

YORKSHIREMAN LOW NOX MODEL				YSLN3000IE			
Boiler working pressure				barg	10	145	psig
Saturation Temperature				degC	184.1		
Ambient Air Temp				degC	21		
REQUIRED BOILER DUTY3000	Percentage Load	%	100	75	50	10	
	Heat Output	kw	1881.2	1410.9	940.6	188.12	
	F&A 100DegC	kg/h	3000	2250	1500	300	
		lb/h	6615	4961.3	3307.5	661.5	
Actual Boiler Output with Feed Water Temperature of		kg/hr	2867.5	2150.6	1433.8	286.8	
	100 degC	lb/hr	6322.9	4742.2	3161.4	632.29	

FUEL HEATING VALUES		
Natural Gas		
GCV	52.97 Mj/kg	40.5 MJ/Ncu mtre
NCV	47.75 Mj/kg	36.6 MJ/Ncu mtre
ClassA2 and D-Fuel Oil		
GCV	46.89 Mj/kg	
NCV	43.98 Mj/kg	

BOILER PERFORMANCE		ClassA2 and D-Fuel Oil				Natural Gas			
Percentage Load	%	100	75	50	10	100	75	50	10
Nett Heat Release	mw/m ³	1.15	0.87	0.58	0.13	1.16	0.87	0.59	0.13
Nett Heat Input	mw	2.02	1.52	1.02	0.23	2.04	1.53	1.03	0.23
Gross Heat Release Rate	mw/m ³	1.22				1.27			
Front Smoke Box Temperature	deg C	380	351	316	230	404	373	335	238
Boiler Outlet Temperature	deg C	221	213	204	188	225	216	207	188
ECONOMISER FITTED TO BOILER ROWS 6									
Economiser Gas Outlet Temperature	degC	142	139	136	131	144	140	136	131
Econ Feed Water Outlet Temperature	degC	122	121	121	119	122	122	121	121
Economiser Duty	kW	77	56	37	7	77	56	37	7
Total Gas Weight	kg/h	3033	2370	1655	380	2983	2347	1668	397
Max CO ₂ Emissions	kg/hr	518				406			
Boiler Efficiency on GCV with Econ	%	87.63	87.25	86.54	78.54	83.96	83.57	82.81	74.72 BS845
Boiler Efficiency on NCV with Econ	%	92.97	92.56	91.81	83.27	92.38	91.94	91.10	82.12 BS845
Boiler Efficiency on GCV with Econ	%	89.97	89.71	89.12	81.58	87.35	87.13	86.54	79.13 EN12953
Boiler Efficiency on NCV with Econ	%	94.30	93.96	93.27	85.01	94.14	93.80	93.04	84.42 EN12953
Total Draught Loss									
	inchwg	4.19	2.32	1.12	0.06	4.14	2.40	1.19	0.07
	mbar	10.48	5.79	2.79	0.15	10.37	6.01	2.99	0.17
Combustion air volume	Sm ³ /s	0.65	0.51	0.36	0.08	0.64	0.51	0.36	0.09
Exit Gas Volume from Economiser	Am ³ /s	0.99	0.77	0.53	0.12	0.98	0.76	0.54	0.13
Fuel consumption		kg/h	164.84	124.17	83.46	18.39	152.29	114.75	77.20 17.11 kg/h
		litre/h	192.00	144.63	97.21	21.42	210.01	158.24	106.46 23.60 Sm ³ /h
							198.98	149.93	100.87 22.36 Nm ³ /h
		kWhr Gross	2147.3	1617.6	1087.2	239.6	2241.1	1688.7	1136.1 251.8 kWhr Gross

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

Steam Release Area	m ²	5.22	Duct / chimney size @ velocity of 12 m/s	mm	324	inside diameter
Steam Release Rate	m/sec	0.0271	Duct / chimney size @ velocity of 15 m/s	mm	290	inside diameter

Yorkshireman Boiler Performance Data