kWh
    - CHL 275 GCE: 45
    - CHL 375 GCE: 32
    - CHL 550 GCE: 33

### General Data

- **Recovery Rate @ 44°C L/hr**
  - CHL 275 GCE: 970
  - CHL 375 GCE: 1300
  - CHL 550 GCE: 1800
- **Recovery Rate @ 50°C L/hr**
  - CHL 275 GCE: 850
  - CHL 375 GCE: 1200
  - CHL 550 GCE: 1600
- **Recovery Rate @ 56°C L/hr**
  - CHL 275 GCE: 770
  - CHL 375 GCE: 1100
  - CHL 550 GCE: 1500
- **Dimensions (Height) mm**
  - CHL 275 GCE: 1740
  - CHL 375 GCE: 2005
  - CHL 550 GCE: 1965
- **Dimensions (Width) mm**
  - CHL 275 GCE: 705
  - CHL 375 GCE: 705
  - CHL 550 GCE: 705
- **Dimensions (Depth) mm**
  - CHL 275 GCE: 957
  - CHL 375 GCE: 957
  - CHL 550 GCE: 957
- **Storage Capacity litres**
  - CHL 275 GCE: 294
  - CHL 375 GCE: 351
  - CHL 550 GCE: 328
- **Weight (Empty) kg**
  - CHL 275 GCE: 252
  - CHL 375 GCE: 276
  - CHL 550 GCE: 310
- **Weight (Full) kg**
  - CHL 275 GCE: 540
  - CHL 375 GCE: 620
  - CHL 550 GCE: 635
- **Hot Outlet Connection (Inches)**
  - BSP R 1½
- **Cold Feed Connection (Inches)**
  - BSP R 1½
- **Gas Connection (Inches)**
  - BSP Rp ¾
- **Flue Connection mm**
  - 150
- **Electrical Requirements 230V /1Ph/ 50hz**
  - LWA(dB)
    - CHL 275 GCE: 64.6
    - CHL 375 GCE: 69.7
    - CHL 550 GCE: 67.6
- **Nominal Flue Gas Temperature °C**
  - 161
  - 172
  - 158
- **Max Outlet Temperature °C**
  - 80
  - 80
  - 80
- **Maximum Working Pressure bar**
  - 8

### Ancillary Options

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

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For further information on the Charger Low NOx Water Heater, including ICM & User Instructions and our full Warranty Terms and Conditions, please visit our website: www.lochinvar.ltd.uk