

# CATALOGUE

renewable energy sources



**D.O.O. ŠUKOM – KNJAŽEVAC**  
Design, production, overhaul and installation  
of thermal equipment

## ABOUT US

ŠUKOM DOO is one of the most recognizable boiler and thermal equipment factory in Serbia. Founded in 1994 it employs 60 workers of which 5 engineers. It possesses its own production and business space of around 4000 m<sup>2</sup>. Quality of products is proven by receiving CE, Russian and Ukrainian GOST-R certificate as well as Mechanical faculty of Niš and Kragujevac certificate.

Over this period we produced over 10000 boilers on solid, liquid and gas fuel with power range from 15-5000 kW were manufactured and delivered to clients in Serbia and abroad.

Thanks to the long term experience in the area of biomass, and to the large amount of produced biomass facilities, ŠUKOM DOO has become a rare company that deals with combustion of all types of biomass, starting from wood and up to agriculture biomass such as wheat and soy straw, maize, fruit stones and pellet.

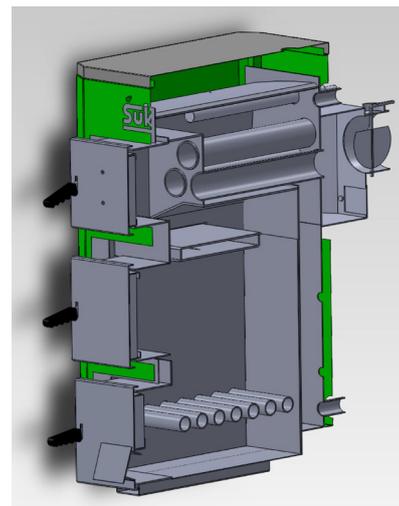
ŠUKOM offers boiler plants individually or complete (turnkey project) starting from ideal solution, study of economically best fuel solution up to installing, starting the plant, service and maintenance.

Thanks to all this, ŠUKOM exceeded the borders of our country and today successfully works on the markets of Sweden, Slovenia, Albania, Romania, Bulgaria, Ex-Yu Republics, Ukraine and Russia, with the tendency of further growth because the renewable energy sources are getting more and more interesting to investors not only in Europe but all over the world.

# ŠUKOPLAM R 15-80 kW

Boilers type Šukoplam R with power range 15-80kW are ment primerily for combustion of bulk solid fuel (wood,coal) which is manually loaded through spaceous middle boiler door. Also, middle boiler door is equiped with the opening for instaling pellet, oil or gas burner. This feature gives versatility to the boiler for combusting different type of fuels and very easy change of fuel in use. Boiler construction is completly in accordance with european standard EN 303-5. Boiler is constructed as „three drafted“ with one water cooled chamber and flue pipes which means that products of combustion pass water area in three occasions maximasing the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in the water cooled chamber of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of conduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar. In the back of the boiler refractory bricks are mounted in order to increase the combustion of heavy and light hydrocarbons and thus increasing the efficiency.

Installing the pellet, oil or gas burner and installing the turbulators into flue pipes for even greater heat exchange can increase the efficiency of the boiler up to 92%. Automatic controler for boiler work with burners and also turbulators are delivered on buyer demand and are not included in standard boiler delivery. Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion. When using pellet, oil or gas burner regulation of air flow needed for the combustion is done through the burner and boiler automatic controler. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW		CONECTION DIMENSIONS							BOILER DIMENSIONS (mm)							Water content (l)		
	Wood	Oil	R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E		F	G
<b>Plam 15R</b>	15	16	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	350	350	550	630	1030	140	860	170	730	97
<b>Plam 18R</b>	18	19	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	350	350	550	740	1090	140	920	170	785	108
<b>Plam 25R</b>	25	27	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	400	500	600	960	1200	160	1010	170	860	120
<b>Plam 30R</b>	30	34,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	530	670	960	1295	160	1095	170	940	140
<b>Plam 40R</b>	40	46	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	580	670	1010	1295	180	1095	170	940	165
<b>Plam 50R</b>	50	57,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	500	650	700	1080	1295	180	1095	170	940	190
<b>Plam 65R</b>	65	74,8	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	750	730	1180	1295	200	1140	170	990	245
<b>Plam 80R</b>	80	92	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	800	730	1230	1330	200	1170	170	1015	280

