

Copper-Fin®

GAS-FIRED BOILERS



CE

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.

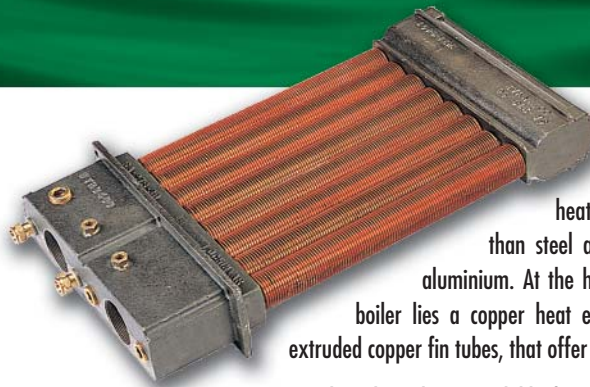
Water heating equipment was first sold in the UK under the Lochinvar name in 1976. The "Knight" and "Charger" ranges of direct gas fired Storage Water Heater were among the first of their type to be sold in this country and their popularity has continued to grow due to their suitability for the concept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

Following on from the success of the Knight and Charger range, Lochinvar introduced Copper-Fin® water heaters and Boilers in 1981. This range offers even better operating efficiencies and additionally have low NO_x emissions and offer a wide variety of flueing options. The latest additions to the Copper-Fin® series are Intelli-Fin™, a gas fired condensing boiler or water heater with a gross thermal efficiency of 97% and POWER-fin®II, a range of high efficiency boilers or water heaters that are the perfect companion to Intelli-Fin™ on multi unit installations

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 Copper-Fin®?



Copper is an excellent conductor of heat, having a heat transfer rate 9 times better than steel and cast iron and 1½ 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.

Copper-Fin® products have been available from Lochinvar in the UK since 1981 and the current model range offers many unique advantages at highly competitive prices, as well as combining durability with minimal service requirements.

COPPER-FIN HEAT EXCHANGER

The Heat Exchanger's finned copper tube construction gives increased heat transfer over plain tube, ensuring rapid response to heat demand and is a major factor in the high thermal efficiency of the unit. The tubes operate in a two pass arrangement and are expanded into a gasketless header which is built from lined cast iron.

Lochinvar Copper-Fin® heat exchangers carry a ten year warranty when used as a heating boiler.

HIGH THERMAL EFFICIENCIES

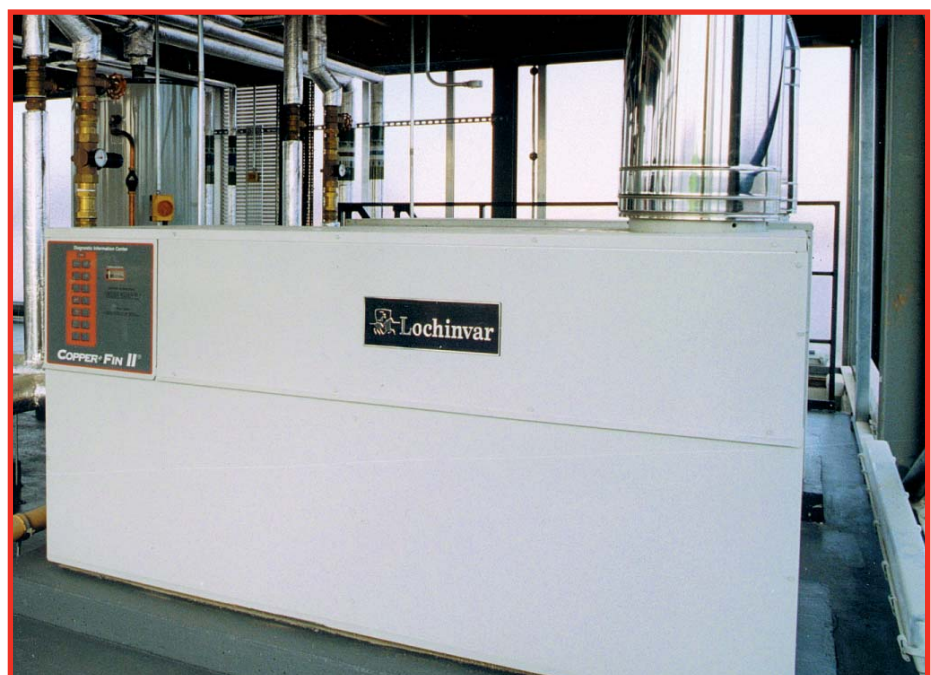
Lochinvar Copper-Fin® boilers operate with thermal efficiencies of up to 95.13% (net). This leads to reduced fuel consumption and low emissions.

