

# **FIREBIRD**



## **HEATING SOLUTIONS**

### **PRODUCT GUIDE**



**Condensing Oil Boilers**



**Solar Thermal Systems**



**Biomass and Backboilers**

*Working towards a greener planet*

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## For all your heating solutions

Firebird is proud to declare over 30 years manufacturing in the heating industry, developing some of the most renowned products on the market. More recently the company has advanced into renewable energy systems and combined efficient heating systems.

From the robust elite manufacturing process, through to the dedicated sales, technical and training teams, Firebird can guarantee the highest quality product and service. In addition, our products are rigorously tested and approved to all relevant European and national standards.

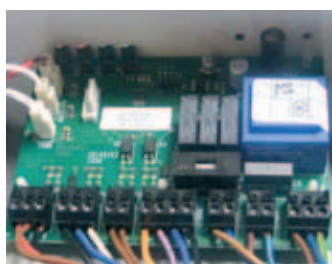


Firebird continues to expand its product range, more recently with the addition of the multifuel backboiler inset stove - 81% efficient and 100% Irish.

Our technical team are always on hand to advise on the best heating system for your domestic or commercial premises. We have the capability to integrate all our products to one combined system, reducing your energy bills by at least 20% per annum.

Firebird has recently completed a number of commercial and domestic cascading, multi functional systems. Please contact our technical department for more information on these projects.

Over the coming months we will have a number of additional products launching into the market - products that will further reduce your energy costs.



### Accreditations:

Firebird is ISO-9001 accredited and a long-standing member of OFTEC.

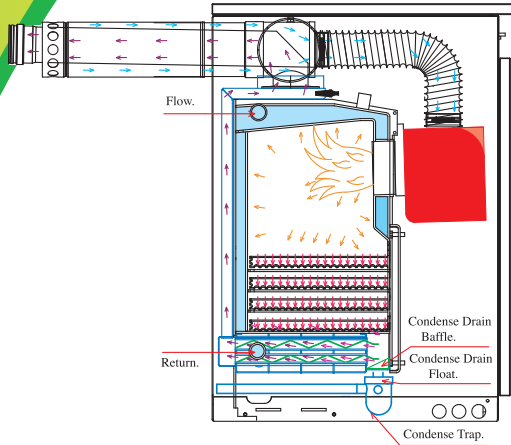
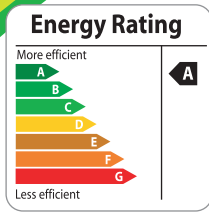


In addition, Firebird products enjoy some of the following accreditations:





# Enviromax Condensing Boilers



## Features & Benefits

### SEDBUK Band A Efficiency

- Incredible efficiency due to a unique patented heat exchanger design.
- Up to 25% savings in fuel consumption compared with non-condensing boilers.
- Lower emissions and carbon dioxide.

### Designed as a condensing boiler - not an "add-on"

- The condensing heat exchanger is an integral part of the boiler shell.
- Condenser is located at the bottom of the appliance to keep acidic condensate away from the mild steel heat exchanger. This removes the need for a seal between the main heat exchanger and the condensing section.
- Easy to install and service.

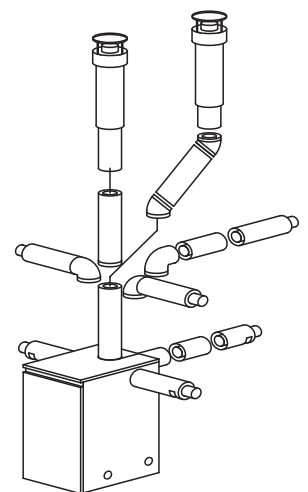
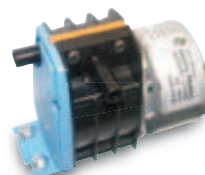
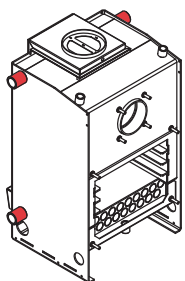
### Robust design

- Enviromax™ boilers are built from premium grade steel with a minimum 4 mm gauge.
- All indoor models have a heavy duty casing with a polyester-coated finish to protect the boiler from normal wear and tear.

### Widest range on the market

- With up to 60 models available, we have something to suit every customer.

## Installer Friendly Features



- 4-tapping points on most boiler models - increases installation options.
- Front service access - easy access to common service parts.
- 7-pin plug - simplifies wiring.
- Optional condensate pump - lifts up to 5m - perfect solution where natural gradient is not available.
- Multi-directional flue options - increases installation options.

# Popular & Silver Boilerhouse

*Ideal for installation in a dedicated boiler house, garage or outbuilding.*

## Features

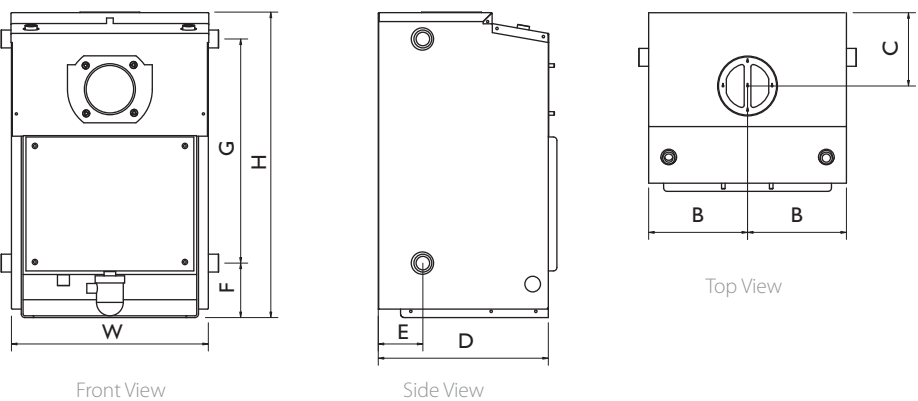
- Patented heat exchanger design.
- Built from premium quality steels.
- Compact design.
- 4-tapping points for ease of installation.
- Sturdy well insulated casing minimise heat loss.
- High performance Riello RDB burner.
- SEDBUK Band A Efficiency.
- Seven models in outputs upto 100kW.



## Specification

Model	Output kW	Sales Code	Weight kg (incl. burner)	Dimensions(mm)			BURNER DEPTH	B	C	E	F	G
Enviromax				H	W	D						
Boilerhouse C20	15-20	FSB020BFS	112	684	344	381	202	220	163	100	122	502
Boilerhouse C26	20-26	FSB026BFS	112	684	441	381	202	220	163	100	122	502
Boilerhouse C35	26-35	FSB035BFS	115	684	441	381	202	220	163	100	122	502
Popular C44	35-44	CPO044RDB	182	820	470	533	202	235	154	97	123	620
Popular C58	44-58	CPO058RDB	190	820	470	533	253	235	154	97	123	620
Popular C73	58-73	CPO073RDB	210	877	530	527	253	265	155	97	123	670
Popular C100	80-100	CPO100RDB	300	1060	628	770	353	314	139	112	130	832

## Dimensions (mm)





# Heatpac & Silverpac

The Enviromax Heatpac range does not need to be housed in a building, thereby reducing cost and labour. The boilers come with removable sides for easy access to any part of the unit. Piping may be carried out from the back or from underneath.

## Features

### Heatpac

- High quality weather-proof PVC-coated casing (outputs up to 35kW).
- Fully insulated to prevent heat loss.
- Patented heat exchanger design.
- 4-tapping points for ease of installation.
- Fitted with frost protection stat.
- Whisper quiet operation.
- Stainless steel terminal guard.
- High performance Riello RDB burner.
- SEDBUK Band A Efficiency.
- Six models in outputs from 15kW to 73kW.

## Specification

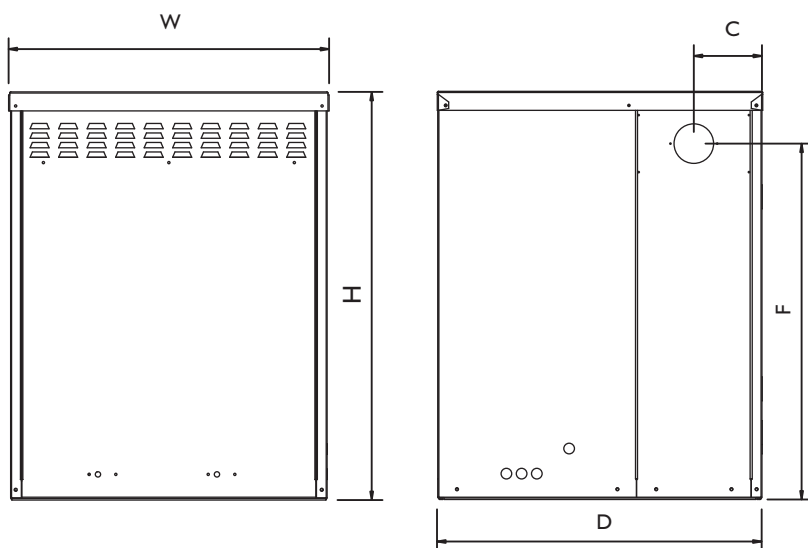
Model	Output kW	Sales Code	Weight kg	Dimensions (mm)				
Enviromax				H	W	D	C	F
Silverpac CR20	15-20	FSP020SLF	148	945	715	625	180	807
Silverpac CR26	20-26	FSP026SLF	150	945	715	625	180	807
Silverpac CR35	26-35	FSP035SLF	153	945	715	625	180	807
Heatpac C44	35-44	CON044HPK	244	1074	843	856	182	936
Heatpac C58	44-58	CON058HPK	250	1074	843	856	182	936
Heatpac C73	58-73	CON073HPK	280	1200	903	856	182	1040

Temperature Control & High Limit re-set button

Burner Plug



## Dimensions (mm)



Heatpac, Silverpac, Systempac, Combipac

# Systempac & Combipac

The Enviromax Systempac and Combipac are external boilers with similar specifications to their equivalent indoor model, with the addition of a built in frost thermostat.

## Features

### Systempac

- High quality weather-proof PVC-coated casing.
- Low pressure switch protects boiler in the event of system water loss.
- Fully insulated to prevent heat loss.
- Patented heat exchanger design.
- Fitted with frost protection stat.
- Whisper quiet operation.
- Stainless steel terminal guard.
- Flue can exit left or right.
- High performance Riello RDB burner.
- SEDBUK Band A Efficiency.
- Four models in outputs from 15kW to 44kW.

### Combipac

- Excellent hot water performance  
- over 20 litres/min on 35kW model.
- PCB controller using highly accurate thermistors.
- Rapid re-heat after draw-off.
- High quality weather-proof PVC-coated casing.
- Fully insulated to prevent heat loss.
- Patented heat exchanger design.
- Flue can exit left or right.
- Twin circulating pumps – no diverter valve required
- Fitted with frost protection stat.
- Fully insulated and acoustically designed for ultra quiet operation.
- High performance Riello RDB burner.
- SEDBUK Band A Efficiency.
- Three models in outputs from 15kW to 35kW.



