

# TTW circulating-type gas-fired water heaters



- 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<sub>x</sub> emissions (class 6) <44mg/kWh



# Lochinvar

## TTW circulating-type water heaters

TTW gas-fired water heaters are available in two models, with hot water outputs of 7188 and 9912 litres/hour, based upon a temperature rise of 50°C. The concept of this circulating-type water heater is to generate fast recovery hot water in the high efficiency stainless steel heat exchanger, which is then transferred to a single or multiple direct storage vessels. This combination provides hot water requirements for a range of large commercial buildings and also a range of industrial applications.

The multiple water heater/storage vessel options provide a great deal of installation flexibility and as such these products are suitable for both new build and retrofit projects, including plant rooms which have space limitations.



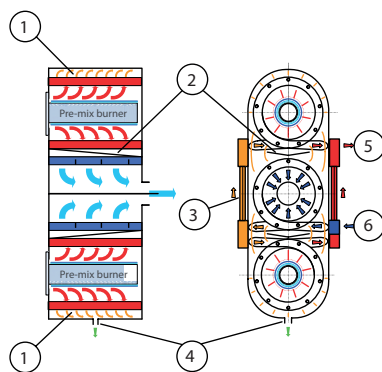
TTW water heater  
2 models available

### Fully modulating / built-in redundancy

Equipped with twin, pre-mix fully modulating burners, TTW water heaters mirror system demand and match output accordingly. Each of the burners operates from 25% to 100%, depending upon system demand, and therefore the 'twin burner' arrangement provides a turndown ratio of 8:1. A further benefit of the twin burner design is that it provides a level of stand-by in the event of component failure; a feature which is of particular benefit on single water heater installations.

### Twin burner / triple heat exchanger design

Each burner is fitted with a non-return valve which prevents the recirculation of flue gasses into the non-firing burner, when the TTW units is operating in low demand conditions.



#### Legend:

1. Primary heat exchangers
2. Condensate deflector
3. Secondary heat exchanger
4. Condensate drain
5. Water flow
6. Water return

### Integral controls

The on-board TTW controls provide a number of features as follows :

- Internal cascade control for the twin burner system
- External cascade control for up to 6 x TTW Water Heaters
- Anti-legionella programme
- Primary DHW pump control
- Storage vessel sensor for accurate DHW temperature control
- Text display showing Water Heater status
- Maintenance-due alert
- BMS connectivity, including on/off; modulation; status; fault



### Product features

- Suitable for natural gas or LPG
- Integral controls
- Compact design – width only 736mm
- Low weight
- Mounted on wheels for easy positioning
- Conventional or room sealed twin pipe flue options

Direct storage vessels

Circulating water heaters are designed for installation with separate storage vessels; this provides a great deal of installation flexibility as multiple storage and hot water recovery combinations are available.

Our LST and LST GE direct storage vessels are specifically designed for use with circulating water heaters and are available with storage capacities ranging from 297 to 2820 litres.

Key Product features include :

- Enamelled steel construction
- Suitable for working pressures up to 8 bar
- Hand hole cleanout
- Tapping(s) for immersion heater back-up
- 3-year storage vessel warranty

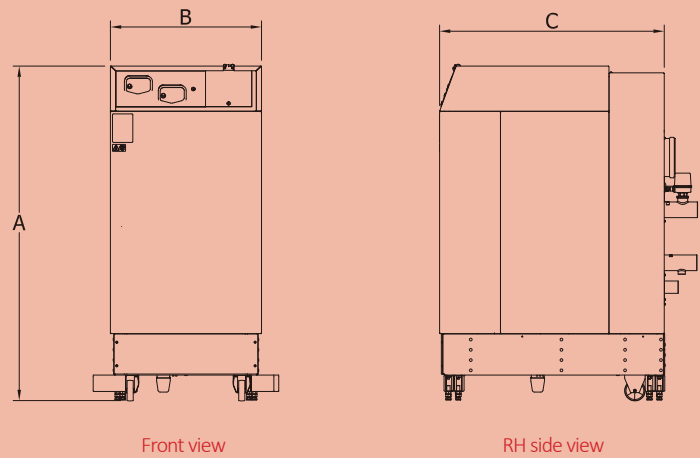


LST direct storage vessel  
*10 models available*

For further information on LST direct storage vessels, please visit [www.lochinvar.ltd.uk](http://www.lochinvar.ltd.uk)



TTW water heater- dimensions



Item	Description	Unit	TTW410	TTW580
			Size	Size
A	Height	mm	1638	1638
B	Width	mm	736	736
C	Depth	mm	1095	1095

Primary circulation pump

It is particularly important to maintain constant flow through the TTW heat exchangers, therefore we offer a range of suitably sized circulating pumps.





## 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 <sup>3</sup> /hr	5.3 - 42.3	7.2 - 58.2
Nominal output min-max	kW	48.3 - 418.0	66.1 - 576.0
<b>Efficiency data - building regulations</b>			
Seasonal efficiency (gross CV)	%	95.4	95.9
<b>Efficiency data - ErP and energy label</b>			
Ecodesign energy label rating		n/a	n/a
Water heater efficiency	%	87.7	85.0
<b>NO<sub>x</sub> emissions</b>			
NO <sub>x</sub> emissions (weighted)@0% O <sub>2</sub>	mg/kWh	42.0	36.6
<b>General Data</b>			
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](http://www.lochinvar.ltd.uk)

### 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



For further information on the TTW water heaters ,  
including ICM & user instructions and  
our full warranty terms and conditions,  
please visit our website: [www.lochinvar.ltd.uk](http://www.lochinvar.ltd.uk)

