BURNiT
by SUNSYSTEM®

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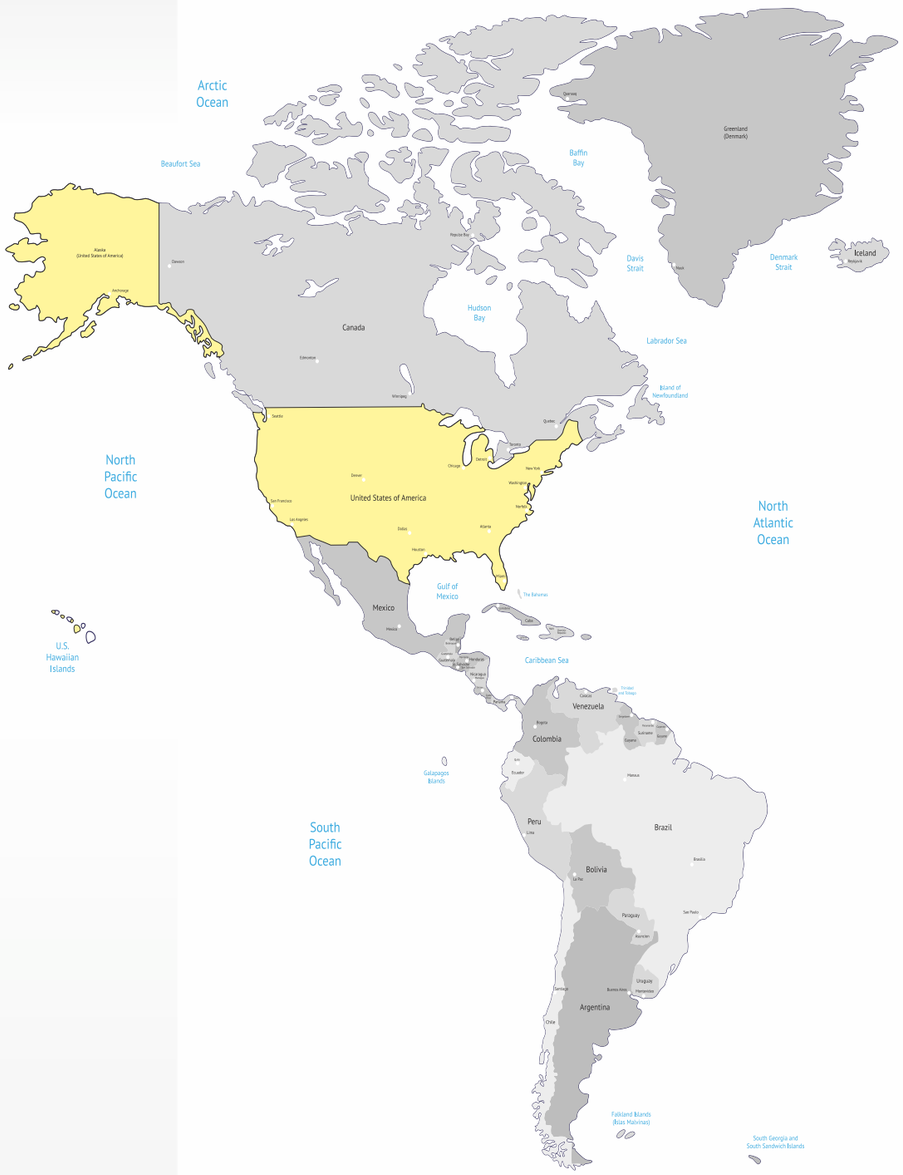
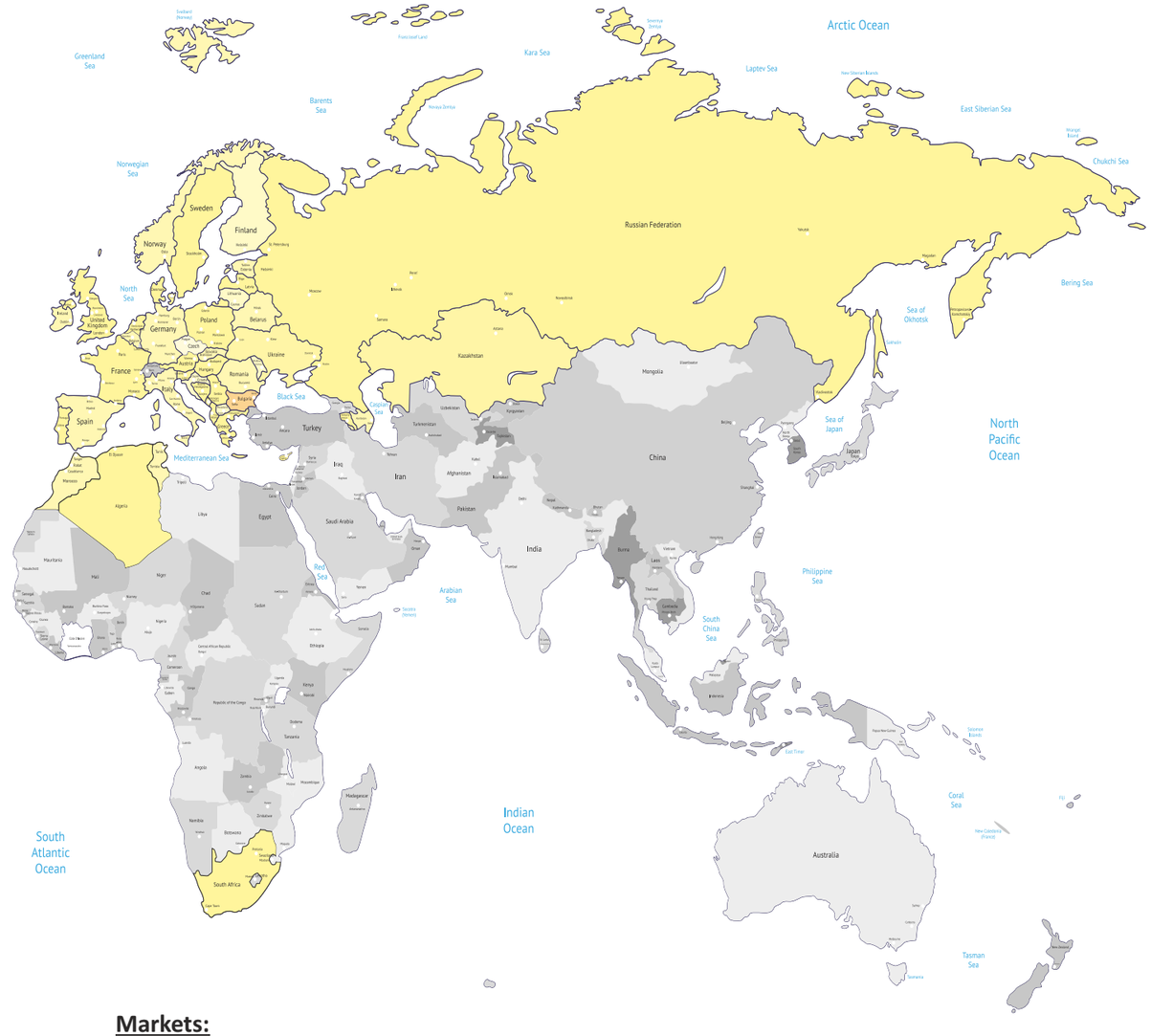
BIOMASS HEATING

BOILERS • PELLET BURNERS • PELLET STOVES

catalogue 2014





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NES
new energy systems

SUNSYSTEM®
Energy from the sun

BURNiT by SUNSYSTEM

NES

new energy systems

THE COMPANY

NES - NEW ENERGY SYSTEMS Ltd. is producer of appliances utilizing alternative energy sources.

The company was established in 2002 in Shumen, Bulgaria. Today, the staff amounts to 330 qualified professionals working in facilities of 30 000 sq. m. built up area. All process are governed by QMS ISO 9001:2008.

The production is marketed across Europe, Africa, and South America, and other marketplaces are in the scope of near-future activities.

Most products of NES are designed to utilize alternative energy sources like solar thermal energy, biomass energy and aerothermal energy. These products contribute to sparing the energy reserves of the planet and minimizing the carbon emissions.

SUNSYSTEM®

Energy from the sun

- **SOLAR THERMAL**
  Solar collectors
  Domestic/ Storage / Combi tanks
  Buffer tanks
  Heat pump heaters
- **PHOTOVOLTAIC**
  Photovoltaic modules, accessories
  Engineering, Procurement and Construction of photovoltaic plants

BURNiT by SUNSYSTEM

- **BIOMASS HEATING**
  Solid fuel boilers
  Wood gasifying boilers
  Pellet boilers
  Combi boilers: wood-pellets/chips or solid fuel
  Pellet Burners
  Pellet/Wood Stoves

Boilers, burners and stoves BURNiT are easy to operate and maintain. They remain unnoticed while their silent operation creates warm comfort. Their construction is durable and reliable and the cost of exploitation is low. BURNiT boilers may be installed independently or in combination with another heating appliance. If needed, the boiler may be connected to a SUNSYSTEM brand water storage tank by means of a coil heat exchanger for indirect heating.
Tested and approved according to EN – 303-5.

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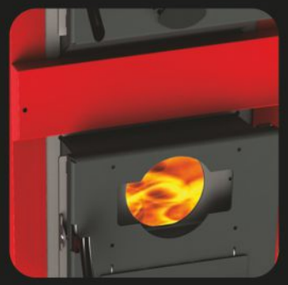


Conventional

An entry-level solid fuel boiler with basic operation and low operation cost. The combustion is controlled by thermostatic draft regulator, which is a fully mechanical device boasting ultimate reliability. It controls the intensity of combustion by altering the flow of air intake.

Efficient

The flue gas makes a three-pass movement around three water-filled barriers in the combustion chamber on its way to the chimney. This way the gas is cool when it leaves the boiler and its energy has been transferred to the water in the mantle. The water mantle embraces the combustion chamber in full to utilize the emitted heat most efficiently. To keep from losing heat into the ambience, the boiler is insulated on the outside by 50 mm high-temperature wool. Tested and approved according to EN – 303-5, class 3.

Reliable and safe

The body of the boiler is made of boiler grade steel with thickness 5 mm at the combustion chamber and 4 mm at the water mantle. The heat exchanging tubular grill is protected by a replaceable metal grate. A complex of safety devices provide for the safety of the appliance.

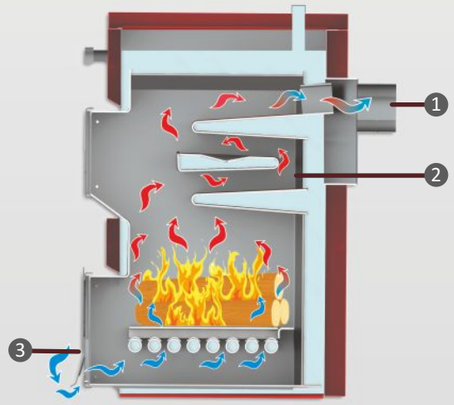
Versatile

Designed for firing wood and coals with option for adapting to other fuel types by mounting a gas-, oil- or pellet-fired burner on the specially designated flange located on the lower door.

BURNiT by SUNSYSTEM
WBS

Solid fuel boiler BURNiT WBS

Steel boilers WBS range in nominal output from 20 to 110 kW to satisfy the heating demands of medium to large sized spaces. They are engineered for burning solid fuel and provide the option for fitting pellet, oil or gas-fired burners.



1. Flue; 2.Three-pass flue gas flow;
3. Air intake flap. Incoming air

BURNiT WBS

solid fuel boiler

Product Features

- Combustion chamber with large heat exchanging surface and low chamber resistance.
- Large firebox door ensures easy loading even with bigger logs (length of logs up to 50 cm).
- Ribbed chamber surface and three-pass flue gas flow for improved heat exchange.
- Exchangeable metallic ash grate protects the pipe grid from the flame.
- Burner flange on lower door for fitting pellet, oil or gas burners (optional).
- Safety devices:

1) Thermostatic draught regulator;
2) Pressure relief valve 3 bar;
3) Safety heat evacuator a tap-water-filled line passes through the upmost part of the boiler body. In case of overheating it is triggered open by a thermostatic valve (not included) to evacuate the heat off the boiler.

Available sizes:

kW	20	25	30	40	50	70	90	110

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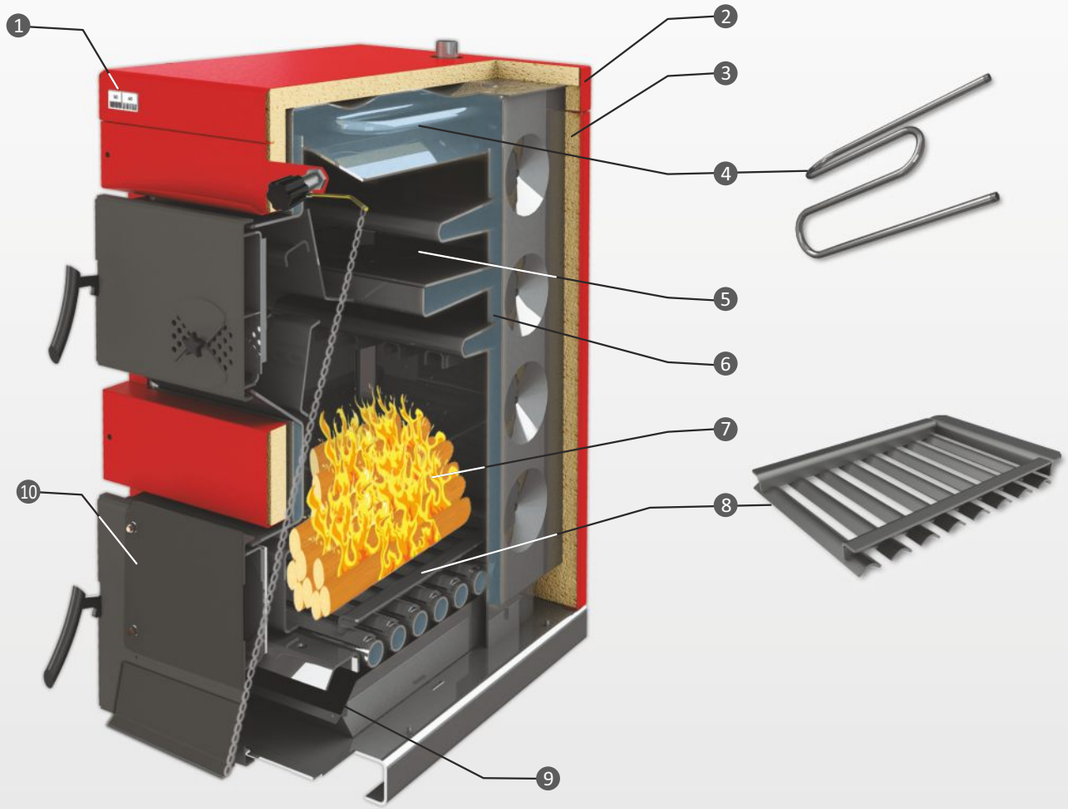
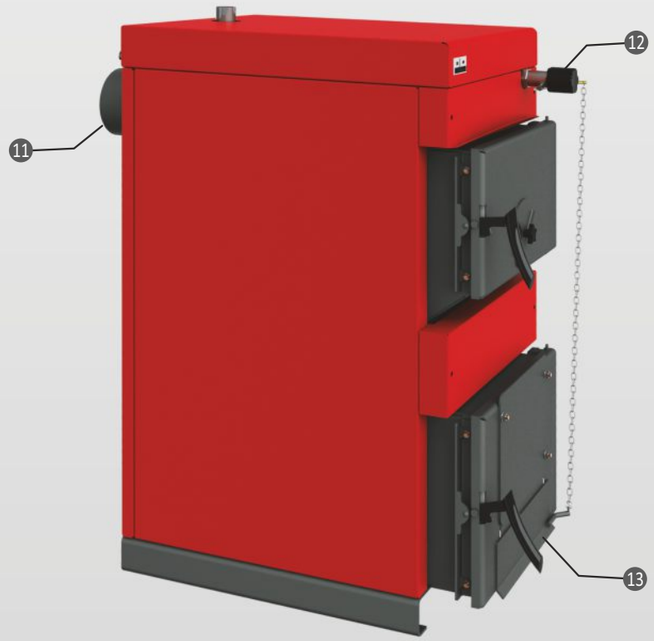


1. Temperature indicator
2. Housing
3. High efficiency thermal insulation
4. Safety heat evacuator
5. Three-pass flue gas flow
6. Water mantle (jacket)
7. Combustion chamber
8. Metal ash grate
9. Ash- and- soot container
10. Burner flange (optional)
11. Flue
12. Thermostatic regulator
13. Air intake flap



BURNiT WBS

technical specifications

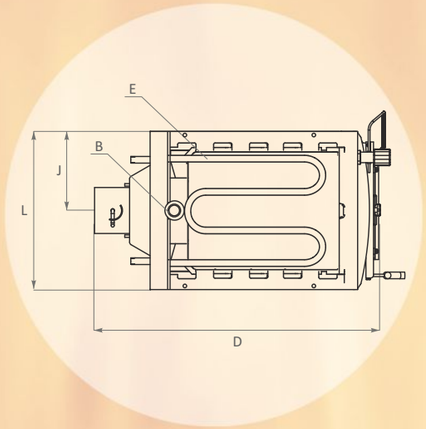
BURNiT by SUNSYSTEM

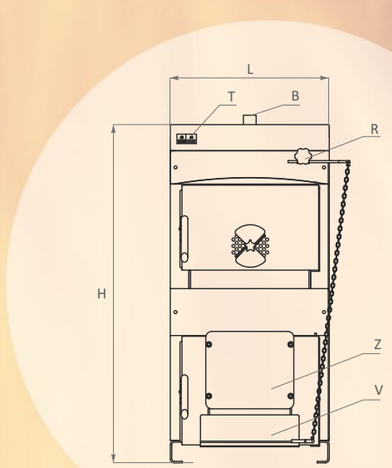
		WBS 20	WBS 25	WBS 30	WBS 40	WBS 50	WBS 70	WBS 90	WBS 110
Heat output	kW	20	25	30	40	50	70	90	110
Heating surface	m^2	90÷120	100÷150	120÷180	140÷250	160÷340	250÷410	350÷480	400÷650
Height H	mm	1145	1145	1145	1145	1145	1285	1285	1285
Width L / Depth D	mm	464/870	464/930	524/930	624/930	624/990	624/1110	684/1110	744/1110
Water mantle volume	L	60	75	82	96	106	134	145	160
Combustion chamber volume	L	55	62	74	94	103	170	191	212
Combustion chamber resistance	Pa/mbar	10/0.10	11/0.11	12/0.12	15/0.15	26/0.26	41/0.41	54/0.54	54/0.54
Required chimney draught	Pa/mbar	16/0,16	20/0,20	21/0,21	23/0,23	24/0,24	38/0,38	47/0,47	47/0,47
Insulation Boiler Doors		high-efficiency thermal wool high-efficiency thermal wool							
Recommended fuel		wood, humidity 20%, wood briquettes, wood + coals, wood + fruit pits /broken nuts/							
Loading door size	mm	330/250	330/250	390/250	490/310	490/310	490/310	550/310	610/310
Max. length of firewood logs	mm	400	400	400	400	500	600	600	600
Exhaust gas temperature (operation mode)	°C	<150	<150	<150	<150	<150	<150	<150	<150
Operating temperature range	°C	65-85	65-85	65-85	65-85	65-85	65-85	65-85	65-85
Max. temperature	°C	95	95	95	95	95	95	95	95
Min. return water temperature	°C	60	60	60	60	60	60	60	60
Operating pressure	bar	3	3	3	3	3	3	3	3
Weight	kg	225	245	265	310	330	410	445	475

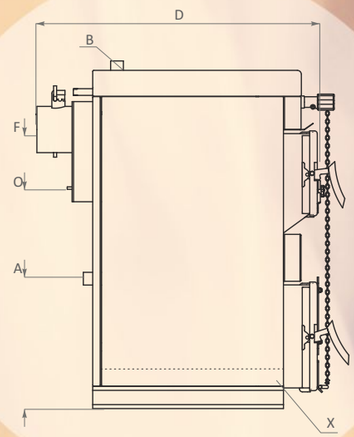
The information provided herein is subject to change without prior notice.