Systempac



Combipac

## Specification

Model	Output	Sales Code	Weight	Dimensions (mm)				
Enviromax	kW		kg	H	W	D	C	F
Systempac C20	15-20	CSP020NKT	163	945	715	625	180	807
Systempac C26	20-26	CSP026NKT	163	945	715	625	180	807
Systempac C35	26-35	CSP035NKT	166	945	715	625	180	807
Systempac C44	35-44	CSP044NKT	270	1074	843	856	182	936
Combipac C20	15-20	CCP020OOO	206	945	715	625	180	807
Combipac C26	20-26	CCP026OOO	206	945	715	625	180	807
Combipac C35	26-35	CCP035OOO	209	945	715	625	180	807

Dimension diagram - See page 6





## Utility / Kitchen

A high quality finish ensures that this boiler won't look out of place in your kitchen.

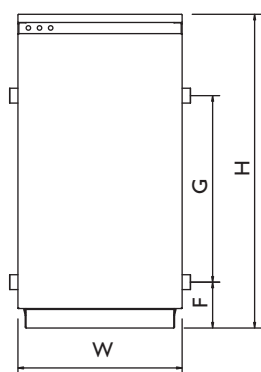
### Features

- Compact design - fits under standard kitchen worktop (outputs up to 35kW).
- Hard wearing casings with premium quality finish.
- Patented heat exchanger design.
- 4-tapping points for ease of installation.
- Front service access.
- PCB controller with anti cycling function (outputs up to 35kW).
- Fully insulated and acoustically designed for ultra quiet operation.
- Multi directional flue options.
- High performance Riello RDB burner.
- Optional condensate pump.
- SEDBUK Band A Efficiency.
- Seven models in outputs from 15kW to 100kW.

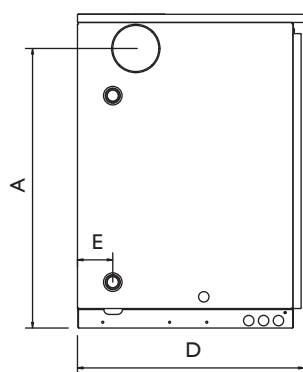
### Specification

Model Enviromax	Output kW	Sales Code	Weight kg	Dimensions(mm)								
				H	W	D	A	B	C	E	F	G
Utility C20	15-20	CUT020NFS	125	845	442	610	755	221	157	94	125	502
Utility C26	20-26	CUT026NFS	128	845	442	610	755	221	157	94	125	502
Utility C35	26-35	CUT035NFS	131	845	442	610	755	221	157	94	125	502
Kitchen C44	35-44	CKI044NKT	210	1046	464	852	914	232	157	100	125	620
Kitchen C58	44-58	CKI058NKT	216	1046	464	852	914	232	157	100	125	620
Kitchen C73	58-73	CKI073NKT	242	1196	524	852	1024	262	157	100	125	670
Commercial Utility	80-100	CUT100NKT	390	1250	623	1071	-	312	158	131	132	832

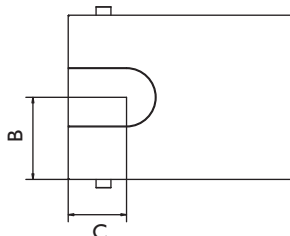
### Dimensions (mm)



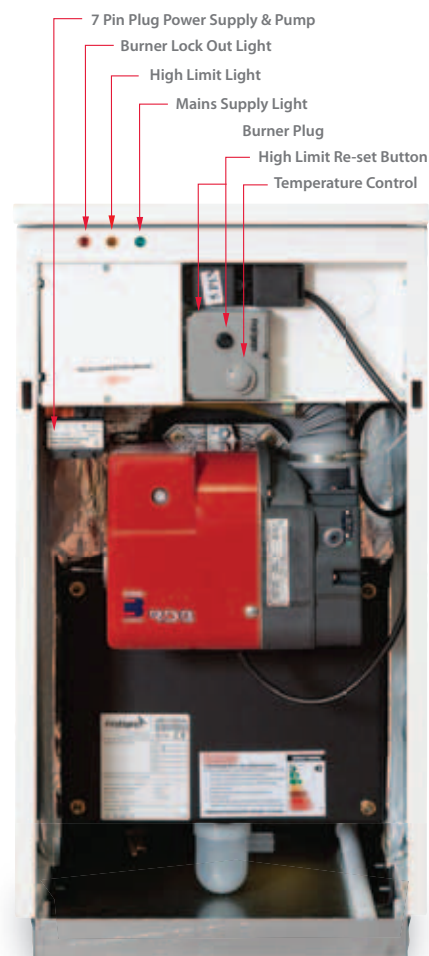
Front View



Side View



Top View



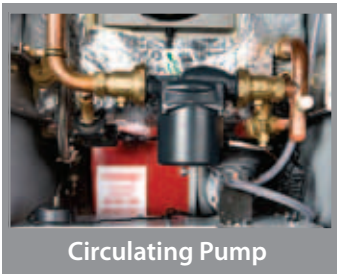


# System

Factory-fitted expansion vessel and circulating pump saves space and installation time.

## Features

- Compact design - fits under standard kitchen worktop (outputs up to 35kW).
- Low pressure switch protects boiler in the event of system water loss.
- Hard wearing casings with premium quality finish.
- Patented heat exchanger design.
- Front service access.
- Fully insulated and acoustically designed for ultra quiet operation.
- Multi directional flue options.
- High performance Riello RDB burner.
- Optional condensate pump.
- SEDBUK Band A Efficiency.
- Four models in outputs from 15kW to 44kW.



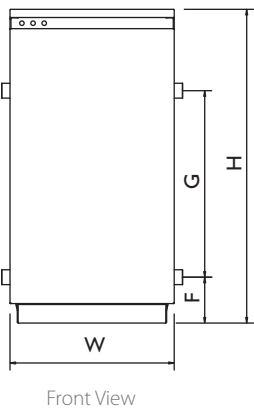
Circulating Pump



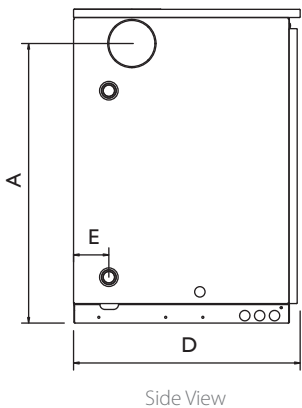
## Specification

Model	Output kW	Sales Code	Weight kg	Dimensions(mm)								
				H	W	D	A	B	C	E	F	G
System C20	15-20	CSB020NKT	143	845	442	610	755	221	157	94	125	-
System C26	20-26	CSB026NKT	146	845	442	610	755	221	157	94	125	-
System C35	26-35	CSB035NKT	149	845	442	610	755	221	157	94	125	-
System C44	35-44	CSB044NKT	235	1046	660	852	914	232	152	100	125	110

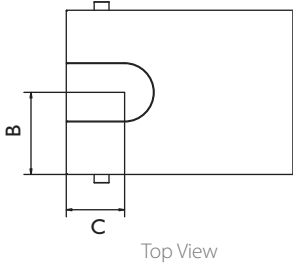
## Dimensions (mm)



Front View



Side View



Top View

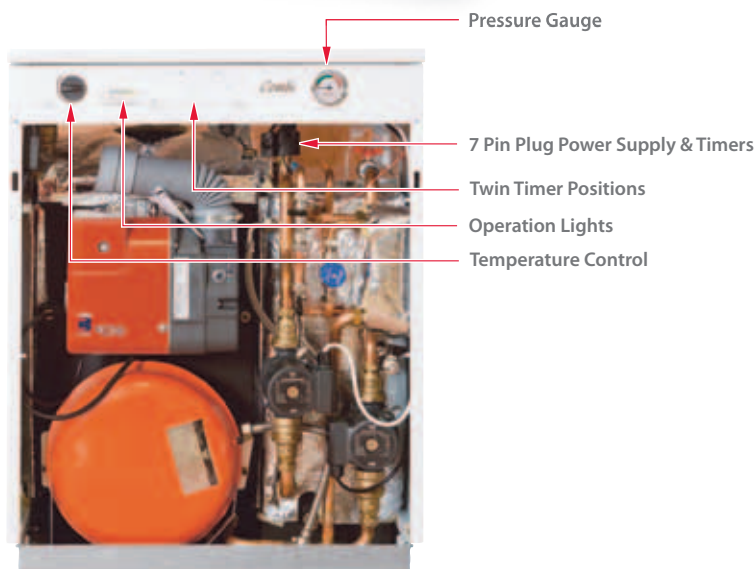


# Combi

The Enviromax Combi boiler provides both domestic hot water and central heating water in a single appliance, saving you the cost and space associated with a hot water tank.

## Features

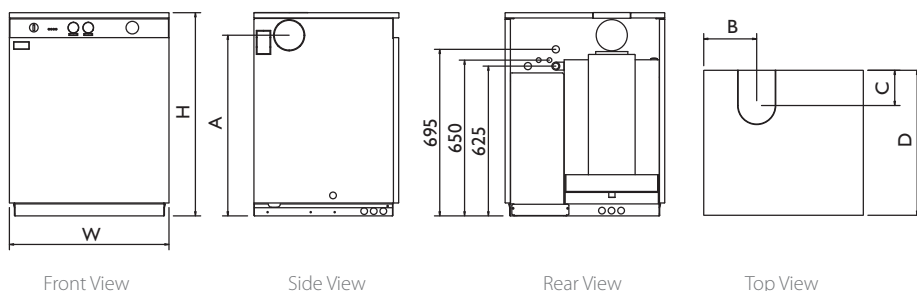
- Excellent hot water performance  
- over 20 litres/min on 35kW model.
- PCB controller using highly accurate thermistors.
- Rapid re-heat after hot water draw-off.
- Compact design - fits under standard kitchen worktop (outputs up to 35kW).
- Hard wearing casings with high quality finish.
- Patented heat exchanger design.
- Twin circulating pump  
- no diverter valve required.
- Fully insulated and acoustically designed for ultra quiet operation.
- Multi directional flue options.
- High performance Riello RDB burner.
- Optional condensate pump and timer controllers.
- SEDBUK Band A Efficiency.
- Three models in outputs from 15kW to 35kW.