\*The manufacturer reserves the right to change the dimensions

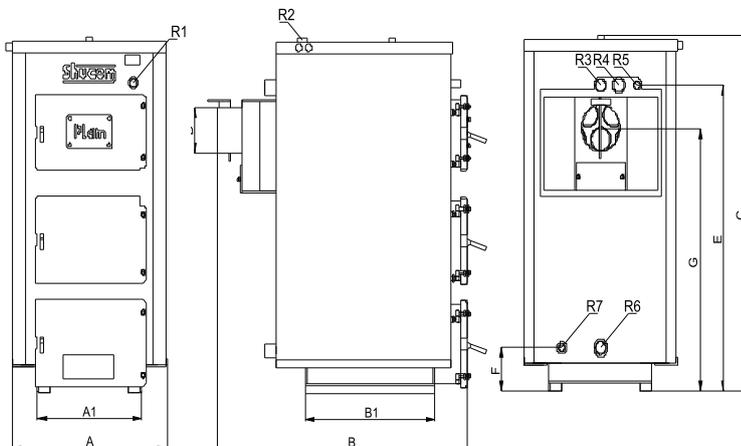
Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
				A	B	C	Diameter (mm)	Height (m)
<b>Plam 15R</b>	27	2,5	160	70	92	140	150	6
<b>Plam 18R</b>	27	2,5	190	85	114	170	150	6
<b>Plam 25R</b>	28	2,5	260	125	168	250	160	6
<b>Plam 30R</b>	28	2,5	285	150	200	300	160	7
<b>Plam 40R</b>	28	2,5	315	200	270	400	160/180	9/7
<b>Plam 50R</b>	30	2,5	350	250	335	500	180/200	10/8
<b>Plam 65R</b>	34	2,5	405	325	435	650	220	10
<b>Plam 80R</b>	37	2,5	450	400	536	800	220	12

NOTE:

A - poorly insulatet objects with room hight up to do 3m

B - well insulatet objects with room hight up to 3m (5cm insulation)

C - extremely well insulatet objects with room hight up to 3m (10cm insulation)



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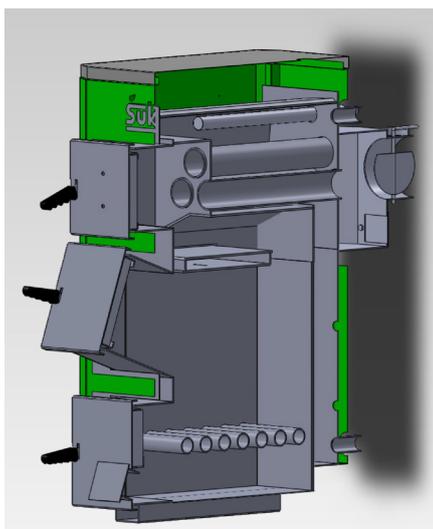
# ŠUKOPLAM LUX 15-80 kW



Boilers type Šukoplam LUX with power range 15-80kW are ment primerily for combustion of bulk solid fuel (wood, coal) which is manually loaded through spacious middle boiler door. Boiler construction is completly in accordance with european standard EN 303-5. Boiler is constructed as „three drafted“ with one water cooled chamber and flue pipes which means that products of combustion pass water area in three occasions maximasing the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in the water cooled chamber of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection.

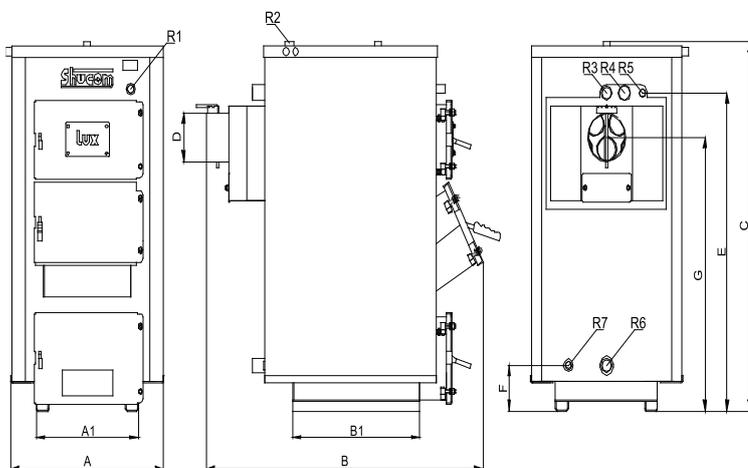
The back area of the boiler firebox is equiped with fire resistant bricks which (after being heated up) irradiate heat back to the boiler firebox and by doing so better the combustion of easily volatile gasses created by combustion of colid fuel. This effect makes combustion better and the boiler has higher efficiency. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar. Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW		CONECTION DIMENSIONS							BOILER DIMENSIONS (mm)							Water content (l)		
	Wood	Oil	R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E		F	G
<b>Plam 15LUX</b>	15	16	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	350	350	550	690	1030	140	860	170	730	97
<b>Plam 18LUX</b>	18	19	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	350	350	550	740	1090	140	920	170	785	108
<b>Plam 25LUX</b>	25	27	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	400	500	600	1075	1200	160	1010	170	860	120
<b>Plam 30LUX</b>	30	34,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	530	670	1080	1295	160	1095	170	940	140
<b>Plam 40LUX</b>	40	46	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	580	670	1130	1295	180	1095	170	940	165
<b>Plam 50LUX</b>	50	57,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	500	650	700	1200	1295	180	1095	170	940	190
<b>Plam 65LUX</b>	65	74,8	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	750	730	1280	1295	200	1140	170	990	245
<b>Plam 80LUX</b>	80	92	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	800	730	1330	1330	200	1170	170	1015	280

