



the TurboCharger™ range

Our high efficiency gas fired
condensing storage water heaters



Lochinvar TurboCharger™ water heaters

The TurboCharger™ range combines all of the well-known features of Lochinvar's traditional high efficiency gas fired storage water heaters with the added benefit of using condensing technology. These units work on the principles of low storage but fast hot water recovery and are suitable for many commercial and industrial applications.

TurboCharger™ 6 models

Six models are available across the TurboCharger™ range providing hot water recovery rates between 606 to 1899 litres/hour based upon a temperature rise of 50°C. Storage capacities of 230 and 380 litres are available.

TurboCharger™ water heaters can be installed in multiples, and for applications having a high volume demand over short peak periods they can be linked to our LST range of storage vessels.

TurboCharger™ features

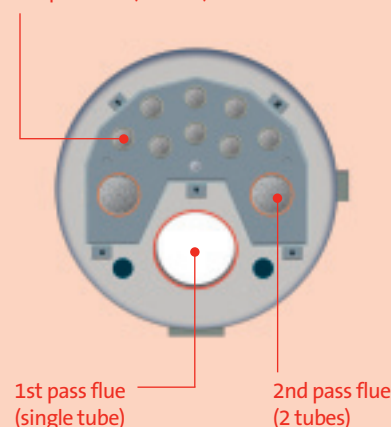
- Fully condensing with efficiencies up to 99% (Gross CV)
- Electronic controls - fully automatic ignition
- Pre-mix power burner - precisely matches gas/air ratio for maximum efficiency
- Submerged combustion chamber - reduces radiant heat loss and increases efficiency
- Enamelled storage tank - durable Vitraglas® lined tank with hand-hole cleanout opening
- Factory fitted Correx® non sacrificial electrical anode-reduces maintenance costs and prolongs tank life (*Requires non-interruptable 230V power supply*)
- CFC free foam insulation - reduces standing losses
- Low NO_x emissions
- Suitable for unvented and open vented installation
- Low noise levels - less than 51dBA
- Available for Natural Gas or LPG



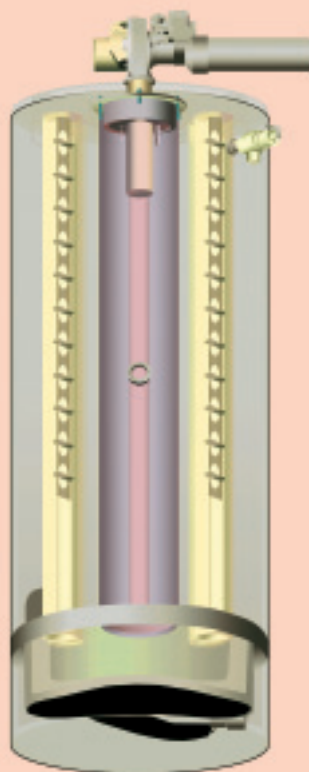
High efficiency

The triple-pass flue design extracts otherwise wasted heat and in conjunction with the pre-mix burner enables TurboCharger™ to operate at thermal efficiencies of up to 99% gross CV.

3rd pass flue (8 tubes)



Triple pass heat exchanger configuration



TurboCharger™ cutaway



Pre-mix burner

Flue options

A range of flue options are available, including:

- Room sealed concentric balanced flue*
- Conventional flue**
- Twin pipe balanced flue

Note:

* Concentric balanced flue assemblies up to 16m maximum equivalent length are achievable

** Conventional flue assemblies up to 33m maximum equivalent length are achievable

Reduce flue length by 1.2m for each 90° bend, 0.7m for each 45° bend

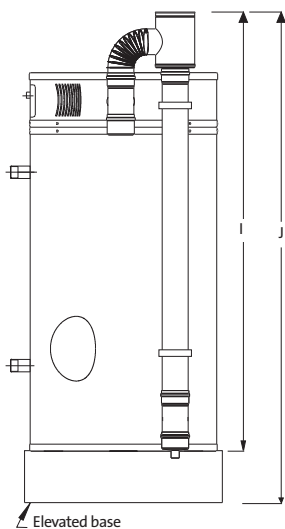
TurboCharger™ Model	Concentric Flue Dia. (mm)	Conventional Flue Dia. (mm)
37-225CE	100/150	100
44-380CE	100/150	100
59-380CE	100/150	100
73-380CE	100/150	100
88-380CE	100/150	100
117-380CE	100/150	100

TurboCharger™ water heaters - dimensions (mm)