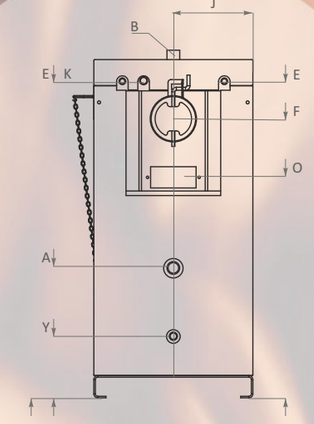
BURNiT WBS

technical specifications









		WBS 20	WBS 25	WBS 30	WBS 40	WBS 50	WBS 70	WBS 90	WBS 110
Cold water inlet	A, mm J, mm	R 1¼"/ 450 232	R 1¼"/ 450 232	R 1¼"/ 450 262	R 1¼"/ 450 312	R 1¼"/ 450 312	R 1½"/ 430 312	R 1½"/ 430 342	R 1½"/ 430 372
Hot water outlet	B, mm J, mm	R 1¼"/ 1165 232	R 1¼"/ 1165 232	R 1¼"/ 1165 262	R 1¼"/ 1165 312	R 1¼"/ 1165 312	R 1½"/ 1315 312	R 1½"/ 1315 342	R 1½"/ 1315 372
Safety line sleeve	K, mm	G ½"/ 1074	G ½"/ 1074	G ½"/ 1074	G ½"/ 1074	G ½"/ 1074	G ½"/ 1225	G ½"/ 1225	G ½"/ 1225
Safety heat evacuator inlet/outlet	E, mm	R ½"/ 1072	R ½"/ 1072	R ½"/ 1072	R ½"/ 1072	R ½"/ 1072	R ½"/ 1220	R ½"/ 1220	R ½"/ 1220
Air vent	I, mm	✓	✓	✓	✓	✓	✓	✓	✓
Flue	F ø mm J, mm	150 940 232	150 940 232	150 940 262	180 925 312	180 925 312	200 1050 312	200 1050 342	200 1050 372
Flue cleaning opening	O, mm	150/70	150/70	150/70	150/70	150/70	150/70	150/70	150/70
Drain	Y, mm J, mm	G ½"/ 232 232	G ½"/ 232 232	G ½"/ 232 262	G ½"/ 232 312	G ½"/ 232 312	G 1"/ 232 312	G 1"/ 232 242	G 1"/ 232 272
Temperature indicator	T	✓	✓	✓	✓	✓	✓	✓	✓
Thermostatic regulator	R	✓	✓	✓	✓	✓	✓	✓	✓
Air intake flap	V	✓	✓	✓	✓	✓	✓	✓	✓
Burner flange (optional)	Z, ø mm	176	176	176	176	176	176	215	215
Ash-and-soot container	X	✓	✓	✓	✓	✓	✓	✓	✓

The information provided herein is subject to change without prior notice.

Intelligent

The electronic control unit controls the operation of the flue fan, the circulation pump of the central heating and the pump of the domestic hot water system (DHW). The power of the fan is regulated in relation to the fuel consumed and the momentary chimney draft.

Efficient

The flue gas makes a three-pass movement around three water-filled barriers in the combustion chamber on its way to the chimney. This way the gas is cool when it leaves the boiler and its energy has been transferred to the water in the mantle. The water mantle embraces the combustion chamber in full to utilize the emitted heat most efficiently. To keep from losing heat into the ambience, the boiler is insulated on the outside by 50 mm high-temperature wool. Tested and approved according to EN – 303-5, class 3.

Reliable and safe

The body of the boiler is made of boiler grade steel with thickness 5 mm at the combustion chamber and 4 mm at the water mantle. The heat exchanging tubular grill is protected by a replaceable metal grate. A complex of safety devices provide for the safety of the appliance.

Versatile

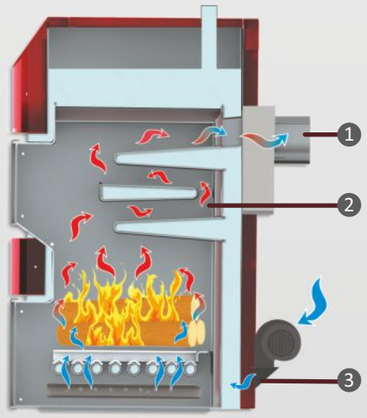
Designed for firing wood and coals with option for adapting to other fuel types by mounting a gas-, oil- or pellet-fired burner on the specially designated flange located on the lower door.

BURNiT by SUNSYSTEM

WBS ACTIVE

Solid fuel boiler BURNiT WBS Active

Steel boiler with intelligent controller and electric fan for forced air feed. Solid fuel boilers WB-S Active range in nominal output from 20 to 110 kW to satisfy the heating demands of medium to large sized spaces. They are engineered for burning solid fuel and provide the option for fitting pellet, oil or gas-fired burners.



1. Flue; 2.Three-pass flue gas flow;
3. Air feed fan. Incoming air

BURNiT
WBS Active

solid fuel boiler

Product Features

- Electronic control unit controls the combustion by modulating the fan speed. Optional control of circulation pumps for central heating and domestic hot water (DHW).
- Air feed fan optimizes the combustion and the fuel consumption rate.
- Combustion chamber with large heat exchanging surface and low chamber resistance.
- Large firebox door ensures easy loading even with bigger logs (length of logs up to 50 cm).
- Ribbed chamber surface and three-pass flue gas flow for improved heat exchange.
- Exchangeable metallic ash grate protects the pipe grid from the flame.
- Burner flange on lower door for fitting pellet, oil or gas burners (optional).
- Safety devices:

1) Pressure relief valve 3 bar;
2) Safety heat evacuator a tap-water-filled line passes through the upmost part of the boiler body. In case of overheating it is triggered open by a thermostatic valve (not included) to evacuate the heat off the boiler;
3) STB - thermostat;
4) Air intake flap.

Available sizes:

kW	20	25	30	40	50	70	90	110

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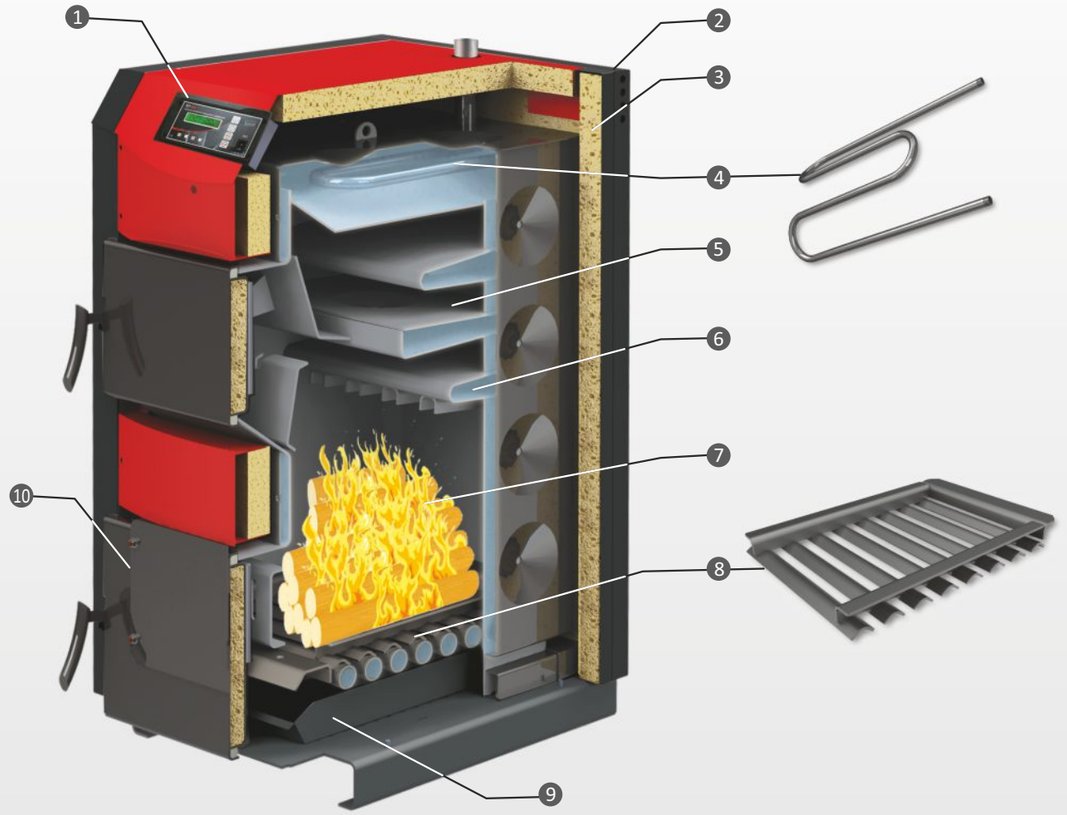
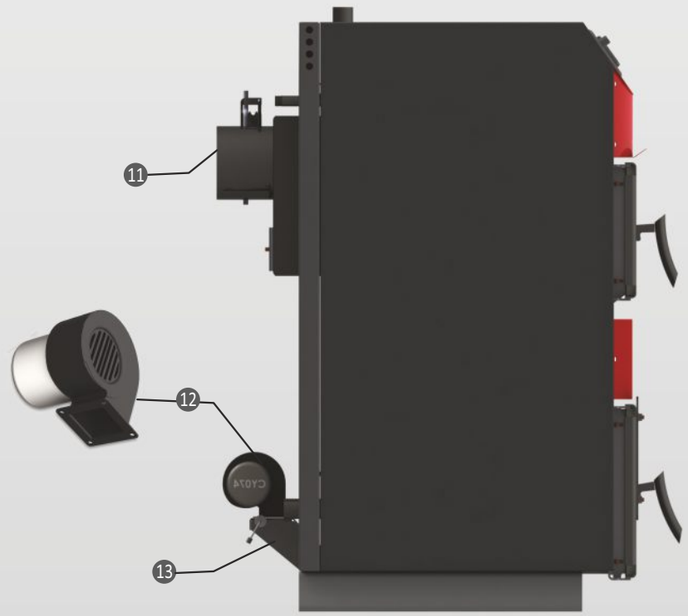
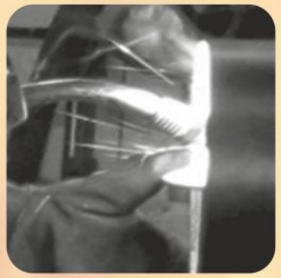




1. Controller
2. Housing
3. High efficiency thermal insulation
4. Safety heat evacuator
5. Three-pass flue gas flow
6. Water mantle (jacket)
7. Combustion chamber
8. Metal ash grate
9. Ash- and- soot container
10. Burner flange (optional)
11. Flue
12. Air feed fan
13. Air intake flap

BURNiT
WBS Active

technical
specifications



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		WBS Active 20	WBS Active 25	WBS Active 30	WBS Active 40	WBS Active 50	WBS Active 70	WBS Active 90	WBS Active 110
Heat output	kW	20	25	30	40	50	70	90	110
Heating surface	m^2	90÷120	100÷150	120÷180	140÷250	160÷340	250÷410	350÷480	400÷650
Height H	mm	1235	1235	1235	1235	1235	1385	1385	1385
Width L / Depth D	mm	540/860	540/925	600/925	700/925	700/985	700/1105	760/1105	820/1105
Water mantle volume	L	92	100	105	118	128	141	156	171
Combustion chamber volume	L	58	62	73	84	97	120	133	160
Combustion chamber resistance	Pa/mbar	10/0.10	11/0.11	12/0.12	15/0.15	26/0.26	41/0.41	54/0.54	67/0.67
Required chimney draught	Pa/mbar	16/0.16	20/0.20	21/0.21	23/0.23	24/0.24	38/0.38	47/0.47	56/0.56
Insulation Boiler Doors		high-efficiency thermal wool high-efficiency thermal wool							
Average power consumption	W	60	60	60	60	60	110	110	110
Electric power supply	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50
Recommended fuel		wood, humidity 20%, wood briquettes, wood + coals, wood + fruit pits /broken nuts/							
Loading door size	mm	330/250	330/250	390/250	490/310	490/310	490/310	550/310	610/310
Max. length of firewood logs	mm	400	400	400	400	500	600	600	600
Exhaust gas temperature (operation mode)	°C	<150	<150	<150	<150	<150	<150	<150	<150
Operating temperature range	°C	65-85	65-85	65-85	65-85	65-85	65-85	65-85	65-85
Max. temperature	°C	95	95	95	95	95	95	95	95
Min. return water temperature	°C	60	60	60	60	60	60	60	60
Operating pressure	bar	3	3	3	3	3	3	3	3
Weight	kg	238	260	285	330	355	430	464	493

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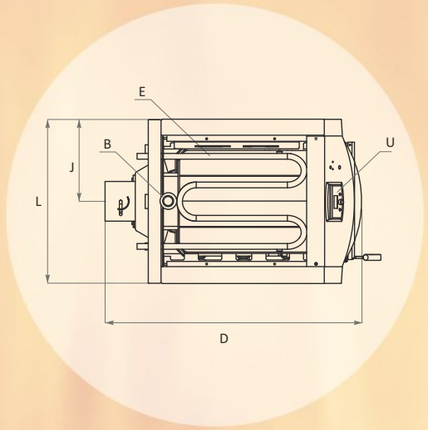
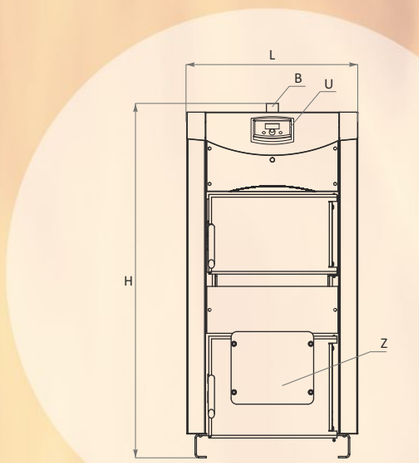
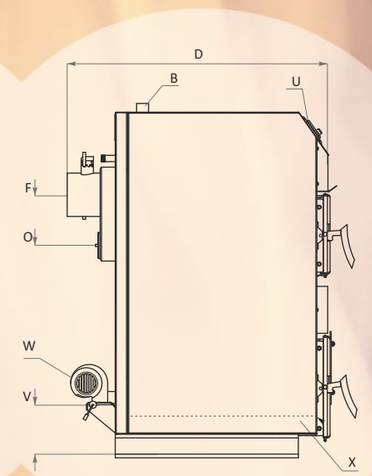
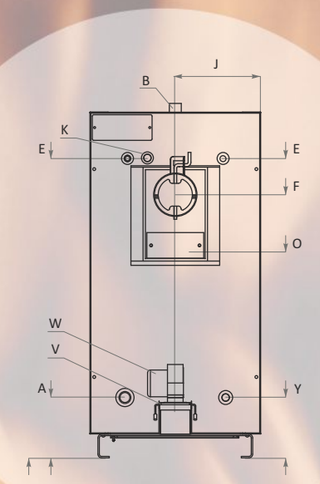
BURNiT
WBS Active

technical specifications









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		WBS Active 20	WBS Active 25	WBS Active 30	WBS Active 40	WBS Active 50	WBS Active 70	WBS Active 90	WBS Active 110
Cold water inlet	A, mm	R 1¼"/ 232	R 1¼"/ 232	R 1¼"/ 232	R 1¼"/ 232	R 1¼"/ 232	R 1½"/ 232	R 1½"/ 232	R 1½"/ 232
Hot water outlet	B, mm	R 1¼"/ 1265	R 1¼"/ 1265	R 1¼" / 1265	R 1¼" / 1265	R 1¼" / 1265	R 1½"/ 1420	R 1½"/ 1420	R 1½"/ 1420
Safety line sleeve	K, mm	G ½"/1075	G ½"/1075	G ½"/1075	G ½"/1075	G ½"/1075	G ½"/1225	G ½"/1225	G ½"/1225
Safety heat evacuator inlet/outlet	E, mm	R ½"/ 1072	R ½"/ 1072	R ½"/ 1072	R ½"/ 1072	R ½"/ 1072	R ½"/ 1220	R ½"/ 1220	R ½"/ 1220
Flue	F ø mm mm J, mm	150 944 270	150 945 270	150 945 300	180 930 350	180 930 350	200 1065 350	200 1065 380	200 1065 410
Flue cleaning opening	O, mm	150/70	150/70	150/70	150/70	150/70	150/70	150/70	150/70
Drain	Y, mm	G ½"/ 232	G ½"/ 232	G ½"/ 232	G ½"/ 232	G ½"/ 232	G 1"/ 232	G 1"/ 232	G 1"/ 232
Air intake flap	V, mm J, mm	215 270	215 270	215 300	215 350	215 350	215 350	215 380	215 410
Air feed fan	W, mm	215	215	215	215	215	215	215	215
Burner flange (optional)	Z, ø mm	176	176	176	176	176	176	215	215
Ash-and-soot container	X	✓	✓	✓	✓	✓	✓	✓	✓
Controller	U	✓	✓	✓	✓	✓	✓	✓	✓

The information provided herein is subject to change without prior notice.

