



**BYWORTH**  
**B O I L E R S**

**HOT WATER BOILERS**



## THE DALESMAN RANGE OF THREE PASS HOT WATER BOILERS

The reliability and robustness of the traditional three pass Dalesman hot water boiler make it ideally suited to cope with the rigours and continual heavy workload demanded for commercial heating and industrial process applications.

Add to this all the very latest technological equipment and the Dalesman will achieve impressively low emissions and keep running costs to a minimum.

Every Dalesman boiler is individually designed and built to meet specific customer needs and is manufactured from start to finish in our own UK factory, thereby ensuring quality control of the very highest standard. All fittings are mounted in the factory to make installation on site as easy and quick as possible.

### A DIVERSE CHOICE OF SIZES & CONFIGURATIONS

To satisfy the diverse operational needs and specifications of different applications Dalesman boilers are available with outputs of between 1000kW and 6000kW – 3.4 million BTUs and 21 million BTUs. Working pressure ranges from 7 bar to 20 bar with temperature options up to 180°C.

The Dalesman can run on gas or oil or a combination of both.

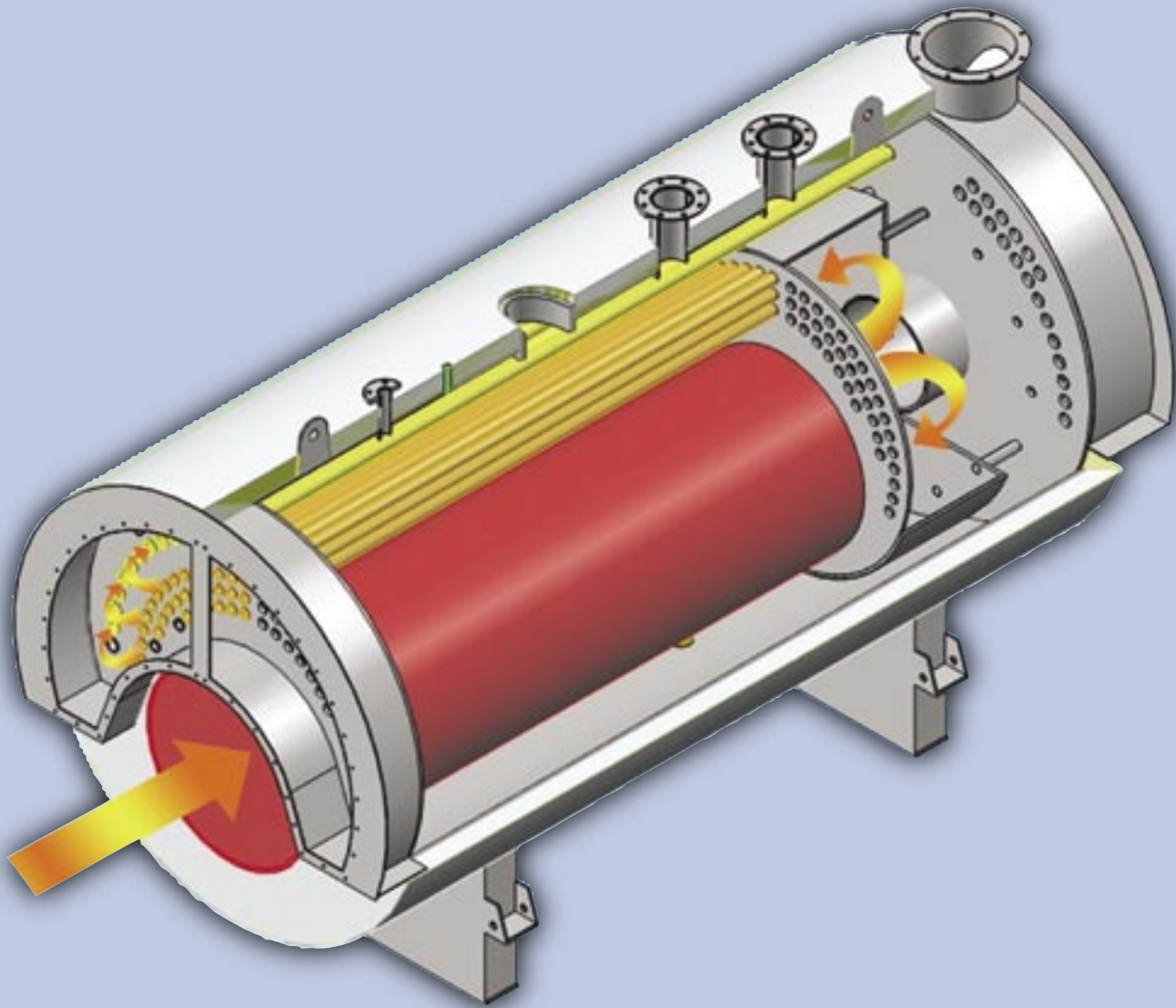
### ENHANCED HEAT TRANSFER

The revolutionary new X-ID tubes, used exclusively in the UK by Byworth Boilers, are built into all medium and high temperature models.

X-ID tubes achieve over 80% increased heat transfer by incorporating helical ribs on internal walls. This not only reduces fuel consumption but also minimises maintenance.







### OTHER PRINCIPAL FEATURES & BENEFITS

- High typical operating efficiency of up to 86%
- Large shell and furnace sizes guarantee generous heating surfaces and ensure output is easily achieved.
- The shell, tube plates and smoke box are heavily insulated for minimal thermal loss. High performance ceramic is used for lining the smoke boxes, enhancing operating efficiency.