\*The manufacturer reserves the right to change the dimensions



Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
				A	B	C	Diameter (mm)	Height (m)
<b>Plam 15LUX</b>	28	2,5	170	70	92	140	150	6
<b>Plam 18LUX</b>	28	2,5	200	85	114	170	150	6
<b>Plam 25LUX</b>	28	2,5	272	125	168	250	160	6
<b>Plam 30LUX</b>	28	2,5	297	150	200	300	160	7
<b>Plam 40LUX</b>	28	2,5	323	200	270	400	160/180	9/7
<b>Plam 50LUX</b>	30	2,5	360	250	335	500	180/200	10/8
<b>Plam 65LUX</b>	34	2,5	420	325	435	650	220	10
<b>Plam 80LUX</b>	37	2,5	465	400	536	800	220	12

NOTE:

A - poorly insulatet objects with room hight up to do 3m

B - well insulatet objects with room hight up to 3m (5cm insulation)

C - extremely well insulatet objects with room hight up to 3m (10cm insulation)

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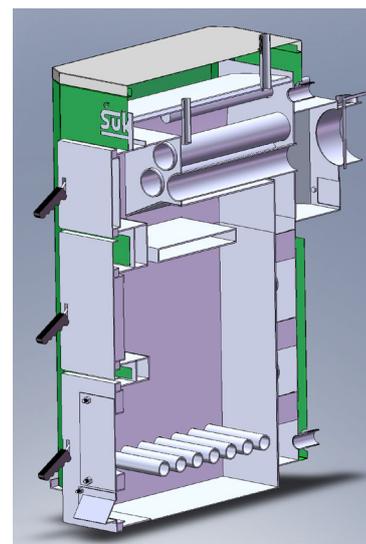
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# ŠUKOPLAM MULTI 25-80 kW

Boilers type Šukoplam MULTI with power range 25-80kW are specialized boilers ment for production of hot water by combustion of different types of fuel. Boiler construction is completely in accordance with european standard EN 303-5. Boiler is constructed as „three drafted“ with one water cooled chamber and flue pipes which means that products of combustion pass water area in three occasions maximising the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in the water cooled chamber of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar. Boiler is constructed as combined boiler and is ment for combustion of bulk solid fuel (wood, coal) which is manually loaded through spaceous middle boiler door or for combustion of pellet, oil and gas by installing the burner on the boiler bottom door. This feature gives versatility to the boiler for combusting different type of fuels and very easy change of fuel in use.

Installing the pellet, oil or gas burner and installing the turbulators into flue pipes for even greater heat exchange can increase the efficiency of the boiler up to 92%. Automatic controler for boiler work with burners and also turbulators are delivered on buyer demand and are not included in standard boiler delivery. Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion. When using pellet, oil or gas burner regulation of air flow needed for the combustion is done through the burner and boiler automatic controler. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW		CONECTION DIMENSIONS							BOILER DIMENSIONS (mm)									Water content (l)
	Wood	Oil	R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E	F	G	
Plam 25MULTI	25	27	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	400	500	600	960	1305	160	1015	170	985	140
Plam 30MULTI	30	34,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	530	670	960	1335	160	1150	170	995	160
Plam 40MULTI	40	46	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	580	670	1010	1335	180	1150	170	995	185
Plam 50MULTI	50	57,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	500	650	700	1080	1345	180	1150	170	995	200
Plam 65MULTI	65	74,8	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	750	730	1180	1345	200	1140	170	995	265
Plam 80MULTI	80	92	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	800	730	1230	1390	200	1205	170	1045	300

