



**BYWORTH**  
**BOILERS**

QUALITY THROUGH DESIGN & WORKMANSHIP

**YORKSHIREMAN  
PACKAGED STEAM BOILERS**

## **YORKSHIREMAN PACKAGED STEAM BOILERS**

It is no coincidence that the Yorkshireman boiler embodies many of the same attributes and strengths of the people of its county of origin. Not only is the Yorkshireman a sturdy and reliable workhorse, it is also uncannily thrifty!

The traditional three pass wetback design of the Yorkshireman range is ideally suited for a continual heavy workload. Add to this the latest combustion technology and control equipment and you'll achieve impressively low running costs and emissions.

Every Yorkshireman boiler is individually built to meet your specific needs and is manufactured from start to finish in our own 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.



### **PRINCIPAL DESIGN FEATURES & BENEFITS**

#### *Traditional three pass wetback design*

- Reliability
- Robustness

#### *Shell & furnace diameter larger than comparable boilers*

- Generous heating surfaces
- Low heat transfer
- High steam volume
- Quality dry steam
- Low NOx emissions
- Output easily achieved

#### *Central furnace with bowling hoops*

- Stress is minimised and distributed evenly
- Extends life of boiler
- Easy access for inspection
- Absorbs expansion & contraction

#### *Shell, tube plates and smoke boxes heavily insulated*

- Minimal heat loss
- Increased operating efficiency



#### ***Aluzinc cladding with removable panels***

- Strong and durable casing
- Corrosion resistant
- Smart appearance
- Easy access for inspection

#### ***Unique design of rear fireside access door with removable ceramic plug***

- Minimal heat loss
- Quick & easy access for inspection & maintenance

#### ***Tube plate ligaments are in excess of BS2790 requirements, 'J-prepped' and TIG welded in combustion chamber***

- Eliminates tube end and ligament failure which is quite common in other boilers of this type

#### ***Top manhole, two side head holes and rear tube plate mud hole***

- Unequaled internal access
- Preferred by inspection authorities

## **COMBUSTION EQUIPMENT**

The Yorkshireman can accommodate pressure jet or rotary cup burners depending on customer preference and the type of fuel or fuels used.

Whichever burner is chosen it will be carefully selected in conjunction with the manufacturer to achieve:-

- Reliable performance
- Low NOx emissions which easily achieve EU standards
- Fuel efficiency
- Energy efficiency
- Minimum noise levels
- Easy maintenance
- Directive compliance