Conventional

An entry-level solid firing boiler with basic operation and low operation cost. The combustion is controlled by thermostatic draft regulator, which is a fully mechanical device boasting ultimate reliability. It controls the intensity of combustion by altering the flow of air intake.

Efficient

The flue gas makes a three-pass movement around three water-filled barriers in the combustion chamber on its way to the chimney. This way the gas is cool when it leaves the boiler and its energy has been transferred to the water in the mantle. The water mantle embraces the combustion chamber in full to utilize the emitted heat most efficiently. To keep from losing heat into the ambience, the boiler is insulated on the outside by 50 mm high-temperature wool.
Tested and approved according to EN 303-5, class 3.

Reliable and safe

A complex of safety devices provide for the safety of the appliance.

Versatile

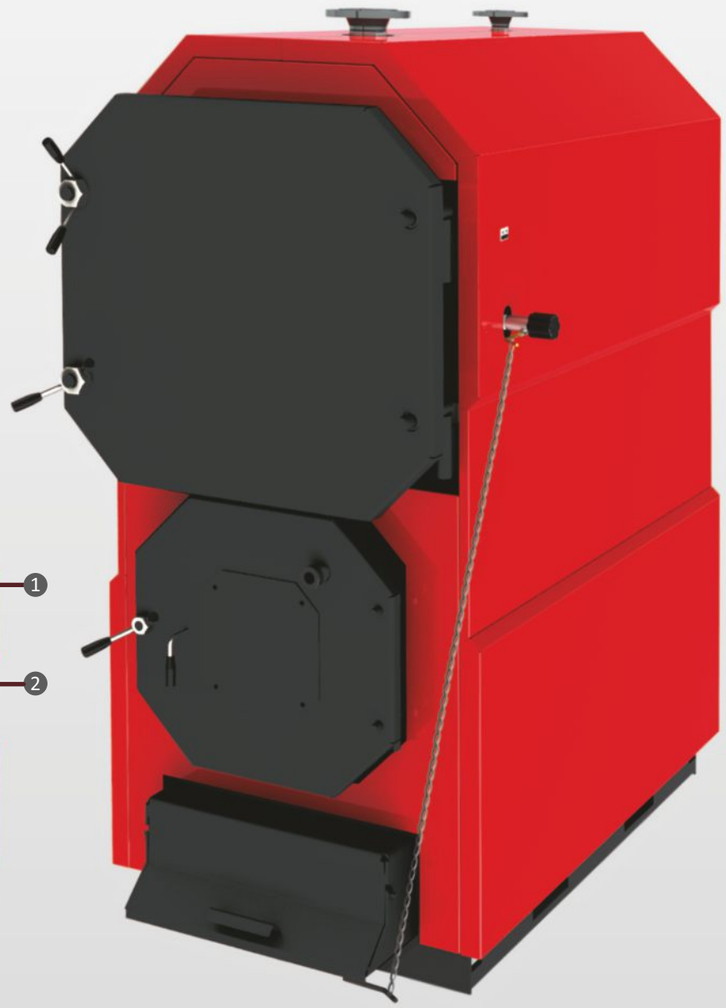
Designed for firing wood and coals with option for adapting to other fuel types by mounting a gas-, oil- or pellet-fired burner on the specially designated flange located on the lower door.

BURNiT by SUNSYSTEM

WBS Magna

Solid fuel boiler BURNiT WBS Magna 250 kW

Steel solid fuel boilers satisfy the heating demands of large sized spaces. Owing to its smart design, WBS Magna 250 kW is easy to transport and install in spite of its dimensions. Direct connection to closed or open loop heating system. Ready for fitting with pellet-, oil- or gas-fired burners.



1. Flue; 2.Three-pass flue gas flow;
3. Air intake door. Incoming air

BURNiT
WBS Magna

solid fuel boiler

Product Features

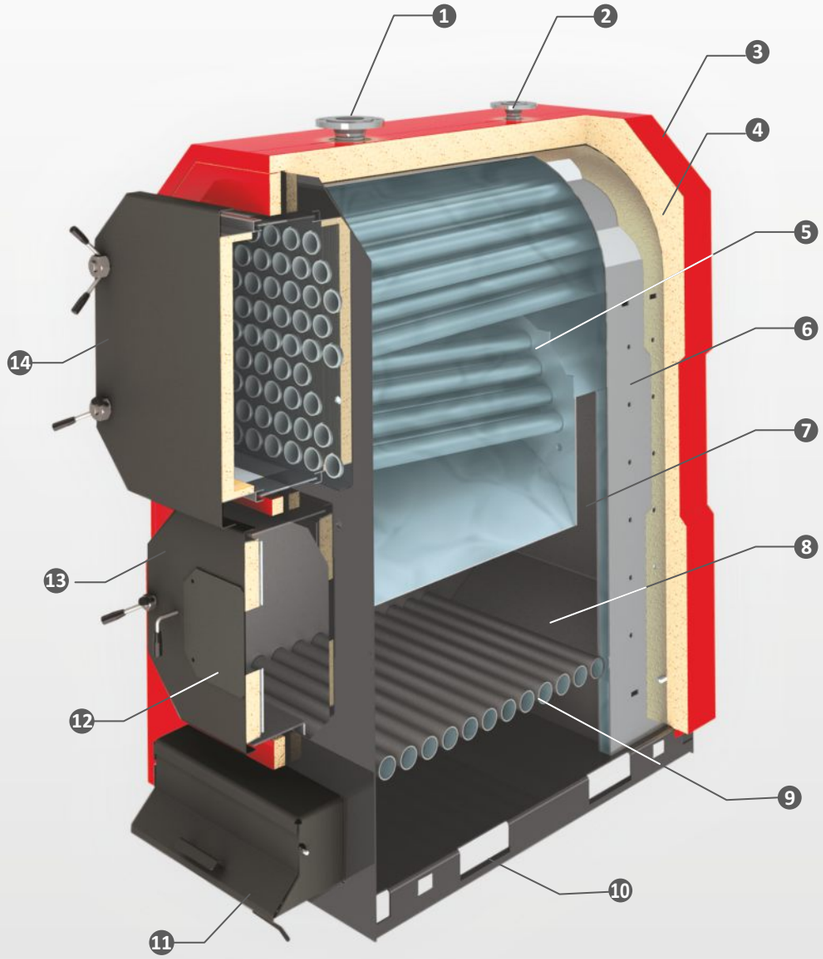
- Maximum operating pressure of 4 bar.
  Capable to feed a large-scale heating system
- Combustion chamber with large heat exchanging surface
  and low chamber resistance
- The combustion chamber features three-pass flue-gas flow.
  The mantle fully covers the flue exhaust tubes for optimal
  heat transfer
- Large firebox door ensures easy loading even with bigger logs
  (up to one meter long)
- Convenient inspection door in the upper part of the boiler
  ensures easy cleaning of the flue exhaust tubes
- Eyepiece for viewing the combustion process
- Removable housing
- Burner flange on loading door for fitting pellet-, oil- or
  gas-fired burners
- Safety devices:

1) Pressure relief valve 4 bar not incl. in the set;
2) Thermostatic draught regulator;
3) Chimney draught flap;
4) Thermometer.

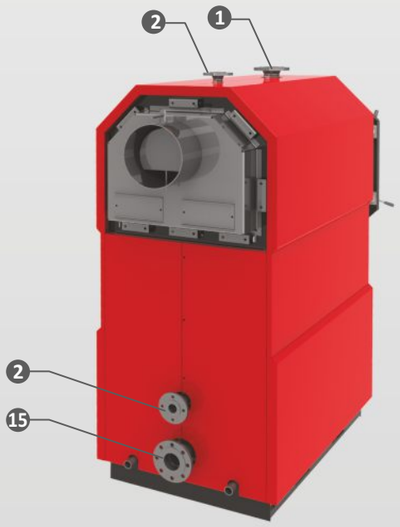
Available sizes:

kW	250

BURNiT by SUNSYSTEM

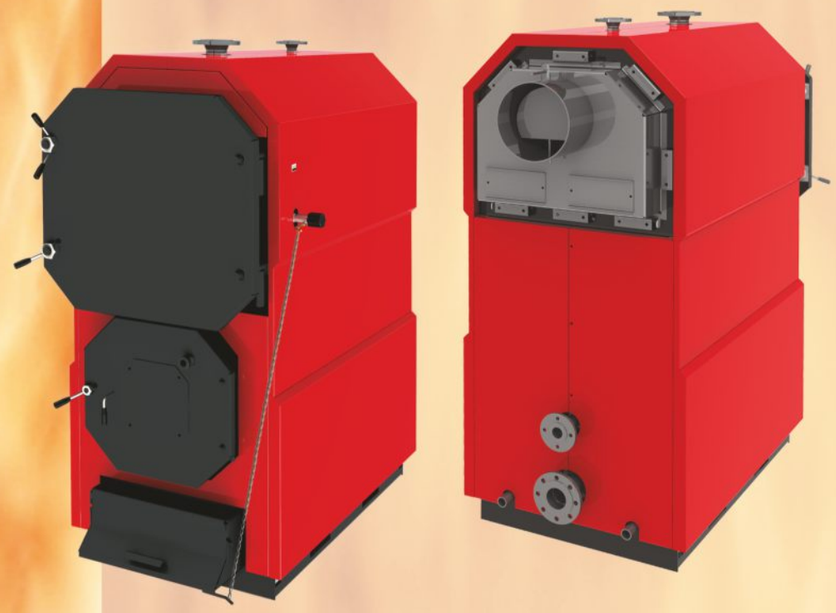


1. Hot water outlet
2. Safety line sleeve
3. Housing
4. High efficiency thermal insulation
5. Fume exhaust tube
6. Water mantle (jacket)
7. Three-pass flue gas flow
8. Combustion chamber
9. Metal grate
10. Transportation openings
11. Air intake door
12. Burner flange (option)
13. Loading door
14. Inspection door
15. Cold water inlet



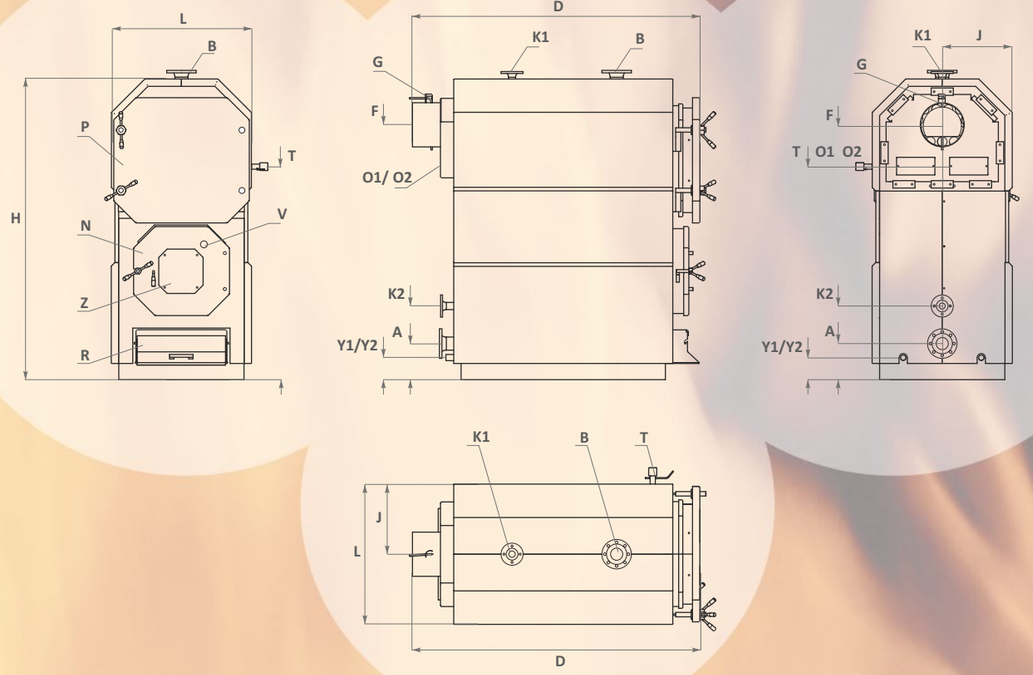
BURNiT
WBS Magna

technical specifications



			WBS Magna 250
Heat output		kW	250
Heating surface		m^2	~2000÷2500
Height H		mm	2100
Width L / Depth D		mm	950/1950
Water mantle volume		L	790
Combustion chamber volume		L	560
Combustion chamber resistance		Pa/mbar	23/0.23
Required chimney draught		Pa/mbar	42/0.42
Insulation	Boiler Doors		high-efficiency thermal wool high-efficiency thermal wool
Recommended fuel			wood, humidity 20%; wood briquettes; wood + coals; wood + fruit pits /broken nuts/
Loading door size		mm	520x580
Max. length of firewood logs		mm	1000
Exhaust gas temperature (operation mode)		°C	150÷180
Operating temperature range		°C	65-85
Max. temperature		°C	95
Min. return water temperature		°C	60
Operating pressure		bar	3
Weight	without insulation with insulation	kg kg	1420 1530

BURNiT by SUNSYSTEM



		WBS Magna 250
Cold water inlet	A, mm	DN 80/ 245
Hot water outlet	B, mm	DN 80/ 2100
Safety line sleeve	K1, mm K2, mm	DN 40/2100 DN 40/500
Flue	F, mm J, mm	ø 300/1730 475
Flue cleaning opening	O1, mm O2, mm	1450 1450
Chimney draught flap	G	✓
Loading door	N, mm	520x580
Inspection door	P, mm	920x850
Air intake door	R, mm	600x230
Thermostatic draught regulator	T, mm	1450
Drain	Y, mm	G1"/150
Eyepiece for viewing the combustion process	V	✓
Burner flange (option)	Z	✓

The information provided herein is subject to change without prior notice.

Intelligent

A PID controller with LED display controls the combustion as well as the operation of the pumps of the heating system and/or the domestic hot water system.

Efficient

Owing to the wood gasification technology employed the PyroBurn Alpha boiler reaches efficiency of above 90% and saves fuel. The water mantle embraces the combustion chamber in full to utilize the emitted heat most efficiently. To keep from losing heat into the ambience, the boiler is insulated on the outside by 50 mm high temperature wool.
Tested and approved according to EN 303-5, class 3.

Reliable and safe

The boiler body is made of high grade boiler steel with thicknesses 6 mm for the combustion chamber and 4 mm for the water mantle. Built-in high temperature ceramic plates ensure uniform heat distribution and protection of the water mantle from the extreme heat produced by wood gasification (up to 1200°C). A complex of safety devices ensure its safe operation.

Wood gasification

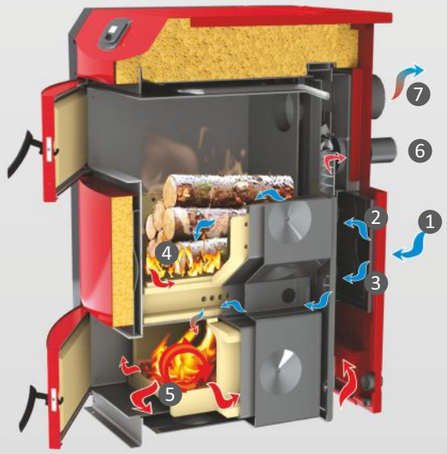
The wood in the primary burning chamber is fired in a low-oxygen environment reaching about 580°C. It starts degrading to a combustible gas of carbon compounds which is directed to the orifice of the secondary combustion chamber. There, the gas is enriched with secondary air and ignites to reach temperature of up to 1200°C. Before leaving the boiler body, the gas passes through a flue with built-in spiral turbulators where it gives away its heat to the water mantle and cools down to 150°C. Thanks to the wood gasification principle the fuel is most efficiently consumed with minimum carbon emissions and ash.

BURNiT by SUNSYSTEM

PB Alpha

Wood gasifying boiler BURNiT PyroBurn Alpha

A highly-efficient wood gasifying boiler, designed for economical and ecological heating of medium to large-sized premises.
The PyroBurn Alpha boiler provides intuitive operation interface and heat output regulation as well as sophisticated safety systems.



