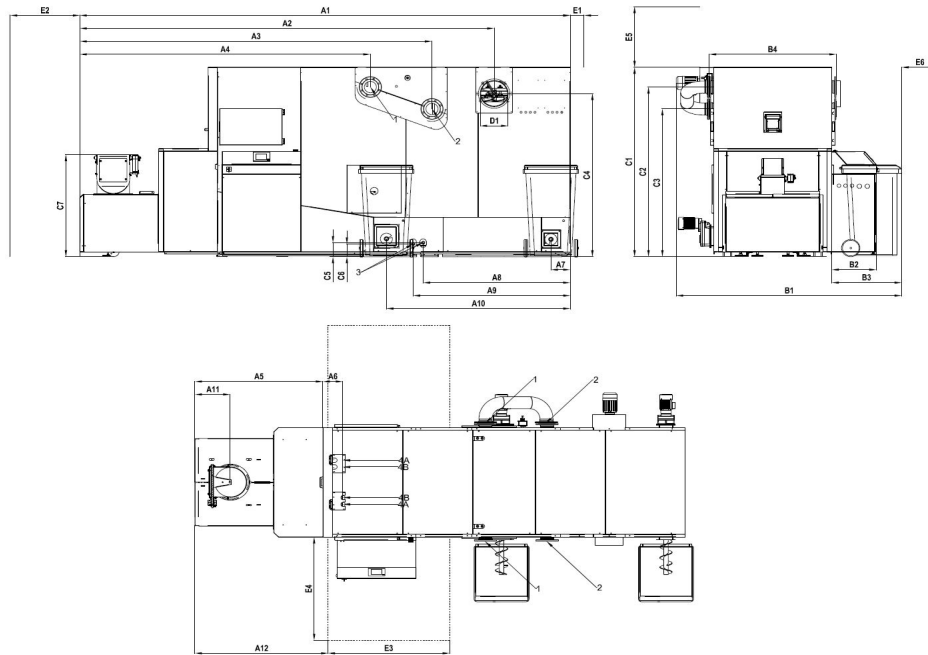


# BioFire 500-1000 P45S + M50

data sheet

Vers. 1.0



	500	600	800	1000
<b>dimensions</b>				
A1 lenght [mm]	4980	5285		5880
A2 lenght [mm]	4160	4465		5075
A3 lenght [mm]	3490	3795		4405
A4 lenght [mm]	2825	3130		3740
A5 lenght [mm]	1380	1380		1560
A6 lenght [mm]	215	215		200
A7 lenght [mm]	210	210		195
A8 lenght [mm]	1585	1585		1570
A9 lenght [mm]	1690	1690		1680
A10 lenght [mm]	1905	1980		1965
A11 lenght [mm]	380	380		380
A12 lenght [mm]	1435	1435		1640
B1 width [mm]	2425	2425		2795
B2 width [mm]	480	480		480
B3 width [mm]	750	750		750
B4 width [mm]	1375	1375		1735
C1 height [mm]	1990	2190		2470
C2 height [mm]	1760	1985		2265
C3 height [mm]	1510	1710		2010
C4 height [mm]	1685	1890		2185
C5 height [mm]	165	165		165
C6 height [mm]	150	150		150
C7 height [mm]	1185	1185		1185
D1 diameter flue pipe [mm]	300	300		300
E1 free area [mm]	150	150		150
E2 free area [mm]	750	750		750
E3 free area [mm]	1310	1310		1450
E4 free area [mm]	1200	1200		1200
E5 free area [mm]	700	700		850
E6 free area [mm]	400	400		400
<b>connections</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
1 flow	DN125 / PN6	DN125 / PN6	DN125 / PN6	
2 backflow	DN125 / PN6	DN125 / PN6	DN125 / PN6	
3 filling/depletion	3/4" IG	3/4" IG	3/4" IG	
4A safety heat exchanger input	1" IG	1" IG	1" IG	
4B safety heat exchanger output	1" IG	1" IG	1" IG	
<b>technical datas</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
power range (according to nameplate) - wood chips [kW]	250 - 500	300 - 600	400 - 800	500 - 1000
power range - wood chips [kW]*	-	-	-	-
continuous output (over 10 hrs.) [kWh]	-	-	-	-
boiler class	-	-	-	-
weight of boiler [kg]	5915	6796	10003	
weight of combustion chamber modul [kg]	1375	1650	2232	
weight of heat exchanger modul [kg]	2430	2828	4200	
weight feed-in (charging auger with RSE) [kg]	180	180	241	
weight of boiler covering and controlGewicht [kg]	511	571	611	
weight of burner (trough, grate elements, drive, etc.) [kg]	750	835	1530	
weight of combustion chamber stones [kg]	550	613	1010	
weight of accessories and ash removal [kg]	120	120	180	
min. / max. delivery pressure [mbar]	0,05 / 0,10	0,05 / 0,10	0,05 / 0,10	
min. / max. operating overpressure [bar]	1,5 / 5 (6)	1,5 / 5 (6)	1,5 / 5 (6)	
max. operating temperature [°C]	102	102	102	
max. operating combustion chamber temperature [°C]	-	-	-	
max. setting safetytemperaturelimiter - STL [°C]	110	110	110	
water capacity [litr.]	1660	1950	3275	
min. flow rate at ΔT = 20K and partial load [kg/h]	10748	12898	17197	21496
resistance of boiler at ΔT = 10K [mbar]	31	-	-	-
resistance of boiler at ΔT = 20K [mbar]	41	-	51	74
resistance of boiler at ΔT = 35K [mbar]	-	185	-	-

