

POWER-fin[®] II

GAS-FIRED HIGH EFFICIENCY WATER HEATERS



Lochinvar Corporation has been designing, manufacturing and distributing water heating products in USA since 1919 and has built an enviable reputation for reliable, efficient and cost effective water heaters and boilers.



In the UK the company is based in Banbury, ideally located to support its established products with a service which is second to none with Area Sales Managers and a head office staff covering Technical support, Service Technicians, Accounts and General Administration.

Water heating equipment was first sold in the UK under the Lochinvar name in 1976. The "Knight" and "Charger" ranges of direct gas fired Storage Water Heater were among the first of their type to be sold in this country and their popularity has continued to grow due to their suitability for the concept of System Separation and Decentralisation.

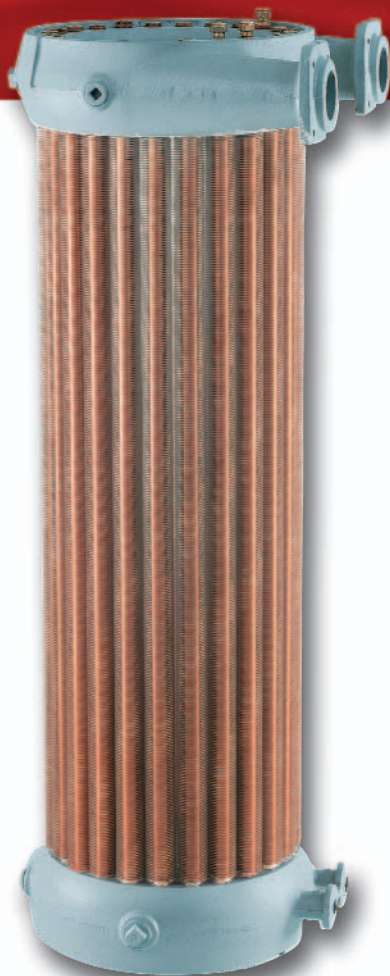
In 1981 Lochinvar introduced Copper-Fin[®] Water Heaters and Boilers and with various models available can offer outputs of up to 568kW. Most recent addition to the Copper-Fin[®] series is Intelli-Fin[™], which has net thermal efficiencies of up to 108% from an incredibly small footprint.

The addition of the Condensa and CP-M Boiler ranges offer further flexibility of choice, offering wall-hung boilers with outputs from 23 to 180kW, all of which offer high levels of efficiency.

All Lochinvar water heaters and boilers have a range of ancillary equipment designed for the specific needs of the UK market, are CE marked and WRAS (Water Research Advisory Service) listed.



WHY POWER-fin[®] II?



The POWER-fin[®] II range of gas fired high efficiency Water Heaters is the latest addition to Lochinvar's highly successful Copper-Fin[®] series. Copper is an excellent conductor of heat, having a heat transfer rate 9 times better than steel and cast iron and 1¹/₂ times better than aluminium. At the heart of each Lochinvar Water heater and Boiler lies a copper heat exchanger with a substantial difference - extruded copper fin tubes, that offer 9 times the heat absorption of plain tubes. This means a rapid response to heat demand, a major factor in the higher thermal efficiencies provided.

POWER-fin[®] II is a range of large output water heaters which are highly efficient (96% net thermal efficiency), flexible, extremely quiet in operation and 'intelligent' thanks to its integrated control system.

5 YEAR HEAT EXCHANGER WARRANTY

POWER-fin[®] II Water Heaters feature a gasketless heat exchanger. This means no gaskets or O-rings to crack or leak. This, coupled with the fact that every heat exchanger is hydrostatically tested, during manufacture, and proven to perform at the highest standards means that a full five year warranty is offered on the heat exchanger.

VARIABLE FREQUENCY DRIVE

POWER-fin[®] II Water Heaters feature Variable Frequency Drive, which increases thermal efficiencies by supplying precisely the correct amount of gas and air to the burner, minimising 'cycling' and limiting excessive heat. This results in complete combustion thereby increasing hot water output, whilst at the same time it also adjusts output to meet demand.

The Variable Frequency Drive allows POWER-fin[®] II to modulate down to 50% of output responding instantly to any change in system requirements.



3 MODELS

RECOVERY RATES OF UP TO 10,000 LITRES/HOUR

COMPACT SIZE

POWER-fin®II is compact. So compact in fact that all models have a foot print of just 0.52m². This makes POWER-fin®II water heaters ideal for both retrofit and new installations.

POWER-fin®II is approved for zero clearance to combustibles on all sides achieving even greater space saving. All service can be undertaken from front, top and back meaning that POWER-fin®II water heaters can be placed side by side to create a high output system with a reduced space requirement.

Generally three POWER -fin®II units can be fitted in the space taken by a typical competitive water heater.