\*The manufacturer reserves the right to change the dimensions

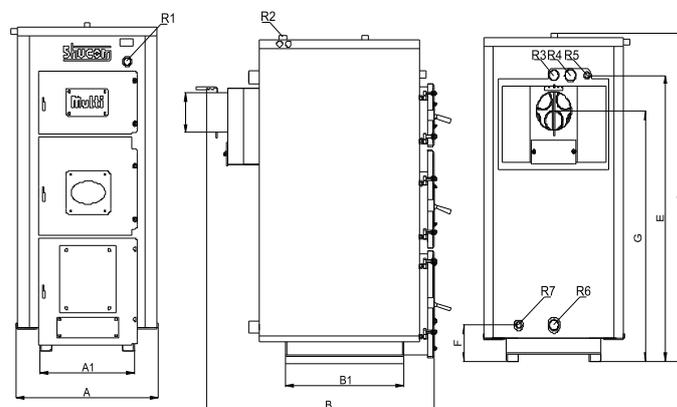
Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )			Approximate chimney dimensions	
				A	B	C	Diameter (mm)	Height (m)
Plam 25MULTI	28	2,5	280	125	168	250	160	6
Plam 30MULTI	28	2,5	310	150	200	300	160	7
Plam 40MULTI	28	2,5	350	200	270	400	160/180	9/7
Plam 50MULTI	30	2,5	385	250	335	500	180/200	10/8
Plam 65MULTI	34	2,5	440	325	435	650	220	10
Plam 80MULTI	37	2,5	490	400	536	800	220	12

NOTE:

A - poorly insulatet objects with room hight up to do 3m

B - well insulatet objects with room hight up to 3m (5cm insulation)

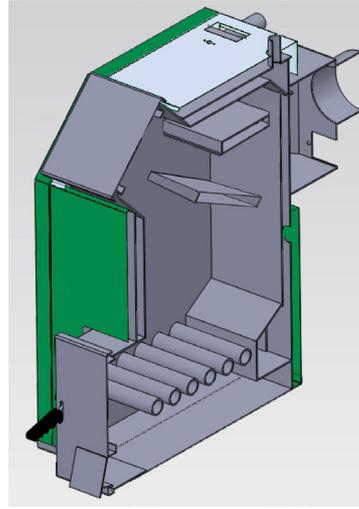
C - extremely well insulatet objects with room hight up to 3m (10cm insulation)



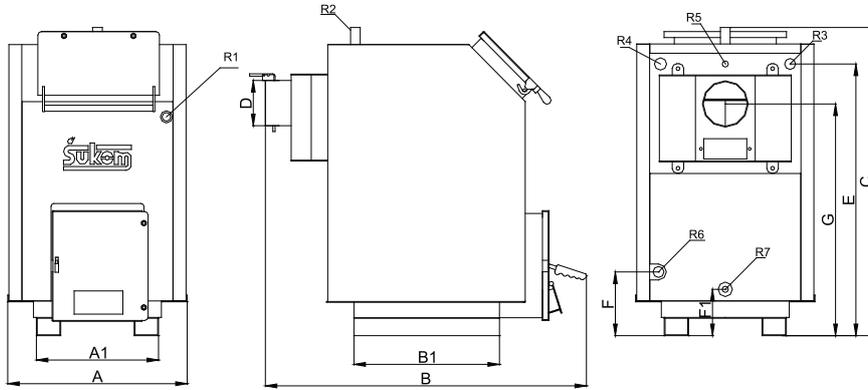
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# ŠUKOPLAM K 25-50 kW



Boilers type Shukoplam K with a power range of 25-50kW are intended for the combustion of solid fuel (wood, coal) which is manually inserted through the spacious top boiler door. The boiler box is constructed of boiler sheet in quality P265GH thickness 5 and 4mm and boiler tubes in quality P235GH TC1 4 mm thickness. The boiler construction is fully compliant with the European and Serbian standard SRPS EN 303-5. The body of the boiler is well insulated with mineral wool and the formwork is protected by powder coating processes. The boiler is intended for hot water production in 90/70 °C operating mode with a maximum working pressure of 2.5 bar. The combustion air is controlled by a draft regulator that drives the lower door flap to reduce or increase the amount of combustion air.



Boiler	Boiler power kW		CONNECTION DIMENSIONS				BOILER DIMENSIONS (mm)										Water content (l)	Boiler weight (kg)	Necessary draft (Pa)	Work pressure (bar)
	Wood	Coal	R1	R2	R3/R4/R6	R5 / R7	A1	B1	A	B	C	D	E	F	F1	G				
<b>K 25</b>	25	27	3/4"	1"	5/4"	1/2"	426	508	626	1120	1046	160	938	220	160	797	90	230	18	2.5
<b>K 30</b>	30	34,5	3/4"	1"	5/4"	1/2"	426	508	626	1150	1046	160	938	220	160	797	103	255	19	2.5
<b>K 40</b>	40	46	3/4"	1"	5/4"	1/2"	500	575	700	1190	1146	160	1015	220	160	875	125	295	20	2.5
<b>K 50</b>	50	57,5	3/4"	1"	5/4"	1/2"	575	615	775	1270	1246	240	1115	250	160	975	145	340	22	2.5

