



the LBF range

Our high efficiency gas fired
balanced flue storage
water heaters

Technical Specification

Water Heater Model	LBF range							High output LBF range				
	LBF-80	LBF-120	LBF-150	LBF-180	LBF-220	LBF-300	LBF-400	160-LBF	240-LBF	320-LBF	382-LBF	
Nominal Input (Net)	kW	5	5	18	19	28.5	31	31	44	66	88	106
Nominal Input (Gross)	kW	5.6	5.6	20	21.1	31.7	34.5	34.5	48.9	73.3	97.7	117.7
Gas Flow Rate (Natural Gas)	m ³ /hr	0.53	0.53	1.9	2	3.01	3.28	3.28	4.54	6.8	8.4	10.93
Nominal Output	kW	4.7	4.7	16.7	17.5	25.8	28	28	38.7	59.4	78.3	93.3
Efficiency (Part L2 Gross CV)	%	79.63	79.63	76.26	76.93	77.21	77.06	77.06	78.47	80.25	79.48	78.63
NOx Emission, (corrected to 0% O ₂)	ppm	84	84	113	95	68	65	65	171	146	172	173
NOx Emission, (corrected to 0% O ₂)	mg/kWh	148	148	198	168	120	115	115	301	257	303	305
Storage Losses	kWh /l/day	0.0884	0.0633	0.0536	0.0472	0.0409	0.0343	0.0298	0.0326	0.0326	0.0326	0.0292
Recovery rate @ 44°C	l/hr	87	87	298	317	477	518	518	749	1149	1517	1808
Recovery rate @ 50°C	l/hr	76	76	262	279	420	456	456	659	1011	1335	1591
Recovery rate @ 56°C	l/hr	72	72	256	268	395	428	428	592	909	1198	1428
Dimensions (Height)*	mm	1040	1400	1925	2125	1665	2015	2365	1780	1780	1780	2005
Dimensions (Width)	mm	450	450	520	520	720	720	720	720	720	720	720
Dimensions (Depth)	mm	460	460	520	520	720	720	720	1140	1140	1140	1140
Water Content	Litre	75	115	145	175	220	300	400	276	276	276	350
Weight (Empty)	Kgs	49	74	100	110	202	245	286	340	340	345	381
Weight (Full)	Kgs	124	189	245	195	422	545	686	616	616	641	727
Flow Connection	BSP	½"	½"	¾"	¾"	1¼"	1¼"	1¼"	1½"	1½"	1½"	1½"
Return Connection	BSP	½"	½"	¾"	¾"	1¼"	1¼"	1¼"	1½"	1½"	1½"	1½"
Gas Connection	BSP	3/8"	3/8"	½"	½"	½"	½"	½"	¾"	¾"	¾"	¾"
Flue Diameter (Concentric)	mm	38/60	38/60	60/100	60/100	60/100	60/100	60/100	100/150	100/150	130/200	130/200
Flue Diameter (Twin-pipe)	mm	38/60	38/60	80/80	80/80	80/80	80/80	80/80	n/a	n/a	n/a	n/a
Flue Diameter (Conventional)	mm	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100	100	130	130
Electrical Requirements		230V/1PH/50Hz										
Power Consumption	W	26	26	62	62	62	62	62	460	460	460	460
CO ₂ - Flue Gas	%	6	6	6	6	6	6	6	6	6	6	6
Maximum Flue Gas Temperature	°C	99	89	196	177	200	194	168	220	220	220	220
Waterside Pressure Loss @10°C	kPa	not applicable										
Max. Outlet Temp.	°C	77	77	80	80	80	80	80	82	82	82	82
Maximum Working Pressure	bar	6	6	6	6	6	6	6	10.3	10.3	10.3	10.3

Note:* LBF range - dimension to top of flue fan housing
High output LBF range - dimension to top of flue spigot

Lochinvar LBF balanced flue water heaters

LBF room sealed balanced flue water heaters offer all the advantages of Lochinvar's traditional Knight and Charger high efficiency gas fired storage water heaters, but with the added benefit of having a concentric balanced flue. LBF water heaters draw air for combustion directly from outside, ensuring safe and reliable operation and offering significant installation cost savings when compared with conventionally flued units. They are particularly suitable for use in areas of negative pressure such as, for example, kitchens, eliminating potential 'spillage' that may be created where extractor fans are installed.

Lochinvar LBF water heaters feature baffled flueways for maximum heat transfer. Custom designed steel baffles are suspended within the flueways increasing the amount of heat transferred from the products of combustion to the water.

These combustion products are taken into a common header and discharged via the fan-assisted, concentric balanced flue, either horizontally or vertically.

All models can be installed using either horizontal or vertical flue assemblies. A basic flue kit is available from Lochinvar, as well as additional flue components including bends and flue pipe.