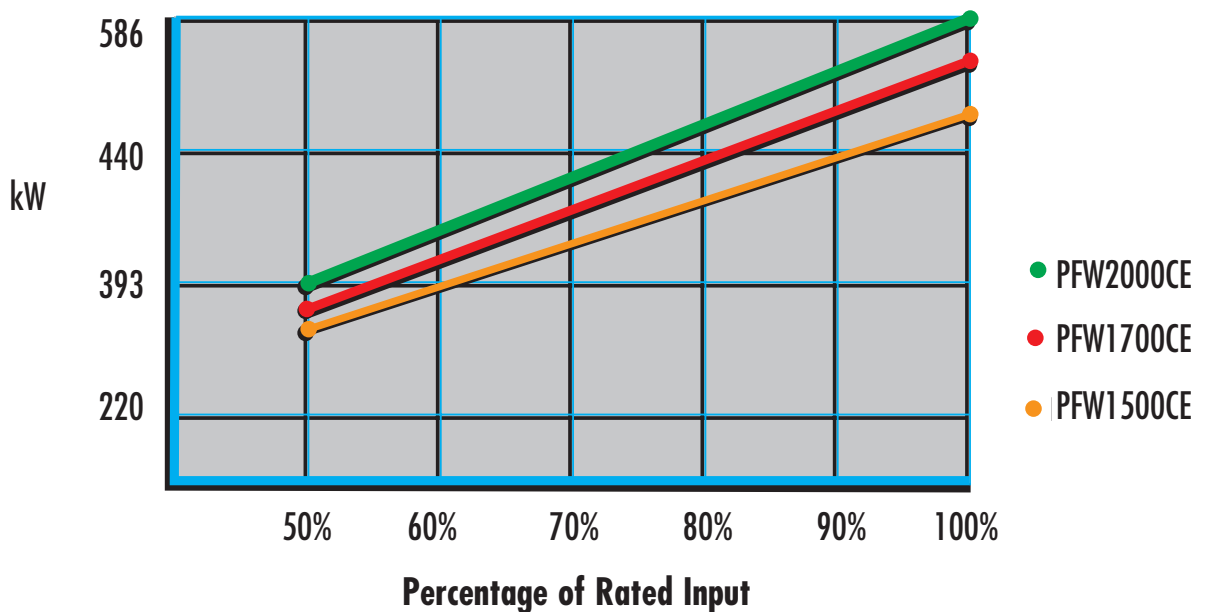
SCALE FREE OPERATION

Each Lochinvar POWER-fin®II Water Heater comes complete with Bronze Glanded pump and Flow switch. The pump gives an even distribution of heat across the heat exchanger and also ensures that any scale is kept in suspension, guaranteeing “scale free” operation, even in hard water areas. Any scale present will usually settle in the storage vessel, which is not harmful to the operation of the water heater and can be easily cleaned. This maintains the high operating efficiency and a prolonged working life for the water heater.

HIGH THERMAL EFFICIENCIES – LOW NO_x EMISSIONS

POWER-fin®II operates with net thermal efficiencies of up to 96%. And by adjusting gas and air to be proportionately equal maintains this high rating along the entire efficiency curve.

With ultra low NO_x emissions of 31 mg/kWh POWER-fin®II is environmentally friendly too.



OPERATING AND INSTALLATION

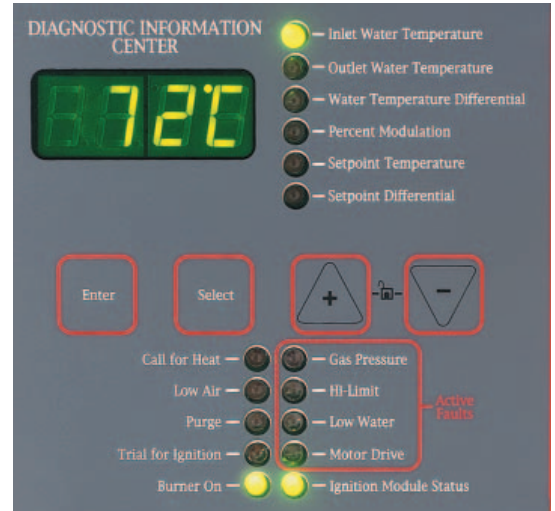


ALCROMESH BURNER WITH 5-YEAR WARRANTY

The aluminium/chromium alloy burner disperses the flame through 360° improving heat transfer. Quiet operation is assured and its durability results in a 5-year warranty.

OPERATING FLEXIBILITY

POWER-fin®II advanced burner technology allows operation over a broad range of inlet gas pressures with a minimum as low as 10mbar (most competitive products need 18 to 20mbar). This prevents nuisance 'lockout' problems on applications with varying gas pressures as POWER-fin®II can operate in low pressure supply conditions.