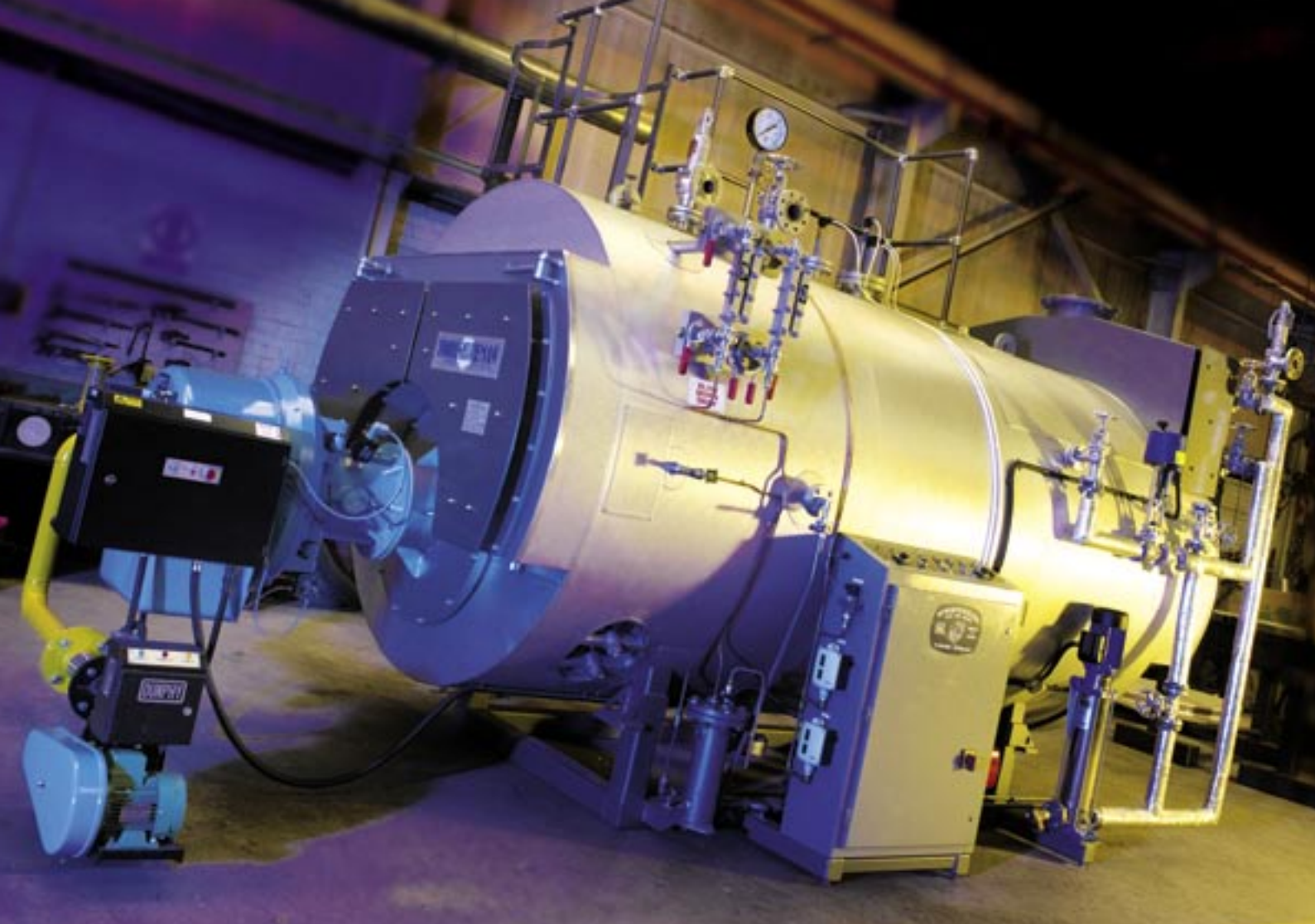
With the addition of a combustion management system efficiency levels are continually monitored and trimmed to guarantee peak performance throughout the full firing range. The system will also electronically monitor demand to ensure the exact amount of fuel and air is fired to follow the boiler's required load pattern accurately.

## **ANCILLARY EQUIPMENT**

To satisfy the diverse operational needs and specifications of industry Yorkshireman boilers are offered with a choice of ancillary equipment including:

- Flue gas economiser mounted in the rear smoke box to improve efficiency by up to 5% by increasing feed water temperature
- Full PM5 equipment including automatic blowdown and TDS control for unattended operation
- Variable speed feed pump & burner fan motor to reduce power consumption
- Modulating water feed
- Factory mounted standby feed pump
- Boilers can be built left or right handed





### QUALITY FITTINGS & MOUNTINGS

To ensure long and reliable service every boiler is built using quality fittings and mountings as standard.

- Steel angle pattern crown valve
- Safety valve/s
- Screw down feed check valve
- Disk type feed check valve
- In-line pump strainer
- Key operated blow down valve
- Twin reflex style water level gauges
- Pressure gauge with inspectors test cock
- Water sample cooler
- 25mm pad on centre line for optional TDS control
- Flue thermometer
- Walkway with handrail and access ladder as standard on most models
- Davit arms on smoke box doors for ease of removal
- Four jacking points & lashing eyes

### TRIED & TESTED

During manufacture every Yorkshireman boiler undergoes rigorous tests and inspections and is subjected to X-Ray and NDT tests of the main welded seams.

All Yorkshireman boilers are built to BS 2790 Class 1, comply with current Pressure Equipment Directive (PED) requirements and are CE marked on completion. They are also designed to meet governmental and health service 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 the Yorkshireman are in excess of BS requirements and they are made from best quality, certified materials.

Yorkshireman boilers cover a duty range of between 1000 and 15,900 Kgs / hour, with working pressures of up to 20 bar/g.

### SUPPORT DOCUMENTATION

Every Yorkshireman boiler is supplied with a complete operator manual and manufacturing report. This contains 'as built' drawings, electrical wiring diagram, test reports and material certificates.