LOW NO_x EMISSIONS

Stainless steel burners produce an efficient low profile flame providing durability and an environmentally friendly NO_x emission of 12.5mg/kWh at 0% O₂.

LOW WEIGHT

The combustion chamber is lined with Loch Heat ceramic tiles which are 25% lighter than less efficient refractory combustion chamber materials and will also not crack or flake.



Lochinvar CFBII Boiler.



EFFICIENCY+

Copper-Fin® BOILERS

4 MODELS

The Efficiency+ is the latest in the Copper-Fin® series offering all the advantages of the MCB Series and the additional benefit of ultra low NO_x emissions (12.5mg/kWh at 0% O₂). Four models are available with heat outputs from 37kW to 74kW. A wide range of flueing options is available including conventional, horizontal or vertical balanced flues.

INSTALLATION FLEXIBILITY

Efficiency+ Copper-Fin® boilers have an overall height of only 713mm offering an ideal solution where plant room space is restrictive. Further space saving can be achieved on multiple installations with the use of MSF stacking options (see Ancillary Options).

OTHER FEATURES

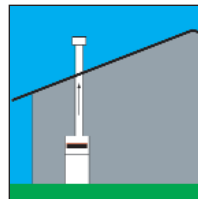
- ▼ Stainless steel burners
- ▼ Fully automatic ignition
- ▼ Manual re-set high limit
- ▼ Diagnostic control panel
- ▼ Safety valve
- ▼ Certified to 11.0 bar working pressure
- ▼ Wide range of ancillary options available
- ▼ Built in pump control relay (optional)
- ▼ Flame Failure indication output
- ▼ Volt free contacts for run status



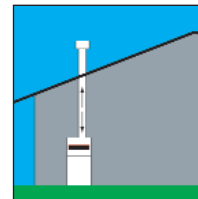
FLUEING OPTIONS - A MAJOR BENEFIT TO SPECIFIERS

A major benefit to the specifier, installer and end user is this ability to offer the options of Conventional or Balanced flue. Horizontal or Vertical balanced flue runs up to 10 metres in length are possible and include provision for 2 x 90 bends. Further bends can be included on shorter flue runs.

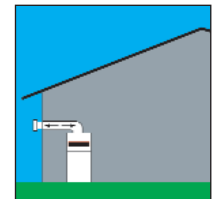
The complete balanced flue assembly is designed and supplied by Lochinvar and ensures that combustion air can be drawn directly from outside, isolating the boiler from negative air pressure areas.



Conventional Flue



Vertical Balanced Flue



Horizontal Balanced Flue



MCB SERIES

Copper-Fin® BOILERS



9 MODELS

The MCB series comprises nine models with outputs ranging from 21kW to 119kW. Thermal efficiency is in excess of 92% (net) making the boilers particularly suitable for commercial and industrial applications. MCB series boilers are extremely compact, offering a great deal of installation flexibility.

OTHER FEATURES

- ▼ Inlet and outlet temperature gauges fitted as standard
- ▼ Volt Free contacts for "Run" and "Fault" conditions
- ▼ 230V AC fault condition output
- ▼ Certified to 11.0 bar working pressure
- ▼ Manual reset safety circuits
- ▼ Wide range of ancillary options

INSTALLATION FLEXIBILITY

MCB Copper-Fin® boilers include a built in draught diverter and have an overall height of 750mm (876mm MCB501) offering an ideal solution where plant room space is restrictive. Further space saving can be achieved on multiple installations with the use of MSF stacking options (see Ancillary options).

CONTROLS

Burner ignition is via a fully automatic intermittent pilot system that shuts down when demand is satisfied ensuring standby losses are kept to a minimum. Full flame failure protection and a safety temperature limiter integrated into the boiler control ensure a safe condition is constantly maintained.