## Specification

Model Enviromax	Output kW	Sales Code	Weight kg	Dimensions(mm)					
				H	W	D	A	B	C
Combi C20	15-20	CCO020NKT	173	845	670	605	750	220	147
Combi C26	20-26	CCO026NKT	176	845	670	605	750	220	147
Combi C35	26-35	CCO035NKT	179	845	670	605	750	220	147

## Dimensions (mm)



# Technical Specification



Enviromax  
Combi / Combipac



Enviromax  
System / Systempac



Enviromax  
Utility / Kitchen / Heatpac / Popular / Silver Boilerhouse



Boiler Model	C20/C26	C35	C20/C26	C35	C44	C20	C26	C35	C44/C58	C73	C100	
HEAT OUTPUT	kW	15-20/20-26	26-35	15-20/20-26	26-35	35-44	15-20	20-26	26-35	35-44/44-58	58-73	80-100
	max. BTU/h ('000)	70-90	90-120	70-90	90-120	150	50-70	70-90	90-120	150-200	250	270-340
CONNECTIONS												
Heating Flow	22 mm	28 mm	22 mm	28 mm	1½" BSP	1" BSP	1" BSP	1" BSP	1½" BSP	1½" BSP	2" BSP	
Heating Return	22 mm	28 mm	1" BSP	1" BSP	1½" BSP	1" BSP	1" BSP	1" BSP	1½" BSP	1½" BSP	2" BSP	
Mains Cold Feed (Copper)	15 mm	15 mm	15 mm	15 mm	15 mm							
Hot Water Delivery (Copper)	15 mm	15 mm										
Drain Off Valve	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	½" BSP	
Safety Pressure Relief valve outlet (Copper)	15 mm	15 mm	15 mm	15 mm	15 mm							
Condense Trap	22 mm	PLASTIC	22 mm PLASTIC					22 mm	PLASTIC			
CIRCULATING PUMP												
Domestic Hot Water Plate Heat Exchanger	25 plate	31 plate										
Integral Expansion Vessel Normal Capacity	12 litres	12 litres	12 litres	12 litres	18 litres							
Expansion Vessel Pre-charge Pressure	1 bar	1 bar	1 bar	1 bar	1 bar							
Low Pressure Water Switch?	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	
Filling Loop Included?	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	
WATER CONTENT												
Boiler (Litres)	24	24	24	24	45	24	24	24	43.5	54	75	
Primary Tank (Litres)	40	40										
D.H.W. GUIDE PERFORMANCE												
in litres/min (120 litre draw-off at 40°C Δt.)	16	20										
FLUE (INDOOR BOILERS)												
Balanced Flue Assembly (mm)	125 (5")	125 (5")	125 (5")	125 (5")	150 (6")	125 (5")	125 (5")	125 (5")	150 (6")	180 (7")	200 (8")	
Conventional Flue Assembly. (mm)	130 id.	130 id.	130 id.	130 id.	150 id.	130 id.	130 id.	130 id.	150 id.	180 id.	200 id.	
Max. Low Level Flue Length (metres)	3	3	3	3	3	3	3	3	3	3	3	
Max. High Level Flue Length (metres)	6	6	6	6	6	6	6	6	6	4	6	
Max Vertical Level Flue Length (metres)	6	6	6	6	6	6	6	6	6	4	6	
INTEGRAL FLUES ON HEATPAC MODELS												
HEATING SYSTEM (SEALED)												
Fit in accordance with BS 7074 Part 1, BS 5449, OFTEC standards and all other relevant legislation.												
Max. Operating Pressure	2.5 bar		2.5 bar									
Max. System Pressure cold	1.5 bar		1.5 bar									
Min. System Pressure cold	0.5 bar		0.5 bar									
Preset Pressure Relief Valve	3 bar		3 bar			3 bar						
MAINS WATER SUPPLY PRESSURE												
Min 1 bar - Max 10 bar (for user comfort, we recommend pressure at tap to be between 2 and 5 bar).												
Limescale excess: When over 150/200 ppm fit appropriate scale reducer.												
WATER SIDE RESISTANCE												
Flow rate to give a nominal output at 10K differential												
Flow Rate Measured (kg/h)												
2874.24												
Waterside Resistance (mbar)												
0.18												
Flow rate to give a nominal output at 20K differential												
Flow Rate Measured (kg/h)												
1522.92												
Waterside Resistance (mbar)												
0.19												
PRESSURE JET OIL BURNERS												
RIELLO RDB 2.2 up to C44 & RIELLO RDB 4.2 from C58 to C100												
FUEL												
C2 Kerosene												
ELECTRICAL SUPPLY												
230V AC 50Hz 5A												
FROST THERMOSTATS												
FROST STAT FITTED TO ALL OUTDOOR MODELS												
Boiler Central Heating Control												
60°C - 80°C												
Boiler Safety Limit												
110°C												
Tank (DHW)- Fixed												
78°C												
Early Alert - Fixed												
87°C												
Over-run - Fixed												
93°C												
87°C												
87°C (Heatpac & Kitchen only)												

# Condensing Flue Kits & Accessories



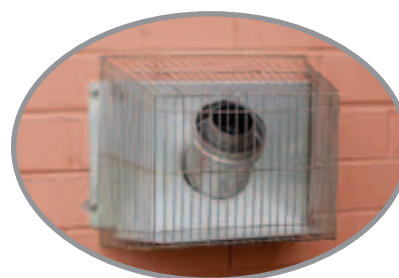
Flues are a critical part of a boiler installation. A correctly installed flue will ensure clean and efficient operation of the boiler. Firebird offer a range of high quality stainless steel flue kits that ensure optimum boiler performance and longer design life. Three types are available:

- Low Level Flues
- High Level Flues (Vertical & Horizontal)
- Conventional Flues

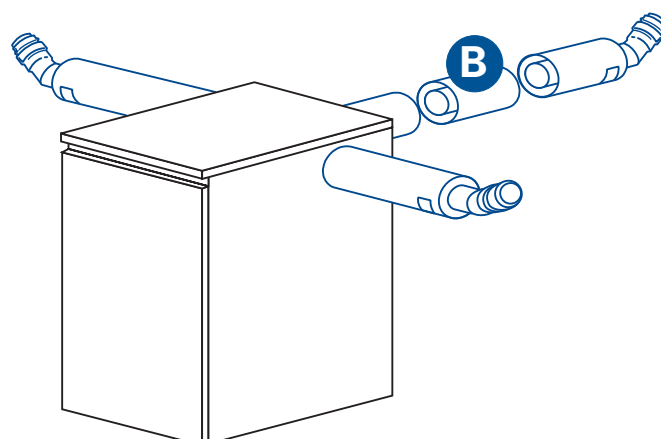
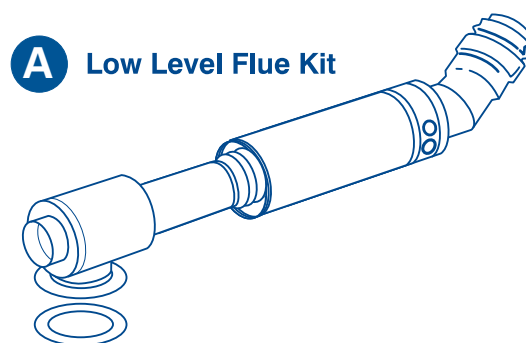
**NB: Only Firebird-approved flue kits and accessories may be used on Firebird boilers. Use of unapproved flue kits may invalidate the boiler warranty policy.**

## LOW LEVEL FLUE KITS

Low level flue kits have become popular in recent years due to their convenient size and ease of installation. When installing a condensing low level flue, consideration should be given to the discharge of the condense plume as it may cause a nuisance to neighbouring properties. In some cases a plume dispersal kit may be advisable.



Sales Code	Product Description
<b>20-35kW</b>	<b>KITS AND EXTENSION (125mm dia)</b>
<b>A* CBF005KIT</b>	Low Level Flue Kit 380-600mm Stainless Steel Guard inc.
<b>A* CBF005SKT</b>	Low Level Flue Kit (short) 200-280mm Stainless Steel Guard inc.
<b>B CBF005EXT</b>	450mm Extension for Low Level Flue Kit.
<b>44-58kW</b>	<b>KITS AND EXTENSION (150mm dia)</b>
<b>A* CBF006KIT</b>	Low Level Flue Kit 380-600mm Stainless Steel Guard inc.
<b>A* CBF006SKT</b>	Low Level Flue Kit (short) 200-280mm Stainless Steel Guard inc.
<b>B CBF006EXT</b>	450mm Extension for Low Level Flue Kit.
<b>73kW</b>	<b>KITS AND EXTENSION (180mm dia)</b>
<b>A* CBF007KIT</b>	Low Level Flue Kit 380-600mm Stainless Steel Guard inc.
<b>B CBF007EXT</b>	450mm Extension for Low Level Flue Kit.



### \* A - Low Level Flue Kit

All low level flue kits contain:

- Telescopic balanced flue with Venturi Insert
- Terminal Guard
- Deflector Plate
- Wall Seal
- Silicone Lubricant
- Jubilee Clip for air snorkel
- Assembly Instructions



## PLUME DISPERSAL KITS

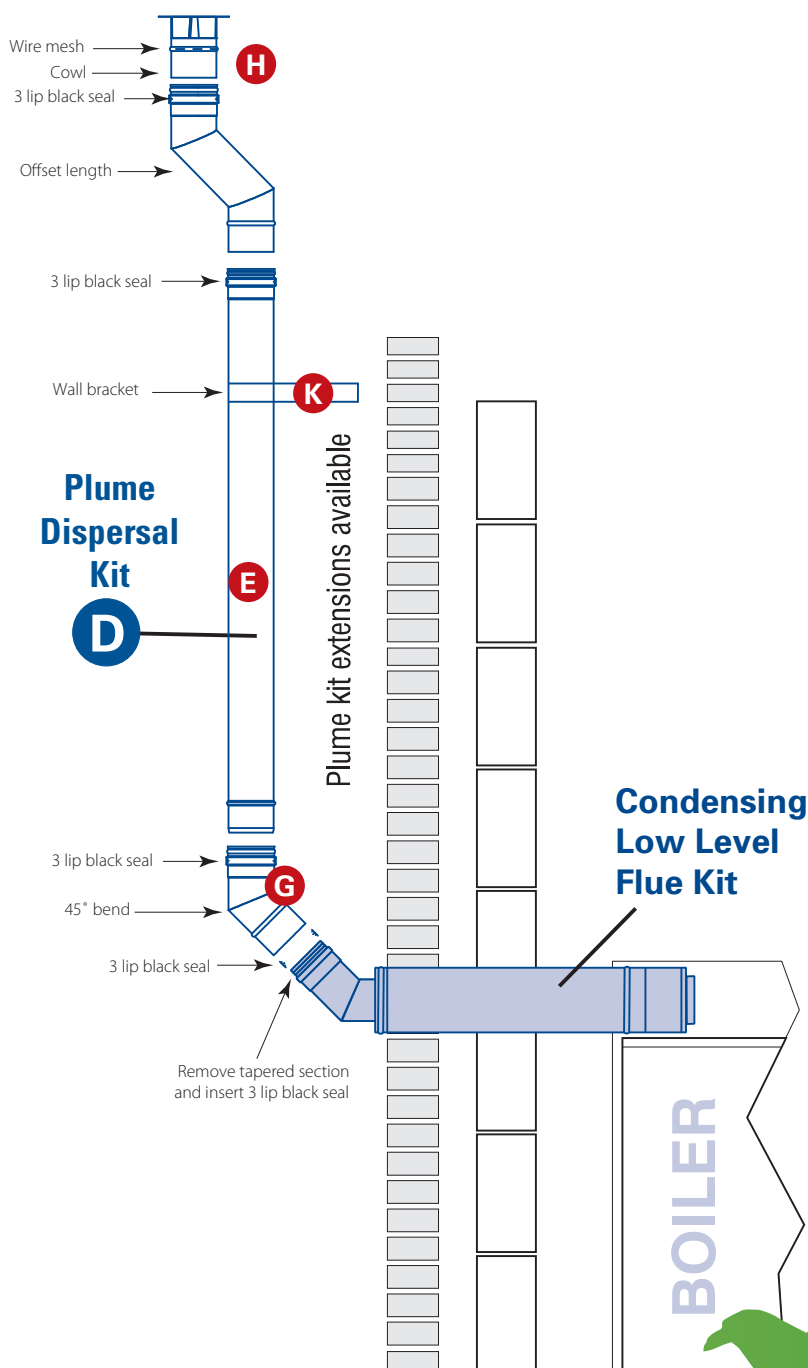
A plume dispersal kit can be connected to the exhaust terminal of a low level flue in order to discharge flue gases [plume] up over head height and neighbouring properties. Plume dispersal options can be either used with a kit or retro-fitted to an existing concentric flue.