## THE STEAM PROVIDER FOR MANY SUCCESSFUL COMPANIES

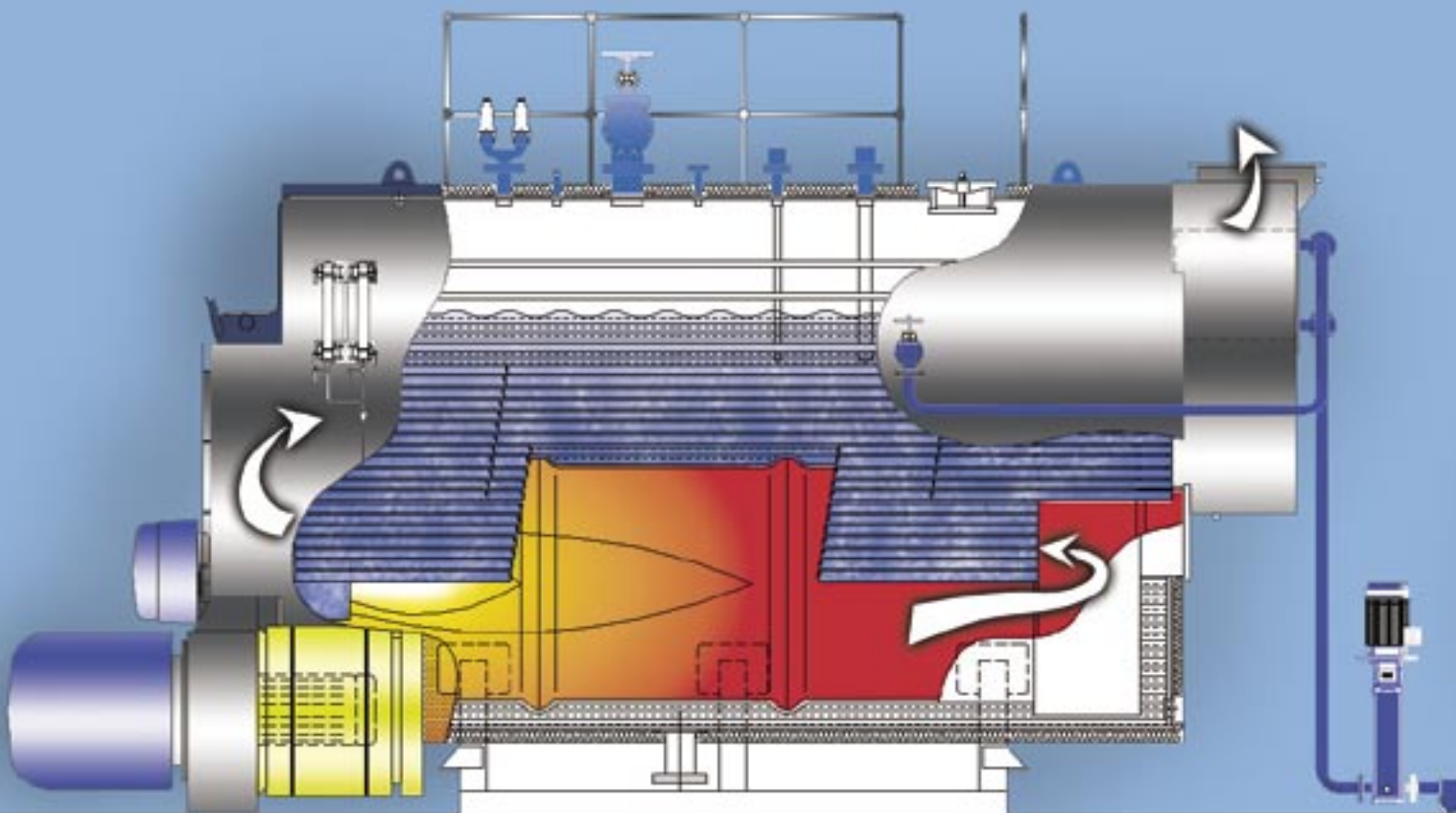
Yorkshireman boilers are successfully producing steam for many of the world's leading companies and organisations operating in a diverse range of industries, including:

