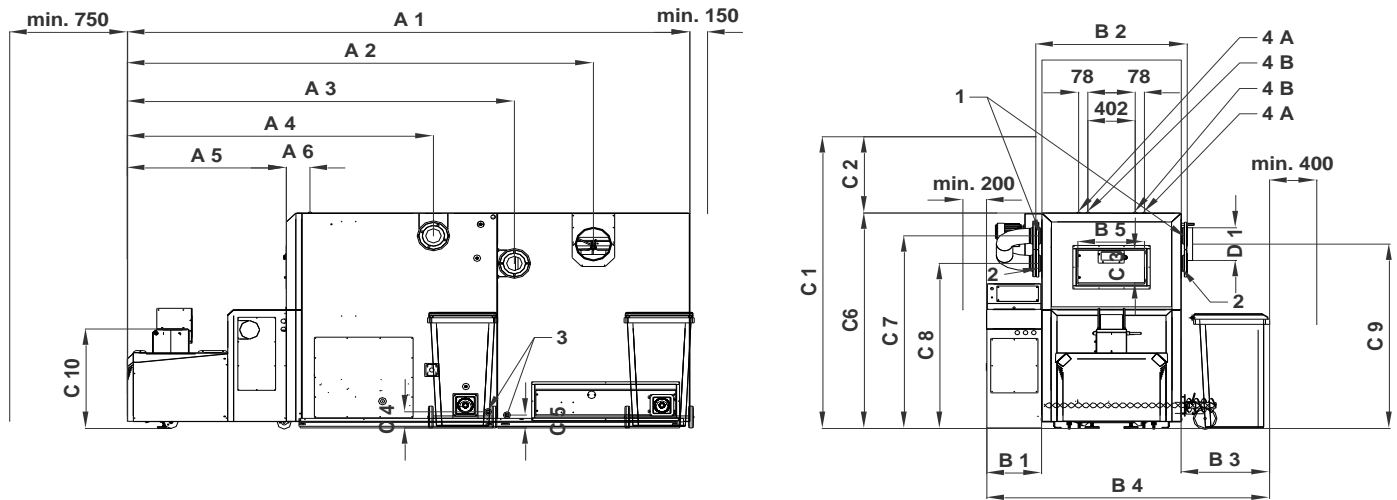


# HERZ BioFire 500-1500

Data sheet

V 2.7



	BioFire BioControl	500	600	800	995	1250	1500
	Power range [kW]	150-500	180-600	240-800	300-1000	375-1250	450-1500
	Power range - Declaration at nameplate [kW]	150-500	180-600	240-800	300-1000	375-1250	450-1500
	Continuance of combustion max. [h]	-	-	-	-	-	-
A1	Length	4.485	4.975	4.975	5.280	5.880	5.880
A2	Length	3.800	4.155	4.155	4.465	5.065	5.065
A3	Length	3.260	3.485	3.485	3.795	4.395	4.395
A4	Length	2.595	2.830	2.830	3.135	3.735	3.735
A5	Length	1.385	1.385	1.385	1.385	1.560	1.560
A6	Length	200	200	200	200	210	210
B1	Width	470	470	470	480	480	480
B2	Width without flange	1.270	1.270	1.270	1.270	1.660	1.660
	Width with flange	1.375	1.375	1.375	1.375	1.740	1.740
B3	Width	750	750	750	750	750	750
B4	Width	2.485	2.485	2.485	2.505	2.870	2.870
B5	Width	500	500	500	260	260	260
C1	Height	2.650	2.650	2.650	2.877	3.320	3.320
C2	Height	700	700	700	700	850	850
C3	Height	300	300	300	435	435	435
C4	Height ["] / [mm]	3/4" / 148	3/4" / 148	3/4" / 148	3/4" / 148	3/4" / 148	3/4" / 148
C5	Height ["] / [mm]	3/4" / 118	3/4" / 118	3/4" / 118	3/4" / 160	3/4" / 160	3/4" / 160
C6	Height	1.977	1.977	1.977	2.177	2.470	2.470
C7	Height [DN] / [mm]	1.765	1.765	1.765	1.965	2.265	2.265
C8	Height [DN] / [mm]	1.515	1.515	1.515	1.715	2.010	2.010
	Dimension Flow / Return	DN 100	DN 125	DN 125	DN 125	DN 125	DN 125
	Pressure step flange flow - return	PN6	PN6	PN6	PN6	PN6	PN6
C9	Height	1.686	1.686	1.686	1.886	2.187	2.187
C10	Height	945	945	945	945	945	945
D1	Diameter flue pipe	300	300	300	300	300	300
<b>Inserting dimension Heat exchanger module [mm]</b>							
	Length	1.400	1.600	1.600	1.600	1.600	1.600
	Width	1.400	1.400	1.400	1.400	1.980	1.980
	Height	1.977	1.977	1.977	2.177	2.480	2.480
<b>Inserting dimension Combustion chamber module [mm]</b>							
	Length	2.200	2.400	2.400	2.400	2.800	2.800
	Width	1.400	1.400	1.400	1.400	1.980	1.980
	Height	1.977	1.977	1.977	2.177	2.480	2.480

Mounting dimensions in [mm]




Changes in the sense of the technical progress reserve!