- Low heat transfer rates and low NOx emissions
- Flow and return connections are arranged to achieve optimal internal circulation and even heat distribution.
- Removable heat shields
- Unique design features allow quick and easy access for inspection and maintenance.

### DALESMAN SERIES - BOILER DIMENSIONS

Model	DM1000	DM1500	DM2000	DM2500	DM3000	DM3500	DM4000	DM4500	DM5000	DM5500	DM6000
Output kW	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000
Overall length	4555	4950	5275	5670	5840	6125	6235	6385	6760	6910	7000
Boiler length	3500	3895	4220	4500	4670	4955	5105	5255	5450	5600	5700
Burner length	1280	1280	1280	1280	1400	1400	1400	1400	1580	1580	1580
Overall width	1610	1830	1970	2110	2190	2250	2340	2420	2520	2620	2710
Overall height	2320	2630	2825	2940	3200	3350	3440	3510	3730	3830	3920
Minimum height	2165	2380	2515	2665	2745	2830	2920	3000	3100	3200	3290
Chimney height	1610	1810	1880	2020	2090	2120	2240	2300	2390	2475	2545
Chimney ID	270	310	360	400	440	480	510	540	560	590	625
Baseframe length	1410	1810	2130	2410	2480	2730	2850	2930	3080	3230	3330
Baseframe width	1060	1240	1340	1450	1500	1550	1600	1660	1730	1800	1880
Flow outlet	100	150	150	150	150	200	200	200	200	200	200
Return inlet	100	150	150	150	150	200	200	200	200	200	200

Note: all dimensions are in mm. Byworth reserve the right to change any dimensions without notice.



## THE FELLSMAN RANGE OF REVERSE FLAME WET BACK HOT WATER BOILERS

Compact and highly efficient, the Fellsman is a medium output range of reverse flame, wet back hot water boilers ideal for both heating and industrial process applications.

Output sizes vary from 250 kW to 3000 kW – 853,000 BTU's to 10.2 million BTU's with working pressure up to 10 Bar and temperature range up to 140°C.

Using quality materials all Fellsman boilers are manufactured in our own UK factory, thereby ensuring the very highest level of engineering and workmanship.