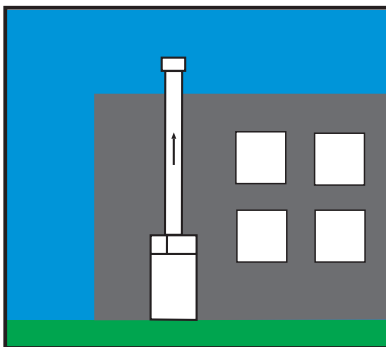


DIGITAL CONTROL

Each function of the Water Heater is automatically monitored and controlled by a digital control system, accurate to +/- 0.5°C. A digital display indicates temperature while LED indicators prove operation and status. This monitoring system not only warns against failure, it can actually help pinpoint the source of any problems, leading to faster solutions. In addition, all of the components are replaceable, so down-time is reduced.

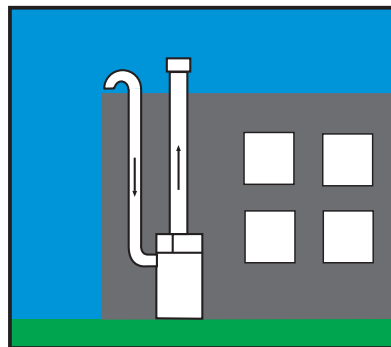
FLUEING OPTIONS

POWER-fin®II Water Heaters offer a choice of three flueing options and have extremely small flue diameters. The PFW2000CE (10,000 litres/hour) model, for example, has a flue diameter of just 250mm. This makes for real savings in installation costs.



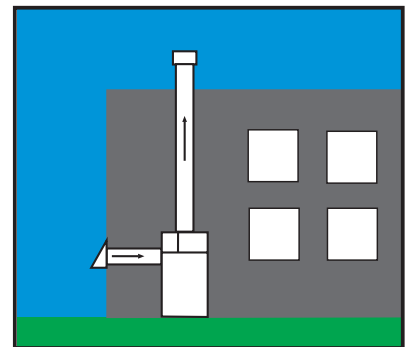
Conventional

Flues vertically using IGE/UP/10 approved flue material.



Vertical Balanced Flue

Flues vertically using IGE/UP/10 approved flue material. Directly draws combustion air with runs of 15 metres from the roof top.



Balanced Flue with Horizontal Air Intake

Flues vertically using IGE/UP/10 approved flue material. Directly draws combustion air from a side wall with a horizontal run of up to 15 metres.

ENERGY SAVING HOT WATER CYLINDERS – 11 MODELS



LST RANGE

Lochinvar LST Energy Saving Cylinders are constructed from A1 glass lined steel and are available in 5 models with capacities from 297 litres to 1155 litres.

Cathodic protection is provided by magnesium anodes or maintenance - free Correx anodes, which are available as an ancillary option.

Foam insulation keeps standing losses to an absolute minimum and the units can operate to a maximum pressure of 10.5 bar. A unique distribution baffle maximises water delivery, allowing as much available hot water as possible for immediate draw down which is important in "peak demand" applications.

All models are covered by a five year warranty against tank leakage.

CST RANGE

Lochinvar CST range of energy saving storage tanks, have capacities ranging from 210 to 1500 litres.

As with the LST range they are fitted with a specially designed distribution baffle, which gives the maximum available hot water for immediate draw down.

CST storage tanks have a maximum working pressure of 3.5bar, and feature a facility for immersion heater installation, which gives an alternative fuel 'standby'.

Being constructed from copper, they offer a natural resistance against corrosion caused by electrolytic action without the requirement for sacrificial anodes. In addition to providing this protection the maintenance requirement is also minimal.

All models are covered by a 5-year warranty against tank leakage.

Model No.		LST66	LST70	LST100	LST166	LST250	CST210	CST450	CST750	CST1000	CST1200	CST1500
Storage Capacity	(Litres)	297	315	450	747	1155	210	450	750	1000	1200	1500
	(gallons)	66	70	100	166	254	46	99	165	220	264	330
Diameter	(mm)	609	711	711	812	1016	550	700	850	900	900	1150
Height	(mm)	1492	1232	1587	1955	2082	1600	1758	1967	1970	2210	2100
Weight (empty)	(kg)	84	87	157	227	451	90	180	295	310	380	450
Weight (full)	(kg)	381	402	607	974	1606	300	630	1045	1310	1580	1950

LST166 and LST250 and all CST models are now supplied complete with facility for immersion heater installation

UNVENTED SYSTEM KITS

For Direct Mains feed or Pressurised system installations. Unvented systems offer many advantages to installers, specifiers and end users and kits are available for each model.