All models feature automatic ignition as standard and the facility to interface with building management systems is also available. The vitreous-enamelled steel tank is insulated in expanded polyurethane to reduce heat losses.

With storage capacities from 75 litres to 400 litres and recovery rates from 76 to 1591 litres/hour based upon a temperature rise of 50°C Lochinvar LBF water heaters offer a highly efficient solution for a wide variety of commercial and industrial applications.

Models LBF-80 | LBF-120

These two models are extremely compact, wall mounted and have a flue diameter of only 60mm.

Storage capacities are 75 litres and 115 litres respectively and both have a recovery rate of 76 litres/hour based upon a temperature rise of 50°C

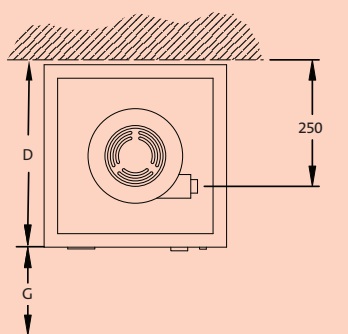
The LBF80 and LBF120 are particularly suitable for smaller commercial and industrial applications providing low volume, instant hot water.

Features

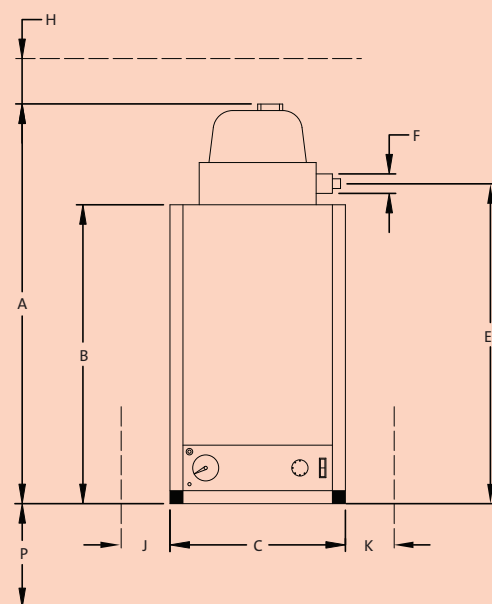
- Wall mounted-saving on valuable floor space
- Automatic ignition
- Stainless steel burner
- Room sealed fan assisted flue
- A wide range of ancillaries - offering installation flexibility (refer to back page for details).
- Available for Natural Gas or LPG



LBF-80 and LBF-120 *water heaters*



Top view



Front view

Models

LBF-150 | LBF-180

LBF-220 | LBF-300 | LBF-400

These five models offer storage capacities from 145 to 400 litres and recovery rates from 262 to 456 litres/hour based upon a temperature rise of 50°C.

LBF water heaters are very compact, with models LBF150 and LBF180 having a footprint of only 520mm x 520mm. This along with the flueing options with all five models provides increased siting flexibility.

Concentric flue runs of up to 3m horizontal or 2m vertical are possible and up to 6m horizontal or vertical if using a twin pipe assembly.

Additional flue components are available as ancillary options.



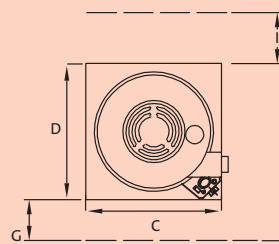
LBF-220, LBF-300 and LBF-400 *water heaters*



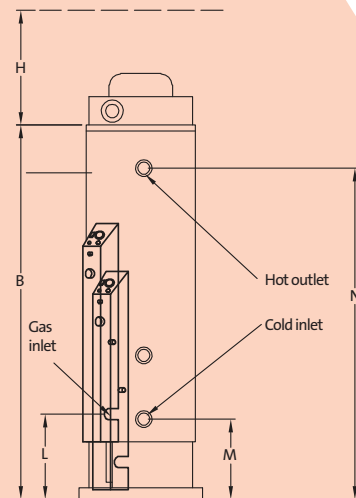
LBF-150 and LBF-180 *water heaters*

Features

- Automatic ignition
- Stainless steel burner
- Room sealed fan assisted flue
- A wide range of ancillaries - offering installation flexibility (refer to back page for details)
- Available for Natural Gas or LPG



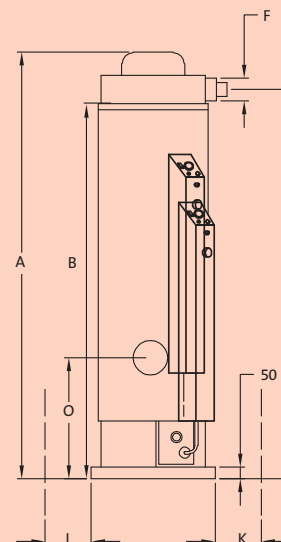
Top view



RH side view

LBF water heaters - dimensions (mm)