\*The manufacturer reserves the right to change the dimensions

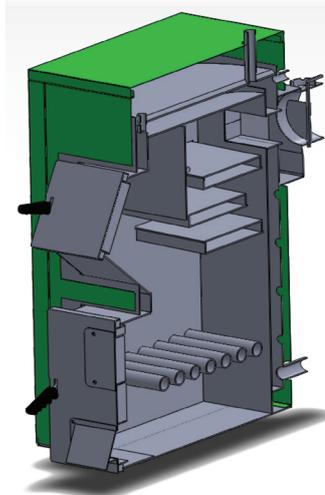
NOTE:

A - poorly insulated objects with room height up to do 3m

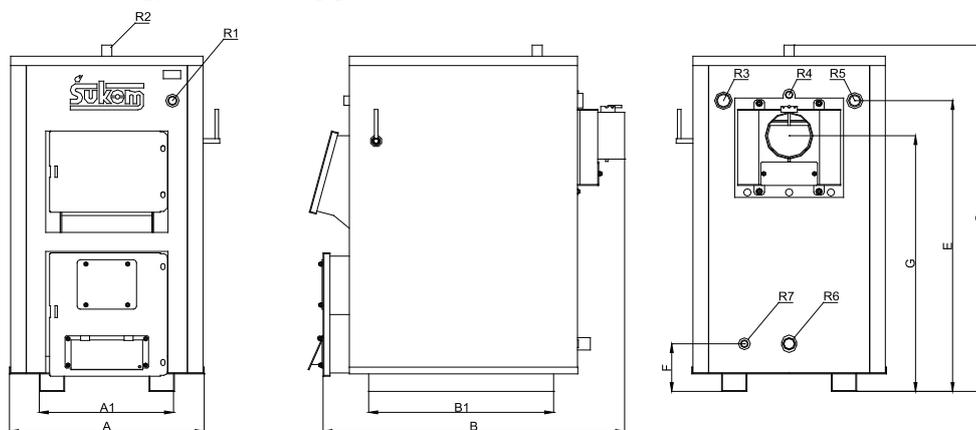
B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)

# ŠUKOPLAM TK 25-50 kW



Šukoplam TK boilers with a power range of 25-50kW are ment for combustion of solid solid fuel (wood, coal) which is manually inserted through the large angled upper door of the boiler. Also the lower door is equipped with an opening for the installation of pellet, oil or gas burner. The boiler body is constructed of boiler sheet in quality P265GH thickness 5 mm and and boiler tubes in quality P235GH TC1 4 mm thick. The boiler construction is fully compliant with the European and Serbian standard SRPS EN 303-5. The boiler is intended for hot water production in 90/70 °C operating mode with a maximum working pressure of 2.5 bar. The combustion air is controlled by a draft regulator that drives the lower door flap to reduce or increase the amount of combustion air. The body of the boiler is well insulated with mineral wool and boiler sheeting is protected with powder coating processes.



Boiler	Boiler power kW		CONECTION DIMENSIONS				BOILER DIMENSIONS (mm)										Water content (l)	Boiler weight (kg)	Necessa ry draft (Pa)	Work pressure (bar)
	Drvo	Ulje	R1	R2	R3/R5/R6	R4/R7	A1	B1	A	B	C	D	E	F	G					
TK 25	25	27	3/4"	1"	5/4"	1/2"	165	500	647	891	1182	160	995	163	875	107	270	21	2.5	
TK 30	30	34	3/4"	1"	5/4"	1/2"	453	620	653	1011	1185	160	995	163	875	125	295	22	2.5	
TK 40	40	45	3/4"	1"	5/4"	1/2"	500	620	752	1060	1245	180	1045	163	925	140	340	24	2.5	
TK 50	50	57	3/4"	1"	5/4"	1/2"	550	685	802	1168	1310	180	1105	163	990	170	380	26	2.5	

\*The manufacturer reserves the right to change the dimensions

NOTE:

A - poorly insulatet objects with room hight up to do 3m

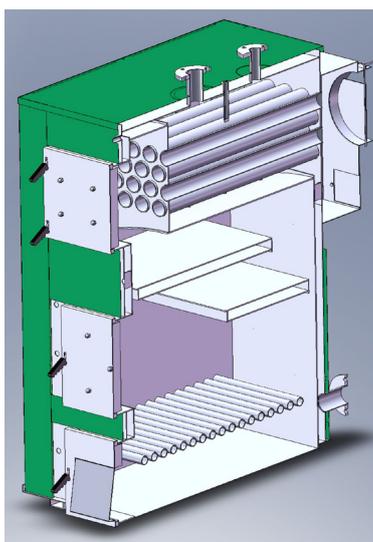
B - well insulatet objects with room hight up to 3m (5cm insulation)