1.Incoming air; 2.Primary air ; 3.Secondary air;
4. Ignition; 5. Pyrolysis combustion; 6. Flue gas extracting fan; 7. Flue

BURNiT

PyroBurn Alpha

wood-gasifying boiler

Product Features

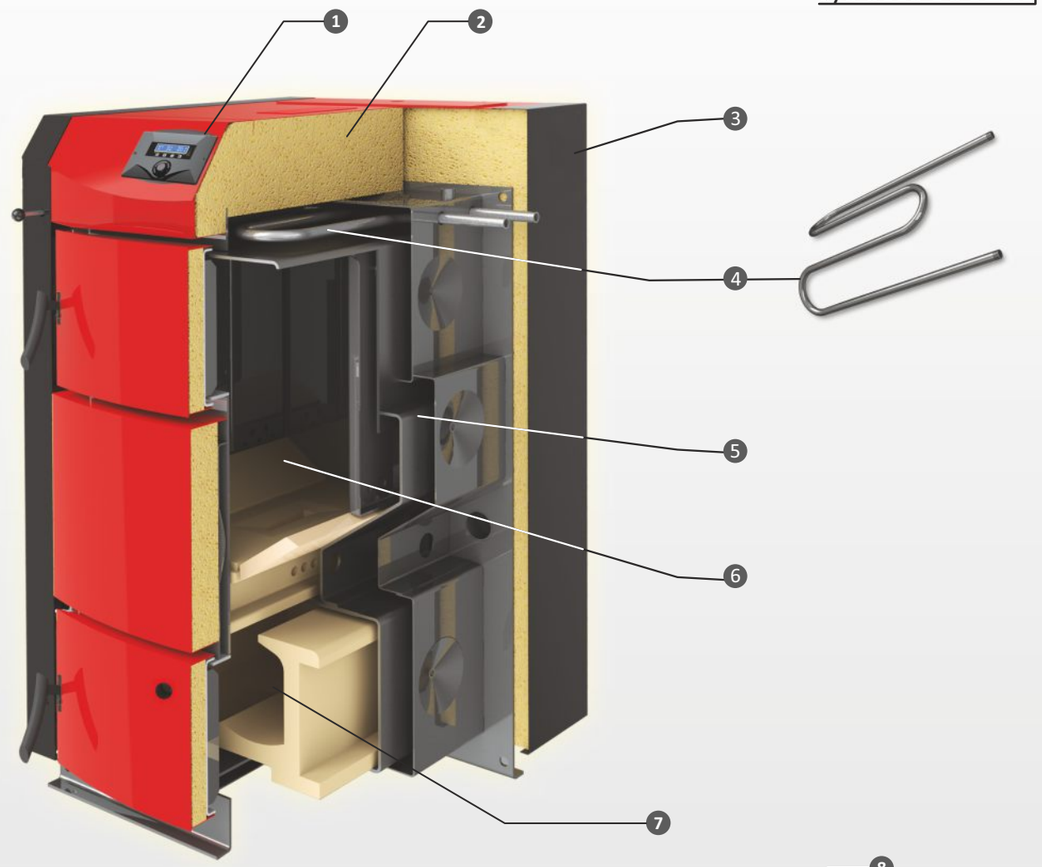
- The built-in proportional-integral derivative controller monitors the burning process and controls the fan speed to achieve optimal yield and economy of fuel
- Fume extraction fan
- Large firebox door ensures easy loading even with bigger logs (length of logs up to 50 cm)
- Fume extraction device on the upper combustion chamber keeps smoke from polluting the boiler room during reloading
- Combustion chamber protected on all sides by ceramic plates.
- Eyepiece for viewing the combustion process
- Safety devices:

1)Upon reaching 95°C the controller turns the fan off and activates the pumps for domestic hot water and heating system. An independent STB thermostat shuts down the fan upon reaching 99°C.
2) Safety heat evacuator a tap-water-filled line passes through the upmost part of the boiler body. In case of overheating it is triggered open by a thermostatic valve (not included) to evacuate the heat off the boiler;
3) Pressure relief valve 3 bar;

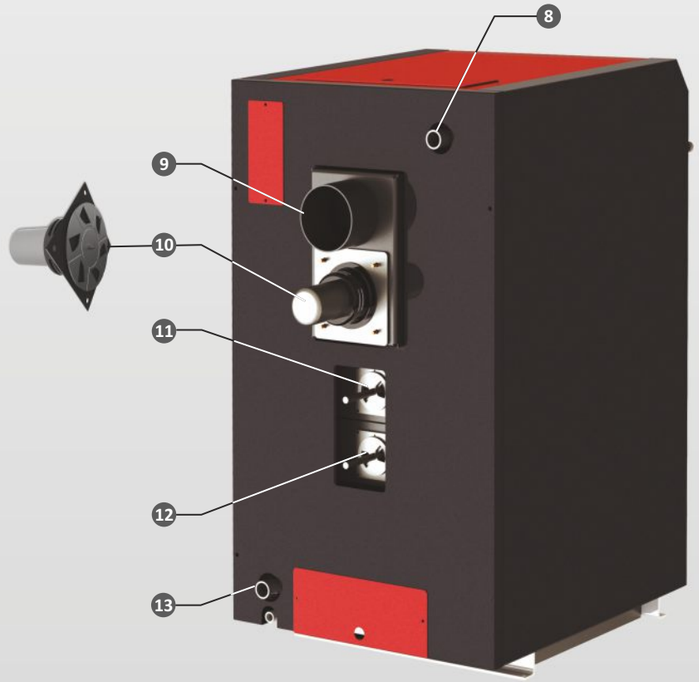
Available sizes:

kW	18	25	40

BURNiT by SUNSYSTEM

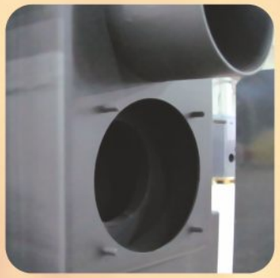


1. Controller
2. Housing
3. High efficiency thermal insulation
4. Safety heat evacuator
5. Water mantle (jacket)
6. Wood-loading chamber
7. Pyrolysis combustion chamber
8. Hot water outlet
9. Flue
10. Flue gas extraction fan
11. Primary air flap
12. Secondary air flap
13. Cold water inlet



BURNiT
PyroBurn Alpha

technical specifications



BURNiT by SUNSYSTEM

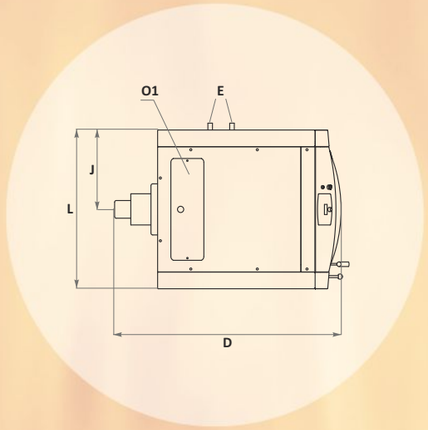
		PyroBurn Alpha 18	PyroBurn Alpha 25	PyroBurn Alpha 40
Heat output	kW	9÷18	12÷25	20÷40
Heating surface	m^2	80÷130	100÷240	150÷320
Height H	mm	1255	1290	1430
Width L / Depth D	mm	676/930	765/1090	765/1160
Water mantle volume	L	52	68	75
Combustion chamber volume	L	76	132	162
Combustion chamber resistance	Pa/mbar	10/0.10	11/0.11	12/0.12
Required chimney draught	Pa	10÷20	10÷20	10÷20
Insulation: Boiler			high-efficiency thermal wool	
Insulation: Chamber			ceramic plates	
Insulation: Doors			ceramic plates + high-efficiency thermal wool	
Average power consumption	W	80	80	80
Electric power supply	V/Hz	230/50	230/50	230/50
Recommended fuel			wood, humidity 15%, wood briquettes	
Burning time partial/full load	h	9/4,5	14/7	11/5,5
Loading door size	mm	400x220	490x260	490x260
Max. length of firewood logs	mm	330	500	500
Exhaust gas temperature (operation mode)	°C	150-180	150-180	150-180
Operating temperature range	°C	65-85	65-85	65-85
Max. temperature	°C	95	95	95
Min. return water temperature	°C	60	60	60
Operating pressure	bar	3	3	3
Weight	kg	330	460	510

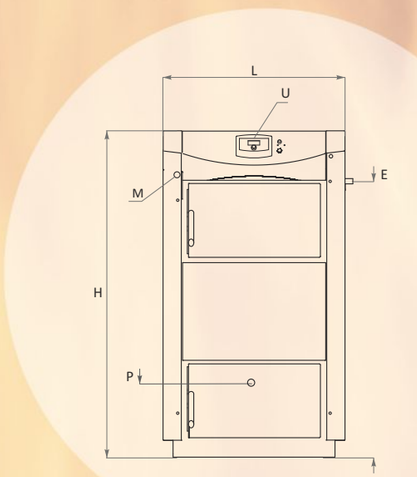
The information provided herein is subject to change without prior notice.

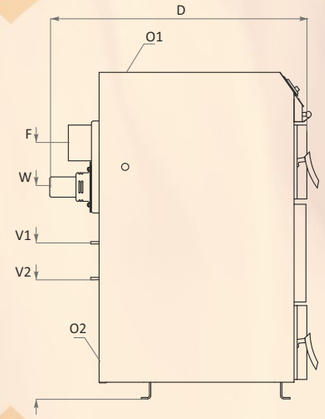
BURNiT

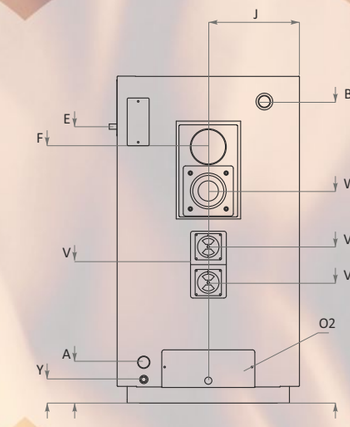
PyroBurn Alpha

technical specifications









		PyroBurn Alpha 18	PyroBurn Alpha 25	PyroBurn Alpha 40
Cold water inlet	A, mm	R 1¼" / 130	R 1¼"/ 170	R 1¼"/ 170
Hot water outlet	B, mm	R 1¼"/ 1150	R 1¼"/ 1250	R 1¼"/ 1325
Safety line sleeve	K	✓	✓	✓
Safety heat evacuator inlet/outlet	E, mm	R ½"/1070	R ½"/1160	R ½"/1235
Flue	F ø mm J, mm	150 970 338	150 1075 382	150 1150 382
Cleaning opening upper lower	O1, mm O2, mm	360/120 325/142	455/120 350/140	455/120 350/140
Drain	Y, mm	G ½"/60	G ½"/100	G ½"/100
Air intake flap Primary air Secondary air	V1, mm V2, mm	610 490	655 505	690 540
Flue gas extraction fan	W, mm	790	890	970
Fume extraction device	M	✓	✓	✓
Eyepiece for viewing the combustion process	P	✓	✓	✓
Controller	U	✓	✓	✓

The information provided herein is subject to change without prior notice.

High-tech and intelligent

The PyroBurn Lambda boiler is equipped with a hi-tech reliable controller capable of managing complex heating installations. The controller manages the combustion process via permanent monitoring of oxygen levels in exhaust gases, their temperature as well as the boiler temperature. The control unit is capable of managing various heating circuits.

Efficient and environmentally friendly

Thanks to the integrated lambda sensor the combustion process is optimized to such an extent that boiler efficiency exceeds 91%, and exhaust gas emissions conform to strictest EU standards. The water mantle embraces the combustion chamber in full to utilize the emitted heat most efficiently. To keep from losing heat into the ambience, the boiler is insulated on the outside by 50 mm high temperature wool.

Tested and approved according to EN 303-5, class 5.

Reliable and safe

The boiler body is made of high grade boiler steel with thicknesses 6 mm for the combustion chamber and 4 mm for the water mantle. Built-in high temperature ceramic plates ensure uniform heat distribution and protection of the water mantle from the extreme heat produced by wood gasification (up to 1200°C). A complex of safety devices ensure its safe operation.

Wood gasification

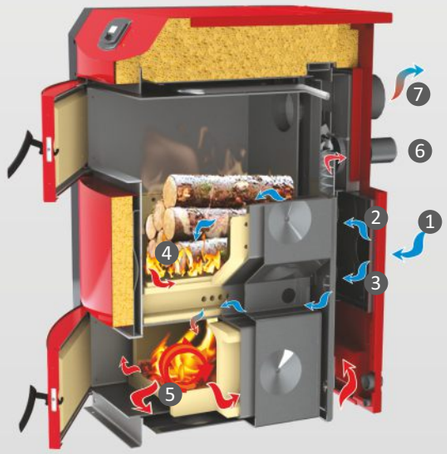
The wood in the primary burning chamber is fired in a low-oxygen environment reaching about 580°C. It starts degrading to a combustible gas of carbon compounds which is directed to the orifice of the secondary combustion chamber. There, the gas is enriched with secondary air and ignites to reach temperature of up to 1200°C. Before leaving the boiler body, the gas passes through a flue with built-in spiral turbulators where it gives away its heat to the water mantle and cools down to 150°C. Thanks to the wood gasification principle the fuel is most efficiently consumed with minimum carbon emissions and ash.

BURNiT by SUNSYSTEM

PB Lambda

Wood gasifying boiler BURNiT PyroBurn Lambda

A highly-efficient wood gasifying boiler, designed for economical and ecological heating of medium to large-sized premises.
The PyroBurn Lambda boiler provides intuitive operation interface, heat output regulation and Lambda oxygen sensor as well as sophisticated safety systems.



1.Incoming air; 2.Primary air ; 3.Secondary air;
4. Ignition; 5. Pyrolysis combustion; 6. Flue gas extracting fan; 7. Flue

BURNiT PyroBurn Lambda

wood-gasifying boiler

Product Features

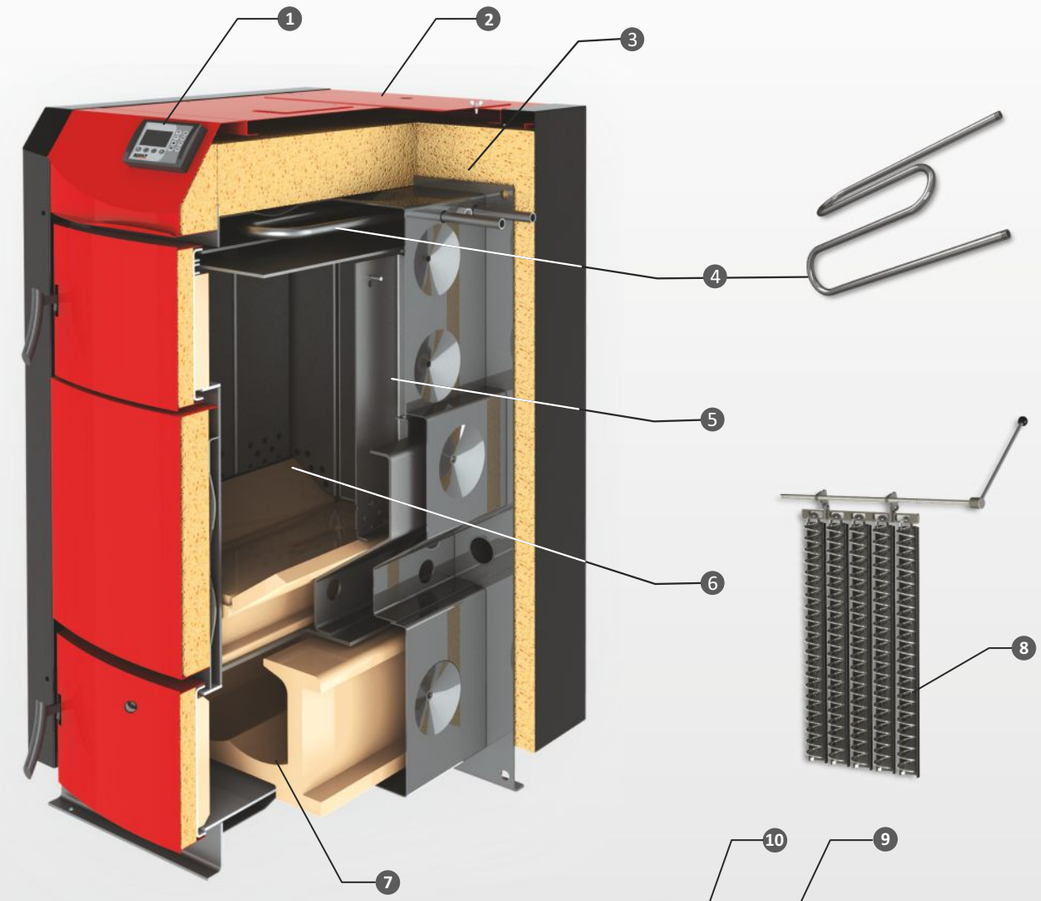
- The microprocessor control is able to control one heating circuit and one DHW circuit through the built-in terminals for connecting circulation pumps and DHW sensor.
- Lambda sensor for accurate combustion process management
- Cleaning system
- Flue gas sensor
- Open door sensor and fume extraction opening chamber keeps smoke from polluting the boiler room during reloading. Open door sensor detects when boiler door is open and activates fume extractor fan on full speed (100%). Fume extractor fan draws smoke from the chamber to the chimney via back-side upper chamber opening.
- Actuator-driven air flaps for air intake management.
- Fume extraction fan
- Large firebox door ensures easy loading even with bigger logs (length of logs up to 50 cm)
- Combustion chamber protected on all sides by ceramic plates
- Eyepiece for viewing the combustion process
- Safety devices:

1)Upon reaching 95°C the controller turns the fan off and activates the pumps for domestic hot water and heating system. An independent STB thermostat shuts down the fan upon reaching 99°C.
2) Safety heat evacuator a tap-water-filled line passes through the upmost part of the boiler body. In case of overheating it is triggered open by a thermostatic valve (not included) to evacuate the heat off the boiler;
3) Pressure relief valve 3 bar;