Sales Code	Product Description
<b>12-35kW</b>	<b>KIT AND EXTENSIONS (80mm dia)</b>
D* PDK005SET	5" Plume Dispersal Kit
E PDK250KIT	250mm length
E PDK500KIT	500mm length
E PDK1000KT	1000mm length
E PDK1250KT	1250mm length
F PDK420KIT	305/420 adjustable length
F PDK920KIT	555/920 adjustable length
G PDK045BND	45 degree Bend
H PDK005TRM	Terminal with mesh
I PDK090BND	90 degree Bend
J PDK000CHC	Chinaman Hat Cowl
K PDK000WBK	Wall Bracket
<b>44-58kW</b>	<b>KIT AND EXTENSIONS (100mm dia)</b>
D* PDK006SET	6" Plume Dispersal Kit
E PDK256KIT	250mm length
E PDK506KIT	500mm length
E PDK1006KT	1000mm length
E PDK1256KT	1250mm length
F PDK426KIT	305/420 adjustable length
F PDK926KIT	555/920 adjustable length
G PDK456BND	45 degree Bend
H PDK006TRM	Terminal with mesh
I PDK906BND	90 degree Bend
J PDK006CHC	Chinaman Hat Cowl
K PDK006WBK	Wall Bracket
<b>73kW</b>	<b>KIT AND EXTENSIONS (125mm dia)</b>
D* PDK007SET	7" Plume Dispersal Kit
E PDK257KIT	250mm length
E PDK507KIT	500mm length
E PDK1007KT	1000mm length
F PDK427KIT	305/420 adjustable length
F PDK927KIT	555/920 adjustable length
G PDK457BND	45 degree Bend
H PDK007TRM	Terminal with mesh
I PDK907BND	90 degree Bend
J PDK007CHC	Chinaman Hat Cowl
K PDK007WBK	Wall Bracket

### \* D - Plume Dispersal Kit Contains

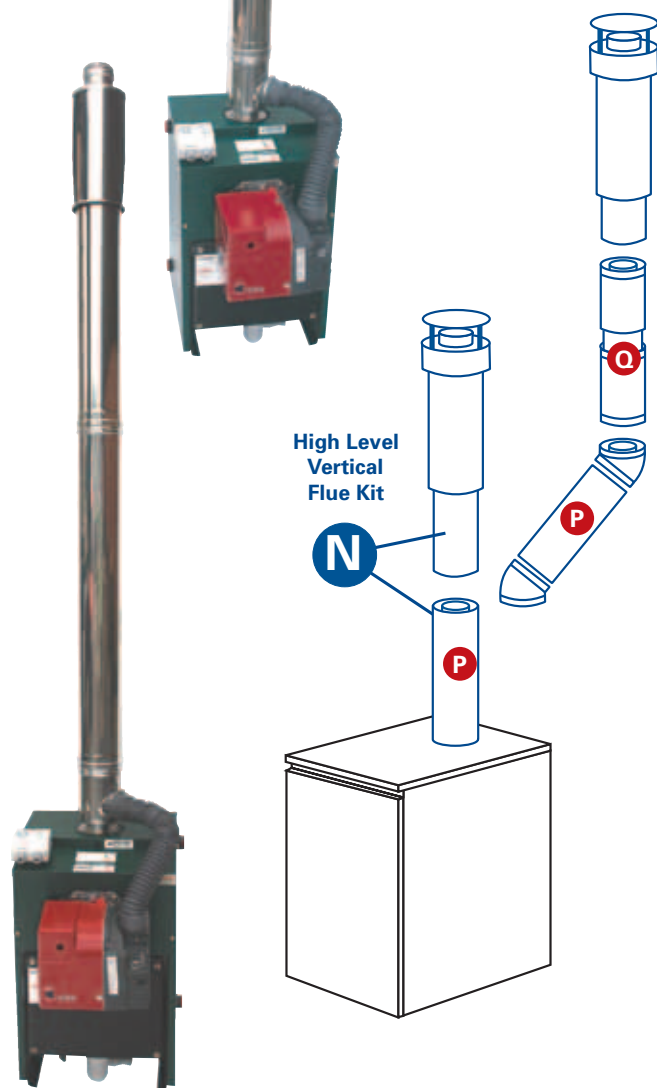
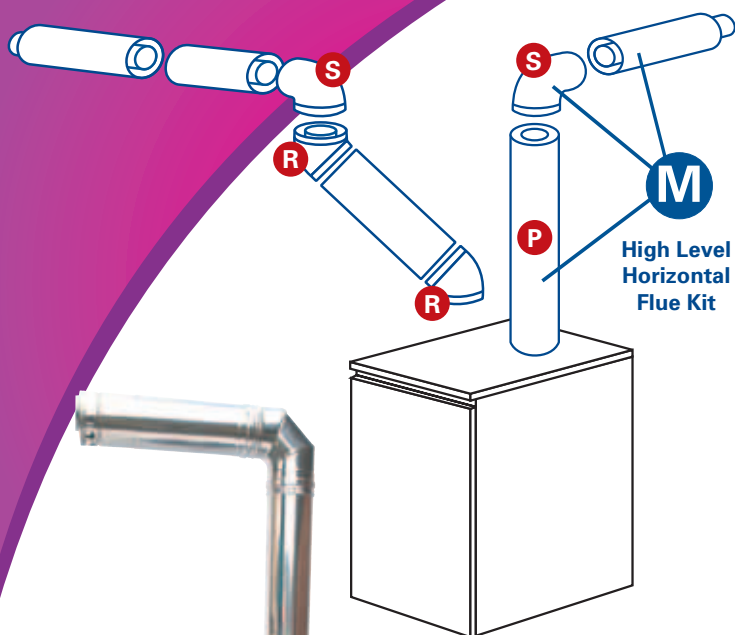
*All plume dispersal kit's contain:*

- Plume length
  - option of 250mm/500mm/1000mm/1250mm
- 2 x 45° Bends
- Wall Bracket
- Terminal with Mesh
- Assembly Instructions



## HIGH LEVEL & VERTICAL FLUE KITS

High level flue kits are the optimal flue system as they provide good natural draft and ensure that the flue gases are discharged away from habitable areas.



Sales Code	Product Description
<b>12-35kW</b>	<b>KITS &amp; EXTENSIONS (125mm dia)</b>
<b>M*</b> HLF005HHL	1075mm High Level Horizontal Flue Kit
<b>N*</b> HLF005VHL	3 metre Vertical Flue Kit
<b>P</b> HLF005EXA	1000mm High Level/Vertical Extension
<b>P</b> HLF005EXB	500mm High Level/Vertical Extension
<b>P</b> HLF005EXC	250mm High Level/Vertical Extension
<b>Q</b> HLF005EXD	305mm/420mm High Level/Vertical Adjustable Length
<b>Q</b> HLF005EXE	555mm/920mm Adjustable length
<b>R</b> HLF455ELB	45 degree Bend
<b>S</b> HLF905ELB	90 degree Bend
<b>HLF005WBK</b>	Wall Bracket

<b>44-58kW</b>	<b>KITS &amp; EXTENSIONS (150mm dia)</b>
<b>M*</b> HLF006HHL	1075mm High Level Horizontal Flue Kit
<b>N*</b> HLF006VHL	3 metre Vertical Flue Kit
<b>P</b> HLF006EXA	1000mm High Level/Vertical Extension
<b>P</b> HLF006EXB	500mm High Level/Vertical Extension
<b>P</b> HLF006EXC	250mm High Level/Vertical Extension
<b>Q</b> HLF006EXD	305mm/420mm Adjustable length
<b>Q</b> HLF006EXE	555mm/920mm Adjustable length
<b>R</b> HLF456ELB	45 degree Bend
<b>S</b> HLF906ELB	90 degree Bend
<b>HLF006WBK</b>	Wall Bracket

<b>73kW</b>	<b>KITS &amp; EXTENSIONS (180mm dia)</b>
<b>M*</b> HLF007HHL	1075mm High Level Horizontal Flue Kit
<b>N*</b> HLF007VHL	3 metre Vertical Flue Kit
<b>P</b> HLF007EXA	1000mm High Level/Vertical Extension
<b>P</b> HLF007EXB	500mm High Level/Vertical Extension
<b>P</b> HLF007EXC	250mm High Level/Vertical Extension
<b>Q</b> HLF007EXD	305mm/420mm Adjustable length
<b>Q</b> HLF007EXE	555mm/920mm Adjustable length
<b>R</b> HLF457ELB	45 degree Bend
<b>S</b> HLF907ELB	90 degree Bend
<b>HLF007WBK</b>	Wall Bracket

<b>100kW</b>	<b>KITS &amp; EXTENSIONS (200mm dia)</b>
<b>M*</b> HLF008HHL	1075mm High Level Horizontal Flue Kit
<b>N*</b> HLF008VHL	3 metre Vertical Flue Kit
<b>P</b> HLF008EXA	1000mm High Level/Vertical Extension
<b>P</b> HLF008EXB	500mm High Level/Vertical Extension
<b>P</b> HLF008EXC	250mm High Level/Vertical Extension
<b>Q</b> HLF008EXD	305mm/420mm Adjustable length
<b>Q</b> HLF008EXE	555mm/920mm Adjustable length
<b>R</b> HLF458ELB	45 degree Bend
<b>S</b> HLF908ELB	90 degree Bend
<b>HLF008WBK</b>	Wall Bracket

### \* M - High Level Horizontal Flue Kit

All high level horizontal flue kits contain:

- Boiler Adaptor
- 90° Bend
- Air Snorkel
- Silicone Lubricant
- 1000mm Vertical Length
- Telescopic Horizontal Section
- Wall Seal
- Assembly Instructions

### \* N - High Level Vertical Flue Kit

All high level vertical flue kits contain:




























- Boiler Adaptor
- 2 x 1000mm Lengths
- Storm Collar
- Silicone Lubricant
- Assembly Instructions
- 1000mm length including Terminal
- Rain Cowl
- 2 x Wall Brackets
- Air Snorkel

# Boiler Spare Parts

Sales Code	Description	Sales Code	Description	Sales Code	Description
Burner & Oil Hose		G Burner Spares		RDB Burner Spares	
BRN070RB2	RDB2.2 Burner, 20kW	ZE20031996	Pump	ZE20030953	Pump
BRN090RB2	RDB2.2 Burner, 26kW	ZE3001156	Control box	ZE3008652	Control Box
BRN120RB2	RDB2.2 Burner, 35kW	ZE3002280	Photocell	ZE3008646	Photocell
BRN150RB3	RDB2.2 Burner, 44kW	ZE3007971	Motor	ZE3002836	Motor & Condenser
BRN200RB4	RDB4.2 Burner, 58kW	ZE3002279	Coil	ZE3008648	Coil
BRN250RB4	RDB4.2 Burner, 73kW	ZE3005798	Capacitor	ZE3002837	Capacitor 4.5uf
ZE3007621	Flexible Oil Hose 600mm - Kerosene	ZE3005787	Gasket	ZE3005787	Gasket
ZE3005720	Flexible Oil Hose 900mm - Kerosene	ZE3020500	Hydraulic Ram	ZE3007513	Electrode
ZE20032005	Flexible Pipe 600mm - Bio & Gas Oil	ZE3005721	Electrode Set	ZE3008860	Electrode (short head)
ZE20022601	Flexible Pipe 900 mm - Bio & Gas Oil	ZE3008636	Flange		
ZE3003602	Connector 3/8 to 1/4	ZE3000439	Centre Seals		
ZE3009068	Connector 3/8 to 3/8	ZE3000443	10 Pack Drive Coupling		