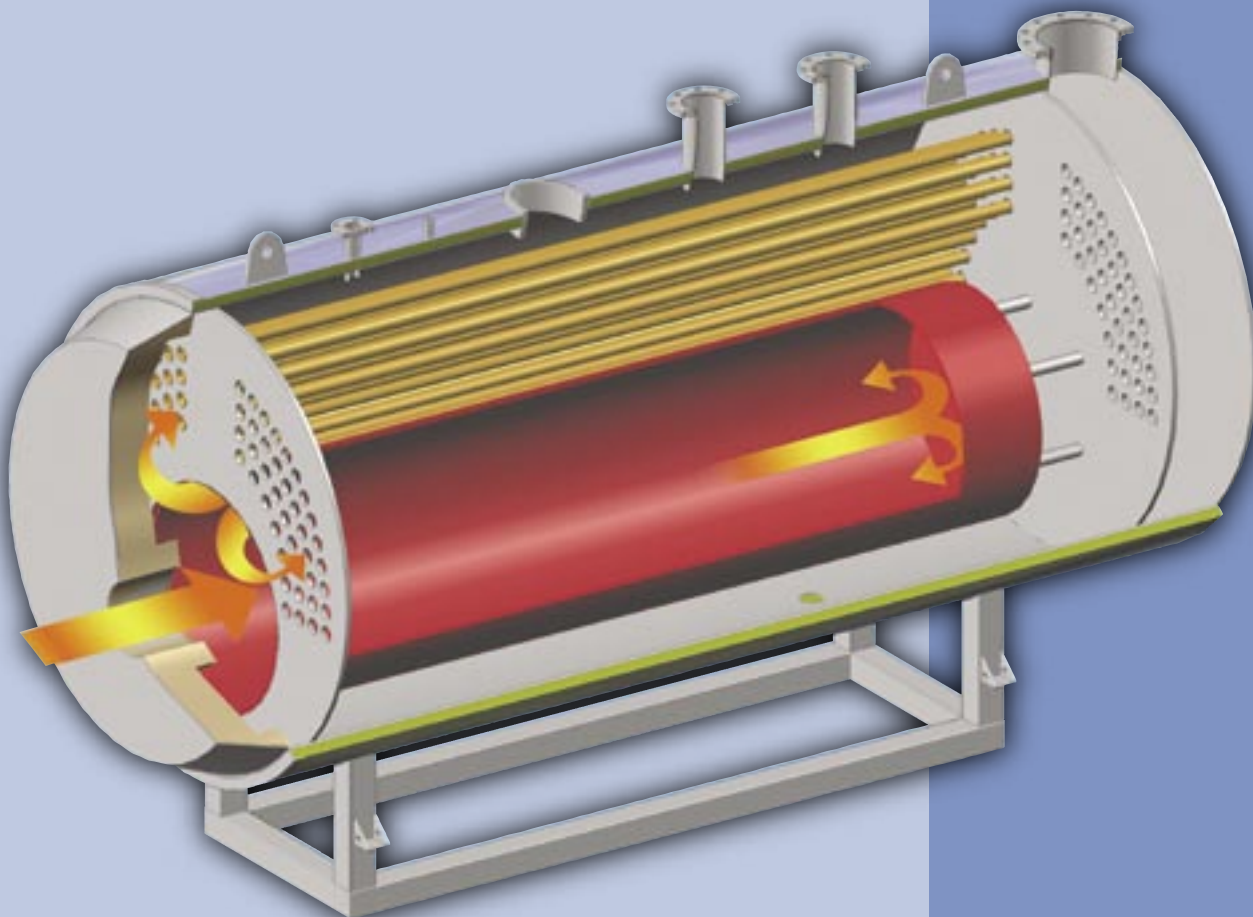
Like the Dalesman, the Fellsman can run on gas or oil or a combination of both.

### PRINCIPAL DESIGN FEATURES

- High typical operating efficiency of up to 86%
- Excellent performance & total reliability
- Generous heating surfaces ensure output is easily achieved
- Low NOx emissions







## TRIED & TESTED

Every Dalesman and Fellsman boiler is subject to rigorous tests and inspections during manufacture and also to X-Ray and NDT tests.

They are built to BS EN 12953 to comply with current Pressure Equipment Directive (PED) requirements and are CE marked on completion.

They are also designed to meet governmental and health and safety standards.

In addition they are subjected to hydraulic testing and are independently inspected and certified by Lloyds Register at all stages of manufacture.

