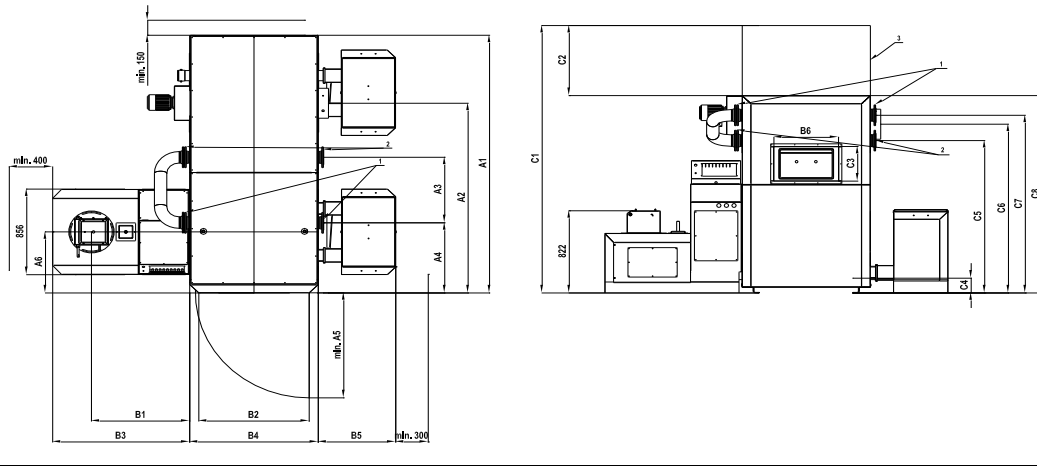


HERZ BioMatic 220 - 450 BioControl

Standard specification sheet

BM 220-500
V 1.9



	BioMatic BioControl	220	250	300	350	400	450
Power range - Declaration at nameplate [kW]		54-220	54-250	79-300	79-350	79-400	79-450
Continuance of combustion max. [h]		-	-	-	-	-	-
A1 Length		1948	1948	2054	2054	2574	2574
A2 Length		1516	1516	1635	1635	1895	1895
A3 Length		605	605	655	655	655	655
A4 Length		646	646	701	701	701	701
A5 Length		900	900	1050	1050	1050	1050
A6 Length		539	539	610	610	610	610
B1 Width		904	904	906	906	906	906
B2 Width without flange		862	862	986	986	986	986
Width with flange		1145	1145	1284	1284	1284	1284
B3 Width		1262	1262	1264	1264	1264	1264
B4 Width		1066	1066	1186	1186	1186	1186
B5 Width		710	710	714	714	714	714
B6 Width		500	500	500	500	500	500
C1 Height		2400	2400	2650	2650	2650	2650
C2 Height		700	700	700	700	700	700
C3 Height		340	340	300	300	300	300
C4 Height [°] / [mm]		3/4° / 148	3/4° / 148	3/4° / 148	3/4° / 148	3/4° / 148	3/4° / 148
C5 Height [DN] / [mm]		80/1335	80/1335	100/1523	100/1523	100/1523	100/1523
C6 Height		1481	1481	1688	1688	1688	1688
C7 Height [DN] / [mm]		80/1588	80/1588	100/1776	100/1776	100/1776	100/1776
C8 Height		1803	1803	1973	1973	1973	1973
D1 Diameter flue pipe		250	250	300	300	300	300
Pressure step flange		PN6	PN6	PN6	PN6	PN6	PN6
Inserting dimensions							
Length		1200	1200	1300	1300	1300	1300
Width - elements disassembled		1200	1200	1350	1350	1350	1350
Width - elements not disassembled		1750	1750	2000	2000	2000	2000
Height		1700	1700	2000	2000	2000	2000

Mounting dimensions in [mm]