changes in the senses of the technical progress reserved!

HERZ Energietechnik GesmbH  
 Herzstraße 1 • A-7423 Pinkafeld  
 e-mail: office-energie@herz.eu • www.herz.eu



# BioFire 500-1000 P45S + M50

size of heat exchanger [m <sup>2</sup> ]	28,90	34,49	44,57	49,50
heat exchanger - number of tube rows / conduits	1 / 55	1 / 55	1 / 55	1 / 66
size of grate surface [m <sup>2</sup> ]	0,83	1,01	1,25	1,25
volume of combustion chamber [m <sup>3</sup> ]	1,15	1,66	2,50	2,50
size of safety heat exchanger [m <sup>2</sup> ]	1,95	2,27	2,27	2,27
minimum flow safety heat exchanger [ltr./h]	>1200	>1200	>1200	>1200
minimum pressure cold water [bar]	2	2	2	2
opening temperature thermal safety valve [°C]	95 - 108	95 - 108	95 - 108	95 - 108
number of thermal safety valve [Stk.]	2	2	2	2
minimal volume of buffer tank [ltr.]	10000	10000	20000	20000
<b>electrical datas</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
electrical connection [V/Hz/A] / delivery rate [kW]	3x 400/50/16 / -			
electric power consumption at nominal load [kW]	2,7	3,3	3,8	3,8
electric power consumption at part load [kW]	1,1	1,4	1,6	1,6
electric power consumption at "stand by" mode [kW]	-	-	-	-
secondary air fan 1 [kW]	0,38	0,38	0,38	0,38
secondary air fan 1 - cable cross section [mm <sup>2</sup> ] / amount "wires"	0,5 / 6	0,5 / 6	0,5 / 6	0,5 / 6
secondary air fan 2 [kW]	0,38	0,38	0,38	0,38
secondary air fan 2 - cable cross section [mm <sup>2</sup> ] / amount "wires"	0,5 / 6	0,5 / 6	0,5 / 6	0,5 / 6
motor burn back protection device [kW]	0,0065	0,0065	0,0065	0,0065
motor bbpd - cable cross section [mm <sup>2</sup> ] / amount "wires"	0,75 / 6	0,75 / 6	0,75 / 6	0,75 / 6
bypass motor [kW]	0,0065	0,0065	0,0065	0,0065
bypass motor - cable cross section [mm <sup>2</sup> ] / amount "wires"	0,75 / 6	0,75 / 6	0,75 / 6	0,75 / 6
heat exchanger cleaning [kW]	0,55	0,55	0,55	0,55
heat exchanger cleaning - cable cross section [mm <sup>2</sup> ] / amount "wires"	1 / 4	1 / 4	1 / 4	1 / 4
flue ash discharge [kW]	0,37	0,37	0,37	0,37
flue ash discharge - cable cross section [mm <sup>2</sup> ] / amount "wires"	1 / 4	1 / 4	1 / 4	1 / 4
ash discharge [kW]	0,37	0,37	0,37	0,37
ash discharge - cable cross section [mm <sup>2</sup> ] / amount "wires"	1 / 4	1 / 4	1 / 4	1 / 4
primary air fan 1 [kW]	0,4	0,4	0,4	0,4
primary air fan 1 - cable cross section [mm <sup>2</sup> ] / amount "wires"	1 / 3	1 / 3	1 / 3	1 / 3
primary air fan 2 [kW]	0,12	0,12	0,12	0,12
primary air fan 2 - cable cross section [mm <sup>2</sup> ] / amount "wires"	0,5 / 6	0,5 / 6	0,5 / 6	0,5 / 6
motor ash scraper floor [kW]	0,37	0,37	0,37	0,37
motor ash scraper floor - cable cross section [mm <sup>2</sup> ] / amount "wires"	- / -	- / -	- / -	- / -
motor grate above/below [kW]	0,25	0,25	0,25	0,25
motor grate above/below - cable cross section [mm <sup>2</sup> ] / amount "wire"	1 / 3	1 / 3	1 / 3	1 / 3
motor feeding [kW]	1,50	1,50	1,50	1,50
motor stoker - cable cross section [mm <sup>2</sup> ] / amount "wires"	1,5 / 4	1,5 / 4	1,5 / 4	1,5 / 4