Sales Code	Description	Sales Code	Description
Thermostat & Electrical Parts			
ACC000THR	Dual Thermostat D5 Heatpac	ACC001ORS	Over Run Stat (93° C)
ACC000DST	Dual Thermostat P5 Popular	ACC000OHS	Overheat Stat (87° C)
ACC000EAS	Early Alert Stat (87° C)	ACC000RTS	Relay Tank Stat, Combi (78° C)
ACC000RTP	Flow Switch Probe Thermistor (Red)	ACC000PKT	Stat Pocket 000949 4 pocket
ACC000TDF	Thermodisc Frost Stat	ACC003PKT	Stat Pocket DIA 15 x 16 3 pocket
ACC000FST	Frost Stat TLM 2557	ACC000WTP	Boiler Thermistor Probes (White)
ACC000LMT	High Limit Stat (110° C)	ACC000WTP	Tank Thermistor Probes (White)
ACC000SQL	High Limit Stat, Super Q (AAM)	ACC000ETM	Combi Twin Timer Kit - Electronic
ACC000TIM	Combi Twin Timer Kit - Mechanical	ACC000BAS	Relay Base 11 pin
ACC000PCB	PCB Board, Combi	ACC000CLK	Time Clock
ACC000PSW	Pressure Switch	ACC000STA	Control Stat (50°/80° C)
ACC000RLY	Relay 230 Vac	ACC000CSTK	Control Stat TBB, Super Q

**Full lists of spare parts are provided in the boiler manuals.**

Sales Code	Description		Sales Code	Description	
<b>Plumbing</b>					
ACCCOMMAC	Air Vent 1/8" Manual		ACC014PVL	Expansion Vessel	
			14 litre		
ACCCOMAAV	Air Vent Auto		ACC018PVL	Expansion Vessel	
			18 litre		
ACC022VAL	Ball Valve - 22mm		ACC012WSH	Fibre Washer PHE 12.5 x 18.5 x 1.5mm red	
			ACC017WSH	Fibre Washer PHE 17 x 24 x 1.5mm red	
ACC000PCV	Check Valve Nylon		ACC015FCV	Filling Loop Check Valve	
ACC034MMC	Check Valve 3/4" Brass		ACC000FLH	Filling Loop Hose	
	Male/Male		400mm		
ACC034MFC	Check Valve 3/4" Brass		ACCCOMFSW	Flowswitch, Sika	
	Male/Female		VKX15MIFIREB03		
ACC034FMC	Check Valve 3/4" Brass		ACCCOMDCV	Non Return Check Valve	
	Female/Male		15mm		
ACCOMPMP	Circulating Pump		ACC025PHE	Plate Heat Exchanger - 25	
	UPS25-60 130				
ACC150PMP	Circulating Pump		ACC031PHE	Plate Heat Exchanger - 31	
	UPS25-80 180				
ACCENCPMP	Condensate Pump		ACCCOMPRG	Pressure Gauge	
			Combi/System		
ACC000TRP	Condensate Trap		ACCCOMSRV	Pressure Release Valve	
ACCCOMHOS	Expansion Vessel		ACC022PIV	Pump Isolating Valve	
	Flexible Hose		22mm		
ACC012PVL	Expansion Vessel		ACCCOMTMV	Thermostatic Mixing Valve, Combi 15mm	
	12 litre				

## Other Parts

	kW	20/26/35	44/58	73
Door Gaskets - Ceramic		ACC035GSK	ACC044GSK	ACC073GSK
Door Gaskets - Graphite		ACC035GRA	ACC044GRA	ACC073GRA



# Envirosol Solar Thermal Systems

Firebird's Envirosol™ range of solar hot water heating systems is arguably the most extensive on the market and offers customers a wide choice of collectors, system configurations and accessories. Designed and manufactured to Firebird's exacting standards, our solar systems are second to none in terms of performance, durability and efficiency. All our solar systems have been placed through rigorous testing to ensure the highest standards have been achieved.

Moreover, when you purchase a Firebird product you have the back-up of our technical team and nationwide service support. Peace of mind from a company that has delivered premium heating products for over 30 years.



CPK7210-N Flat Panel Collector



TZ58-1800 Heat Pipe Solar Collector



CVSKC-10 Vacuum Tube Collector

## Accreditations

Firebird solar systems and collectors have the following accreditations.



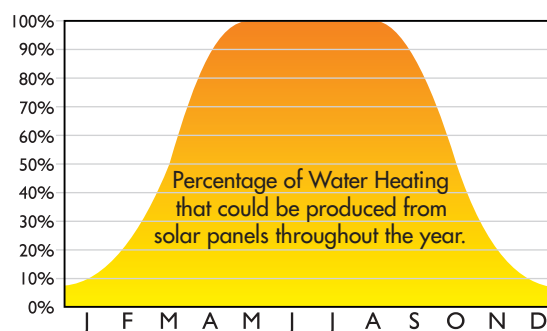
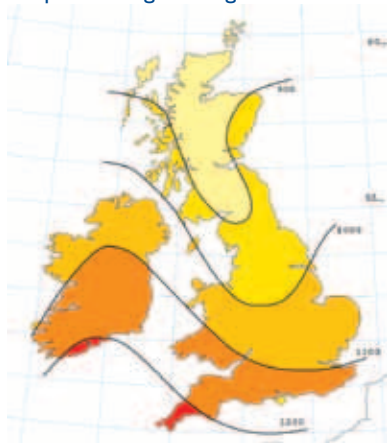
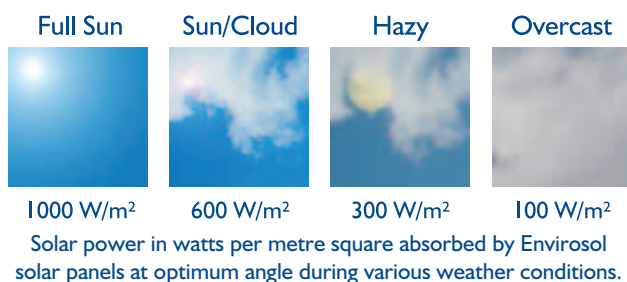
## Why solar energy?

Solar energy is free with the annual solar energy on the earth's surface being 10,000 times greater than the annual global energy demand. Solar hot water heating systems can deliver up to 70% of the hot water requirements for an average household in Ireland and in the U.K. Installation of solar energy on a larger scale, ie. commercial, can make a great contribution to commercial energy costs.

By using solar energy to heat hot water, you will be helping to reduce our dependence on fossil fuels while improving the energy efficiency and potentially the value of your home. A typical domestic solar hot water system can save in excess of a tonne of CO<sub>2</sub> per annum. In particular, solar energy scores positively with the new BER -Building Efficiency Rating scheme.

## Is there enough solar energy?

When designed correctly, solar heating could provide the total hot water requirement for the summer months and up to 30% during winter months.



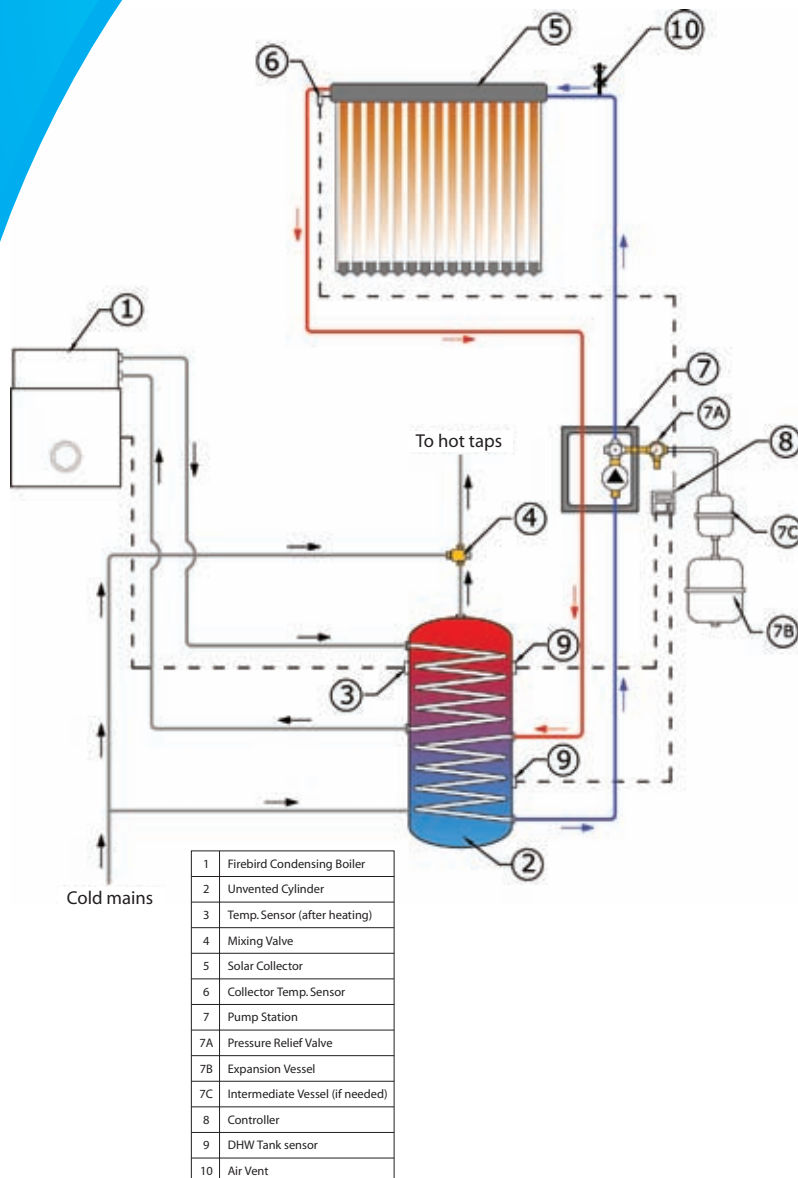
You can benefit from solar energy anywhere in Ireland and in the U.K. However, the further south you live, the more powerful the sun. Local factors will also have an effect on the radiation, including pollution free skies, local weather variations and the orientation of your roof.

It must be stressed though, that everyone can benefit from solar power. Contact our technical design department for your solar system.

# Solar System Design & Sizing

The main components of a domestic hot water solar system are the solar collectors, water storage tank, solar controller and solar pumping station. The diagram on the right shows a basic concept layout of a solar hot water heating system.

When designing a solar system, it is imperative that the system is sized correctly; otherwise inadequate performance or overheating may occur. The following is the generally accepted best practice for sizing a solar system for the Irish and the U.K. climate.



## Step 1 - Calculate hot water usage

Generally speaking the average daily hot water usage is between 35-65 litres per person. When sizing solar systems 50 litres is a guidance figure.

## Step 2 - Determine location of collectors

Ideally, collectors should be orientated due south if possible and at a pitch of between 30° and 50°.

Variations to the optimum positions are permissible and the chart on the right shows the % reduction in solar energy captured.