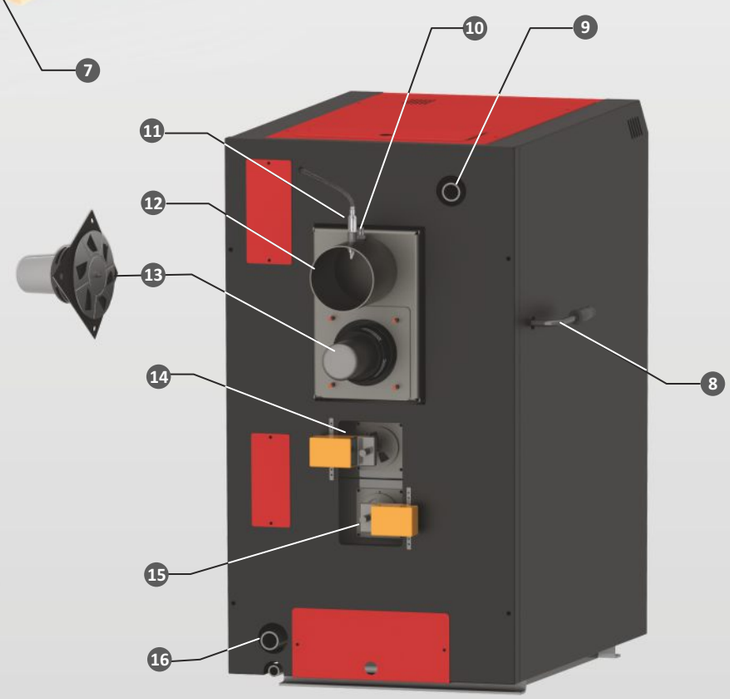
Available sizes:

kW	30

BURNiT by SUNSYSTEM

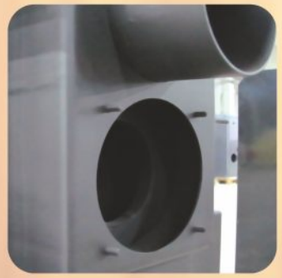


1. Controller
2. Housing
3. High efficiency thermal insulation
4. Safety heat evacuator
5. Water mantle (jacket)
6. Wood-loading chamber
7. Pyrolysis combustion chamber
8. Cleaning system
9. Hot water outlet
10. Flue gas sensor
11. Lambda sensor
12. Flue
13. Flue gas extraction fan
14. Actuator-driven primary air flap
15. Actuator-driven secondary air flap
16. Cold water inlet



BURNiT
PyroBurn Lambda

technical specifications



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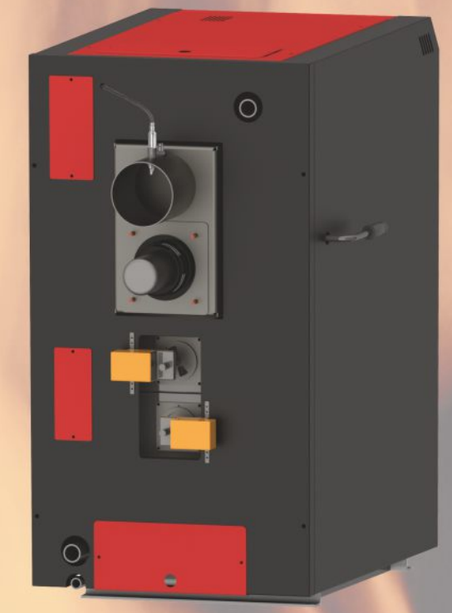


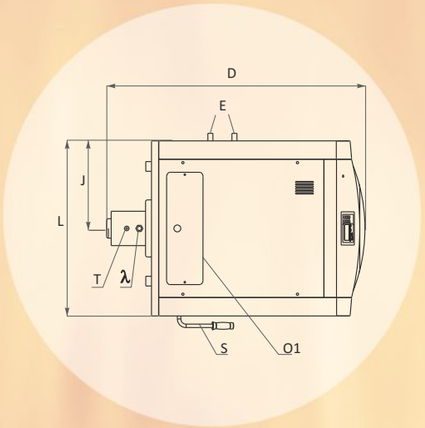
		PyroBurn Lambda 30
Heat output	kW	15÷30
Heating surface	m^2	150÷350
Height H	mm	1435
Width L / Depth D	mm	765/1130
Water mantle volume	L	85
Combustion chamber volume	L	163
Combustion chamber resistance	Pa/mbar	11/0.11
Required chimney draught	Pa	10÷15
Insulation: Boiler		high-efficiency thermal wool
Insulation: Chamber		ceramic plates
Insulation: Doors		ceramic plates + high-efficiency thermal wool
Average power consumption	W	85
Electric power supply	V/Hz	230/50
Recommended fuel		wood, humidity 15%, wood briquettes
Burning time partial/full load	h	14/8
Loading door size	mm	490x260
Max. length of firewood logs	mm	500
Recommended buffer tank volume	L	1956
Exhaust gas temperature (operation mode)	°C	130-150
Operating temperature range	°C	65-85
Max. temperature	°C	95
Min. return water temperature	°C	60
Operating pressure	bar	3
Weight	kg	610

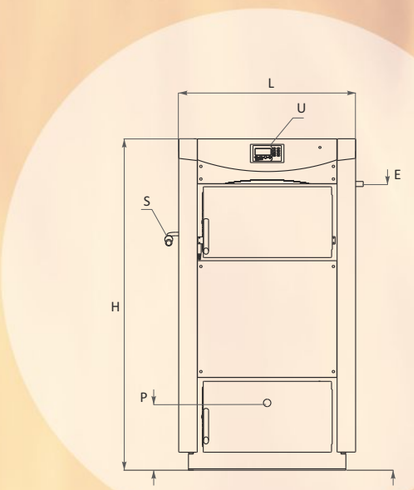
The information provided herein is subject to change without prior notice.

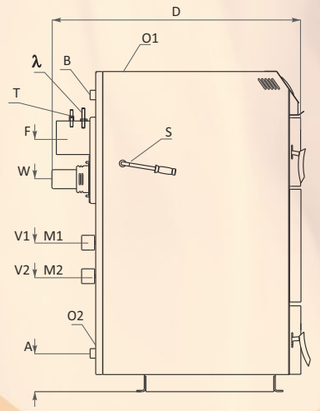
BURNiT
PyroBurn Lambda

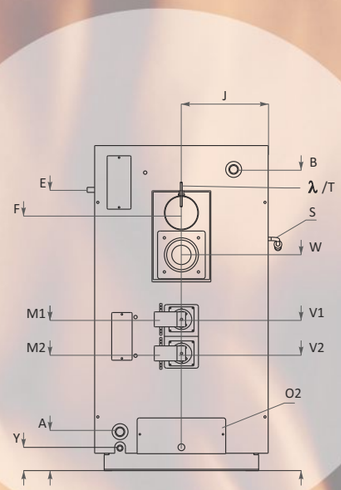
technical specifications

BURNiT by SUNSYSTEM









		PyroBurn Lambda 30
Cold water inlet	A, mm	G 1¼"/ 170
Hot water outlet	B, mm	G 1¼"/ 1325
Safety line sleeve	K	✓
Safety heat evacuator inlet/outlet	E, mm	R ½"/11235
Flue	F Ø mm J, mm	150 1135 382
Cleaning opening upper lower	O1, mm O2, mm	455/200 350/140
Drain	Y, mm	R ½"/100
Air intake flap Primary air Secondary air	V1, mm V2, mm	655 515
Step-regulated motor / servo-actuator/	M1, mm M2, mm	655 515
Flue gas extraction fan	W, mm	950
Lambda sensor	λ	✓
Flue gas sensor	T	✓
Cleaning system	S	✓
Eyepiece for viewing the combustion process	P	✓
Controller	U	✓

BURNiT
PelleBurn

pellet boiler

Product Features

- Automated operation
- Hi-tech construction, cylindrical body-design of the boiler
- MCU controller:

1) fully automated ignition and pellet feed;
2) self-cleaning function;
3) controls the operation of the circulation pump of the central heating and the pump of the domestic hot water (DHW);
4) a weekly timer;
5) ARM microprocessor.

- Two fans assist the combustion process
  - Boiler flue gas extraction fan;
  - Burner air-feed fan.
- Automatic cleaning system.
- Built in discharge mechanism drives the ash and soot into a rolling container
- Pellet Burner Pell pull-out system for convenient maintenance.
- Fuel hopper FH 500 with alternative mounting on the left or right side of the boiler
- Eyepiece for viewing the combustion process
- Safety devices:

1) The MCU controller alerts in case of abnormal temperature rise;
2) STB thermostat reacts to increased operating temperature and shuts down the fan.
3) Elbow-shape feeder chute prevents backfire entry from burner into pellet hopper.
4) Thermostatic protection (80°C) .
5) Fuse 3,15 A.

Available sizes:

kW	15	25	40

BURNiT by SUNSYSTEM

1. Housing
2. Double high efficiency thermal insulation
3. Flue
4. Flue gas extraction fan
5. Automatic cleaning system
6. Fume exhaust tubes
7. Water mantle (jacket)
8. Combustion chamber
9. Built in discharge mechanism drives the ash and soot into a rolling container
10. Rolling ash and soot container
11. Pellet Burner Pell pull-out system for convenient maintenance.
12. MCU controller
13. Pellet boiler PelleBurn
14. Pellet fuel hopper FH 500

Ecological

A high-end pellet boiler. The wood pellets used for fueling the boiler are a renewable fuel with minimum carbon emissions and ultimate burning efficiency.

Intelligent and autonomous

All boiler functions are fully automated – no human intervention is needed for the normal operation of the boiler. Owing to an improved algorithm with optional adjustment of a wide variety of parameters, the system may be finely tuned to any particular heating system to achieve optimum efficiency and fuel consumption.

Efficient

With its state-of-the-art combustion control system and cylindrical body design construction the PelleBurn boiler achieves efficiency rate of as much as 91% and is gentle to the environment with its extremely low carbon emissions.
Tested and approved according to EN 303-5, class 5.

Reliable and safe

Since the combustion is electronically controlled by modulating the operation of pellet burner in response to the energy needs of the system, the boiler is always operated in safety. A back-up safety device - an independent STB thermostat -would shut down both the burner and the air intake fan to extinguish the boiler in case of abnormal temperature increase.

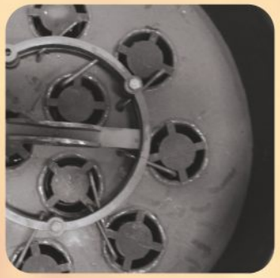
BURNiT by SUNSYSTEM
PELLEBURN

Pellet boiler BURNiT PelleBurn

Ecological and highly-efficient heating of bigger houses and industrial spaces. Designed for firing wood pellets.
The mantle fully covers the combustion chamber. Cleaning system.
Set includes:
Pellet boiler PLB, Pellet burner Pell, Auger and Pellet fuel hopper FH 500.

BURNiT
PelleBurn

technical specifications

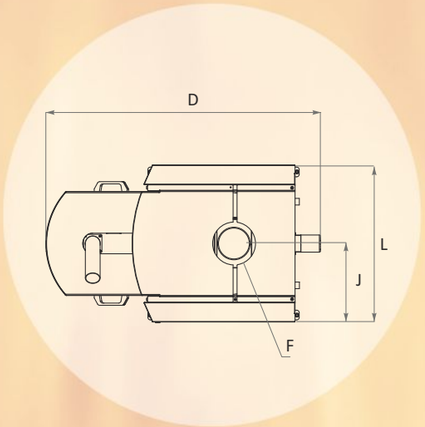


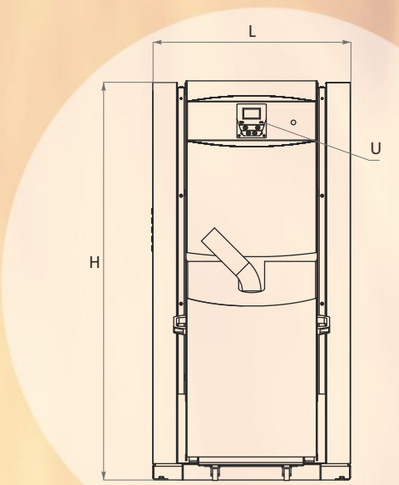
BURNiT by SUNSYSTEM

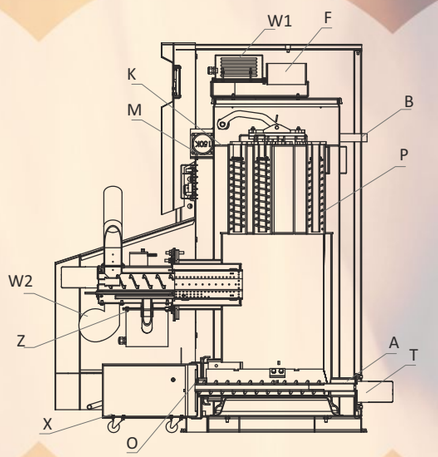
		PLB 15	PLB 25	PLB 40
Heat output	kW	5÷15	5÷25	10÷40
Heating surface	m^2	60÷120	80÷190	120÷270
Height H	mm	1300	1420	1700
Width L / Depth D	mm	640/1120	640/1120	700/1420
Water mantle volume	L	55	70	101
Combustion chamber volume	L	43	53	73
Combustion chamber resistance	Pa/mbar	10/0.10	11/0.11	12/0.12
Required chimney draught	Pa	10÷20	10÷20	10÷20
Insulation Boiler body Boiler housing			100 mm high-efficiency thermal wool lined with aluminum foil 20 mm high-efficiency black veil rockwool	
Average power consumption	W	50	60	95
Electric power supply	V/Hz	230/50	230/50	230/50
Recommended fuel			wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/	
Exhaust gas temperature (operation mode)	°C	<130	<130	<180
Operating temperature range	°C	65-85	65-85	65-85
Max. temperature	°C	95	95	95
Min. return water temperature	°C	60	60	60
Operating pressure	bar	3	3	3
Weight	kg	217	250	368
Pellet burner BURNiT Pell Power Efficiency	kW %	5÷25 > 96	5÷25 > 96	5÷40 > 96
Capacity of Pellet fuel hopper FH	L	500	500	500

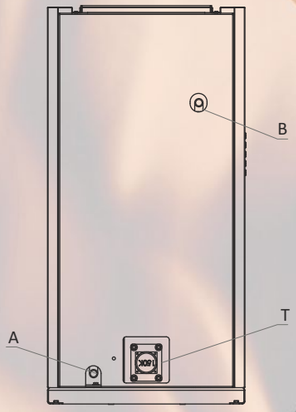
BURNiT
PelleBurn

technical specifications







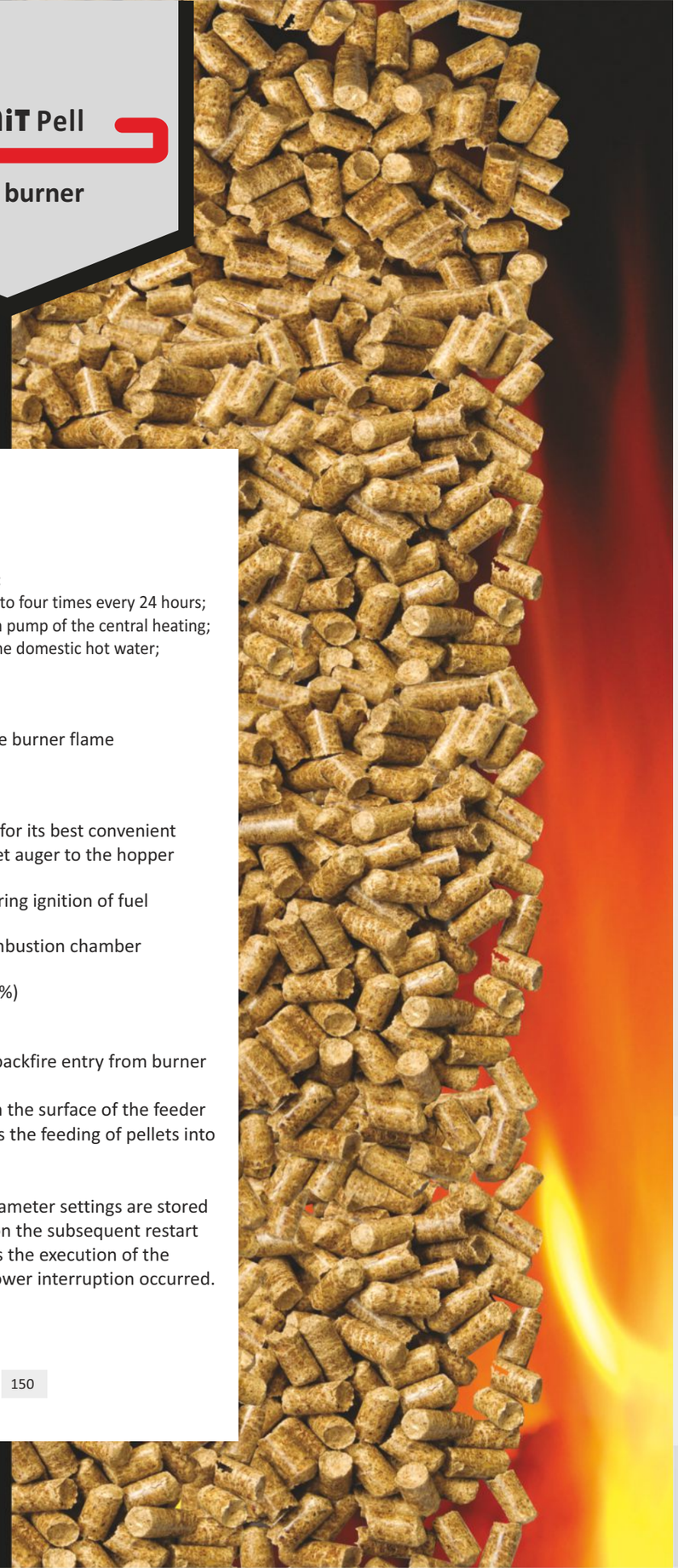


		PLB 15	PLB 25	PLB 40
Cold water inlet	A, mm	R 1"/100	R 1"/100	R 1"/100
Hot water outlet	B, mm	R 1"/980	R 1"/1120	R 1"/1417
Safety line sleeve	K	✓	✓	✓
Air vent	I	✓	✓	✓
Flue	F Ø mm J, mm	133 1280 320	133 1480 320	150 1700 350
Cleaning opening	O, mm	140/300	140/300	140/300
Eyepiece for viewing the combustion process	V, mm	✓	✓	✓
Boiler flue gas extraction fan Burner air-feed fan	W1, mm W2, mm	✓ ✓	✓ ✓	✓ ✓
Automatic cleaning system	P, mm	950	1090	1390
Motor of cleaning system	M, mm	✓	✓	✓
Pellet Burner Pell pull-out system	Z, mm	✓	✓	✓
Automatic ash-and-soot discharge system	T, mm	170	170	170
Ash-and-soot container	X, mm	Rolling ash container; connected to boiler body by buckles		
MCU controller	U	✓	✓	✓

The information provided herein is subject to change without prior notice.