1...Flow (DN100,PN6 (BF500); DN125,PN6 (BF600-1500)) , 2...Backflow (DN100,PN6 (BF500);DN125,PN6 (BF600-1500)) , 3... Filling/depletion ( 3/4" IG ) , 4 A...Safety heat exchanger - Input (1" IG), 4 B...Safety heat exchanger - Output (1" IG)

# HERZ BioFire 500-1500

Data sheet

V 2.7

BioFire BioControl	500	600	800	995	1250	1500	Technical data	
Weight of boiler [kg]	5.331	5.987	5.987	7.363	8.500	8.500		 <p><b>NOTE 1</b> Design pressure = 5.0 barg (6 bar available on request) Test pressure = 7.5 barg maximum setting for Pressure Relief Valve = 4.5 barg (assuming 10% variance)</p> <p><b>NOTE 2</b> Rural Energy recommends a maximum target flow temperature of 85°C in order to allow adequate margin for boiler control. A higher flow temperature can be achieved by using the Herz High Temperature Program. This is available as an optional extra. When using the High Temperature program, the user must ensure that the rest of the system components have a suitable temperature rating i.e. 110°C minimum, in particular the buffer vessel.</p>
Volume of combustion chamber [litr.]	-	-	-	-	-	-		
min./max. delivery pressure [mbar]	0,05/0,10	0,05/0,10	0,05/0,10	0,05/0,10	0,05/0,10	0,05/0,10		
operating overpressure Min/Max [bar]	1,5 / 5 (6)*	1,5 / 5 (6)*	1,5 / 5 (6)*	1,5 / 5 (6)*	1,5 / 5 (6)	1,5 / 5 (6)*		
max. operating temperature [°C]	102	102	102	102	102	102		
Max. setting Safetytemperaturelimiter - STL [°C]	110	110	110	110	110	110		
Water capacity [litr.]	1.146	1.660	1.660	1.950	-	-		
Electrical connention [V;Hz;A] / delivery rate [kW]			3x400 ; 50 ; 16 / -					
Resistance of boiler at dt=35K [mbar]	36	28	31	-	-	-		
Resistance of boiler at dt=20K [mbar]	47	37	41	-	-	-		
Resistance of boiler at dt=10K [mbar]	88	61	-	185	-	-		
Minimal Flow rate dt=18K [kg/h]	23.946	28.736	38.314	47.893	59.866	71.839		
Flow rate dt=15K [kg/h]	28.736	34.483	45.977	57.471	71.839	86.207		
Electric power consumption, nominal load [kW]	~1,8	2,20	2,70	3,30	3,80	3,80		
Electric power consumption, part load [kW]	0,70	0,90	1,10	1,40	1,60	1,60		
Size of heat exchanger [m <sup>2</sup> ]	31,23	37,25	37,25	42,85	70,7	70,7		
Size of grate surface [m <sup>2</sup> ]	0,68	0,83	0,83	1,01	1	1		
Volume of combustion chamber [m <sup>3</sup> ]	1,00	1,15	1,15	1,66	3	3		
minimum flow safety heat exchanger [litr/h]	> 1200	> 1200	> 1200	> 1200	> 1200	> 1200		
minimum pressure cold water [bar]	2	2	2	2	2	2		
Opening temperature thermal safety valve [°C]	95-108	95-108	95-108	95-108	95-108	95-108		
Number of thermal safety valve	2	2	2	2	2	2		
Heat exchanger - Number of tube rows / conduits [qty.]	1 / 63	1 / 77	1 / 77	1 / 77	1 / 110	1 / 110		
Area safety heat exchanger [m <sup>2</sup> ]	1,64	1,95	1,95	2,27	2	2		
<b>Emission - Nominal load wood chips W25 ( Wood pellets)</b>								
Exhaust gas temperature [°C]	~160 (~160)	~160 (~160)	~160 (~160)	~160 (~160)	~160 (~160)	~160 (~160)		
Mass flow flue gas [kg/s]*	0,373 (0,316)	0,448 (0,380)	0,597 (0,506)	0,746 (0,633)	0,933 (0,791)	1,119 (0,949)		
Volume flow flue gas [Nm <sup>3</sup> /h]*	1033 (878)	1240 (1051)	1653 (1402)	2067 (1752)	2583 (2190)	3100 (2628)		
Volume flow flue gas** [Bm <sup>3</sup> /h] *	1639 (1389)	1966 (1667)	2622 (2223)	3277 (2779)	4097 (3473)	4916 (4168)		
CO <sub>2</sub> content [Vol. %]	11,9 (11,9)	13,7 (13,7)	13,8 (13,8)	14,0 (14,0)	-	-		