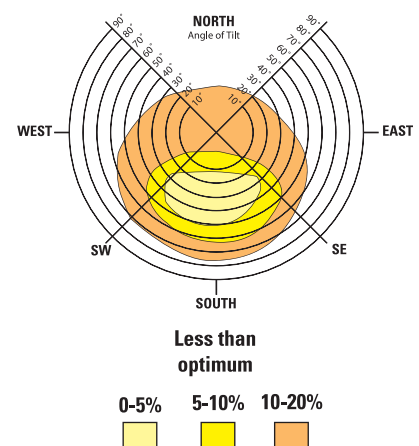
For example collectors facing due east at a 30° inclination will capture 80% of the maximum potential energy.

## Step 3 - Determine storage tank size

The storage volume typically required for domestic solar systems should be equal to twice the daily hot water demand. A general recommendation is to have 50 litres of water storage capacity for every m<sup>2</sup> of collector aperture area. Recommended tank sizes for Firebird solar collectors are shown in the table below.

## Step 4 - Calculate collector area required

A solar system should be designed to cover the hot water requirement almost completely during summer months. As a rule of thumb approximately 1 m<sup>2</sup> of collector aperture area is required per person. Note if the collectors can't be installed to optimum conditions the correction factors in the chart above should be applied. i.e. if the collectors are facing due east at a 30° inclination, then 1 m<sup>2</sup> is multiplied by 120% = 1.2 m<sup>2</sup>.



No. of Persons	No. of collectors	Tank Size (l)
2-4	2 x CPK7210-N Flat panel collectors 2 x CVSKC-10 Vacuum Tube collectors 30 - 40 TZ58-1800 Heat pipes	200
4-6	3 x CPK7210-N Flat panel collectors 3 x CVSKC-10 Vacuum Tube collectors 40 - 60 TZ58-1800 Heat pipes	300

Guide to Solar Thermal Systems available from Firebird.

# Solar Collectors

Firebird offer three collector types to ensure that customers can choose the right collector to suit their installation requirements and budget.

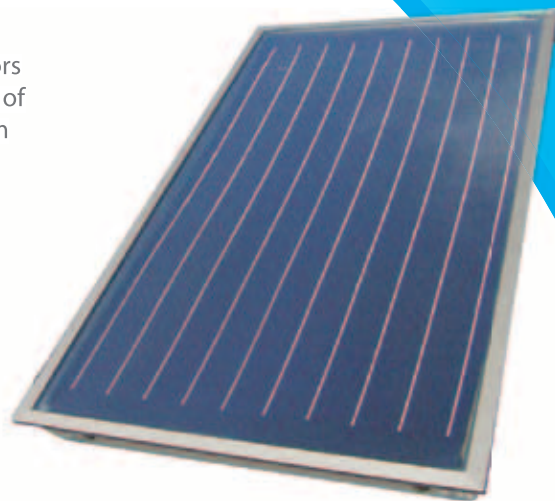
## CPK7210-N Flat Panel Collector

Firebird's CPK7210-N Flat Plate Collector is one of the most efficient collectors in the world, with an optical efficiency of 81.8%. One of the unique features of the CPK7210-N is that the collector base is extruded from a single aluminium sheet thus removing the need for welds, joints or glueing at the corners.

Other features:

- Glass is a special tempered solar glass.
- Absorber is constructed from a single sheet of Tinox™ selective absorber coating.
- Heat transfer pipes behind the absorber are ultrasonically welded along the entire length to ensure optimal heat transfer.
- 50mm of mineral wool insulation.
- Professional finish.

**Sales Code SOL100FPC**



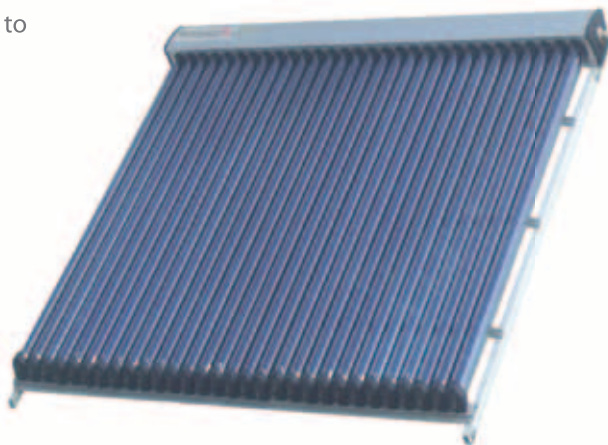
## TZ58-1800 Heat Pipe Solar Collector

The TZ58-1800 Heat Pipe Solar Collectors offer an optimum performance to price ratio. The tubes are highly efficient due to a round shaped absorber design so that they capture the solar energy throughout the day.

Other features include:

- High build quality - aluminium manifold design, nickel plated condenser head, borosilicate glass.
- Manifold can be installed initially and the tubes added later during commissioning (avoiding the lifting of heavy items onto the roof).
- Reinforced mounting kit manufactured to Firebird's specification.

**Sales Code SOL820VTS - 20 Tube Set**  
**SOL830VTS - 30 Tube Set**



## CVSKC-10 Vacuum Tube Collector

The CVSKC-10 Vacuum Tube Collector is a U-pipe direct flow evacuated tube, often referred to as a 'Sydney' tube. They are amongst the most efficient solar collector designs due to the CPC reflector aluminium plate placed behind the tubes. It reflects solar radiation back onto the absorber.

The CVSKC-10 collector offers optimum performance in terms of the installation footprint. Ten tubes have an incredible aperture area of 1.6m and with a height of only 1.64m, will fit on most restricted roof spaces.

Other features:

- Delivered assembled to cut down installation time.
- Co-axial glass tubes with excellent vacuum ~5 Pascals.
- Transfer manifold insulated with mineral wool insulation.
- Light weight construction for ease of handling.

**Sales Code SOL150VTC**





Technical Specification		CPK7210-N Flat Panel	TZ58-1800 Heat Pipe 20 tube set      30 tube set		CVSKC-10 Vacuum Tube
Outer dimensions:	Height [mm]	2038	2020	2020	1645
	Width [mm]	1039	1825	2655	1115
	Depth [mm]	98	155	155	107
Tube dimensions	Diameter [mm]	-	58	58	37
	Length [mm]	-	1800	1800	1550
Weight	[kg]	38	78	115	31
Gross collector area	[m <sup>2</sup> ]	2.11	3.507	5.005	1.83
Aperture area	[m <sup>2</sup> ]	1.88	1.867	2.791	1.59
Max operating pressure	[bar]	10	6	6	10
Stagnation temperature	[°C]	216	200	200	286
Angle of inclination permitted		15° to 75°	15° to 75°	15° to 75°	15° to 75°
Performance data *					
Zero-loss collector efficiency	$\eta_0$	81.8%	73.4%	73.4%	60.5%
Collector heat loss coefficient, a1	[W/m <sup>2</sup> K]	3.29	1.529	1.529	0.850
Collector performance ratio, a2	[W/m <sup>2</sup> K <sup>2</sup> ]	0.0134	0.0166	0.0166	0.010
Absorption		> 95%	> 94 %	> 94 %	> 96%
Emission		< 5%	< 7%	< 7%	< 6%
Annual energy yield	[kWh/m <sup>2</sup> ]	> 525	> 525	> 525	> 529

\* All based on aperture area.

## FIXING OPTIONS

### PITCHED ROOF

All Firebird solar collectors can be installed on a normal slate or tiled roof using our weather-proof aluminium mounting frame kits. Mounting kits are constructed from robust materials and come with easy to follow instructions. Mounting kits for CPK7210-N Flat Plate collectors and CVSKC-10 Vacuum Tube collectors are available for double and single collector configurations. Mounting kits for TZ58-1800 Heat Pipe Solar collectors are supplied for sets of 20 and 30 tubes.

Sales Code	Description	
SOL101FMT	On-roof Mounting Kit	- 2 CPK7210-N Flat Plate collectors
SOL103FMT	On-roof Mounting Kit	- 1 extra CPK7210-N Flat Plate Collector
SOL151VMT	On-roof Mounting Kit	- 2 CVSKC-10 Vacuum Tube collectors
SOL153VMT	On-roof Mounting Kit	- 1 extra CVSKC-10 Vacuum Tube Collector
SOL822KIT	On-roof Mounting Kit	- 20 TZ58-1800 Heat Pipe Solar Collector
SOL832KIT	On-roof Mounting Kit	- 30 TZ58-1800 Heat Pipe Solar Collector



### IN-ROOF

An in-roof installation kit is available for CPK7210-N Flat Plate collectors. Note that in-roof installation is not possible with CVSKC-10 Vacuum Tube collectors or TZ58-1800 Heat Pipe Solar collectors. With an in-roof kit the collectors are set lower on the roof giving a more aesthetically pleasing finish. Our in-roof kit comes with side, top and bottom flashings, collector mounting rails, coach bolts, rubber seals and installation instructions. Available in double and single collector configurations - for tiled and slate roof constructions.

Sales Code	Description	
SOL511TRF	In-Roof Mounting Kit Tile Roof	- 2 CPK7210-N Flat Plate collectors
SOL512TRF	In-Roof Mounting Kit Tile Roof	- 1 extra CPK7210-N Flat Plate Collector
SOL513SRS	In-Roof Mounting Kit Slate Roof	- 1 extra CPK7210-N Flat Plate Collector



### FLAT ROOF INSTALLATION

If solar collectors have to be installed on a flat roof or surface, then a flat roof mounting kit is required. Flat roof kits are available for all collectors and come with mounting frame, coach bolts, rubber seals and installation instructions. Available in double and single collector configurations.

Sales Code	Description	
SOL102FMT	Flat Roof Kit	- 2 CPK7210-N Flat Plate collectors
SOL104FMT	Flat Roof Kit	- 1 extra CPK7210-N Flat Plate Collector
SOL152VMT	Flat Roof Kit	- 2 CVSKC-10 Vacuum Tube collectors
SOL154VMT	Flat Roof Kit	- 1 extra CVSKC-10 Vacuum Tube Collector
SOL174FRK	Flat Roof Kit	- 20 TZ58-1800 Heat Pipe Solar Collector
SOL172FRK	Flat Roof Kit	- 30 TZ58-1800 Heat Pipe Solar Collector





## SOLAR CONTROLLERS & PUMP STATIONS

### CONTROLLER

The Firebird solar controller ensures the efficient operation of the solar system, managing the efficient transfer of the solar energy from the collectors to the water storage tank. The controller is easy to use and displays key system data at the touch of a button, i.e.:

- Collector temperature.
- Upper and lower tank temperatures.
- Activation of solar circulating pump.
- Hours of operation.
- Alternative arrangement layouts.
- Pump speed efficiency.
- Emergency safety shut off.
- Additional anti-freeze functions.
- Easy to use holiday function.
- Anti-legionella control.

*In addition the controller has a second available relay that facilitates features such as:*

- Back-up heat source available for central heating or immersion connection.
- Timer set up for back up heat source heating.
- Surplus energy usage.

### PUMP STATION

The Firebird solar pump station houses the key plumbing components for a solar system including solar circulating pump, non return gravitational valves, flow rate regulator, pressure relief value, connection for expansion vessel as well as filling points.