DIRECT HOT WATER

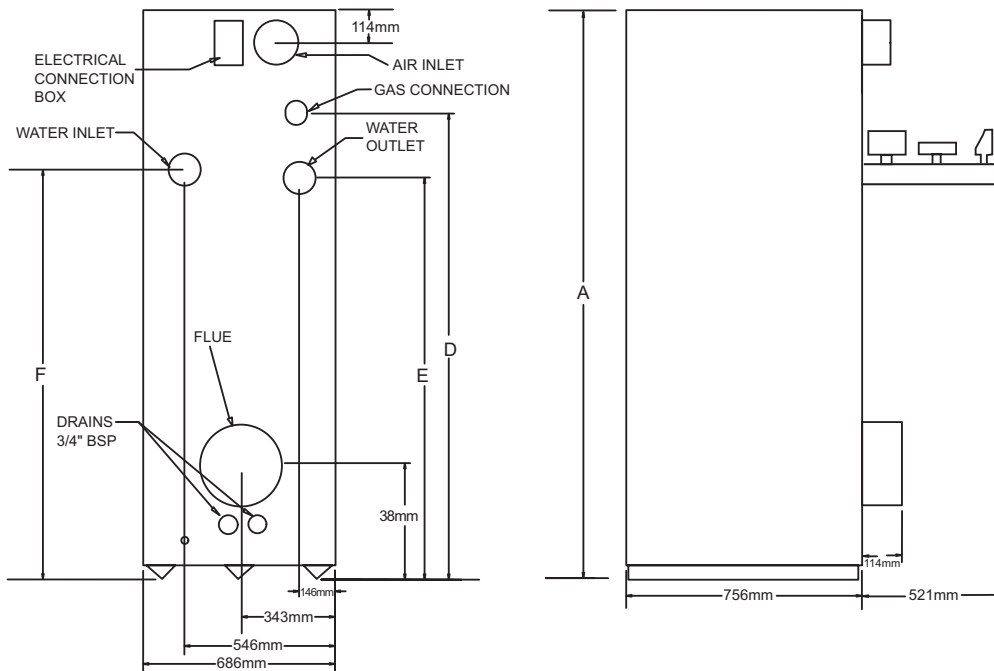
When linked to a Direct Storage vessel Lochinvar Water Heaters give a reliable, efficient supply of direct hot water, on the principle of system separation. "On-site" storage cylinders can be used and Lochinvar also offer the LST/CST ranges of energy saving storage vessels which are designed for use with Copper-Fin® products.

UNVENTED KIT COMPONENTS

- ▼ Pressure regulator with built in strainer
- ▼ Non-return valve
- ▼ Expansion vessel(s)
- ▼ Pressure relief valve
- ▼ Combined temperature and pressure relief valve
- ▼ Tundishes (2)

POWER-fin® II WATER HEATERS

DIMENSIONS & SPECIFICATIONS



Model Number	Input (Net) kW	RECOVERY RATE litres/hr		A	D	E	F	Air Inlet Size mm	Flue Size mm	Weight kg
		at 44°C rise	at 50°C rise							
PFW1500CE	397	7465	6569	1695	1327	1067	1130	150	200	360
PFW1700CE	449	8481	7463	1810	1442	1181	1245	175	200	380
PFW2000CE	528	9966	8770	1981	1613	1353	1416	200	250	405

All gas connections are 1 1/2" BSP. All water connections are 67mm copper tube.

Standard Features

- ▼ 96% net Thermal Efficiency
- ▼ 50 - 100% Infinitely Proportional Firing Rate
- ▼ Digital Display with Alarm & Status LED's
- ▼ Variable Frequency Drive
- ▼ Digital Temperature Control. Accurate to 0.5°C
- ▼ Tamper Resistant Temperature Controls
- ▼ Alcomesh Burner with 5-Year Limited Warranty
- ▼ Ultra Low NO_x Operation Exceeds the most Stringent Air Quality Requirements
- ▼ Low Gas Pressure Operation
- ▼ Selectable Supply/Return Temperature Controls
- ▼ ASME Copper Finned Heat Exchanger
- ▼ 10.5 bar Working Pressure
- ▼ Gasketless Heat Exchanger Design
- ▼ Lined Heat Exchanger Headers
- ▼ Zero Clearance to Combustible Materials
- ▼ Temperature and Pressure Gauge
- ▼ Adjustable High Limit with Manual Reset
- ▼ Flow Switch
- ▼ Small Footprint
- ▼ Whisper Quiet Operation
- ▼ Volt-Free Contacts on any Failure
- ▼ Frost Protection
- ▼ Construction Air Filter
- ▼ 5-Year Warranty on Heat Exchanger

Optional Equipment

- ▼ High or Low Gas Pressure Switch
- ▼ Horizontal Air Intake Cap
- ▼ Horizontal Flue Cap
- ▼ External Temperature Compensation
- ▼ Low Water Cut-Off Switch
- ▼ Intermittent Pump Relay



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