Efficiency ηf [%] max.	93,1	94,5	95,5	94,7	>90	>90		
*calculated								
<b>Emission - Part load load wood chips W25 ( Wood pellets)</b>								
Exhaust gas temperature [°C]	~90 (~90)	~90 (~85)	~90 (~90)	~90 (~90)	~90 (~90)	~90 (~90)		
Mass flow flue gas [kg/s] *	0,131 (0,112)	0,157(0,134)	0,209 (0,179)	0,262 (0,223)	0,327 (0,279)	0,392 (0,335)		
Volume flow flue gas [Nm <sup>3</sup> /h]*	362 (309)	435 (371)	580 (495)	724 (619)	906 (773)	1087 (928)		
Volume flow flue gas** [Bm <sup>3</sup> /h] *	482 (411)	578 (494)	770 (658)	963 (823)	1204 (1028)	1445 (1234)		
CO <sub>2</sub> content [Vol. %]	10,8 (10,8)	9,0 (9,0)	9,0 (9,0)	9,0 (9,0)	-	-		
Efficiency ηf [%] max.	94,4	93,6	96,3	96,5	>90	>90		
*calculated								
<b>Weight [kg]</b>								
Combustion chamber modul	1.663	1.892	1.892	2.550	-	-		
Burner (trough, grate elements, etc.)	675	750	750	825	~1.100	~1.100		
Feed-in	180	180	180	180	~ 200	~ 200		
Casing, control	75	85	85	105	~ 125	~ 125		
Heat exchanger	2.138	2.430	2.430	2.828	-	-		
Accessories, ash removal,...	200	200	200	250	~ 300	~ 300		
Combustion chamber stones	~ 400	~450	~450	~625	-	-		
<b>Buffer</b>								
Minimal volume of buffer tank [Liter]	5.000	5.000	10.000	10.000	20.000	20.000		
<b>Electric power input</b>								
Induced-draught fan-flue gas f. [kW]; (motor nominal torque[Nm])	3 (-)	6 (-)	6 (-)	6 (-)	6 (-)	6 (-)		
Ind. draught f.-cross sect. of electric cable[mm <sup>2</sup> ]amount of wires	2,5/5	2,5/5	2,5/5	2,5/5	2,5/5	2,5/5		
Primary air fan [kW]; (motor nominal torque[Nm])	0,09 (-)	0,09 (-)	0,09 (-)	0,09 (-)	0,09 (-)	0,09 (-)		
Primary air fan-cross sect. of electric cable[mm <sup>2</sup> ]amount of wir.	1/3	1/3	1/3	1/3	1/3	1/3		
Secondary 1 air fan [kW];(motor nominal torque[Nm])	0,4 (-)	0,4 (-)	0,4 (-)	0,4 (-)	0,4 (-)	0,4 (-)		
Secondary 1 air fan-cross sect. of elec. cable[mm <sup>2</sup> ]amount of w.	1/3	1/3	1/3	1/3	1/3	1/3		
Secondary 2 air fan [kW];(motor nominal torque[Nm])	0,4 (-)	0,4 (-)	0,4 (-)	0,4 (-)	0,4 (-)	0,4 (-)		
Secondary 2 air fan-cross sect. of elec. cable[mm <sup>2</sup> ]amount of w.	1/3	1/3	1/3	1/3	1/3	1/3		
Ht-air blower; ignition fan [kW];(motor nominal torque[Nm])	1,6 (-)	1,6 (-)	1,6 (-)	1,6 (-)	1,6 (-)	1,6 (-)		
Ht-air blower; ign. fan [kW]-cr. sect. of elec. cab.[mm <sup>2</sup> ]am. of w.	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Stoker screw [kW];(motor nominal torque[Nm])	0,55 (328)	0,55 (328)	0,55 (328)	0,55 (328)	0,55 (328)	0,55 (328)		
Stoker screw-cross sect. of electric cable[mm <sup>2</sup> ]amount of wires	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Ash screw - auto de ash drive [kW];(motor nominal torque[Nm])	0,25 (31)	0,25 (31)	0,25 (31)	0,25 (31)	0,25 (31)	0,25 (31)		
Ash screw-cross sect. of electric cable[mm <sup>2</sup> ]amount of wires	1/4	1/4	1/4	1/4	1/4	1/4		
Scraper floor combustion ash [kW];(motor nominal torque[Nm])	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)		
Flue ash screw - auto de ash drive [kW]; (motor nominal tor.[Nm])	0,25 (31)	0,25 (31)	0,25 (31)	0,25 (31)	0,25 (31)	0,25 (31)		
Flue ash screw - cross section of electric c.[mm <sup>2</sup> ]amount of wir.	1/4	1/4	1/4	1/4	1/4	1/4		
Ash screw cyclone [kW]; (motor nominal torque[Nm])	0,12 (-)	0,12 (-)	0,12 (-)	0,12 (-)	0,12 (-)	0,12 (-)		