- Abattoirs • Brewing • Chemical
- Confectionery • Dairy Produce • Drinks
- Feed & Flour Mills • Food Processing
- Government and MOD Establishments
- Health Authorities • Laundry
- Oil & Petro Chemical • Pharmaceutical
- Paper & Cardboard • Rubber & Plastics
- Soil Sterilisation • Toiletries

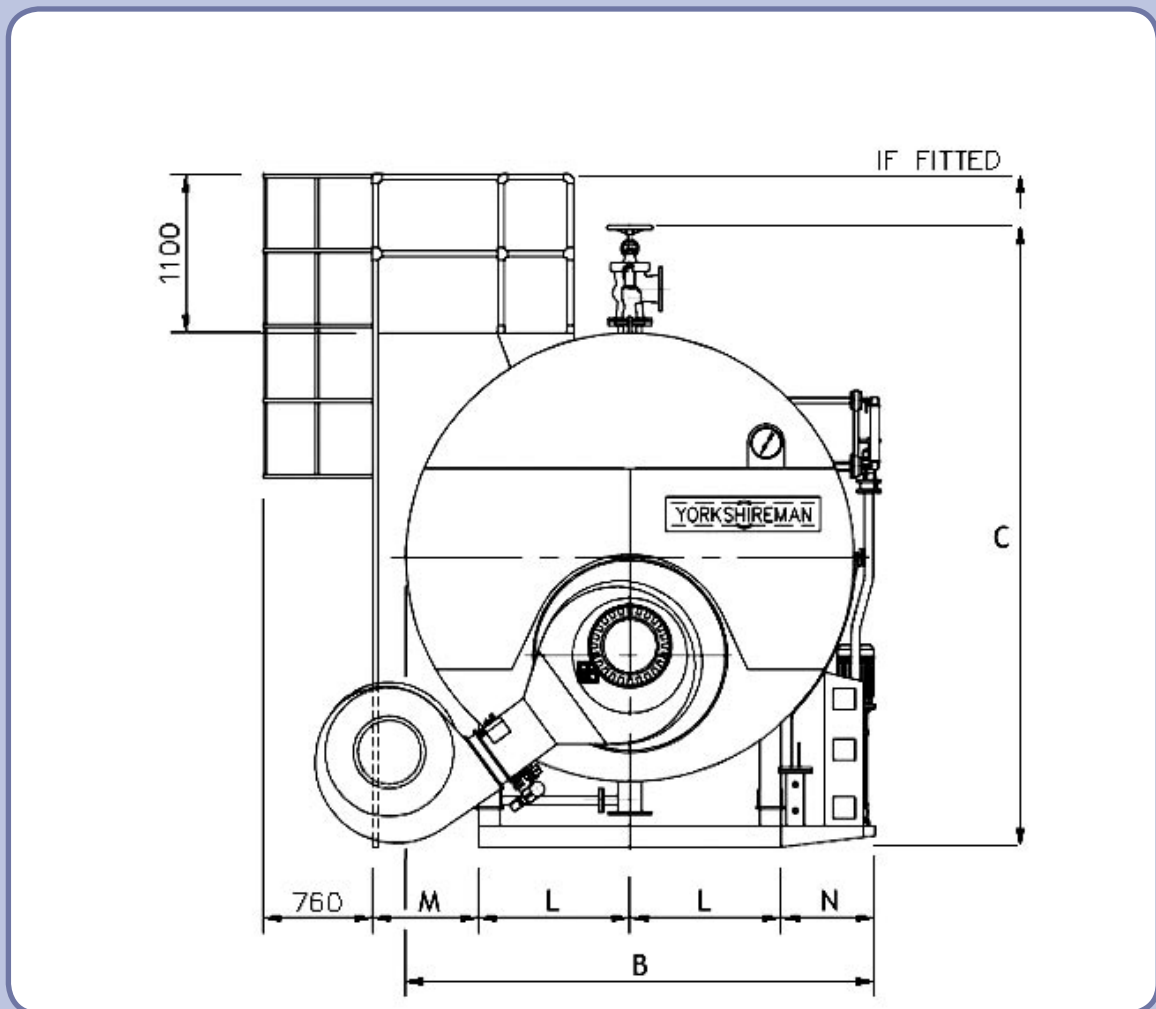
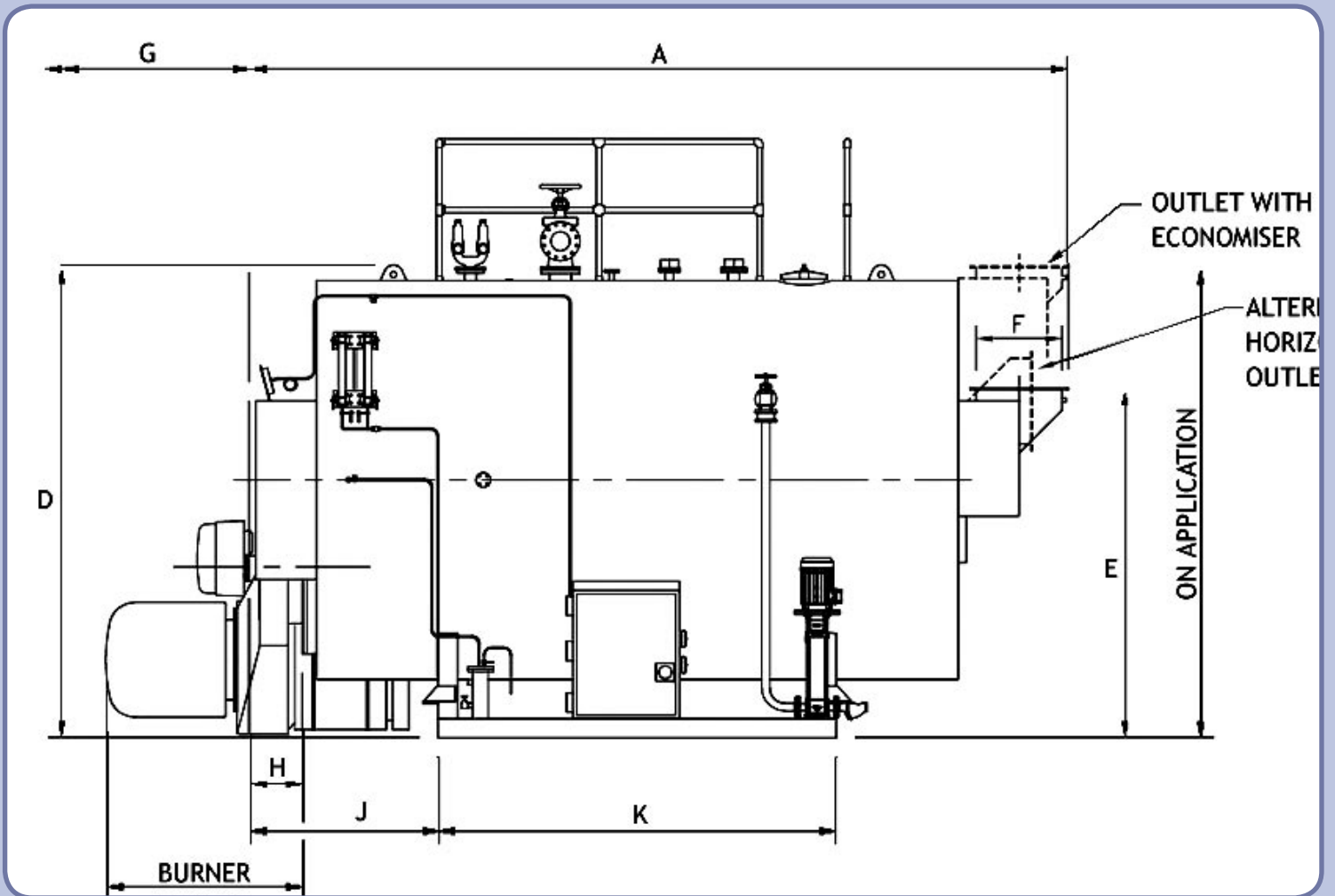
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## THE YORKSHIREMAN A time proven three pass wetback boiler