Model	LBF-80	LBF-120	LBF-150	LBF-180	LBF-220	LBF-300	LBF-400
A	1040	1400	1925	2125	1665	2015	2365
B	895	1255	1700	1900	1350	1700	2050
C	450	450	520	520	720	720	720
D	460	460	520	520	720	720	720
E	895	1255	1750	1950	1495	1840	2190
F	60	60	100	100	100	100	100
G	500	500	500	500	500	500	500
H	200	200	200	200	200	200	200
I	n/a	n/a	50	50	50	50	50
J	50	50	200	200	50	50	50
K	50	50	300	300	200	200	200
L	n/a	n/a	420	420	470	470	470
M	n/a	n/a	390	395	565	565	565
N	n/a	n/a	1620	1825	1300	1655	2000
O	n/a	n/a	460	465	570	570	570
P	500	500	n/a	n/a	n/a	n/a	n/a



Front view

High output LBF range

Models 160-LBF | 240-LBF

320-LBF | 382-LBF

The high output LBF range comprises four models with storage capacities of 276 or 350 litres. Recovery rates from 659 to 1591 litres/hour based upon a temperature rise of 50°C are achievable from these highly efficient water heaters.

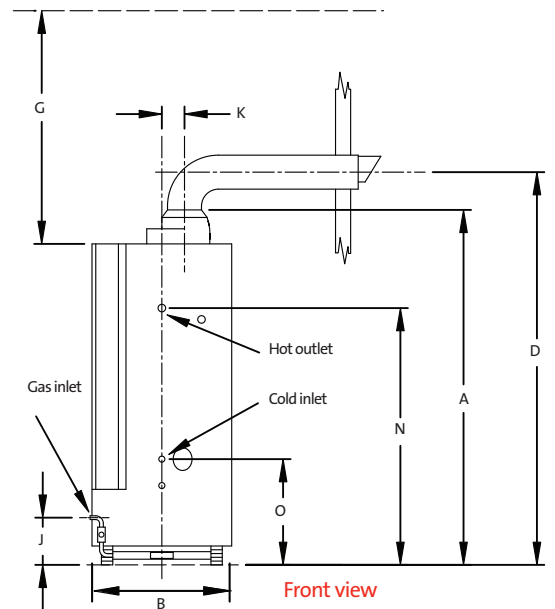
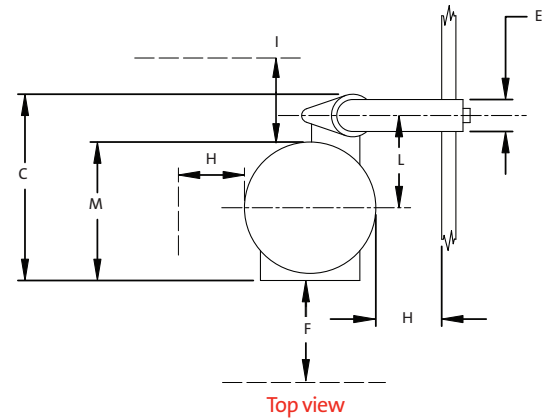
Concentric flue runs of up to 6m horizontal or 7m vertical are possible providing increased siting flexibility and installation cost savings when compared with conventionally flued units

High output LBF water heaters - dimensions (mm)

Model	160-LBF	240-LBF	320-LBF	382-LBF
A	1780	1780	1780	2005
B	720	720	720	720
C	1140	1140	1140	1140
D	2055	2055	1955	2180
E	150	150	200	200
F	730	730	730	730
G	1168	1168	1168	1168
H	305	305	305	305
I	305	305	305	305
J	355	355	355	355
K	130	130	130	130
L	500	500	500	500
M	825	825	825	825
N	1307	1307	1307	1535
O	530	530	530	530

Features

- Automatic ignition
- Stainless steel burner
- Room sealed concentric fan assisted flue
- A wide range of ancillaries - offering installation flexibility (refer to back page for details)
- Available for Natural Gas or LPG



High output LBF water heater

Flue installation

When calculating the length of your flue installation the following should be taken into consideration;

LBF range

Each 90° bend and 45° bend is equivalent to 1m flue distance

High output LBF range

Each 90° bend is equivalent to 1m flue distance and each 45° bend is equivalent to 0.5m flue distance.

LBF water heater ancillary options

- Flame failure relay
- Unvented system kits
- Direct storage vessels
- Correx® non sacrificial electrical anodes
- Horizontal or vertical room sealed concentric flue assemblies
- Room sealed twin pipe flue assemblies (not available on high output LBF models)
- De-stratification pump kit

Drawings

Dimensional drawings for all models are available as hard copy or CAD files, that can be downloaded from our website www.lochinvar.ltd.uk.

Dakota Hotel, Nottingham

Hot water for the 92 bedroom hotel supplied by 3 x high output LBF water heaters.



Morrisons Supermarkets

Hot water supplied by our LBF and high output LBF range of water heaters.



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