Heat exchanger [kW]; (motor nominal torque [Nm])	0,55 (-)	0,55 (-)	0,55 (-)	0,55 (-)	0,55 (-)	0,55 (-)		
Heat exchanger-cross section of electric cable [mm <sup>2</sup> ]	1/4	1/4	1/4	1/4	1/4	1/4		
Feed motor 1 [kW]; (motor nominal torque[Nm])	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)		
Feed motor 1-cross section of electric cable [mm <sup>2</sup> ]amount of w.	1/3	1/3	1/3	1/3	1/3	1/3		
Feed motor 2 [kW]; (motor nominal torque[Nm])	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)	0,37 (-)		
Burn back system drive [kW]; (motor nominal torque[Nm])	0,0065 (-)	0,0065 (-)	0,0065 (-)	0,0065 (-)	0,0065 (-)	0,0065 (-)		
Burn back syst. drive-cross s. of electric c.[mm <sup>2</sup> ] amount of w.	1 \ 2+4	1 \ 2+4	1 \ 2+4	1 \ 2+4	1 \ 2+4	1 \ 2+4		
Total sum boiler without auger system [kW]	8,45	11,45	11,45	11,45	11,45	11,45		
Electrical connection [V, A, Hz]	3x400,20,50	3x400,20,50	3x400,20,50	3x400,20,50	3x400,20,50	3x400,20,50		
Conveyer screw [kW]; (motor nominal torque[Nm])	1,5 (419)	1,5 (419)	1,5 (419)	1,5 (419)	1,5 (419)	1,5 (419)		
Conveyer screw-cross s. of electric c.[mm <sup>2</sup> ] amount of w.	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Wood chips auger system[kW]; (motor nominal torque [Nm])	1,5 (419)	1,5 (419)	1,5 (419)	1,5 (419)	1,5 (419)	1,5 (419)		
Wood chips auger s.-cross s. of ele. cable [mm <sup>2</sup> ] amount of w.	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Wood pellets auger system [kW]; (motor nominal torque [Nm])	1,1 (-)	1,1 (-)	1,1 (-)	1,1 (-)	1,1 (-)	1,1 (-)		
Wood pellets auger s.-cross s. of el. cable [mm <sup>2</sup> ] amount of w.	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Transport system with sepearate gear [kW];(motor n. torq. [Nm])	0,55 (328)	0,55 (328)	0,55 (328)	0,55-1,5 (328)	0,55-1,5 (328)	0,55-1,5 (328)		
Tran. s. with s. g.-cross section of el. cable [mm <sup>2</sup> ] amount of w.	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Conveyer screw, depending on constr. [kW];(motor n. tor. [Nm])	0,75-1,5 (419)	0,75-1,5 (419)	0,75-1,5 (419)	0,75-1,5 (419)	0,75-1,5 (419)	0,75-1,5 (419)		
Conveyer screw-cross s. of electric c.[mm <sup>2</sup> ] amount of w.	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4	1,5/4		
Hydraulik aggregate for scraper floor [kW]; (motor n. torq. [Nm])	1,0-7,5 (-)	1,0-7,5 (-)	1,0-7,5 (-)	1,0-7,5 (-)	1,0-7,5 (-)	1,0-7,5 (-)		
Hydraulik aggregate f. scr. fl.-cross s. of el. cable] amount of w.	2,5/5	2,5/5	2,5/5	2,5/5	2,5/5	2,5/5		

Acceptable fuel:  
wood chips quality class A1, A2 and B1, particle size P16B, P 31.5, P45A according to EN 14961-1/4, bulk density (BD) > 150', (BD) > 200' or G30-G50, W 15-40 according to ÖNORM M 7133 nominal power at max. M25 (W25) or heating value (Q) > 3.5 kWh/kg.  
wood pellets quality class A1 and A2 according to EN 14961-2, ENplus, ÖNORM M 7135, DIN plus, Swiss Pellets.  
\* soft wood, \*\* hard wood

**A buffer is not required if guaranteed:**

permanent minimum heat decline:  
100% of the nominal power for min. 2 hours or  
30% of the nominal power for min. 3 hours

**The size of the buffer depends on the system. This must be calculated by a planner in accordance with the present heating system!**

Changes in the sense of the technical progress reserved!