C - extremely well insulatet objects with room hight up to 3m (10cm insulation)

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# ŠUKOPLAM 100-1000 kW



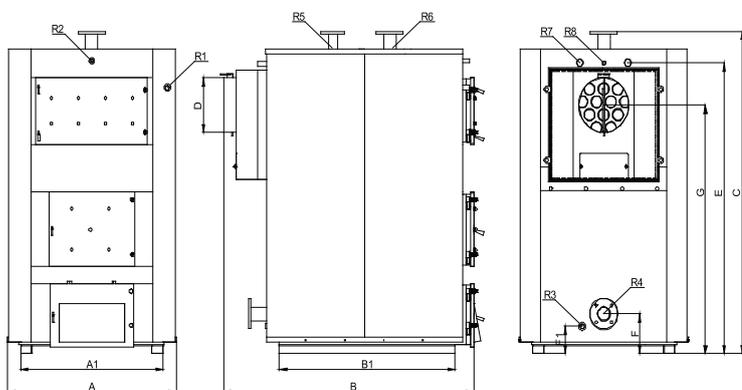
Boilers type Šukoplam with power range 100-900kW are ment primerily for combustion of bulk solid fuel (wood, coal) which is manually loaded through spaceous middle boiler door. Also, middle boiler door is equiped with the opening for instaling pellet, oil or gas burner. This feature gives versatility to the boiler for combusting different type of fuels and very easy change of fuel in use. Boiler construction is completly in accordance with european standard EN 303-5.

Boiler is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximas-ing the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in the water cooled chambers of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar. Installing the pellet, oil or gas burner and installing the turbulators into flue pipes for even greater heat exchange can increase the efficiency of the boiler up to 92%. Automatic controler for boiler work with burners and also turbulators are delivered on buyer demand and are not included in standard boiler delivery. Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion. When using pellet, oil or gas burner regulation of air flow needed for the combustion is done through the burner and boiler automatic controler. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.

Boiler	Boiler power kW		CONECTION DIMENSIONS								BOILER DIMENSIONS (mm)									
	Drvo	Ulje	R1	R2	R3	R4 / R6	R5	R7	R8	A1	B1	A	B	C	D	E	F	F1	G	
Plam 100	100	115	3/4"	1/2"	3/4"	DN50 NP6	DN25 NP16	5/4"	1/2"	550	850	730	1375	1380	200	1194	250	120	1040	
Plam 125	125	144	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	620	900	800	1425	1665	200	1470	255	105	1288	
Plam 150	150	172	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	670	1000	850	1525	1685	240	1464	250	130	1240	
Plam 175	175	200	3/4"	1/2"	3/4"	DN80 NP6	DN40 NP16	5/4"	1/2"	670	1100	850	1625	1710	260	1527	250	100	1320	
Plam 200	200	230	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	900	1100	1050	1625	1790	300	1495	260	110	1250	
Plam 250	250	288	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	920	1260	1070	1750	1950	350	1737	250	120	1448	
Plam 300	300	350	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1020	1230	1180	1750	2050	350	1815	250	170	1535	
Plam 350	350	420	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1120	1230	1280	1750	2050	350	1895	250	170	1615	
Plam 400	400	500	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1180	1320	1340	1840	2260	400	2025	250	170	1705	
Plam 500	500	600	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1220	1500	1380	2020	2680	430	2430	245	120	2100	
Plam 550	550	660	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1220	1650	1380	2170	2680	430	2445	250	120	2105	
Plam 750	750	900	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1420	1750	1580	2300	2880	480	2610	245	100	2225	
Plam 1000	1000	1100	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1470	1870	1675	2530	2880	480	2615	245	100	2220	

\*The manufacturer reserves the right to change the dimensions



Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
					A	B	C	Diameter (mm)	Height (m)
Plam 100	310	40	3	650	500	670	1000	250	12
Plam 125	375	45	3	765	625	840	1250	250	15
Plam 150	410	47	3	840	750	1010	1500	300	15
Plam 175	485	48	3	1125	875	1175	1750	300	15
Plam 200	615	52	3	1325	1000	1340	2000	300	18
Plam 250	800	53	3	1510	1250	1675	2500	350	18
Plam 300	870	54	3	1750	1500	2010	3000	350	18
Plam 350	990	55	3	2065	1750	2345	3500	400	18
Plam 400	1200	56	3	2300	2000	2680	4000	400	20
Plam 500	1540	58	3	2980	2500	3350	5000	450	20
Plam 550	1750	59	3	3350	2750	3685	5500	450	20
Plam 750	2230	62	3	4685	3750	5025	7500	500	22
Plam 1000	2670	70	3	5200	4500	6030	9000	500	24

