

YORKSHIREMAN LOW NOX MODEL				YSLN	13750	IE
<b>Boiler working pressure</b>				barg	16.2	234.9 psig
<b>Saturation Temperature</b>				degC	204.9	
<b>Ambient Air Temp</b>				degC	25	
<b>REQUIRED BOILER DUTY</b> 13750	Percentage Load	%	100	75	50	25
	Heat Output	kw	8622.1	6466.608	4311.1	2155.5
	F&A 100DegC	kg/h	13750	10312.5	6875	3437.5
		lb/h	30319	22739.06	15159	7579.7
<b>Actual Boiler Output with Feed Water Temperature of</b> 85 degC		kg/hr	12727	9545	6363	3182
		lb/hr	28063	21047.27	14032	7015.8

FUEL HEATING VALUES		
<b>Natural Gas</b>		
GCV	56.65 MJ/kg	43.4 MJ/Ncu mtre
NCV	51.08 MJ/kg	39.1 MJ/Ncu mtre
<b>ClassA2 and D-Fuel Oil</b>		
GCV	46.89 MJ/kg	
NCV	43.98 MJ/kg	

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BOILER PERFORMANCE		ClassA2 and D-Fuel Oil				Natural Gas			
Percentage Load	%	100	75	50	25	100	75	50	25
Nett Heat Release	mw/m <sup>3</sup>	1.11	0.89	0.59	0.30	1.11	0.91	0.61	0.31
Nett Heat Input	mw	9.16	7.30	4.88	2.46	9.17	7.53	5.04	2.55
Gross Heat Release Rate	mw/m <sup>3</sup>	1.18				1.22			
Front Smoke Box Temperature	deg C	371	344	312	271	386	357	323	279
Boiler Outlet Temperature	deg C	231	225	218	211	233	226	219	212
<b>ECONOMISER FITTED TO BOILER</b> ROWS 6									
Economiser Gas Outlet Temperature	degC	136	133	130	131	138	135	132	132
Econ Feed Water Outlet Temperature	degC	112	112	112	111	109	109	110	109
Economiser Duty	kW	417	313	208	100	417	313	208	100
Total Gas Weight	kg/h	13719	10692	7427	3902	12468	9782	6915	3747
Max CO <sub>2</sub> Emissions	kg/hr	2345				1695			
Boiler Efficiency on GCV with Econ	%	88.79	88.64	88.38	87.56	86.08	85.92	85.61	84.70 BS845
Boiler Efficiency on NCV with Econ	%	94.20	94.04	93.77	92.89	94.07	93.88	93.55	92.53 BS845
Boiler Efficiency on GCV with Econ	%	90.39	90.32	90.14	89.64	88.50	88.45	88.27	87.84 EN12953
Boiler Efficiency on NCV with Econ	%	94.81	94.68	94.44	93.69	94.99	94.85	94.56	93.73 EN12953
Total Draught Loss	inchwg	6.07	3.44	1.65	0.46	5.31	3.11	1.54	0.45
	mbar	15.19	8.62	4.14	1.15	13.28	7.78	3.85	1.13
Combustion air volume	Sm <sup>3</sup> /s	2.94	2.30	1.60	0.84	2.68	2.11	1.49	0.81
Exit Gas Volume from Economiser	Am <sup>3</sup> /s	4.41	3.42	2.36	1.24	4.03	3.14	2.20	1.19
Fuel consumption	kg/h	745.65	560.22	374.54	189.03	636.53	478.32	320.00	161.74 kg/h
	litre/h	868.51	652.52	436.25	220.18	877.75	659.58	441.27	223.03 Sm <sup>3</sup> /h
						831.65	624.94	418.10	211.31 Nm <sup>3</sup> /h
	kW/hr Gross	9713.5	7297.8	4879.1	2462.4	10019.1	7528.8	5036.9	2545.7 kW/hr Gross

TYPICAL FUEL COSTS	
<b>Annual Boiler Loading</b>	
Average boiler Load	kg/hr
No. Hours/Day	hr
No days /week	days
No weeks	wks
<b>ClassA2 and D-Fuel Oil</b> p/litre	
Cost per day	£ #N/A
Cost per Week	£ #N/A
Cost per Year	£ #N/A
<b>Cost per tonne of Steam</b> £ #N/A	
<b>Natural Gas</b> p/kWh	
Cost per day	£ #N/A
Cost per Week	£ #N/A
Cost per Year	£ #N/A
<b>Cost per tonne of Steam</b> £ #N/A	

Steam Release Area	m <sup>2</sup>	15.76	Duct / chimney size @ velocity of 12 m/s	mm	684	inside diameter
Steam Release Rate	m/sec	0.0259	Duct / chimney size @ velocity of 15 m/s	mm	612	inside diameter

# Yorkshireman Boiler Performance Data