Plate thicknesses on every boiler exceed BS requirements and they are made using best quality, certified materials.

## SUPPORT DOCUMENTATION

Every Byworth boiler is supplied with a complete operator manual and manufacturing report.

This contains 'as built' drawings, electrical wiring diagram, test reports and material certificates.

## FELLSMAN SERIES - BOILER DIMENSIONS

Model	FM250	FM500	FM750	FM1000	FM1250	FM1500	FM1750	FM2000	FM2500	FM3000
Output kW	250	500	750	1000	1250	1500	1750	2000	2500	3000
Overall length	2640	2985	3550	3670	3920	4225	4345	4585	4865	5145
Boiler length	1830	2175	2400	2520	2770	3075	3195	3335	3615	3895
Burner length	760	760	1100	1100	1100	1100	1100	1200	1200	1200
Overall width	1060	1220	1400	1450	1510	1575	1660	1690	1760	1830
Overall height	1505	1665	1920	2020	2145	2210	2295	2515	2585	2765
Minimum height	1495	1655	1835	1935	1995	2060	2145	2175	2245	2315
Chimney height	1080	1275	1385	1470	1520	1565	1640	1650	1705	1760
Chimney ID	180	225	250	275	300	340	360	400	430	460
To baseframe front	245	245	245	360	360	510	510	510	510	510
Baseframe length	1085	1380	1560	1600	1700	1820	1920	2020	2270	1830
Baseframe width	670	800	950	1000	1050	1080	1100	1150	1200	1350
Flow outlet	50	65	80	100	100	125	125	150	150	150
Return inlet	50	65	80	100	100	125	125	150	150	150

Note: all dimensions are in mm. Byworth reserve the right to change any dimensions without notice.



## THE PHW RANGE OF REVERSE FLAME HOT WATER BOILERS

The PHW Hot Water Boiler range has been developed over a prolonged period of time and now sells successfully in over 60 countries worldwide.

The time-proven reverse flame, wetback design ensures a highly efficient and at the same time economical boiler that is compact in size, simple to operate and easy to install and maintain.

The PHW range of boilers offers a choice of 20 models with heat output ranging from 100kW to 2500kW which produce hot water up to 95°C with a maximum working pressure of 5 bar.

### PRINCIPAL DESIGN FEATURES

- **High efficiency**
- **Economical operation**
- **Minimum heat loss due to heavy insulation**
- **Reliability**
- **Minimal maintenance**

### FULLY OPENING FRONT DOOR

The full opening front door provides quick and simple access for inspection and maintenance and has the facility to be hinged on either the right or left hand side.

### REAR SMOKE BOX

Each boiler has a smoke box complete with explosion relief door, chimney connection and condensation outlet. The box is totally detachable should access be required.

### STAINLESS STEEL RETARDERS

Stainless steel retarders provide maximum thermal exchange.

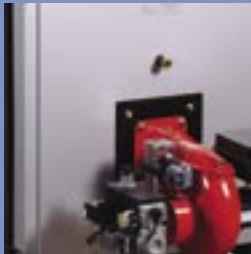
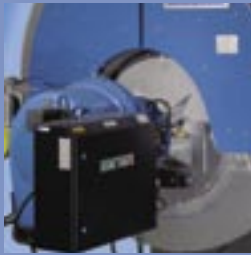
### PANELS

All panels are formed from galvanized pre-coated sheets which can be removed and fitted after the connection of the flow and return pipework.

### CONTROL PANELS

The controls for the boiler / burner are incorporated into a purpose made panel mounted on top of the boiler.





Byworth Boilers remains an independent family run business. From initial planning to expert installation and commissioning, Byworth's highly experienced and professional sales and contract teams will work closely with you to produce boiler plant customised to suit your exact needs. Our comprehensive range of boiler support services includes –

- Steam & hot water boiler manufacture
- Waste heat boiler design & manufacture
- Boiler hire and lease
- Full installation service
- Complete containerised boiler houses
- Blow down vessels, steam accumulators and feed tanks
- Service, repairs, parts & accessories
- Operator training

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