#### NOTE:

- A - poorly insulatet objects with room hight up to do 3m
- B - well insulatet objects with room hight up to 3m (5cm insulation)
- C - extremely well insulatet objects with room hight up to 3m (10cm insulation)

ŠUKOM

# ŠUKOPLAM PR 18-80 kW

Hot water solid fuel boilers type Šukoplam PR 18-80kW are basically the modification of boilers type Šukoplam R 17-80 kW. This modification includes installing the special combustion fan on the lower boiler door. In this way boiler works with „artificial draft“. Installation of combustion fan makes better combustion in the boiler as well as keeping the required temperature within the fine borders. This fine temperature regulation is very important in numerous industrial processes, which make these boilers an excellent choice for process industry. Also, because of the combustion fan, boiler can work without problems coupled with chimneys which by their characteristics (diameter and high) wouldn't give the desired draft for the standard boiler.

Work of the combustion fan and practically maintaining the desired temperature within the fine limits is controlled by the boiler automatic controller. Installing the combustion fan also, because of the increased draft in the boiler, demands that turbulators must be installed into flue pipes. Turbulators are used to change the increased laminar flow of flue gases into turbulent flow and in that way increase the heat exchange between the water and flue gases. This as a result has higher efficiency of the boiler (7-10% higher) and savings in fuel in use.

Boiler itself is constructed as „three drafted“ with one water cooled chamber and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW		CONNECTION DIMENSIONS							BOILER DIMENSIONS (mm)							Water content (l)		
	Wood	Oil	R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E		F	G
<b>Plam 18PR</b>	18	19	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	350	350	550	890	1090	140	920	170	785	108
<b>Plam 25PR</b>	25	27	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	400	500	600	1080	1320	160	1010	170	845	120
<b>Plam 30PR</b>	30	34,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	530	670	1100	1415	160	1095	170	920	140
<b>Plam 40PR</b>	40	46	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	580	670	1060	1415	180	1095	170	920	165
<b>Plam 50PR</b>	50	57,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	500	650	700	1230	1415	180	1095	170	920	190
<b>Plam 65PR</b>	65	74,8	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	750	730	1330	1415	200	1140	170	965	245
<b>Plam 80PR</b>	80	92	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	800	730	1380	1450	200	1170	170	1000	280

\*The manufacturer reserves the right to change the dimensions

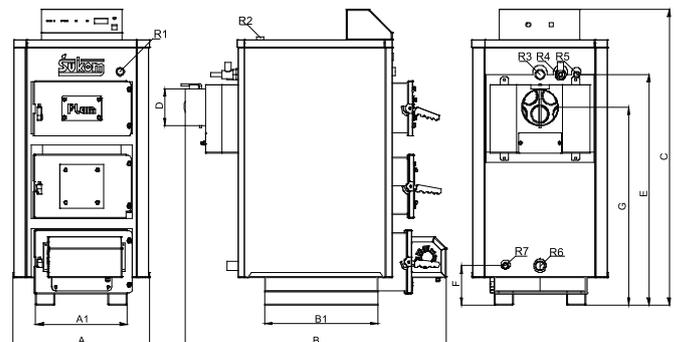
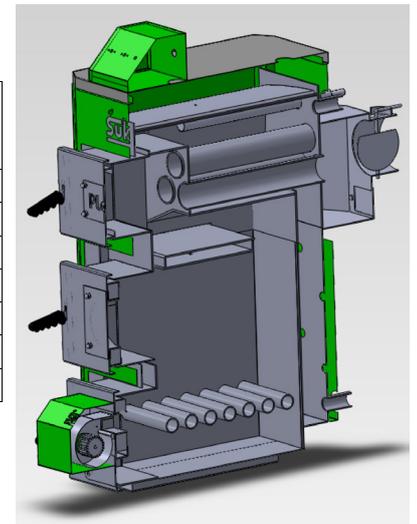
Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )			Approximate chimney dimensions	
				A	B	C	Diameter (mm)	Height (m)
<b>Plam 18PR</b>	27	2,5	205	85	114	170	150	6
<b>Plam 25PR</b>	28	2,5	275	125	168	250	160	5
<b>Plam 30PR</b>	28	2,5	300	150	200	300	160	5,5
<b>Plam 40PR</b>	28	2,5	330	200	270	400	160/180	7
<b>Plam 50PR</b>	30	2,5	365	250	335	500	180/200	8
<b>Plam 65PR</b>	34	2,5	425	325	435	650	220	9
<b>Plam 80PR</b>	37	2,5	470	400	536	800	220	10