Sales Code	Description
<b>SOL414CTR</b>	<b>Deltasol BS4 Controller &amp; Twin Pump Station</b>



### EAST / WEST CONTROLLER & PUMP STATION

For East / West installations, a special controller (BS4 Plus) is required along with an extra single line pump station to cater for the additional collector array.

Sales Code	Description
<b>SOL424CTR</b>	<b>Deltasol BS4 Plus Controller, Twin Pump Station &amp; Single</b>



## OTHER SYSTEM COMPONENTS

THE FOLLOWING COMPONENTS MAY BE SUPPLIED AS  
STANDARD ON CERTAIN SOLAR SYSTEM KITS

### EXPANSION VESSELS

An expansion vessel is necessary to absorb the expansion of the solar fluid when high temperatures are reached in the solar collector. Currently available sizes are 24 and 35 litres.

Sales Code	Description
SOL018EXP	18 litre Expansion Vessel
SOL502EXP	24 litre Expansion Vessel
SOL503EXP	35 litre Expansion Vessel



### SOLAR ANTI-FREEZE

The heat transfer fluid used in a solar circuit is normally a mixture of water and a polypropylene glycol anti-freeze. The glycol anti-freeze also contains an additive to protect against corrosion and evaporates at higher temperatures than water to allow higher system temperatures. Firebird recommends a 40% glycol to 60% water mix to ensure frost protection to circa -25°C.

Sales Code	Description
SOL506FFL	Tyfocon L Anti-freeze for CPK7210-N Flat Plate Collector
SOL507VFL	Tyfocon LS Anti-freeze for Tube System



### INTERMEDIATORY VESSELS

Sales Code	Description
SOL505EXP	Intermediary Vessel, 5 litre
SOL512EXP	Intermediary Vessel, 12 litre



### ANTI-SCALD MIXING VALVE

Anti-scald (mixing) valve must be fitted close to the hot water outlet of the solar tank so that delivery to the taps does not exceed 48°C.

Sales Code	Description
SOL504MIX	Anti-scald Mixing Valve



### ACCESSORY KIT - EXPANSION VESSEL

Expansion vessel accessory kit includes check valve, wall bracket and 1 flexi hose.

Sales Code	Description
SOL521PPK	Expansion Vessel Accessory Kit



### AIR VENT

An automatic air vent should be fitted at the highest point in the solar circuit system in order to remove air from the system during commissioning. An isolating valve should be fitted before the air vent and isolated once the system has been commissioned.

Sales Code	Description
SOL501AIR	Air Vent
SOL505STP	Isolating Valve



### STAINLESS STEEL INSULATED TWIN PIPE

Flexible pre-insulated twin pipe with UV protection sheath for linking collectors to solar tank. Saves considerable installation time and money.

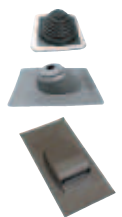
Sales Code	Description
SOL010TWP	Insulated Twin Pipe DIN16 – 10m
SOL015TWP	Insulated Twin Pipe DIN16 – 15m
SOL025TWP	Insulated Twin Pipe DIN16 – 25m



### PIPE FLASHING

The pipe flashings provide a tidy solution for passing solar flow and return pipes through the house roof.

Sales Code	Description
SOL509TRF	Pipe flashing; Tiled roof
SOL510SRF	Pipe flashing; Slate roof
SOL524VTL	Glidevale G1 Vent Tile (BBA/IAB Approved)



### FLEXI PIPES, 1M

High grade 1m stainless steel flexi pipes which can be connected to the flow and return side of the collector array. This saves the installer having to make complicated pipe bends through the roof of the house. Fittings can be included to connect the pipe to the different solar collector types.

Sales Code	Description
SOL402FPP	1m Flexi Pipe
SOL001ELB & SOL001FEM	Fittings for CPK7210-N Flat Plate Collector
SOL075ELB & SOL075TAP	Fittings for CVSKC-10 Vacuum Tube and TZ58-1800 Heat Pipe Solar collectors



### ACCESSORIES

Sales Code	Description
SOL514FPC	Weather-proof Cover for CPK7210-N Flat Plate Collector
SOL515VTC	Weather-proof Cover for CVSKC-10 Vacuum Tube Collector
SOL000FPS	Solar Filling & Flushing Pump
SOL527RFR	Refractometer
SOL528CFL	Solar Cleaning Fluid, 500ml
SOL000BOV	Blow-off Storage Vessel
SOL010TSV	TSV Lightning Protection (for controller)
SOL526RLY	Auxiliary Relay HR230 (for controller)

# Troy Multifuel Backboiler Inset Stove

Firebird is delighted to announce the launch of their 2012 product, the highly efficient multifuel backboiler inset stove. Achieving an efficiency of 81% and manufactured in its entirety in Cork, Ireland. Firebird continues to provide leading quality products.

## Features

- Designed to fit into a standard fireplace.
- Easy to install.
- Clean, easy operation.
- Solid multifuel options.
- Suitable for airtight dwellings\* where underfloor, external air-in-ducting is provided.
- Glass air wash design.
- Up to 12kW heat supplied to the dwelling/radiators.
- Reduction in heating bills.
- HETAS approved.
- 16kW stove will fit into a standard fireplace.

The stove is available in two sizes:  
 12kW inset stove - 16" Backboiler  
 16kW inset stove - 18" Backboiler

There are 4 flue kit adapter options available:  
 One is included with the purchase of a multifuel backboiler inset stove.



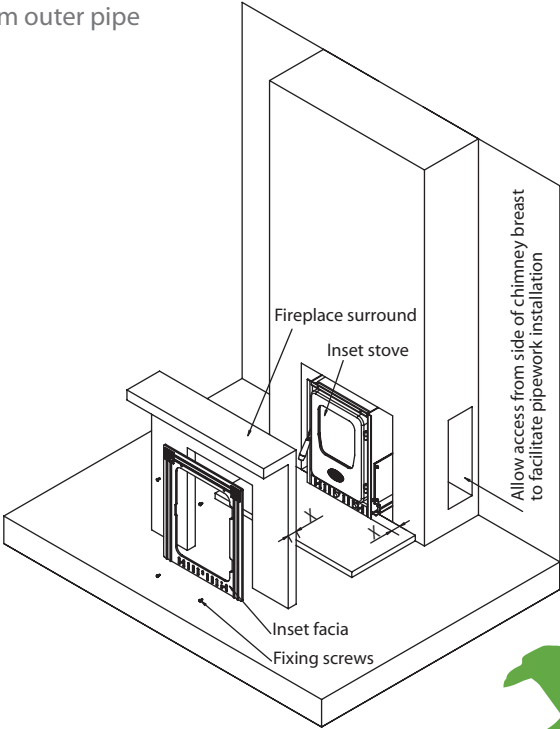
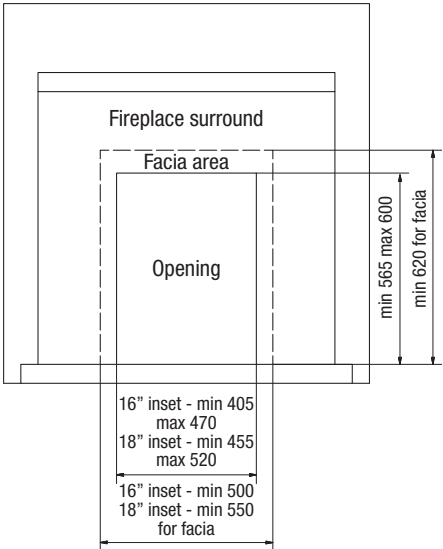
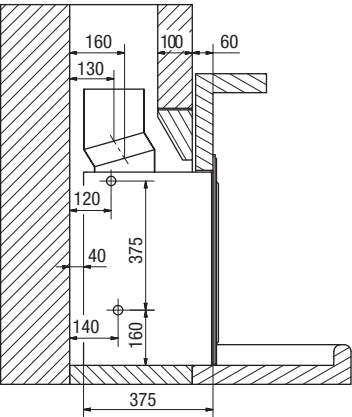
## Specification

Product	Sales Code	System Output	Room Output	Efficiency	No. of Standard Radiators	Height	Inset Width	Depth
12kW	MAX016000	8.3kW	3.6kW	80%	6	560	406-470	375
16kW	MAX018000	12.1kW	3.6kW	81%	9	560	455-520	375

\* Room seal kit available - Sales Code: 12kW - MAX016KIT, 16kW - MAX018KIT

Note: all dimensions are relevant to stove/boiler section. Outer face framework is not taken into account. Dimensions are measured from pipe socket to socket, ie. 16" from outer pipe connection to outer pipe connection.

## Dimensions (mm)



# Backboilers

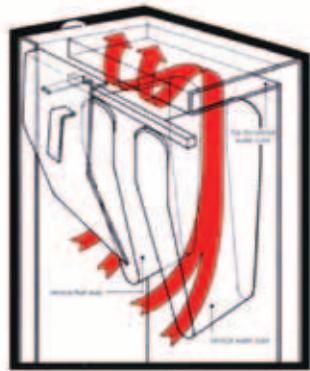
## Challenger Backboiler

The Challenger backboiler is extremely efficient due to three unique design features:-

- Simplified straight-through flue-ways. The tapered shape is designed to extend the flame to cover the complete heat exchanger surfaces (see diagram).
- Top water tube. This heating tube, positioned horizontally above flue-ways, collects much of the heat which would otherwise be lost into the chimney.
- Dry-back, lift-off, radiant panel. Can rise to a higher temperature than the normal type cooled by water.

The Challenger backboiler can be easily cleaned by lifting off the radiant panel. This allows immediate access to the unique layout of flue-ways. Bearing in mind that 1.5mm soot reduces the efficiency by up to 25%.

The Challenger allows balanced performance via the dry-back radiant panel/damper. The panel can rise to a higher temperature than one cooled by water and the increased radiant heat minimises the drop in room-heating when the damper is opened to heat water/radiators.



## Supreme Backboiler

Similar in design to the Challenger, the Supreme backboiler has a higher output due to the increased number of flueways.

### Dimensions

#### Challenger Backboiler Dimensions

<b>Height</b>	22 <sup>3</sup> / <sub>8</sub> " (570mm)
<b>Depth</b>	12 <sup>3</sup> / <sub>8</sub> " (317mm)
<b>Width</b>	16" model 20 <sup>1</sup> / <sub>2</sub> " (520mm)
	18" model 22 <sup>1</sup> / <sub>2</sub> " (570mm)

#### Supreme Backboiler Dimensions

<b>Height</b>	22 <sup>3</sup> / <sub>8</sub> " (570mm)
<b>Depth</b>	12 <sup>3</sup> / <sub>8</sub> " (317mm)
<b>Width</b>	16" model 20 <sup>1</sup> / <sub>2</sub> " (520mm)
	18" model 22 <sup>1</sup> / <sub>2</sub> " (570mm)
	20" model 24 <sup>1</sup> / <sub>2</sub> " (622mm)
	22" model 26 <sup>1</sup> / <sub>2</sub> " (673mm)

#### Min. Builders Opening Dimensions

<b>Height</b>	23" (585 mm)
<b>Depth</b>	14" (355 mm)
<b>Width</b>	16" model 25" (585 mm)
	18" model 27" (685 mm)
	20" model 29" (735 mm)
	22" model 31" (790 mm)

**Sales Code CHALLENGER BACKBOILER**  
**CHL016000** 16" model  
**CHL018000** 18" model

**Sales Code SUPREME BACKBOILER**  
**SUP016000** 16" model  
**SUP018000** 18" model  
**SUP020000** 20" model  
**SUP022000** 22" model

**Sales Code GRATES**  
**GRA016RND** 16" Round Grate  
**GRA016SQR** 16" Square Grate  
**GRA016TPR** 16" Tapered Grate

**GRA018RND** 18" Round Grate  
**GRA018SQR** 18" Square Grate  
**GRA020RND** 20" Round Grate  
**GRA020SQR** 20" Square Grate  
**GRA022RND** 22" Round Grate





# ENVIROPEL

## Wood Pellet Boiler

Firebird's EnviroPel™ wood pellet boiler represents the very latest in carbon neutral heating for use in domestic and light commercial applications.