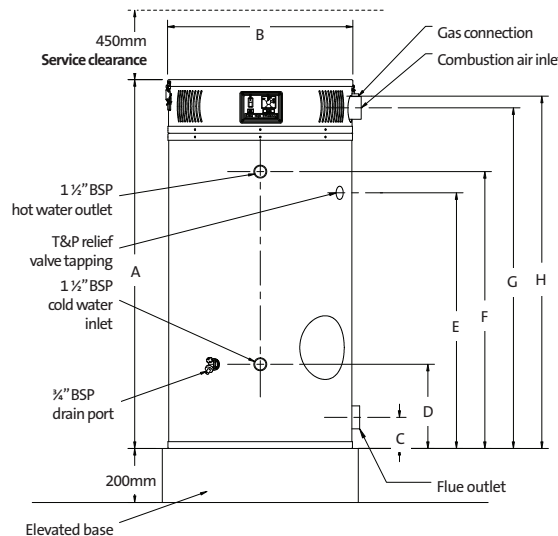
Model	37-225CE	44-380CE	59-380CE	73-380CE	88-380CE	117-380CE
A	1448	1981	1981	1981	1981	1981
B	721	721	721	721	721	721
C	127	127	127	127	127	127
D	330	330	330	330	330	330
E	1016	1524	1524	1524	1524	1524
F	1073	1588	1588	1588	1588	1588
G	1334	1857	1857	1857	1857	1857
H	1359	1899	1899	1899	1899	1899
I	1689	2222	2222	2222	2222	2222
J	1889	2422	2422	2422	2422	2422

Elevated base

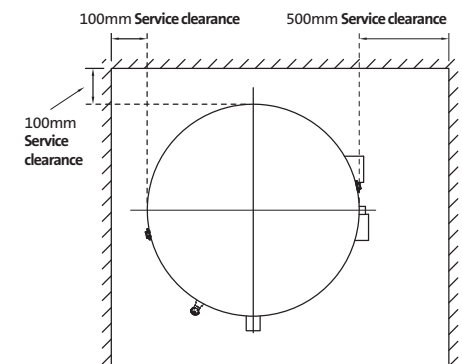
To facilitate the connection of a condensate trap and drain each TurboCharger™ should be located on an elevated base. The minimum height of the base should be 200mm. A pre-fabricated elevated base, part number TC9001, is available as an ancillary option.



RH side view



Front view



Top view

TurboCharger™ water heater ancillary options

- Pre-fabricated elevated base
- Unvented system kits
- BMS interface comprising fault indication and remote enable terminals (factory fitted)
- Direct storage vessels
- Horizontal or vertical room sealed concentric balanced flue assemblies
- Conventional flue assemblies
- Room sealed twin pipe flue assemblies
- De-stratification pump kit
- Condensate neutralisation kit



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Technical specification

Water Heater Model		37-225CE	44-380CE	59-380CE	73-380CE	88-380CE	117-380CE
Nominal Input (Net)	kW	32.9	39.5	52.5	66.0	76.5	106.9
Nominal Input (Gross)	kW	36.6	43.9	58.3	73.2	85.0	118.7
Gas Flow Rate (Natural Gas)	m ³ /hr	3.49	4.18	5.58	6.98	8.38	11.31
Nominal Output	kW	35.24	43.61	57.8	71.18	81.01	110.43
Efficiency (Part L2 Gross CV)	%	96.21	99.21	98.62	97.15	92.14	93.03
NOx Emission, (corrected to 0% O ₂)	ppm	20	21	22	22	23	55
NOx Emission, (corrected to 0% O ₂)	mg/kWh	35	37	39	39	41	97
Storage Losses	kWh /l/day	0.0401	0.0282	0.0282	0.0282	0.0282	0.0282
Recovery rate @ 44°C	l/hr	688	853	1130	1391	1583	2160
Recovery rate @ 50°C	l/hr	606	750	994	1224	1393	1899
Recovery rate @ 56°C	l/hr	541	670	887	1093	1244	1697
Dimensions (Height)	mm	1448	1981	1981	1981	1981	1981
Dimensions (Width)	mm	721	721	721	721	721	721
Dimensions (Depth)	mm	721	721	721	721	721	721
Water Content	Litre	227	379	379	379	379	379
Weight (Empty)	Kgs	259	408	408	408	408	431
Weight (Full)	Kgs	450	788	788	788	788	811
Flow Connection	BSP	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"
Return Connection	BSP	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"
Gas Connection	BSP	¾"	¾"	¾"	¾"	¾"	1"
Flue Sizes		see data table on page 3					
Electrical Requirements		230V/1PH/50Hz					
Power Consumption	W	120	120	210	210	210	400
CO ₂ - Flue Gas	%	10.7/11.2	10.0/10.5	9.8/10.5	10.3/10.8	10.5/10.8	10.5/10.8
Min/Max							
Maximum Flue Gas Temperature	°C	60	60	60	60	60	60
Waterside Pressure Loss @10°C	kPa	not applicable					
Max. Outlet Temp.	°C	82	82	82	82	82	82
Maximum Working Pressure	bar	10.3	10.3	10.3	10.3	10.3	10.3

Lochinvar Limited reserve the right to change specifications without prior notice.

cc6506LO | TC | September 2009