CFB SERIES

Copper-Fin® BOILERS

3 MODELS

The *Copper-Fin*® CFB series features a fan assisted sealed combustion chamber designed to give precise control of gas/air ratio for consistently high thermal efficiency of 95.13% (net). Heat outputs of 123,160 and 185 kW are available.

OTHER FEATURES

- ▼ Suitable for LTHW and MTHW systems
- ▼ Certified for up to 11.0 bar working pressure
- ▼ Manual reset safety temperature limiter
- ▼ Control for Mechanical Flue
- ▼ Pressure relief valve
- ▼ Stainless steel burners
- ▼ Volt free contacts for flame failure and run indication
- ▼ Ultra Low NO_x Emissions



INSTALLATION FLEXIBILITY

The *Copper-Fin*® CFB is lightweight and has a low profile, and at only 565mm wide it will pass through a standard doorway. With an overall height of just 840mm it offers an ideal solution where plant room space is restrictive. Further space saving can be achieved on multiple installations with the use of MSF Stacking frames (see Ancillary options).

DIAGNOSTIC CONTROLS

CFB Series boilers come complete with fully automatic electronic ignition and diagnostic lights which continually monitor the major functions of the unit making it fully compatible with Building Energy Management Systems.



CFBII SERIES

Copper-Fin® BOILERS

5 MODELS

Like the CFB Series, CFBIII boilers feature a fan assisted sealed combustion chamber and built-in controller with diagnostic display. The addition of proportional firing gives unmatched reliability and consistently high operating efficiencies. Heat outputs from 244kW to 510kW are available.

OTHER FEATURES

- ▼ Suitable for LTHW and MTHW systems
- ▼ Certified for up to 11.0 bar working pressure
- ▼ Control for Mechanical Flue
- ▼ Pressure relief valve
- ▼ Volt free contacts for flame failure and run indication
- ▼ High Thermal Efficiency
- ▼ Ultra Low NO_x Emissions



TOTAL SYSTEM REDUNDANCY

The CFBIII has multiple gas valves, fans and ignition systems giving the benefit of system standby in the event of component failure. Each unit is also equipped with a diagnostic display which simplifies maintenance/troubleshooting issues.

FLUEING OPTIONS

Installation flexibility is provided with the option of a Traditional Conventional Flue or Vertical Balanced Flue Assembly. The Vertical Balanced Flue Assembly has a 'twin pipe' system and requires part number VDK3005-8.

ANCILLARY OPTIONS

STAGE FIRING

For ultimate operating efficiency the option of stage firing is available on CFB series with part no TST5000 and EPB series with part no. F9/M9. Proportional firing in four stages is a standard feature of the CFBII (3 stages on CFB990CE).

DRAWINGS

Dimensional drawings for all models are available as CAD files which can be provided as a hard copy or downloaded from our web site www.lochinvar.ltd.uk.

MSF STACKING FRAMES

Although *Copper-Fin*[®] boilers are compact, MSF stacking frames offer further benefits where Plant Room space is restricted. The range allows for two *Copper-Fin*[®] units to be “stacked up” giving up to 1.02mW output from a floor space of only 2.65sq.m.



ANCILLARY KITS FOR *Copper-Fin*[®] BOILERS

VDK 3005-8.....Vertical Balanced Flue kit (Adapter & Terminal)
 TST5000.....Hi-Lo Fire CFB500 to 750
 F9/M9.....Two-Stage Firing for EPB

PCIPump Overrun Control for EPB
 RLY2718.....High Temperature Indication Relay

STACKING FRAMES FOR *Copper-Fin*[®] BOILERS

MSF 3000Stacking Frame for MCB91 to 181
 MSF 3001Stacking Frame for MCB226 to 361
 MSF 3001AStacking Frame for MCB401 to 501
 MSF 3002Stacking Frame for CFB500
 MSF 3003.....Stacking Frame for CFB650 and 750

MSF 3007Stacking Frame for CFB990
 MSF 3008.....Stacking Frame for CFB1260 and 1440
 MSF 3009.....Stacking Frame for CFB1800 and 2070
 MSF 3022.....Stacking Frame for EPB150 and EPB200
 MSF 3024.....Stacking Frame for EPB250 and EPB300