ignition fan [kW] (2x)	1,6	1,6	1,6	1,6
ignition fan - cable cross section [mm <sup>2</sup> ] / amount "wires" (2x)	1 / 3	1 / 3	1 / 3	1 / 3
flue gas fan [kW]	6	6	6	6
flue gas fan - cable cross section [mm <sup>2</sup> ] / amount "wires"	2,5 / 5	2,5 / 5	2,5 / 5	2,5 / 5
<b>emissions (nominal load) - wood chips</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
exhaust gas temperature [°C]	~160	~160	~160	~160
mass flow flue gas [kg/s]**	0,55	0,66	0,88	1,10
volume flow flue gas [Nm <sup>3</sup> /h]**	1985	2382	2443	3053
volume flow flue gas [***Bm <sup>3</sup> /h]**	2421	2905	3874	4842
CO <sub>2</sub> -content [Vol. %]*	-	-	-	-
efficiency [%]	>90	>90	>90	>90
<b>emissions (part load) - wood chips</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
exhaust gas temperature [°C]	~105	~105	~105	~105
mass flow flue gas [kg/s]**	0,33	0,39	0,53	0,66
volume flow flue gas [Nm <sup>3</sup> /h]**	1182	1419	1455	1819
volume flow flue gas [***Bm <sup>3</sup> /h]**	1259	1511	2015	2518
CO <sub>2</sub> -content [Vol. %]*	-	-	-	-
efficiency [%]	>90	>90	>90	>90
<b>reportdatas</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
report log-number	-			
testing institute	-			
<b>inserting dimensions heat exchanger module</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
length [mm]	1600	1600	1600	1600
width [mm]	1400	1400	1980	1980
height [mm]	1977	2177	2480	2480
<b>inserting dimensions combustion chamber module</b>	<b>500</b>	<b>600</b>	<b>800</b>	<b>1000</b>
length [mm]	2400	2400	2800	2800
width [mm]	1400	1400	1980	1980
height [mm]	1977	2177	2480	2480

**note:**

\* measured value according test report

\*\* calculated (water content 50% / O<sub>2</sub> = 10% at NL / O<sub>2</sub> = 12% at PL)

\*\*\* cubic metres at operating pressure (calculated)

**technical notes:****acceptable fuel**

wood chips M50 (water content max. 50% / water content min. 15%) according - EN ISO17225-4: property class A1, A2, B1 and particle size P16S, P31S und P45S

**heating water:**

With regard to the quality of the heating water, take into account ÖNORM H 5195 (current edition), EN 12828 part 1, for germany: VDI 2035.

Regardless of the respective standards or guidelines, the following values apply as a minimum requirement for filling and supplementary water:

conductivity: &lt;150µS / pH: 8,2 - 10 / total hardness: &lt;0,1mmol/l

If a standard or guideline requires a lower value, this is to be used. The heating water must be checked at regular intervals in accordance with the applicable regulation. The results must be documented and kept.

**buffer tank:**

A buffer tank is not required if guaranteed:

permanent minimum heat decline: 100% of the nominal load for min. 3 hrs. or 30% of the nominal load for min. 5 hrs.

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

**minimum heat loss:**

permanent minimum heat loss (24 hrs.) for maintenance of combustion:

40% of nominal load at moist fuel M50 or „W50“

changes in the senses of the technical progress reserve!