**British Boilers at their Best**





Byworth Boilers remains a family run business with a passion for steam. 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
- Boiler hire and lease
- Full installation service
- Complete containerised boiler houses
- Blow down vessels, steam accumulators and feed tanks
- Reconditioned boilers
- Service, repairs, parts & accessories

## YORKSHIREMAN YSX SERIES - BOILER DIMENSIONS

Model YSX		1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	7000	8000	9000	10000	11250	12500	13750	15000
<b>DUTY F&amp;A 100°C</b>	<b>lbs/hr</b>	2200	3300	4400	5500	6600	7700	8800	9900	11000	13200	15400	17600	19800	22000	24750	27500	30250	35000
	<b>hp</b>	64	96	128	160	192	224	256	288	320	384	447	511	575	639	719	799	878	1016
	<b>kg/hr</b>	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	7000	8000	9000	10000	11250	12500	13750	15900
	<b>kW</b>	644	965	1287	1609	1931	2253	2574	2896	3218	3862	4505	5149	5792	6436	7240	8045	8850	10233
<b>Overall Length</b>	A	3120	3500	3767	4078	4250	4418	4701	5000	5037	5605	5660	5767	5793	6368	6406	6460	6557	6641
<b>Overall Width</b>	B	1730	1950	2075	2190	2260	2365	2440	2515	2570	2620	2776	3078	3195	3195	3290	3460	3615	3790
<b>Overall Height</b>	C	2280	2475	3210	3295	3395	3460	3665	3725	3815	3860	4055	4285	4435	4435	4701	4790	4930	5085
<b>Minimum Height</b>	D	1945	2085	2231	2311	2433	2513	2715	2785	2885	2935	3117	3381	3545	3545	3725	3870	4095	4195
<b>Chimney Height</b>	E	1660	1810	1873	1973	1975	2115	2245	2300	2350	2435	2441	2736	2740	2660	2724	2815	3112	3172
<b>Chimney dia. I/D</b>	F	200	250	275	326	353	377	402	428	453	504	529	606	606	656	656	707	758	758
<b>Tube Withdrawal</b>	G	2210	2470	2650	2900	3000	3100	3360	3590	3580	4030	4020	3990	3960	4445	4425	4400	4370	4340
<b>To end of Smoke Box</b>	H	170	210	240	240	260	280	290	310	325	340	360	390	420	445	465	490	515	540
<b>To Baseframe Front</b>	J	675	815	875	865	935	965	975	1035	1085	1125	1295	1335	1375	1455	1500	1525	1625	1665
<b>Baseframe Length</b>	K	1660	1760	1900	2170	2200	2300	2550	2720	2650	3100	2800	2780	2760	3150	3100	3100	2980	2920
<b>Half Baseframe Width</b>	L	450	500	550	625	635	700	725	750	800	825	875	925	975	1000	1050	1100	1170	1215
<b>Ladder to Base</b>	M	N/A	N/A	N/A	1163	1225	1262	1315	1350	1400	1425	1516	1648	1730	1730	1820	1905	2012	2062
<b>Mounting Plate</b>	N	530	630	630	630	630	630	630	645	600	600	615	735	720	695	650	685	740	740
<b>Burner Length*</b>		1245	1245	1245	1245	1245	1245	1245	1245	1245	1275	1275	1275	1275	1580	1580	1580	1580	1580
<b>Steam Outlet 150psi</b>		40	50	65	65	80	80	100	100	100	100	125	125	125	125	150	150	150	200
<b>Safety Valve Outlet 150psi</b>		32	40	40	40	50	50	65	65	65	65	80	80	80	80	2 x 65	2 x 80	2 x 80	2 x 80
<b>Water Inlet</b>		25	25	25	25	25	32	32	32	32	40	40	40	50	50	50	50	50	65
<b>Blowdown Outlet</b>		32	32	32	32	32	32	50	50	50	50	50	50	50	50	50	50	50	50
<b>Weight Empty (kg)</b>		3220	4250	5640	6500	7480	8470	9750	10660	11610	13520	15450	18820	21050	23590	25480	28090	30270	32750
<b>Weight to N.W.L (kg)</b>		5240	7030	9060	10570	12220	13900	16230	17960	19740	23040	26280	31870	35390	39530	43220	48220	50760	55210

This chart relates to the YSX series boilers with working pressure up to 150 psi (10 bar). Please contact our Sales Department for technical details on the YSX plus the YSY with working pressure up to 200 psi (13.6 bar), the YSZ with working pressure up to 250 psi (17 bar) and the YSZZ with working pressure up to 300 psi (20 bar).

\*Variable depending upon make of burner

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