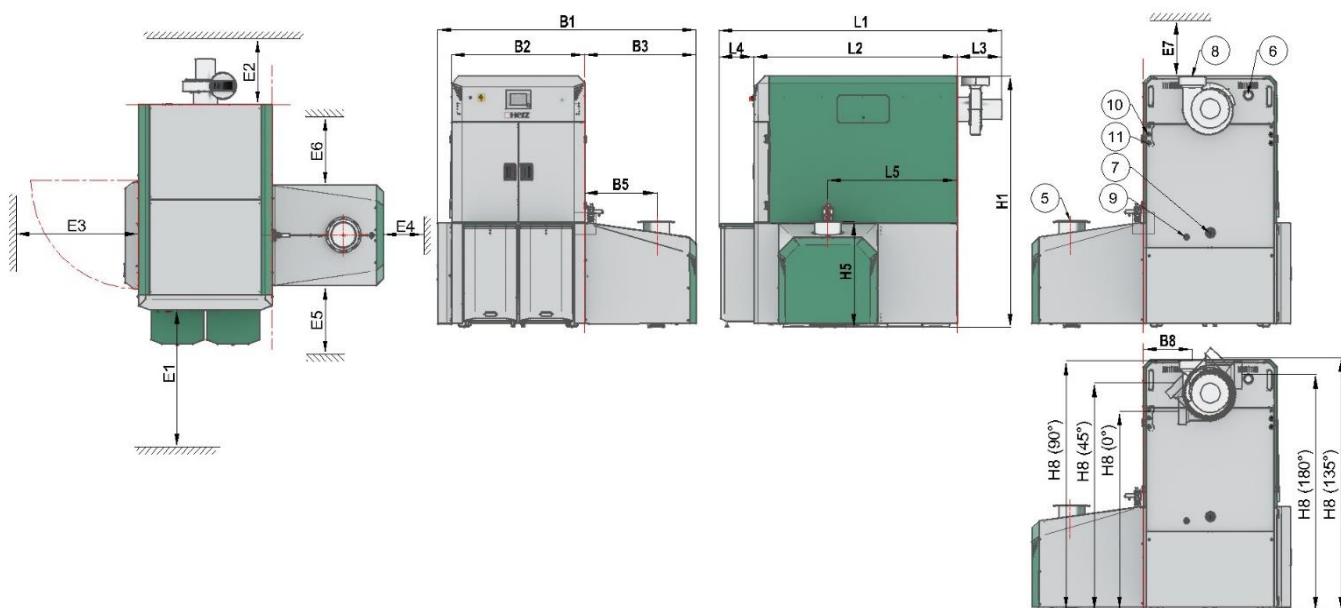


Created: PK

Responsible: RST (Construction)

Created: 30.06.2023

Approved / Valid: 03.07.2023



Dimensions		120 - 130 - 149 - 151
L1 length	mm	2085
L2 length	mm	1500
L3 length	mm	330
L4 length	mm	255
B1 width	mm	1910
B2 width	mm	990
B3 height	mm	820
H1 height	mm	1830

minimal gap		120 - 130 - 149 - 151
E1 minimal gap (front)	mm	1000
E2 minimal gap (back)	mm	750
E3 minimal gap (left)	mm	700
E4 minimal gap (right)	mm	300
E5 minimal gap	mm	500
E6 minimal gap	mm	500
E7 minimal gap (over boiler)	mm	425

Inserting Dimensions		120 - 130 - 149 - 151
length	mm	1500
width	mm	910
height	mm	1830

Connections		120 - 130 - 149 - 151
5	Insert-Flange - BFP	Øi 182,5 mm
L5	BFP (length)	mm 950
B5	BFP (width)	mm 535
H5	BFP (height)	mm 770
6	Flow	2" IG
B6	Flow (width)	mm 770
H6	Flow (height)	mm 1690
7	Backflow	2" IG
B7	Backflow (length)	mm 490
H7	Backflow (height)	mm 685
8	Flue gas pipe connection	Øa Øa 200mm
B8	Flue gas pipe (90°)	mm 360
H8	Flue gas pipe (90°)	mm 1820
H8	Flue gas pipe (0°)	mm 1460
H8	Flue gas pipe (45°)	mm 1660
H8	Flue gas pipe (135°)	mm 1850
H8	Flue gas pipe (180°)	mm 1720
9	Filling / Depletion	3/4" IG
B9	Filling / Depletion (width)	mm 315
H9	Filling / Depletion (height)	mm 655
10	Input Safety heat exchanger	1/2" IG
B10	SHE (width)	mm 45
H10	SHE (height)	mm 1400
11	Output Safety heat exchanger	1/2" IG
B11	SHE (width)	mm 45
H11	SHE (height)	mm 1340

