Data sheet of Hamont automatic boilers for biomass combustion   15.12.2012

Main properties:

- ✓ automatic fuel top-up from the central warehouse to boiler intermediate container (USZI)
- ✓ **automated** fuel ignition, fuel supply to the combustion compartment, cleaning of the heat transfer surfaces of the exchanger, removal of ashes, grating and all other important functions
- ✓ automated and **unmanned** operation of the boiler itself and the boiler circuit, including low-temperature protection control
- ✓ **control** of two independent heating circuits, charging of hot service water in the tank, and/or storage vessel
- ✓ **optimised combustion process** across the entire power range of the boiler with the continual readout of oxygen surplus value in the flue gases by a lambda probe
- ✓ continuous exhaust fan control as a function of the current **underpressure** in the combustion chamber, which is continuously monitored
- ✓ **communication** with the superior control via status signals and changes in the fundamental parameters by Modbus RTU, Modbus RTU/IT protocol, or potential-free contacts (status signals only)
- ✓ remote communication via a **GSM gate**, including the dispatch of SMS with failure status of the system
- ✓ **visualisation** via Ethernet interface
- ✓ **versatility** in terms of guarantee and recommended fuels (sawdust, shavings, pellets, briquettes, chips, specified alternative fuels, …)
- ✓ **boiler controllability** within the range of 30 – 100%
- ✓ the range of our products and **modularity** of individual structural groups allows for the identification of a specific solution both in terms of installed power and structural layout for almost every customer
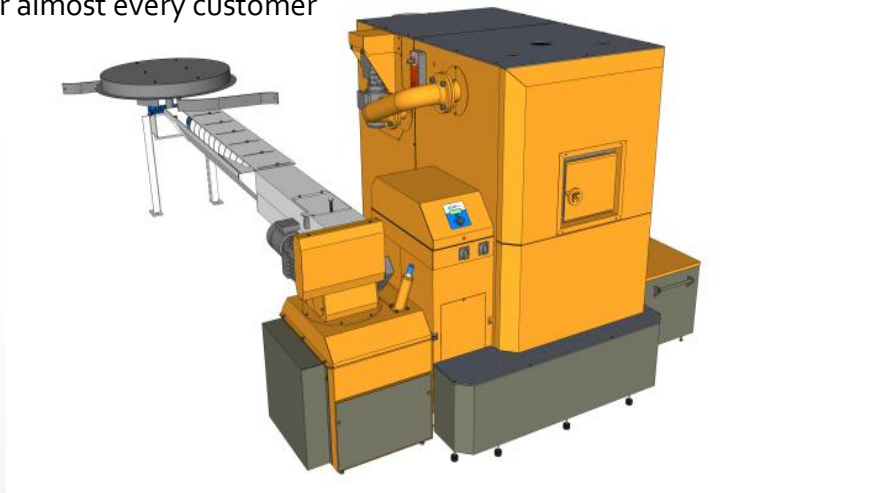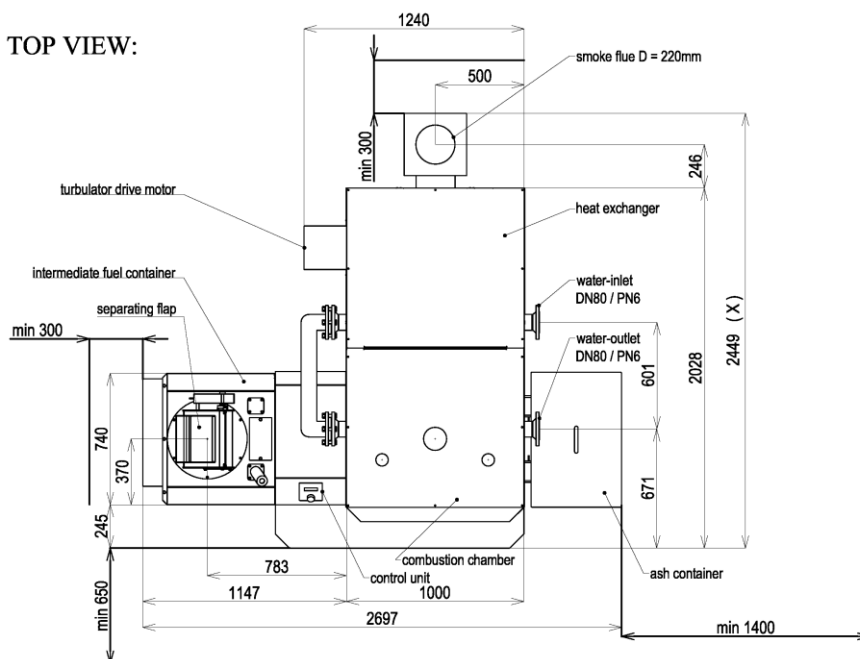
Dimensions of Hamont 150-250 USZI:
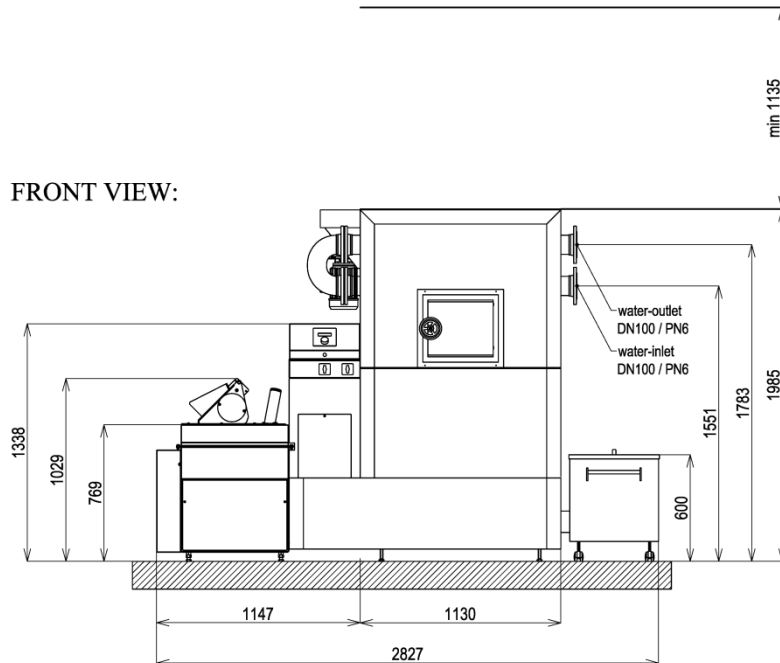
Hamont 150 - 250 kW - USZI
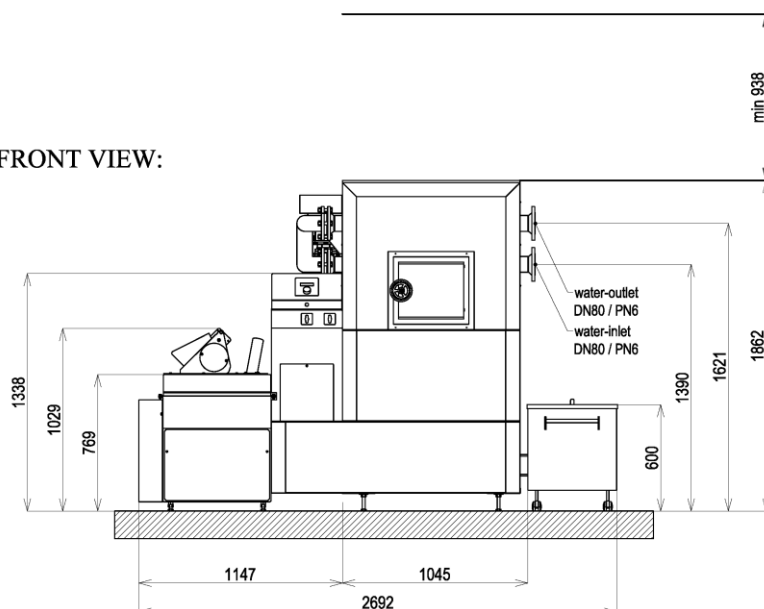
FRONT VIEW:

Type Hamont	Lenght (X):
150 kW	2089
180 kW	2209
199 kW	2329
220 kW	2329
250 kW	2449

TOP VIEW:

Dimensions of Hamont 300-500 USZI:

Hamont 300 - 500 kW - USZI

FRONT VIEW:

- min 1135
- water-outlet DN100 / PN6
- water-inlet DN100 / PN6
- 1985
- 1783
- 1551
- 600
- 1338
- 1029
- 769
- 1147
- 1130
- 2827

TOP VIEW:

- 1560
- 565
- smoke flue D = 300mm
- min 300
- 250
- heat exchanger
- turbulator drive motor
- intermediate fuel container
- separating flap
- water-inlet DN100 / PN6
- water-outlet DN100 / PN6
- min 300
- 2936 (X)
- 2508
- 655
- 740
- 370
- 720
- 305
- combustion chamber
- control unit
- ash container
- 783
- 1147
- 1130
- min 750
- 2832
- min 1500

Type Hamont	Lenght (X):
300 kW	2454
350 kW	2576
400 kW	2696
450 kW	2816
500 kW	2936

Technical data of Hamont 150-500 USZI:

Designation		150	180	199	220	250	300	350	400	450	500
Nominal power Pn	kW	150	180	199	220	250	300	350	400	450	500
Partial load Pmin	kW	40	45	50	55	65	75	90	100	115	140
Boiler efficiency at Pn	%	94,7	94,9	95,2	95,1	95,3	93,7	94,2	94,7	95,1	95,6
Boiler efficiency at Pmin	%	95,7	95,2	95	94,7	94,2	94	94,5	95	95,5	96
Boiler class		3	3	3	3	3	3	3	3	3	3
Noise level	dB	< 65	< 65	< 65	< 65	< 65	< 65	< 65	< 65	< 65	< 65
Weight	kg	2290	2370	2450	2450	2530	2750	2850	2950	3150	3250
Water											
Volume of water	l	380	420	460	460	500	690	740	790	850	900
Water connection diameter	"	3	3	3	3	3	4	4	4	4	4
Water connection diameter	DN	80	80	80	80	80	100	100	100	100	100
Hydraulic boiler loss at temperature gradient of 20°	mbar	65	73	80	80	87	95	102	110	122	130
Boiler temperature	°C	60-90	60-90	60-90	60-90	60-90	60-90	60-90	60-90	60-90	60-90
Min. temperature of return water	°C	55	55	55	55	55	55	55	55	55	55
Max. operating pressure	bar	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5
Test pressure	bar	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6
Hearth temperature	**°C**					900 – 1100					
Hearth pressure	mbar	-0,04	-0,04	-0,04	-0,04	-0,04	-0,04	-0,04	-0,04	-0,04	-0,04
Required chimney draught	mbar	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Need for artificial draught		yes	yes	ano	yes	yes	yes	yes	yes	yes	yes
Flue gas temperature at Pn	°C	128,5	123,5	112,5	117,5	112,7	109,1	108,6	108	107,5	106,9
Draught after the boiler at Pn	Pa	125	140	155	165	180	130	145	160	175	190
Flue gas temperature at Pmin	°C	72,4	70,6	66,3	68,3	66,5	64,7	64,2	63,7	63,2	62,7
Draught after the boiler at Pmin	Pa	35	30	30	30	25	25	25	30	30	30
Volume of flue gas at Pn	kg/h	367	405	430	455	493	644	730	815	901	986
Volume of flue gas at Pmin	kg/h	140	152	160	168	180	238	243	247	252	256
Smoke pipe diameter	mm	220	220	220	220	220	300	300	300	300	300
Chimney diameter	mm	220	220	220	220	220	300	300	300	300	300
Chimney execution						resistant to moisture					
Fuel											
Maximum size	cm	3	3	3	3	3	3	3	3	3	3
Maximum moisture content	%	30	30	30	30	30	30	30	30	30	30
Electric equipment											
Connection						400 V, 50 Hz, 3-phase with a neutral					
Total	W	4307	4307	4307	4307	4307	5719	6269	6269	6269	6269
Ingress Protection Rating (IP)		41	41	41	41	41	41	41	41	41	41