BURNiT Pell

pellet burner



Product Features:

- Built-in control unit:
  1) fully automated ignition and pellet feed;
  2) self-cleaning function, activation of one to four times every 24 hours;
  3) controls the operation of the circulation pump of the central heating;
  4) controls the operation of the pump of the domestic hot water;
  5) option for control by room thermostat;
  6) timer;
- Photosensor-monitors the power of the burner flame
- Internal auger
- The feeder chute allows 360° rotation for its best convenient positioning when connecting the pellet auger to the hopper
- Dry contactless resistance heater assuring ignition of fuel
- Innovative cleaning system of the combustion chamber
- Air feed fan, step-regulated (0% ÷100 %)
- Safety devices:

1) Elbow-shape feeder chute prevents backfire entry from burner into pellet hopper;
2) Thermostatic protection 80°C . When the surface of the feeder chute reaches 80°C, the control stops the feeding of pellets into the burner and signals for fault;
3) Fuse 3,15 A;
4) In case of power interruption, all parameter settings are stored in the memory of the controller. Upon the subsequent restart of the burner, the controller resumes the execution of the program from the point when the power interruption occurred.

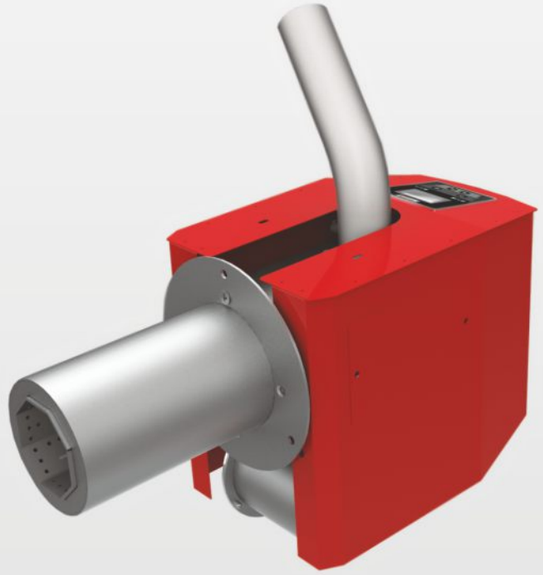
Available sizes:

kW	25	30	40	70	90	150

BURNiT by SUNSYSTEM

Pellet burner BURNiT Pell

The BURNiT Pell is a pellet burner for heating boilers. It burns wood-pellets with diameter 6-8 mm and ensures an efficient, low-emission combustion. Produced of high-grade stainless steel, it withstands temperatures up to 1000°C. The built-in controller, automatic cleaning system and internal auger manage the burner operation for optimum efficiency.



Mounting options

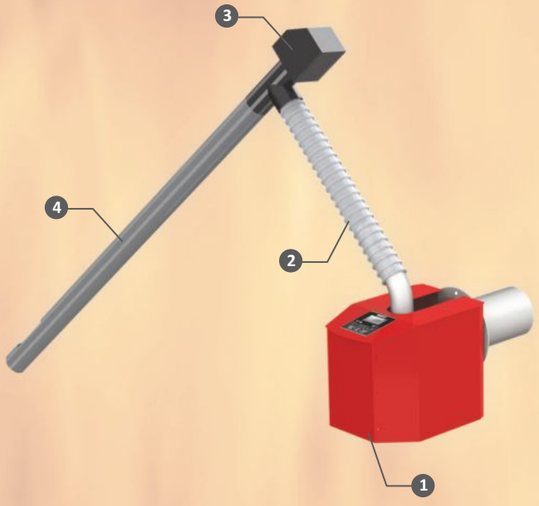
BURNiT WBS +BURNiT Pell

BURNiT WBS Active +BURNiT Pell

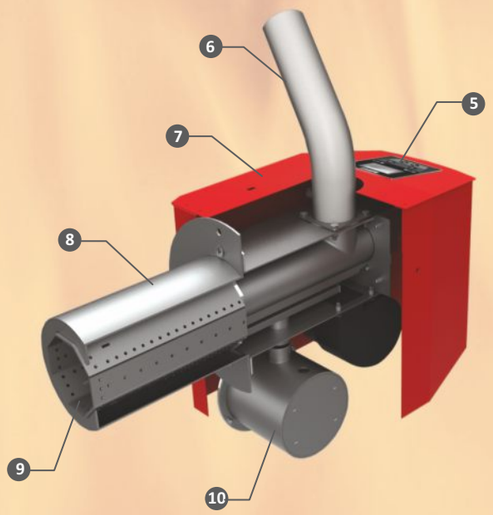
BURNiT PelleBurn + BURNiT Pell

BURNiT Pell

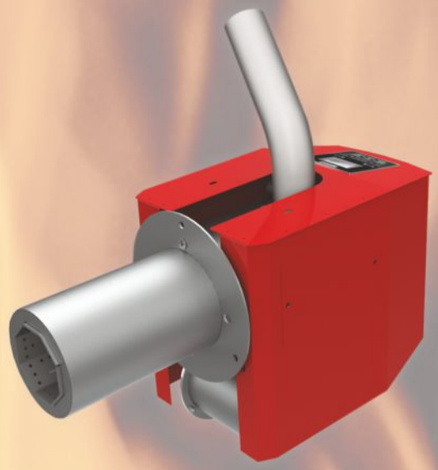
technical specifications



1. Pellet burner Pell; 2. Flexible connection, hose;
3. Electric motor; 4. Automatic pellet-feeding auger



5.Built-in controller; 6.Feeding chute; 7. Burner housing;
8. Combustion chamber corps; 9. Combustion chamber;
10. Automatic cleaning system



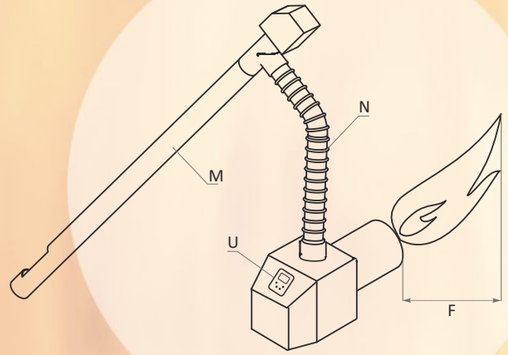
BURNiT by SUNSYSTEM

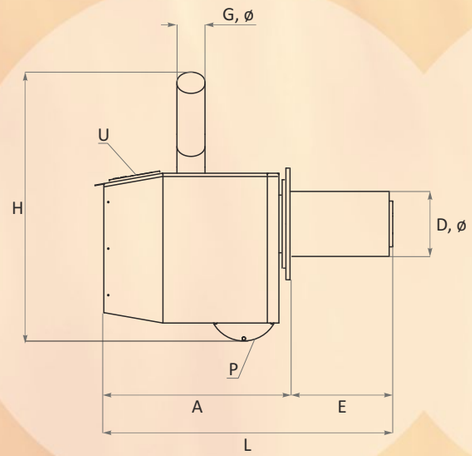
			Pell 25	Pell 30	Pell 40	Pell 70	Pell 90	Pell 150
Heat output		kW	5÷25	10÷30	10÷40	15÷70	30÷90	50÷150
Burner average power consumption	Firing-Up mode	W	400	400	400	400	400	400
	Operate mode	W	60÷70	60÷70	60÷70	70÷110	70÷110	70÷110
	Self-cleaning mode	W	1300	1300	1300	1300	1300	1300
Electric power supply		V/Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz
Overall dimensions	Height H	mm	575	575	575	575	575	650
	Width L	mm	615 / 245	615 / 245	700 / 300	750 / 350	750 / 350	750 / 350
	Depth D	mm						
Min. recommended size of boiler combustion chamber	Height	mm	250	350	350	350	500	500
	Width	mm	250	390	450	450	500	500
	Depth	mm	390	550	550	600	600	800
Burner operating noise level	Burner	dB	40-45	40-45	40-45	40-45	40-45	40-45
	Auger	dB	10	10	10	10	10	10
	Cleaning system	dB	65-67	65-67	65-67	65-67	65-67	65-67
Required chimney draught		Pa	25	25	27	30	32	40
Recommended fuel			wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/					
Air feed fan, step-regulated			0% ÷100 %	0% ÷100 %	0% ÷100 %	0% ÷100 %	0% ÷100 %	0% ÷100 %
Photo-sensor			✓	✓	✓	✓	✓	✓
Boiler mounting kit (optional)			✓	✓	✓	✓	✓	✓
Heat-output adjustment			✓	✓	✓	✓	✓	✓
Pump control /handling/			controls the operation of central heating pump / domestic hot water pump					
Combustion Efficiency/Emited heat		%	99/96	99/96	99/96	99/96	99/96	99/96
Weight		kg	17	21	23	26	28	32

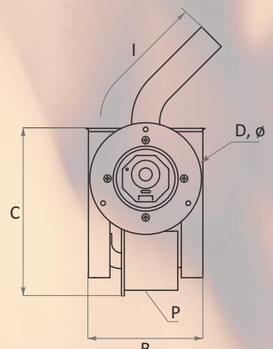
The information provided herein is subject to change without prior notice.

BURNiT Pell

technical specifications







			Pell 25	Pell 30	Pell 40	Pell 70	Pell 90	Pell 150
Burner corps	Length	A, mm	390	390	390	390	390	390
	Width	B, mm	245	245	245	245	245	330
	Height	C, mm	360	360	360	360	360	410
Combustion chamber	Diameter	D, mm	140	140	170	170	170	210
	Length	E, mm	220	220	300	340	340	340
Feeder chute	Diameter	G, mm	60	60	60	60	60	60
	Length	I, mm	250	250	250	250	250	250
Automatic cleaning system		P	✓	✓	✓	✓	✓	✓
Built-in controller		U	✓	✓	✓	✓	✓	✓
Burner flame		F, mm	750	800	1000	1500	1600	2000
* Burner flame length F is approximate. Depends on the settings of the power, blower speed and chimney draft.								
Pellet auger	Diameter	M, mm	75	75	75	75	75	75
	Length	mm	1500 /2000 /3000	1500 /2000 /3000	1500 /2000 /3000	1500 /2000 /3000	1500 /2000 /3000	1500 /2000 /3000
	Weight	kg	5.5 / 7 / 8	5.5 / 7 / 8	5.5 / 7 / 8	5.5 / 7 / 8	5.5 / 7 / 8	5.5 / 7 / 8
Flexible connection (hose)	Diameter	N, mm	60	60	60	60	60	60
	Length		700	700	700	700	700	700

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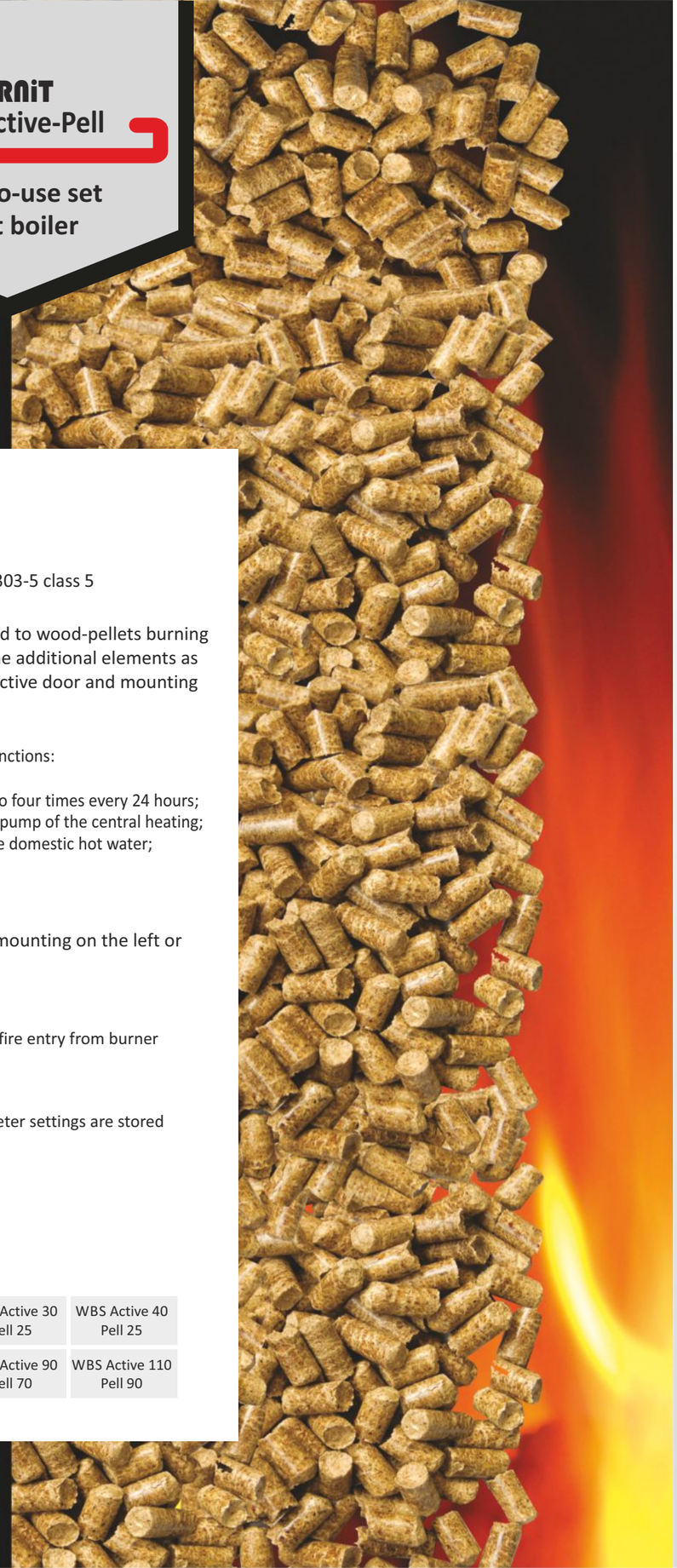
BURNiT
WBS Active-Pell

ready-to-use set pellet boiler



Product Features

- Ready-to-use set.
  Tested and approved according to EN 303-5 class 5

- Solid fuel boiler WBS Active is adapted to wood-pellets burning mode with pellet burner Pell and some additional elements as barrier ribs (turbulators), upper protective door and mounting kit

- Pellet burner Pell. Built-in control unit. Functions:
1) fully automated ignition and pellet feed;
2) self-cleaning function, activation of one to four times every 24 hours;
3) controls the operation of the circulation pump of the central heating;
4) controls the operation of the pump of the domestic hot water;
5) option for control by room thermostat;
6) timer;

- Fuel hopper FH 500 with alternative mounting on the left or right side of the boiler

- Safety devices:
1) Elbow-shape feeder chute prevents backfire entry from burner into pellet hopper;
2) Thermostatic protection (80°C).
3) Fuse 3,15 A;
4) In case of power interruption, all parameter settings are stored in the memory of the controller.
5) Safety heat evacuator;
6) Pressure relief valve 3 bar;

Available sizes:

kW	WBS Active 20 Pell 25	WBS Active 25 Pell 25	WBS Active 30 Pell 25	WBS Active 40 Pell 25
	WBS Active 50 Pell 40	WBS Active 70 Pell 70	WBS Active 90 Pell 70	WBS Active 110 Pell 90

BURNiT by SUNSYSTEM

Set BURNiT WBS Active - Pell

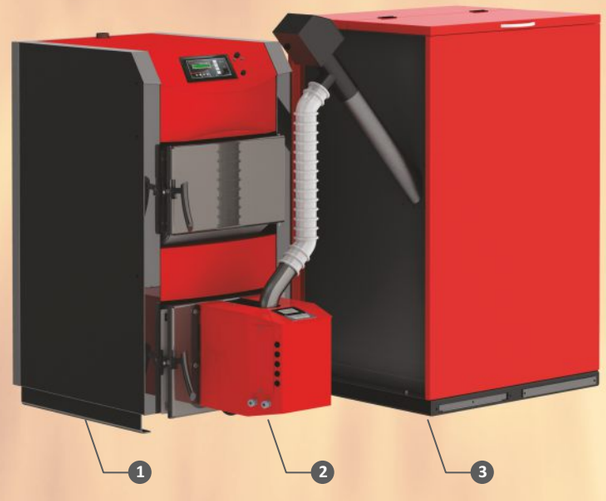
Boiler WBS Active with pre-mounted pellet burner Pell. Auger. Pellet fuel hopper FH 500. For wood-pellets or solid fuel (alternatively).

Solid fuel boiler WBS Active is adapted to wood-pellets burning mode with some additional elements. Through them set WBS Active with pellet burner Pell can reach the desired level of efficiency.

