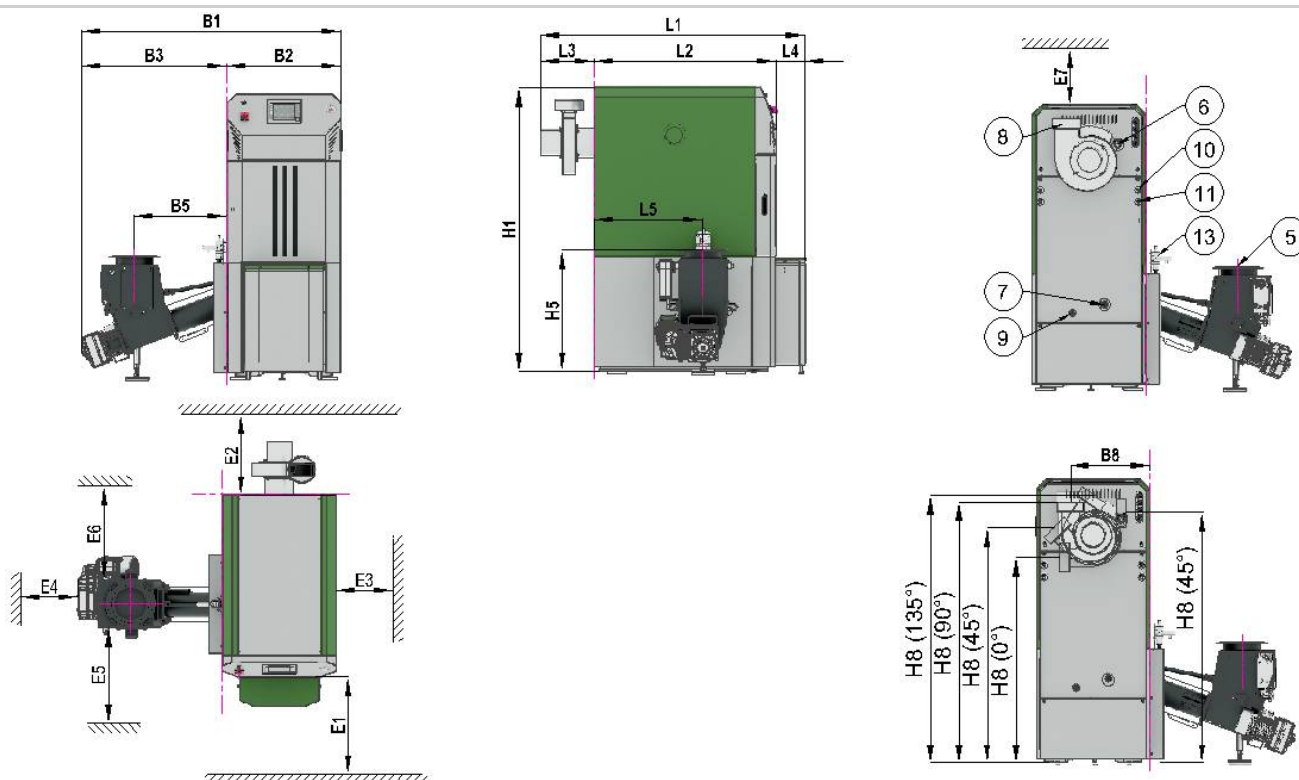


HEIM-Energie HS-F 20-60



Dimensions		20 / 35	45 / 60	
L1	length	mm	1400	1500
L2	length	mm	960	1070
L3	length	mm	275	
L4	length	mm	155	155
B1	width	mm	1300	1410
B2	width	mm	600	710
B3	width	mm	760	
H1	height	mm	1490	1590

minimal gap			20 / 35	45 / 60
E1	minimal gap (front)	mm	760	860
E2	minimal gap (back)	mm	500	530
E3	minimal gap	mm	300	
E4	minimal gap	mm	300	
E5	minimal gap	mm	500	
E6	minimal gap	mm	500	
E7	minimal gap (top)	mm	600	700

Inserting Dimensions		20 / 35	45 / 60
length	mm	1090	1410
width	mm	650	760
height	mm	1490	1590