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Power Data		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Power range - declaration at rating plate	kW	35,1-120	34,8-120	35,1-130	34,8-130	35,1-149	34,8-149	35,1-151	34,8-151
Fuel heat output	kW	127,1	127,0	137,7	137,6	158,5	159,5	160,6	161,7
Efficiency - Nominal Load*	%	94,4	94,5	94,4	94,5	94,0	93,4	94,0	93,4
Boiler class EN 303-5		5							
Energy efficiency class		A+							
Boiler Data		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Boiler weight	kg	1570							
Operation temperature [max]	°C	90							
Setting Safety Temperature Limiter [max] - STL	°C	95							
Grate area	m²	0,307							
Thermal safety valve - BFP		1							
Opening temperatur Thermal safety valve	°C	95							
Volume ash drawer heat exchanger	l	75							
Volume ash drawer combustion chamber	l	75							
Volume combustion chamber	m³	0,3181							
Chimney draft (underpressure) [min-max]	Pa	5 - 10							
Operating overpressure [min - max]	bar	1,5 - 5							
Heat Exchanger		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Heat exchanger [Nr. conduits / Nr. tubes]		2 / 3x10; 3x10							
Heat exchanger surface	m²	8,6							
Safety-Heat-Exchanger surface	m²	0,57							
Flow safety heat exchanger [min]	l/h	> 1200							
Pressure cold water [min]	bar	2							
Hydraulic Data		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Water capacity		l 295							
Water flow rate (ΔT=15K) [min]	l/h	6880		7452		8541		8885	
Flow resistance (ΔT=10K)	mBar	32,5		38,7		51,4			
Flow resistance (ΔT=20K)	mBar	8,9		10,1		13,4			
Recommended buffer volume [min]		l 1500				2000			
Electrical Data		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Power consumption		kW 2,8							
Electrical connection		V/Hz/A ~ 230 / 50 / 16							
Electrical power consumption (nominal)*	kW	0,175	0,145	0,173	0,145	0,215	0,161	0,215	0,161
Electrical power consumption (partial)*		kW 0,090 / 0,073							
Electrical power consumption (Stand By)*		kW 0,017							
Test Report Data		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Test report reference number		31-10133/T1		31-10133/T2		31-10133/T3		31-10133/T4	
Test institute		SZU							

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firematic 120-151

Development / Technical Documentation / Standard Specification Sheet

TD_NB_firematic 120-151_ENG_rev.01

Created: PK

Responsible: RST (Construction)

Created: 30.06.2023

Approved / Valid: 03.07.2023

Emission Data (Nominal Load) ($\Delta T=20K$)		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Flue gas temperature	°C	~ 130		~ 140		~ 150		~ 150	
Flue gas mass flow**	kg/h	263,9	249,6	285,9	271,4	322,9	319,1	327,3	323,3
Flue gas flow rate**	Nm ³ /h	203,0	192,0	220,00	208,8	248,4	245,4	251,8	248,7
Flue gas flow rate**	Bm ³ /h	299,7	283,4	332,7	315,8	384,9	380,2	390,0	385,3
CO ₂ -Content*	Vol. %	13,55	13,93	13,55	13,93	13,79	13,75	13,79	13,75
Efficiency*	%	94,4	94,5	94,4	94,5	94,0	93,4	94,0	93,4

Emission Data (Partial Load) ($\Delta T=20K$)		120		130		149		151	
		woodchips	pellets	woodchips	pellets	woodchips	pellets	woodchips	pellets
Flue gas temperature	°C	~ 85							
Flue gas mass flow**	kg/h	88,9 / 91,3							
Flue gas flow rate**	Nm ³ /h	68,4 / 70,2							
Flue gas flow rate**	Bm ³ /h	89,7 / 92,1							
CO ₂ -Content*	Vol. %	11,74 / 10,75							
Efficiency*	%	94,7 / 94,7							

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:****Woodchips** for non-industrial use with low fines content according to EN ISO 17225-4 in accordance with the following specification:

.) Property class: A1, A2, B1

.) Particle size: P16S, P31S

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

.) Calorific value as delivered: ≥ 3.1 kWh/kg.) Bulk density as delivered: ≥ 150 kg/m³**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, A2

.) 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 mind. 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.

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