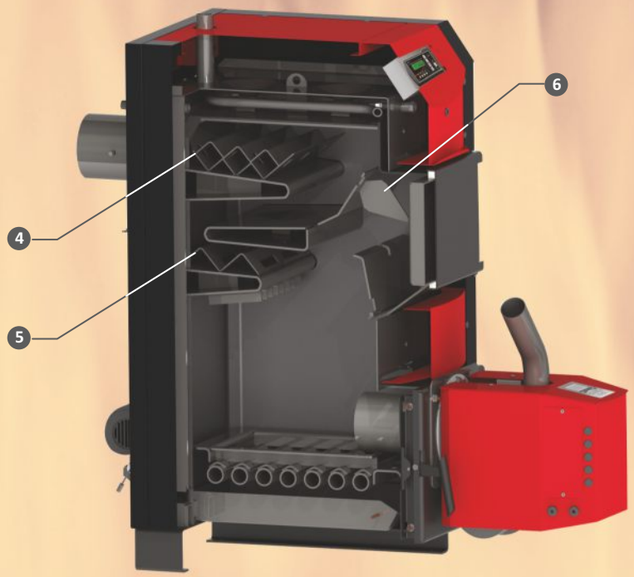
**To change pellet burning mode of set WBS Active + Pell to solid fuel mode an authorized installer have to disconnect the pellet burner Pell, auger, hopper FH 500, and the additional elements. Burner flange cover will be mounted on lower boiler door.
At last boiler WBS Active is ready for solid fuel mode.**

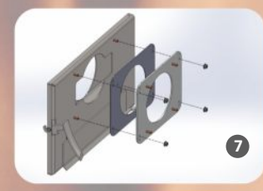
BURNiT
WBS Active-Pell

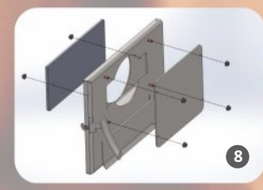
technical specifications



1. Boiler WBS Active
2. Pellet burner Pell, flexible connection, automatic pellet-feeding auger;
3. Pellet fuel hopper FH 500







4. Upper barrier rib / turbulator/; 5. Lower barrier rib /turbulator/
6. Upper protective door ; 7. Mounting kit - to connect burner Pell to the boiler /wood-pellets mode/
8. Burner flange cover on lower boiler door /solid fuel mode/

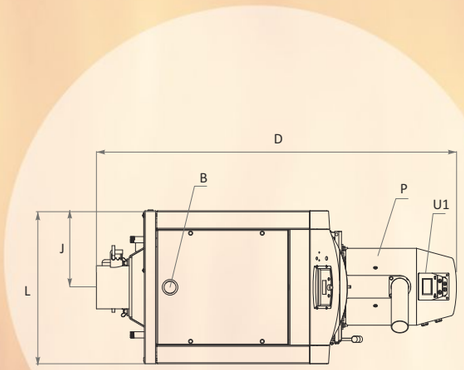
			WBS Active 20 Pell 25	WBS Active 25 Pell 25	WBS Active 30 Pell 25	WBS Active 40 Pell 40	WBS Active 50 Pell 40	WBS Active 70 Pell 70	WBS Active 90 Pell 70	WBS Active 110 Pell 90
Heat output		kW	17	22	25	30	35	50	60	80
Heating surface		m^2	90 ÷ 170	100 ÷ 220	120 ÷ 250	140 ÷ 320	160 ÷ 350	250 ÷ 470	350 ÷ 580	400 ÷ 750
Overall dimensions WBS Active-PEll	Height H Width L /Depth D	mm mm	1215 540/1250	1215 540/1315	1215 600/1315	1215 700/1315	1215 700/1375	1365 700/1495	1365 760/1495	1365 820/1495
Water mantle volume		L	92	100	105	118	128	141	156	171
Combustion chamber volume		L	58	62	73	84	97	120	133	160
Combustion chamber resistance		Pa/mbar	20/0.20	25/0.25	28/0.28	32/0.32	56/0.56	89/0.89	115/1.15	130/1.3
Required chimney draught		Pa/mbar	12/0.12	12/0.12	12/0.12	12/0.12	12/0.12	14/0.14	16/0.16	20/0.20
Burner average power consumption	Firing-Up mode Operate mode Self-cleaning mode	W W W	400 60÷70 1300	400 60÷70 1300	400 60÷70 1300	400 60÷70 1300	400 60÷70 1300	400 70÷110 1300	400 70÷110 1300	400 70÷110 1300
Electric power supply		V/Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230 AC/50 Hz	230AC/50Hz
Burner operating noise level	Burner Auger Cleaning system	dB	40-45 10 65-67	40-45 10 65-67	40-45 10 65-67	40-45 10 65-67	40-45 10 65-67	40-45 10 65-67	40-45 10 65-67	40-45 10 65-67
Recommended fuel			wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/							
Mounting kit - to connect burner Pell to the boiler/ Additional elements of WBS Active			✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓
Exhaust gas temperature (operation mode)		°C	<130	<130	<130	<130	<130	<130	<140	<140
Operating temperature range/ Max. temperature		°C	65-85/95	65-85/95	65-85/95	65-85/95	65-85/95	65-85/95	65-85/95	65-85/95
Min. return water temperature		°C	60	60	60	60	60	60	60	60
Operating pressure		bar	3	3	3	3	3	3	3	3
Weight WBS Active-Pell		kg	252	260	285	330	355	430	464	493
Capacity of Pellet fuel hopper FH		L	500	500	500	500	500	500	500	500

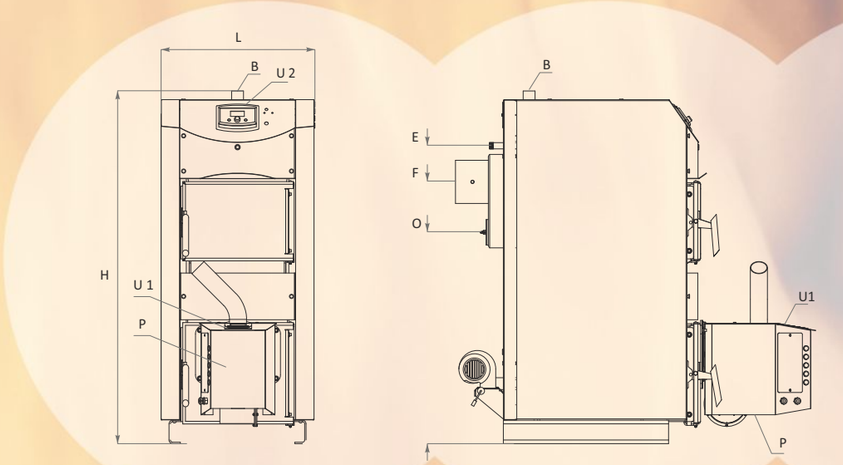
* Ask for necessary parameters BURNIT authorized installer.

The information provided herein is subject to change without prior notice.

BURNiT
WBS Active-Pell

technical specifications





		WBS Active 20 Pell 25	WBS Active 25 Pell 25	WBS Active 30 Pell 25	WBS Active 40 Pell 40	WBS Active 50 Pell 40	WBS Active 70 Pell 70	WBS Active 90 Pell 70	WBS Active 110 Pell 90
Cold water inlet	A, mm	R 1¼"/212	R 1¼"/212	R 1¼"/212	R 1¼"/212	R 1¼"/212	R 1½"/212	R 1½"/212	R 1½"/212
Hot water outlet	B, mm	R 1¼"/1245	R 1¼"/1245	R 1¼"/1245	R 1¼"/1245	R 1¼"/1245	R 1½"/1400	R 1½"/1400	R 1½"/1400
Safety heat evacuator inlet / outlet	E	R ½"/1052	R ½"/1052	R ½"/1052	R ½"/1052	R ½"/1052	R ½"/1202	R ½"/1202	R ½"/1202
Safety line sleeve (sensor or safety valve sleeve)	K	G ½"/1055	G ½"/1055	G ½"/1055	G ½"/1055	G ½"/1055	G ½"/1205	G ½"/1205	G ½"/1205
Flue	F Ø mm J, mm	150 925 270	150 925 270	150 925 300	180 910 350	180 910 350	200 1045 350	200 1045 380	200 1045 410
Flue cleaning opening	O, mm	150/70	150/70	150/70	150/70	150/70	150/70	150/70	150/70
Drain	Y, mm	G ¾"/212	G ¾"/212	G ¾"/212	G ¾"/212	G ¾"/212	G 1"/212	G 1"/212	G 1"/212
Pellet burner Pell / flange	P	✓	✓	✓	✓	✓	✓	✓	✓
Controller Pell /wood -pellets mode/	U1	✓	✓	✓	✓	✓	✓	✓	✓
Controller WBS Active /solid fuel mode/	U2	✓	✓	✓	✓	✓	✓	✓	✓

The information provided herein is subject to change without prior notice.

Ecological and versatile

Wood-pellets used in the combustion process are renewable energy sources with minimum emissions. Burning of solid fuel alternatively, makes CombiBurn DC-A a versatile boiler.

Two combustion chambers

Boiler body is with two combustion chambers. The wood pellet burner is installed in the lower chamber. A metal grate divides the upper from the lower combustion chamber. On this grate the backup fuel (firewood, wood briquettes or coal) is loaded. The boiler body is made of boiler grade steel of thickness 6 mm for the combustion chamber and 3 mm for the water mantle.

Do not use both chambers for burning fuel at the same time.

Efficient

On their way to the chimney flue gases make a three-pass run around three water-filled barriers inside the combustion chamber. Thus flue gas is cooled down until exit from boiler, having all its heat energy transferred to the water inside the water mantle. The water mantle embraces the combustion chamber in full to utilize the emitted heat most efficiently. To prevent heat losses into the ambience, the boiler is insulated on the outside by high-temperature rock wool. Efficiency – rate up to 89%.

Tested and approved according toEN 303-5 class 5.

Reliable and safe

Safe operation of boiler is ensured via a set of safety devices. Combustion process is electronically regulated via step modulation of burner performance according to power needs, and also maintained in optimum working mode. Two independent thermostats – that on the boiler (STB type) and the one on the auger mechanism (bimetallic thermostat set at 80°C) would stop the fuel feeding into the burner in case of excess temperature load.

BURNiT by SUNSYSTEM

CombiBurn DC-A

Dual chamber boiler BURNiT CombiBurn DC-A

The high-efficiency dual chamber boiler CombiBurn DC-A is designated for central heating of premises through burning of wood-pellets by using a high-efficiency burner integrated to its lower combustion chamber.
As alternative (backup fuel) for it can be used wood logs, wood briquettes and coal, which are loaded to the upper boiler chamber.

Set includes:
Dual-chamber boiler CombiBurnDC-A, pellet burner CW-A, fuel hopper CW-A and rolling ash-and-soot container.

Attention! Do not use both chambers for burning fuel at the same time.

BURNiT
CombiBurn DC-A

dual chamber boiler

Product Features

• Controller functions:
1) fully automated ignition and pellet feed;
2) fan ensures stable operation of the burner;
3) self-cleaning function (adjustable 1-4 times over 24 hours at equal intervals), programmable start time;
4) built in discharge mechanism drives the ash and soot into a rolling container;
5) controls the operation of the circulation pump of the central heating;
6) controls the operation of the pump of the domestic hot water;
7) option for control by room thermostat;
8) timer;
9) option for manual mode when using the upper chamber and burned wood and /or coal.

• Dual chamber design . Wood pellet burner is installed in lower chamber. Burner joins the side of the boiler. Metal grate divides upper and lower combustion chambers. On a metal grate is loaded backup fuel (firewood, wood briquettes or coal)

• Two doors provide convenient access for cleaning the fume exhaust tubes and the combustion chambers

• Three-pass flue gas flow for improved heat exchange

• Built in discharge mechanism drives the ash and soot into a rolling container

• Eyepiece for viewing the combustion process

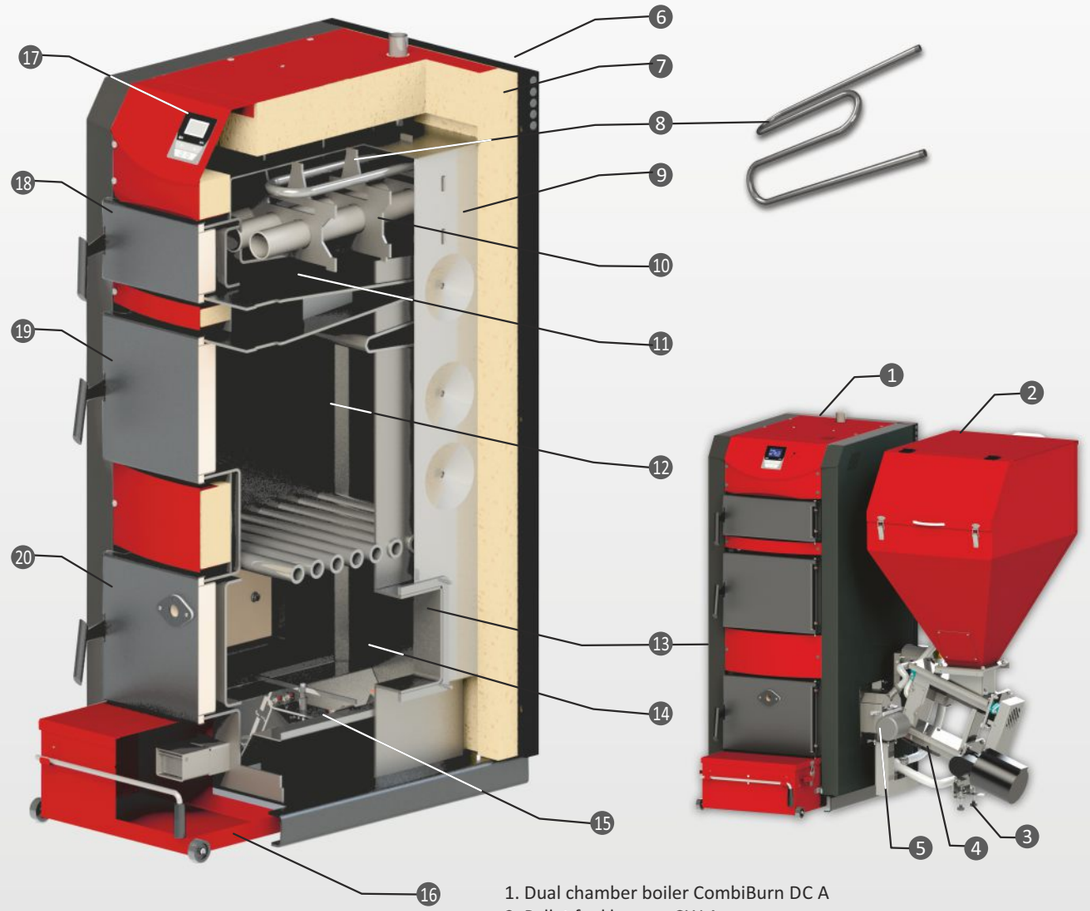
• Burner and hopper are connected laterally of boiler.
Option to mount the burner and fuel bunker on either side of the boiler

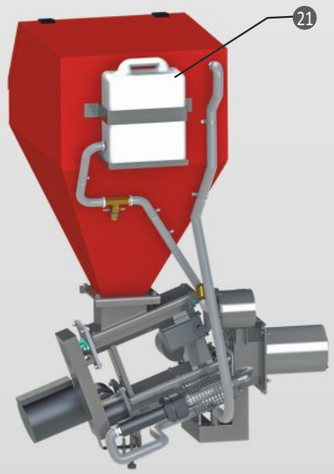
• Safety devices:
1) Controller commands the temperature of boiler and burner;
2) Thermostatic protection 80°C . When the surface of the feeder chute reaches 80°C, the control stops the feeding of pellets into the burner and signals for fault;
3) Fuse 3,15 A;
4) Safety heat evacuator;
5) Temperature safety valve is connected to a water tank and in case of reverse flame in auger, release the water into the medial flange, located between auger and fuel hopper and prevent fuel firing. Convenient maintenance openings are provided on auger mechanism and on medial flange.