### Features

#### High efficiency

EnviroPel™ boilers have efficiencies in the high 80's due to their highly efficient operation and well insulated boiler shell. The large chamber design ensures ash doesn't clog up the boiler which would reduce efficiency.

#### Heating comfort

The EnviroPel™ is fully automatic in its operation. On start-up, an electric heater ignites the pellets and the digital controller manages the entire operation. The boiler is fully modulating in that the feed rate of pellets is varied depending on the boiler temperature and heating demand.

#### Ease of cleaning

The EnviroPel™ has easy access to all maintenance points and is supplied with a set of cleaning tools and brushes. The burner is on a hinged door and can be opened by hand. The burner grate which should be cleaned weekly is fully retractable.

#### Automated control

The digital controller located at the top of the boiler provides user friendly operation of the boiler. The main boiler functions can be controlled from here and key system parameters entered.

### What fuel type?

Only certified wood pellets approved to EN14961 may be burnt in the Firebird EnviroPel™ boilers. The below fuel characteristics must be adhered to.

- calorific value > 5 kW/kg (18 MJ/kg)
- diameter = 6 mm • max. length = 35 mm
- max. humidity = 8% • max. dust = 0,5%



### Technical Data

EnviroPel™ Model		25	35
Rated thermal output	(kW)	25	35
Boiler water content	(litres)	90	101
Boiler weight	(kg)	435	475
Flue diameter	(mm)	150	160
Power supply		230 V AC / 50Hz	
Outer dimensions (boiler & tank)			
Height	(mm)	1545	1545
Depth	(mm)	1055	1055
Width	(mm)	1201	1301

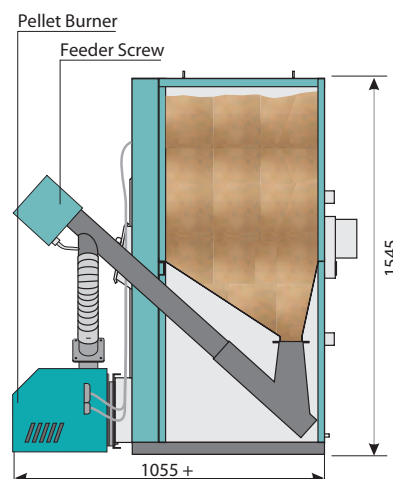
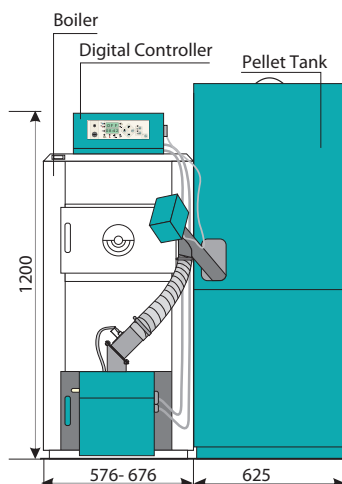
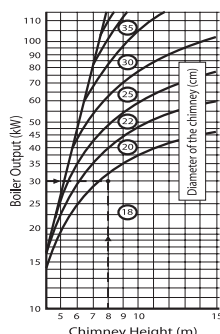
**Sales Code**  
**Wood Pellet Boiler**  
**Wood Pellet Flue Kit**  
**Wood Pellet Auger & Hopper**

**ENVIROPEL 25**    **ENVIROPEL 35**  
**FWP025NKT**    **FWP035NKT**  
**FWP025FLU**    **FWP035FLU**  
**FWP000FED**    **FWP000FED**



### Flue

Ensuring the correct size flue is critical to the operation of any biomass boiler. The chart on the right outlines the minimum flue diameter and height that are required for the different boilers output.



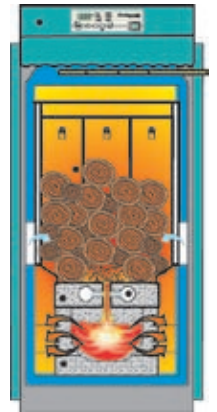
# BIO-TEC

## Wood Gasification Boiler

The Firebird Bio-Tec wood gasification boiler represents the very latest in high-efficiency wood burning.

### How does it work?

Gasification is achieved in wood burning when gases released from the combusting wood are mixed with a regulated supply of oxygen to create a complete oxidation process. This results in extremely high combustion efficiencies and minimal ash waste.



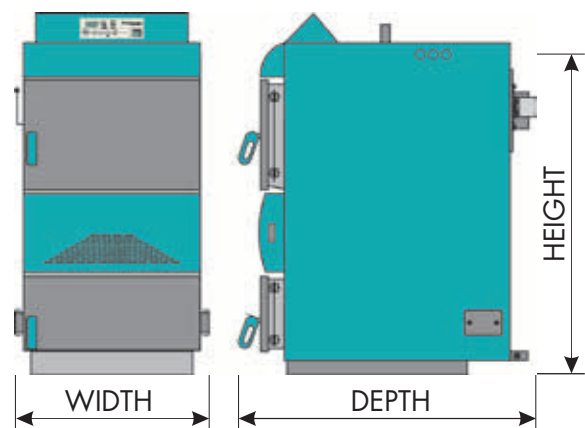
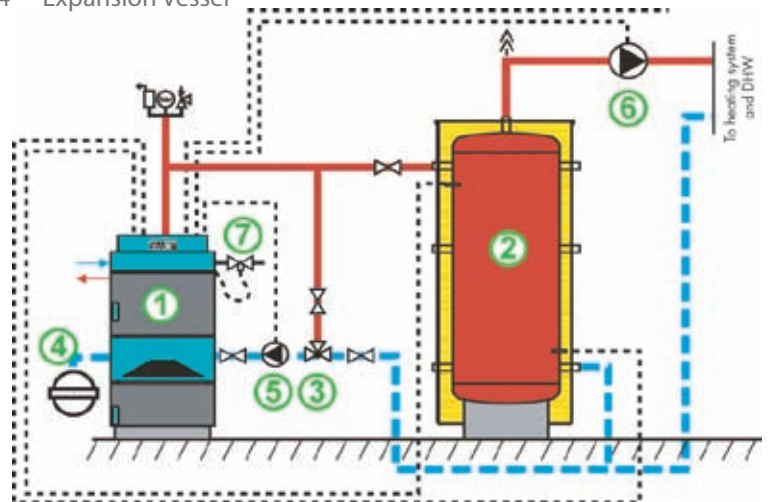
### What fuel type?

Wood gasification boilers can only be used to burn split logs or wood briquettes. Coal, peat, refuse, etc. can not be used in the Bio-Tec boiler. The best woods are hard woods like Ash, Oak & Beech. (NB. moisture content must be 20% or less)

### System layout

A suggested schematic diagram for a Bio-Tec boiler can be seen below. For an unvented (pressurised) system a thermal safety valve must be installed.

- |                                  |                          |
|----------------------------------|--------------------------|
| 1 - Bio-Tec Boiler               | 5 - Boiler Pump          |
| 2 - Accumulation Tank            | 6 - Circulation Pump     |
| 3 - Three-way Thermostatic Valve | 7 - Thermal Safety Valve |
| 4 - Expansion Vessel             |                          |



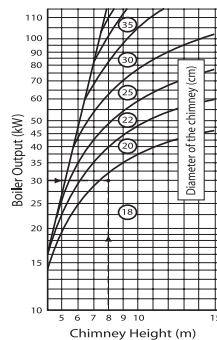
### Accumulation Tank

An accumulation tank must be used in conjunction with the Bio-Tec boiler. The recommended sizing is a minimum 50 litres of water storage for every 1 kW of rated output. Firebird recommend a 2,000 litre tank.



### Flue

Having the right draft and flue construction is critical to the operation of the Bio-Tec Boiler. Flue height must be according to the chart (on right).



### Technical Data

<b>Bio-Tec Model</b>		<b>35</b>
<b>Rated thermal output</b>	(kW)	35
<b>Boiler water content</b>	(litres)	96
<b>Boiler weight</b>	(kg)	515
<b>Max. volume of wood</b>	(litres)	132
<b>Max. length of the log</b>	(mm)	540
<b>Flue diameter</b>	(mm)	200
<b>Depth</b>	(mm)	1235
<b>Height</b>	(mm)	1300
<b>Width</b>	(mm)	685
<b>Min. accumulator tank</b>	(litres)	1750

#### Sales Code

<b>WGB035BLR</b>	<b>Wood Gasification Boiler 35</b>
<b>WGB200TNK</b>	<b>2000L Accumulation Tank</b>
<b>WGB200KIT</b>	<b>200mm Wood Gas Twin Wall Flue kit</b>
<b>WGB000PGS</b>	<b>Pump Changing System Ladomat 21</b>
<b>WGB000TSV</b>	<b>Thermal Safety Valve</b>

# Warranty

## Complete After-Sales Service

Firebird has always provided their customers with the highest levels of after sales care. All products are supported by a nationwide network of independent service engineers, who are regularly trained on our appliances.



## Boiler Passport

An OFTEC co-ordinated "Boiler Passport" booklet is included with every oil boiler shipped from our factory. This passport will stay with the boiler, much like a car's service log book. The commissioning cert page is on multipart carbon paper, and one copy must be returned to Firebird in the enclosed prepaid envelope within 10 days of commissioning.



## Our Warranty Policy

### OIL-FIRED BOILERS

Firebird offers 5 years warranty on the boiler shell and 2 years warranty on all other parts from date of installation, provided installation has occurred within 12 months from date of purchase. The 5 year boiler shell warranty consists of labour and parts warranty for the first 3 years and parts only in years 4 and 5. The warranty is conditional on the boiler being commissioned and operated correctly. To validate your warranty, Firebird require that the boiler passport is returned once the boiler has been installed.

### SOLAR

Firebird offers 5 years warranty on all solar collectors and 2 years warranty on all other parts from date of installation, provided installation has occurred within 12 months from date of purchase.

### BIOMASS BOILERS

Firebird offers 5 years warranty on the boiler shell and 2 years warranty on all other parts from date of installation, provided installation has occurred within 12 months from date of purchase.

*Terms and conditions of Firebird's warranty programme can be viewed on [www.firebird.ie](http://www.firebird.ie)*

**[www.firebird.ie](http://www.firebird.ie)**

**[www.firebird-solar.com](http://www.firebird-solar.com)**

## **FIREBIRD HEATING SOLUTIONS LTD.**

Shean, Forkhill, Newry, BT35 9SY.

**t:** (028) 3088 8330 **f:** (028) 3088 9096 **e:** firebirdproducts@hotmail.co.uk

**[www.firebird.ie](http://www.firebird.ie)**

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