Connections			20 / 35	45 / 60	
5	Insert-Flange - BFP		Øi 182,5mm		
	L5 BFP (length)	mm	575	630	
	B5 BFP (width)	mm	490		
	H5 BFP (height)	mm	635	635	
6	Flow		1" IG	6/4" IG	
	B6 Flow (width)	mm	150	155	
	H6 Flow (height)	mm	1280	1380	
7	Backflow		1" IG	6/4" IG	
	B7 Backflow (length)	mm	220	220	
	H7 Backflow (height)	mm	440	500	
8	Flue gas pipe connection		Øa	150mm	150 / 180mm
	B8 Flue gas pipe (90°)	mm	420	470	
	H8 Flue gas pipe (90°)	mm	1380	1480 / 1460	
	H8 Flue gas pipe (0°)	mm	1080	1180	
	H8 Flue gas pipe (45°)	mm	1240	1340 / 1330	
	H8 Flue gas pipe (135°)	mm	1410	1510 / 1500	
	H8 Flue gas pipe (180°)	mm	1330	1450 / 1420	
9	Filling / Depletion		1/2" IG	1/2" IG	
	B9 Filling / Depletion (width)	mm	390	445	
	H9 Filling / Depletion (height)	mm	395	395	
10	Input Safety heat exchanger		1/2" IG	1/2" IG	
	B10 SHE (width)	mm	45	45	
	H10 SHE (height)	mm	1040	1130	
11	Output Safety heat exchanger		1/2" IG	1/2" IG	
	B11 SHE (width)	mm	45	45	
	H11 SHE (height)	mm	990	1060	
13	Self-triggering extinguishing system				

Changes in the sense of the technical progress reserved

HEIM-Energie HS-F 20-60

Power Data		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Power range - declaration at rating plate	kW	6,0 - 20,0	5,9 - 20,0	6,0 - 35,0	5,9 - 35,0	12,1 - 45,0	12,6 - 45,0	12,1 - 60,0	12,6 - 60,0
Fuel heat output	kW	21.4	21.4	38.0	37.9	47.9	48.2	64.2	64.4
Efficiency - Nominal Load*	%	93.3	93.5	92.0	92.3	94.0	93.4	93.4	93.1
Boiler class EN 303-5		5							
Energy efficiency class		A+							
Boiler Data		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Boiler weight	kg	517				620			
Operation temperature [max]	°C	90							
Setting Safety Temperature Limiter [max]- STL	°C	95							
Grate area	m²	0.0289				0.0484			
Thermal safety valve - BFP		1							
Opening temperatur Thermal safety valve	°C	95							
Volume ash drawer heat exchanger	l	23							
Volume ash drawer combustion chamber	l	23				38			
Volume combustion chamber	m³	0.0689				0.1101			
Chimney draft (underpressure) [min-max]	Pa	5 - 10							
operating overpressure [min - max]	bar	1,5 - 3							
Heat Exchanger		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Heat exchanger [Nr. conduits / Nr. tubes]		2 / 2x4; 1x4				2 / 2x6; 1x6			
Heat exchanger surface	m²	1.74				2.65			
Safety-Heat-Exchanger surface	m²	0.091				0.12			
Flow safety heat exchanger [min]	l/h	> 1200							
Pressure cold water [min]	bar	2							
Hydraulic Data		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Water capacity	l	80				116			
Water flow rate (ΔT=15K) [min]	l/h	1433		2006	2293	2580	2752	3726	4013
Flow resistance (ΔT=10K)	mBar	20.6		39.9	51.9	7.5	8.5	15.3	16.3
Flow resistance (ΔT=20K)	mBar	5.4	0	10.8	13.4	2.2	2.4	4.1	4.5
Recommended buffer volume [min]	l	800				1000			
Electrical Data		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Power consumption	kW	2.6							
Electrical connection	V/Hz/A	~ 230 / 50 / 16							
Electrical power consumption (nominal)*	kW	0.092		0.141		0.180	0.138	0.211	0.196
Electrical power consumption (partial)*	kW	0.069				0.076	0.105	0.076	0.105
Electrical power consumption (Stand-by)*	kW	0.017							
Test Report Data		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Test report reference number		32-0129/T3 / 39-11116/T5				32-0129/T4 / 39-11116/T6			
Test institute		SZU							
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HEIM-Energie HS-F 20-60