Available sizes:

kW	30

BURNiT by SUNSYSTEM
CombiBurn DC-A





1. Dual chamber boiler CombiBurn DC A
2. Pellet fuel hopper CW A
3. Leveling foot
4. Auger
5. Pellet burner CW A
6. Housing
7. High efficiency thermal insulation
8. Safety heat evacuator
9. Water mantle (jacket)
10. Fume exhaust tube
11. Three-pass flue gas flow
12. Back-up (wood logs, coals) fuel combustion chamber
13. Burner flange
14. Wood-pellets combustion chamber
15. Automatic ash-and-soot discharge system
16. Rolling ash-and-soot container
17. MCU controller
18. Upper inspection door
19. Loading door
20. Lower inspection door
21. Water tank connected to the auger

BURNiT CombiBurn DC-A

technical specifications

			CombiBurn DC A 30
	Heat output	kW	30 kW
	Heating surface	m²	~150 ÷ 300
	Overall dimension /boiler, burner and hopper/ Height H/ Width L / Depth D	mm	1600 / 1320 / 1070
Dual chamber boiler CombiBurn DC-A	Height / Width/ Depth	mm	1560/630/1070
	Water mantle volume	L	113
	Back-up (wood, coals) combustion chamber volume	L	96
	Wood-pellets combustion chamber volume	L	72
	Required chimney draught	Pa/mbar	20/0.20
	Recommended fuel	Automatic loading Manual loading	wood-pellets /EN 14961-2:2011/ of fruit pits, broken nuts wood, humidity 20%; wood briquettes; wood + coals
	Max. length of firewood logs	mm	400
	Operating temperature range/Max.temperature	°C	65 ÷ 85 / 95
	Exhaust gas temperature (operation mode)	°C	150 ÷ 180
	Max. operating pressure	bar	3
	Cold water inlet	A, mm	G1½" / 460
	Hot water outlet	B, mm	G1½" / 1510
	Safety heat evacuator inlet/outlet	K, mm	R½" / 1400
	Flue	F, mm J, mm	ø 152 / 1260 315
	Flue cleaning /inspection/ opening	O, mm	200x90
	Loading door	N, mm	200x390
	Upper inspection door	P, mm	150x390
	Lower inspection door	R, mm	300x390
	Rolling ash and soot container	V, mm	220x500x200
	Transporting auger motor/discharge system/	T, mm	135
	Drain	Y, mm	R½" / 290
	Burner flange	Z	✓
	Controller	U	✓
Fuel hopper CW-A	Height / Width/ Depth	mm	1105 / 625 / 810
	Capacity of fuel hopper	L	270
	Capacity of water tank	S, L	10
Pellet burner CW-A	Heat output	kW	35
	Average power consumption	Firing-Up mode Operate mode Self-cleaning mode	~1600 ~60 ÷ 70 ~1300
	Electric power supply	V/Hz	220 AC / 50
	Weight /boiler/ Weight /boiler, fuel hopper, burner/	kg	400 535

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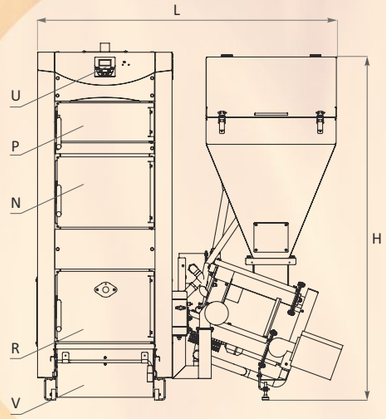
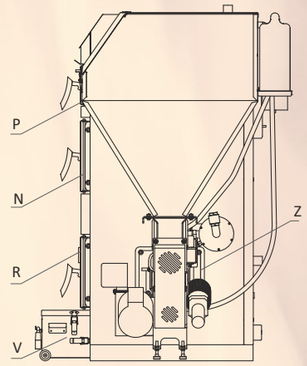
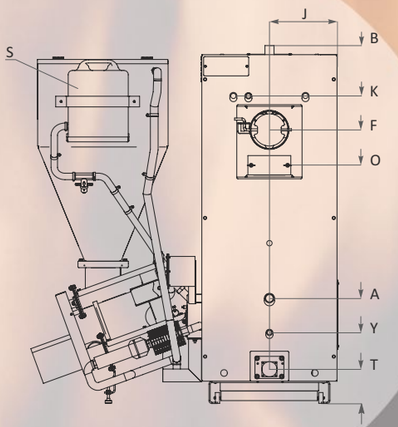
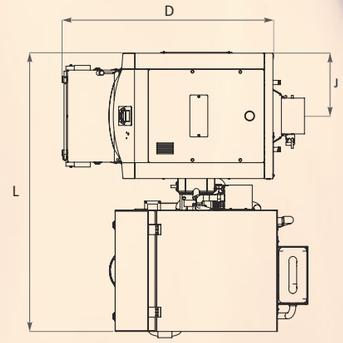




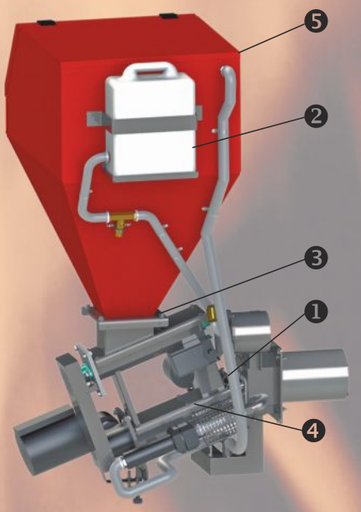




Design of auger mechanism and fuel hopper (wood-pellets)

It consists of a spiral conveyor mounted to the axle, driven by motor reducer, which is attached to the body of the auger. Auger and fuel hopper are connected by medial flange.

Temperature safety valve (1) is connected to a water tank (2) and in case of reverce flame in auger, releace the water into the medial flange (3), located between auger (4) and fuel hopper (5) and prevent fuel firing. Convinient maintenance openings are provided on auger mechanism and on medial flange. The hopper hatch-cover remains to be closed during operation of boiler.



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BURNiT FH

pellet fuel hopper

Product Features

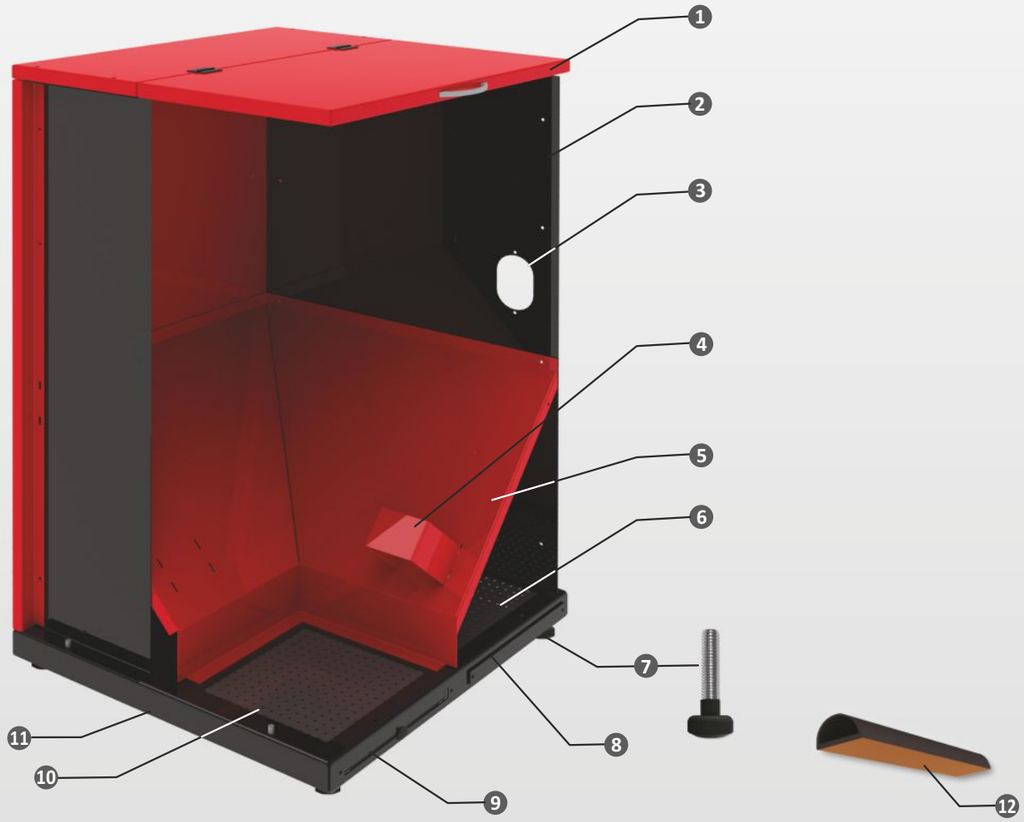
- Pellet hopper design allowing installation by choice on either side of boiler
- Made of cold-rolled steel sheets with polymer coating
- Significant reduction of minimum pellet quantity needed thanks to sloped design of pellet guiding plates
- Pellets inside hopper are fed into auger in order of reception
- Comfortable pellet charging hatch secured with holder mechanism
- Guiding plate gaskets prevent fall-through of pellets
- Drain holes and dust container built into elevated hopper foundation facilitate cleaning of hopper from pellet dust without waiting to be emptied.
  According to hopper installation orientation the dust removal container can be placed on the left or the right side.
- Precision leveling of hopper possible via screw-in legs

BURNiT by SUNSYSTEM

FH 500

Pellet fuel hopper BURNiT FH 500

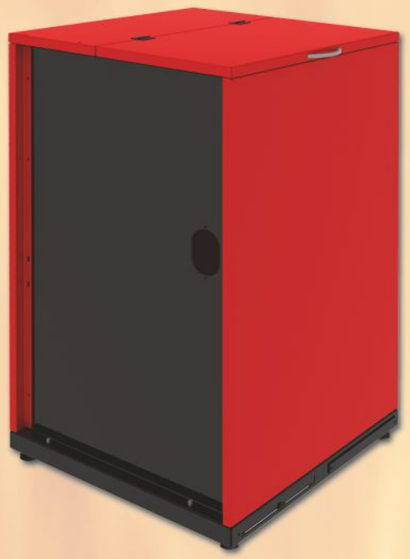
Pellet hopper, designated to serve biomass pellet-fired boilers. The hopper capacity is determined using as calculation base the daily or weekly fuel consumption rate of burner. The pellet hopper usable volume of 500 litres allows charging of 280-300 kg of pellets with diameter 6mm, and top-up/refill once a week (for burner of rated power up to 40 kW). Elevated foundation with drain holes and container for separation and removal of pellet powder.



1. Pellet-loading hatch with support
2. Side panels
3. Auger mounting side-panel opening
4. Auger holder
5. Pellet-guide plates
6. Drainage holes
7. Leveling feet
8. Dust container cover
9. Dust container
10. Pellet-colecting bottom
11. Foundation
12. Guide plate gasket

BURNiT FH

technical specifications



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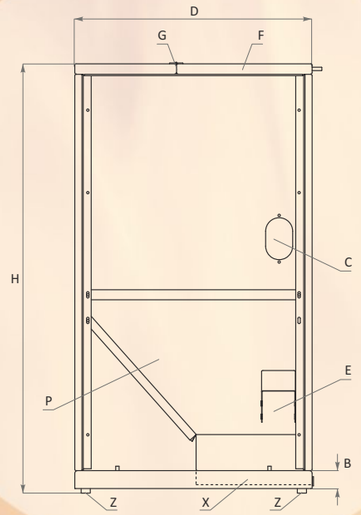
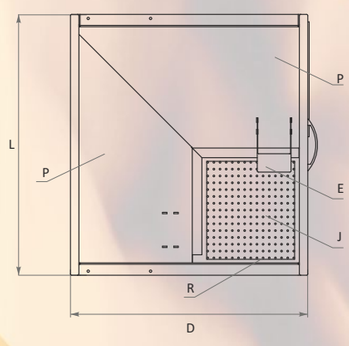




		FH 500
Capacity	L	500
Max/Min wood-pellets load ø, 6÷8 mm	kg	280÷300 / 15
Height H	mm	1260
Width L / Depth D	mm	772 / 730
Foundation	B, mm	53
Auger mounting opening	C, ø mm	76
Auger holder	E	✓
Pellet-load hatch	F, mm	400 / 772
Hatch support	G	✓
Drainage holes	J	✓
Dust container	X	✓
Inclination of guide plates	P	45°
Pellet-colecting bottom	R, mm	300 / 300
Leveling feet	Z	✓
Guide plate seal (against dust and pellet falls)		✓
Weight	kg	82

The information provided herein is subject to change without prior notice.

BURNiT Comfort

pellet stoves
PD and PM/PM B

Model BURNiT Comfort PD

- For direct space heating of living premises
- Door with heat-resistant glass
- Intelligent controller. Remote control
- Clean and fuel-saving combustion
- Forced air circulation for rapid and uniform heating
- Built-in pellet hopper and pellet burner
- Contemporary design.
  Colors: Ivory, Bordeaux and Black.

Available sizes:

kW	6	8	10

Model BURNiT Comfort PM / PM B

- For central space heating of living premises
- Door with heat-resistant glass (Comfort PM) or
  Thermal insulated metal door (Comfort PM B)
- Water mantle (jacket)
- Intelligent controller. Remote control
- Clean and fuel-saving combustion
- Built-in pellet hopper and pellet burner
- Contemporary design.
  Colors: Ivory, Bordeaux and Black.

Available sizes:

kW	15	23

BURNiT by SUNSYSTEM
Comfort

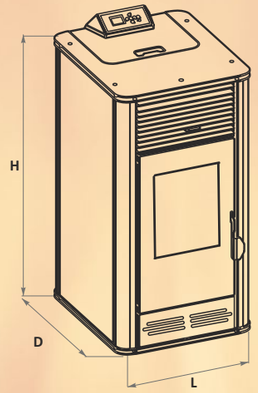
Pellet stoves BURNiT Comfort PD and PM /PM B

BURNiT Comfort pellet stoves are ready to use air heating. Do not require a separate boiler room. Pellet stoves generate heat by combustion of modern fuel wood-pellets. Wood-pellets have a high density, they are compact and do not require special storage conditions. The heat of pellet combustion provides efficiency and low ash content.

Pellet stoves are easy to install, space-saving, equipped with convenient electronic controls. Simplicity and elegance for a living room, a restaurant or a hotel lobby. Heated and decorated room overlooking the living fire (models Comfort PD / PM with water mantle). **Saving of useful living space - installation in frost resistant balconies and spaces** (model Comfort PM-B with water mantle and thermal insulated metal door).

BURNiT
Comfort PD

technical specifications



BURNiT by **SUNSYSTEM**

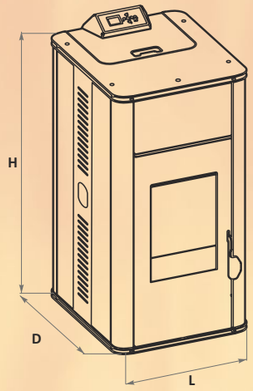
Comfort PD

		Comfort PD 6 kW	Comfort PD 8 kW	Comfort PD 10 kW
Nominal heat output	kW	6 kW	8 kW	10 kW
Space heating output	kW	1,8 kW	2,4 kW	3 kW
Heating surface	m^3	~60	~80	~100
Height H	mm	800	1000	1050
Width L/ Depth D	mm	470/500	485/630	485/630
Air inlet	ø, mm	80	80	48
Fume exhaust outlet	ø, mm	80	80	80
Capacity of fuel hopper - max. pellet load	kg	12,5	15	15
Weight	kg	95	115	125
Recommended fuel		wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/	wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/	wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/
Max/Min fuel consumption per hour	h/kg	1,5/0,4	1,95/0,7	2,7/0,6
Pellet burner		✓	✓	✓
Efficiency — Nominal heat output Space heating output	%	90 80	92 86	92 90
Hot air temperature — Nominal heat output Space heating output	°C	180 100	195 160	195 160
Full pellets tank burning time Nominal heat output Space heating output	h	 7,7 25	 7,7 21,4	 8 22
Power consumption - Firing-Up mode	W	340	340	360
Electric power supply	V/Hz	230/50	230/50	230/50
Controller. Remote control		✓	✓	✓
Colors		Ivory /Bordeaux / Black	Ivory /Bordeaux / Black	Ivory /Bordeaux / Black

The information provided herein is subject to change without prior notice.

BURNiT Comfort PM

technical specifications



BURNiT by SUNSYSTEM

Comfort PM

		Comfort PM 15 kW	Comfort PM 23 kW
Nominal heat output	kW	15 kW	23 kW
Space heating output	kW	3 kW	3 kW
Heating surface	m^2	~120	~220
Height H	mm	930	1080
Width L/ Depth D	mm	585/555	585/555
Air inlet	ø, mm	38	60
Fume exhaust outlet	ø, mm	80	80
Capacity of fuel hopper - max. pellet load	kg	22	30
Weight	kg	140	160
Recommended fuel		wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/	
Max/Min fuel consumption per hour	h/kg	3/1,2	5/1,5
Pellet burner		✓	✓
Efficiency — Nominal heat output	%	92	92
Efficiency — Space heating output	%	86	86
Hot air temperature — Nominal heat output	°C	195	195
Hot air temperature — Space heating output	°C	160	160
Full pellets tank burning time			
Nominal heat output	h	7,7	7,7
Space heating output	h	21,4	21,4
Power consumption - Firing-Up mode	W	450	450
Electric power supply	V/Hz	230/50	230/50
Water mantle volume	L	35	75
Operating pressure	bar	2	2
Heating output of water mantle	kW	12	20
Controller. Remote control		✓	✓
Colors		Ivory /Bordeaux / Black	

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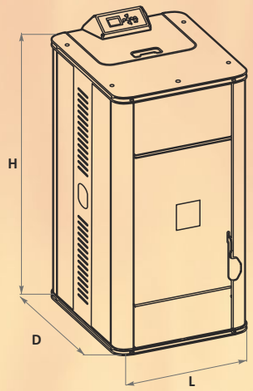
BURNiT
Comfort PM B

technical specifications



BURNiT by SUNSYSTEM
Comfort PM B

		Comfort PM B 15 kW	Comfort PM B 23 kW
Nominal heat output	kW	15 kW	23 kW
Space heating output	kW	3 kW	3 kW
Heating surface	m^2	~120	~220
Height H	mm	930	1080
Width L/ Depth D	mm	585/555	585/555
Air inlet	ø, mm	38	60
Fume exhaust outlet	ø, mm	80	80
Capacity of fuel hopper - max. pellet load	kg	22	30
Weight	kg	140	160
Recommended fuel		wood-pellets, diameter 6÷8 mm /EN 14961-2:2011/	
Max/Min fuel consumption per hour	h/kg	3/1,2	5/1,5
Pellet burner		✓	✓
Efficiency — Nominal heat output	%	92	92
Efficiency — Space heating output	%	86	86
Hot air temperature — Nominal heat output	°C	195	195
Hot air temperature — Space heating output	°C	160	160
Full pellets tank burning time	h		
Full pellets tank burning time — Nominal heat output	h	7,7	7,7
Full pellets tank burning time — Space heating output	h	21,4	21,4
Power consumption - Firing-Up mode	W	450	450
Electric power supply	V/Hz	230/50	230/50
Water mantle volume	L	35	75
Operating pressure	bar	2	2
Heating output of water mantle	kW	12	20
Controller. Remote control		✓	✓
Colors		Ivory /Bordeaux / Black	

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BURNiT by SUNSYSTEM®

An efficient and ecological heating alternative.