	FLUE OPTION	MCB	CFB	CFBII	EPB
FLUE OPTION	TRADITIONAL CONVENTIONAL	Standard	Standard	Standard	Standard
	FAN- ASSISTED CONVENTIONAL	Option <i>Price and design on application</i>	Option <i>Price and design on application</i>	Option <i>Price and design on application</i>	N/A
	HORIZONTAL BALANCED FLUE	N/A	N/A	N/A	<ul style="list-style-type: none"> Option: Price & design on application Flue Boost not required Runs of up to 10m
	VERTICAL BALANCED FLUE	N/A	Option (two-pipe) VDK 3005-8 Flue Boost not required	Option (two-pipe) VDK 3005-8 Flue boost not required	<ul style="list-style-type: none"> Option: Price and design on application

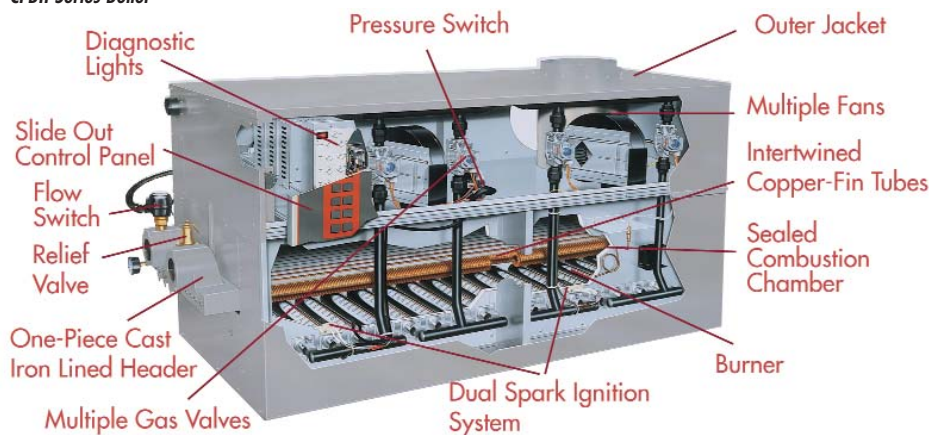
TECHNICAL SPECIFICATION

Copper-Fin® GAS-FIRED BOILERS

RANGE	Model	Input (net) kW	Output kW	Nominal Flue Dia. (mm)	Balanced Flue Dia. (mm)	Length (without header) (mm)	Depth (mm)	Height (mm)	Weight (Empty) (kg)
EFFICIENCY+	EPB150CE	40	37	125	100/150**	503	605	713	108
	EPB200CE	53	49	125	100/150**	602	605	713	118
	EPB250CE	67	62	150	130/200**	697	605	713	128
	EPB300CE	80	74	150	130/200**	795	605	713	137
MCB SERIES	MCB91CE	23.8	20.8	125	n/a	394	546	750	57
	MCB136CE	35.6	31.0	150	n/a	495	546	750	64
	MCB181CE	47.0	41.4	175	n/a	597	546	750	71
	MCB226CE	59.4	52.3	175	n/a	673	546	750	84
	MCB271CE	71.3	62.7	200	n/a	749	546	750	89
	MCB316CE	83.1	73.2	200	n/a	825	546	750	99
	MCB361CE	95.1	83.6	225	n/a	902	546	750	104
	MCB401CE	105.6	93.0	250	n/a	1130	559	750	127
	MCB501CE	132.0	118.8	250	n/a	1334	559	876	132
CFB SERIES	CFB500CE	132	123	150	150*	1149	565	840	160
	CFB650CE	171	160	200	200*	1439	565	840	187
	CFB750CE	198	185	200	200*	1622	565	840	203
CFBII SERIES	CFB990CE	261	244	250	250*	1224	851	913	365
	CFB1260CE	332	310	300	300*	1486	851	913	462
	CFB1440CE	380	355	300	300*	1745	851	913	510
	CFB1800CE	475	443	350	350*	2086	851	913	576
	CFB2070CE	546	510	350	350*	2346	851	913	624

* Balanced Flue options on CFB and CFBII Series are Vertical Twin Pipe Assemblies. ** EPB Balanced Flue Assemblies are Concentric.

COPPER-FIN II® - CFBII Series Boiler



www.lochinvar.ltd.uk



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