1...Flow , 2...Backflow , 3... Heat exchanger cleaning

Weight of boiler [kg]	2600	2600	2900	2900	3500	3500	
Volume of combustion chamber [ltr.]	-	-	-	-	-	-	
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] *Note 1	1,5 / 4,5	1,5 / 4,5	1,5 / 4,5	1,5 / 4,5	1,5 / 4,5	1,5 / 4,5	
max. operating temperature [°C] *Note 2	90	90	90	90	90	90	
Water capacity [ltr.]	500	500	720	720	940	940	
Electrical connection [V;Hz;A] / Delivery rate [kW]	3x400;50;20/6,36		3x400;50;20/6,36				
Resistance of boiler at dt=35K [mbar]	-	-	-	-	-	-	
Resistance of boiler at dt=20K [mbar] **	22	22	26	26	35	35	
Resistance of boiler at dt=10K [mbar]	-	-	-	-	-	-	
Flow rate dt=18K [kg/h] (min. recomm.) **	10509	11942	14331	16719	19108	21496	
Flow rate dt=10K [kg/h]**	18917	21496	25795	30095	34394	38693	
Electric power consumption, nominal load [kW]	-	-	-	-	-	-	
Electric power consumption, part load [kW]	-	-	-	-	-	-	
Size of heat exchanger [m2]	11,8	11,8	16	16	26,6	26,6	
Size of combustion surface[m2]	0,332	0,332	0,442	0,442	0,442	0,442	
Volume combustion chamber [m3]	0,123	0,123	0,148	0,148	0,148	0,148	
Necessary quantity of water for safety heat exchanger [ltr./h]	-	-	-	-	-	-	
Heat exchanger - Number of conduits / tubes [qty.]	2 / 1; 6x5	2 / 1; 6x5	2 / 1; 7x5	2 / 1; 7x5	2 / 1; 9x7	2 / 1; 9x7	
Minimum Volume of Buffer [Liter]	3000	3000	4000	4000	5000	5000	
Emission - Nominal load - Wood chips (Pellets)							
Exhaust gas temperature [°C]	~140 (-120)	~140 (-120)	~130 (-120)	~130 (-120)	~110 (-120)	~120 (-120)	
Mass flow flue gas [kg/s] **	0,150 (0,129)	0,167 (0,147)	0,251 (0,207)	0,292 (0,242)	0,317 (0,276)	0,357 (0,345)	
Mass flow flue gas [m³/h] **	415 (357)	462 (406)	694 (574)	801 (669)	878 (765)	987 (956)	
Mass flow flue gas [m³/h] ***	628 (514)	699 (585)	1024 (826)	1195 (963)	1231 (1101)	1421 (1376)	
CO2 content [Vol. %] *	14,0 (14,7)	14,0 (14,7)	11,1 (12,5)	11,1 (12,5)	16,0 (12,5)	16,0 (12,5)	
Efficiency [%] *	91,2 (93,1)	91,2 (93,1)	90,0 (92,3)	90 (92,3)	93,3 (92,3)	93,3 (92,3)	
Emission - Part load - Wood chips (Pellets)							
Exhaust gas temperature [°C]	~100 (-80)	~100 (-80)	~100 (-80)	~100 (-80)	~100 (-80)	~100 (-80)	
Mass flow flue gas [kg/s] **	0,063 (0,042)	0,063 (0,042)	0,115 (0,085)	0,115 (0,085)	0,115 (0,085)	0,115 (0,085)	
Mass flow flue gas [m³/h] **	175 (117)	175 (117)	317 (236)	317 (236)	317 (236)	317 (236)	
Mass flow flue gas [m³/h] ***	238 (151)	238 (151)	428 (304)	428 (304)	428 (304)	428 (304)	
CO2 content [Vol. %] *	7,8 (8,7)	7,8 (8,7)	6,4 (7,6)	6,4 (7,6)	6,4 (7,6)	6,4 (7,6)	
Efficiency [%] *	90,6 (91,9)	90,6 (91,9)	90,3 (90,6)	90,3 (90,6)	90,3 (90,6)	90,3 (90,6)	
Test reports							
Test report - reference number	HL6545/3	HL6545/3	HL6545/3	HL6545/3	HL 6960	HL6545/3	
Test report - approval number	-	-	-	-	-	-	
Testing institute	TGM	TGM	TGM	TGM	TGM	TGM	

Technical data

Note 1
Design Pressure = 5.0 barg
Test Pressure = 7.5 barg
Maximum setting for safety Pressure Relief Valve = 4.5 barg (assuming 10% variance)

Note 2
Rural Energy recommends a maximum target flow temperature of 65°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.

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) > 150¹, (BD) > 200² or G30-G50, W 15-40 according to ONORM 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, ONORM M 7135, DIN plus, Swiss Pellets. ¹soft wood, ²hard wood

Changes in the sense of the technical progress reserved!

* measured value acc. to Test report ** calculated *** cubic metres at operating pressure

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