

Manufacturer	Burley		
Model	4KW		
Date	Tuesday, August 13, 2019		
Claimed heat output	kW	4	
Boiler		n	

		Nominal heat output			
<i>Fuel:</i>		Charge 1	Charge 2	Charge 3	Average
Fuel		Beech	Beech	Beech	Beech
Moisture	wt%	14.1	14.1	13.8	14.0
-		-	-	-	-
Total load	kg	0.77	0.75	0.7	0.74

	primary air	secondary air	tertiary air	combustion air	
<i>Conditions:</i>					
Duration	h	0.67	0.67	0.71	0.68
Deviation	%	-10.9	-10.6	-5.4	-8.9
Fuel consumption	kg/h	1.15	1.12	0.99	1.08
Draught	Pa	12.4	12.1	11.8	12.1

<i>Temperatures</i>					
Spigot	°C				
Flue	K	184	181	181	182
Flue gas temperature:	°C				203
<i>Boiler</i>					
Water temperature	K				
Flow	ltr/min				

<i>Emissions</i>					
CO2, max	vol%	20.40	20.40	20.40	20.40
CO2, average	vol%	9.58	9.51	10.41	9.84
CO	vol%	0.09	0.12	0.16	0.12
CO at 13% O2	vol%	0.08	0.10	0.12	0.10
CO at 13% O2	mg/Nm3	953	1246	1456	1223
CO, per MJ	mg/MJ	622	814	951	799

NOx, average	mg/Nm3	132	162	169	155
NOx, at 13% O2	mg/Nm3	107	132	126	122
NOx, per MJ	mg/MJ	70	86	83	80
CxHy, average	mg/Nm3	72	60	82	72
CxHy, at 13% O2	mg/Nm3	59	49	61	56
CxHy, per MJ	mg/MJ	38	32	40	37
CO2 dilution tunnel	vol%	10.42	9.89	11.53	10.63
CO2 during dust collection	vol%	10.42	9.89	11.53	10.63
Dilution ratio	-	1.0	1.0	1.0	1.0
Dust measured	mg/Nm3	9	21	21	17
Dust in flue gas	mg/Nm3	9	21	21	17
Dust at 13%O2	mg/Nm3	7	16	14	12
Dust in flue gas	mg/MJ	4	11	9	8
Dust in flue gas	g/kg wood	0.1	0.2	0.2	0.1
		0.1	0.2	0.1	0.1
		6.4	6.4	6.2	6.4

<i>Energiebalans</i>					
Cp flue gas	kJ/(m3.K)	1.35	1.35	1.36	1.35
Cp water vapor	kJ/(m3.K)	1.52	1.52	1.52	1.52
Ash	% of fuel	0.44	0.44	0.45	0.44
Combustibles	% of ash	10	10	10	10
Thermal losses	%	14.3	14.1	13.0	13.8
Chemical losses	%	0.6	0.8	0.9	0.8
Loss by ash	%	0.5	0.5	0.5	0.5
Efficiency	%	84.6	84.6	85.6	84.9
Heat output (total)	kW	4.3	4.2	3.7	4.1
Deviation of average.	%	5.8	2.7	-8.0	-
Heat output room	kW				
Heat output water	kW				
Flue gas mass flow	g/s	3.7	3.6	2.9	3.4

<i>Interpolation</i>					
Claimed heat output	kW	4.0	4.0	4.0	4.0
Calculated test period	h	0.72	0.70	0.66	0.69
Required test period	h	0.75	0.75	0.75	0.75
Calculated heat output	kW	3.8	3.7	3.5	3.7