Emission Data (Nominal Load) ($\Delta T=20K$)		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Flue gas temperature	°C	~ 110		~ 150		~ 110		~ 150	
Flue gas mass flow**	kg/h	50.4	43.2	86.4	79.2	100.8	97.2	136.8	126
Flue gas flow rate**	Nm ³ /h	38.9	33.9	67.7	62.0	78.6	74.5	105.6	97.0
Flue gas flow rate**	Bm ³ /h	54.6	47.5	104.9	96.0	110.3	104.5	163.6	150.3
CO ₂ -Content*	Vol. %	12.50	13.07	12.85	12.79	13.98	13.64	14.83	13.98
Efficiency*	%	93.3	93.5	92.0	92.3	94.0	93.4	93.4	93.1

Emission Data (Partial Load) ($\Delta T=20K$)		20		35		45		60	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Flue gas temperature	°C	~ 85							
Flue gas mass flow**	kg/h	18				32.4			
Flue gas flow rate**	Nm ³ /h	12.5	12.8	12.5	12.8	24.5	23.8	24.5	23.8
Flue gas flow rate**	Bm ³ /h	16.4	16.8	16.4	16.8	32.2	31.3	32.2	31.3
CO ₂ -Content*	Vol. %	11.97	10.52	11.97	10.52	12.79	13.64	12.79	19.75
Efficiency*	%	91.0	91.7	91.0	91.7	94.3	93.8	94.3	93.8

Note:

* measured value according to test report

** calculated with fuel values from test report

Nm³/h = Standard cubic meters / hourBm³/h = Operating cubic meters / hour**Permissible fuel:****Wood chips** for non-industrial use with minor amount of fines according to EN ISO 17225-4 based on the following specification:

.) Property class: A1

.) Particle size: P16S

.) Water content: min. 15 m-%, max. 40 m-% (M40)

.) Net calorific value as received: $\geq 3,1$ kWh/kg.) Bulk density as received: ≥ 150 kg/m³

The nominal power output and the emission values can be guaranteed up to a maximum water content of 25% respectively to a minimum net calorific value of 3,5 kWh/kg for the authorized fuel.

Wood pellets for non-industrial use according to Enplus, Swisspellet, DINplus or pellets according to EN 17225-2 according to the following specification:

.) property class A1

.) the maximum permissible fines content in the fuel store must not exceed 8% of the stored fuel volume (determined with perforated screen hole diameter 5mm)!

.) fine fraction at the time of loading: < 1.0 m-%.) heating value in delivery condition > 4.6 kWh/kg.) bulk density BD in delivery condition > 600 kg/m³.) mechanical strength DU, EN 15210-1 in delivery condition, m-%: DU97.5 ≥ 97.5

.) diameter 6mm

Heating water:

Please observe ÖNORM H 5195 (current edition), EN 12828 Part 1 with regard to the condition of the heating water and VDI 2035 for Germany.

Irrespective of the respective standards or directives, the following values apply as minimum requirements for filling and supplementary water:

.)pH: 8,2 - 10

.)conductivity: $<150\mu S$.)total hardness: $<0,1$ mmol/l

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

Chimney:

The chimney system must be moisture-resistant and approved for solid fuels. The diameter of the chimney system must be calculated according to EN 13384-1, but the diameter must be at least equal to the diameter of the flue pipe connection (connection 8). The chimney system must achieve tightness class N1 or P1 according to the calculation. The connecting pipe must be installed so that it rises steadily (min. 5%). In addition, all regional regulations must be observed.

Buffer tank:

A buffer tank is not required if guaranteed:

permanent minimum heat decline: 100% of the nominal power for min. 0,75 hours or 30% of the nominal power for min. 1 hour.

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

Maintenance/service:

The specified free areas must be strictly adhered to when carrying out maintenance and service work.

Changes in the sense of the technical progress reserved