NOTE:

A - poorly insuladet objects with room hight up to do 3m

B - well insuladet objects with room hight up to 3m (5cm insulation)

C - extremely well insuladet objects with room hight up to 3m (10cm insulation)



# ŠUKOPLAM PR 100-250 kW

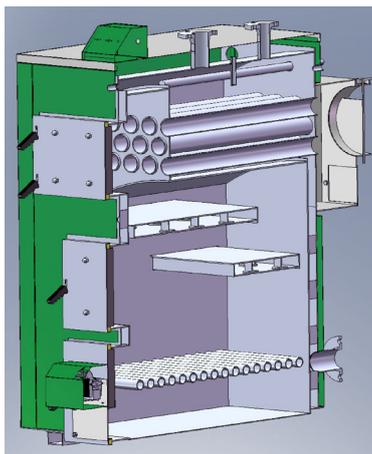


Hot water solid fuel boilers type Šukoplam PR 100-250kW are basically the modification of boilers type Šukoplam 100-250 kW. This modification includes installing the special combustion fan. In this way boiler works with „artificial draft“. Instalation of combustion fan makes better combustion in the boiler as well as keeping the required temperature within the fine borders. This fine temperature regulation is very important in numerous industrial processes, which make these boilers an excellent choice for process industry. Also, because of the combustion fan, boiler can work without problems coupled with chimneys which by their characteristics (diameter and hight) wouldn't give the desired draft for the standard boiler.

Work of the combustion fan and practicly maintaining the desired temperature within the fine limits is controled by the boiler automatic controler. Installing the combustion fan also, because of the increased draft in the boiler, demands that turbulators must be installed into flue pipes. Turbulators are used to change the increased laminar flow of flue gases into turbulent flow and in that way increase the heat exchange between the water and flue gases. This as a result has higher efficiency of the boiler (7-10% higher) and savings in fuel in use.

Boiler itself is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximasing the heat exchange. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar.

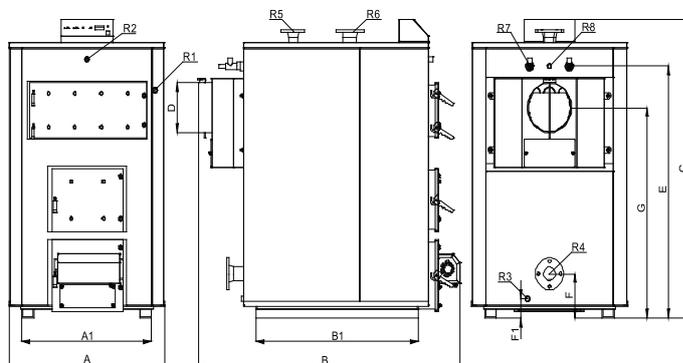
Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which,if the need arises, cools down the boiler.



BOILER	Boiler power kW		CONECTION DIMENSIONS								BOILER DIMENSIONS (mm)								
	Wood	Oil	R1	R2	R3	R4 / R6	R5	R7	R8	A1	B1	A	B	C	D	E	F	F1	G
Plam 100PR	100	115	3/4"	1/2"	3/4"	DN50 NP6	DN25 NP16	5/4"	1/2"	550	850	730	1445	1380	200	1194	250	120	1030
Plam 125PR	125	144	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	620	900	800	1510	1665	200	1470	255	105	1300
Plam 150PR	150	172	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	670	1000	850	1700	1685	240	1464	250	130	1300
Plam 175PR	175	200	3/4"	1/2"	3/4"	DN80 NP6	DN40 NP16	5/4"	1/2"	670	1100	850	1800	1710	260	1527	250	100	1300
Plam 200PR	200	230	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	900	1100	1050	1825	1790	300	1495	260	110	1250
Plam 250PR	250	288	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	920	1260	1070	1935	1950	350	1737	250	120	1431

\*The manufacturer reserves the right to change the dimensions

BOILER	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
					A	B	C	Diameter (mm)	Height (m)
Plam 100PR	310	40	3	665	500	670	1000	250	10
Plam 125PR	375	45	3	780	625	840	1250	250	12
Plam 150PR	410	47	3	855	750	1010	1500	300	12
Plam 175PR	485	48	3	1145	875	1175	1750	300	12
Plam 200PR	615	52	3	1345	1000	1340	2000	300	15
Plam 250PR	800	53	3	1530	1250	1675	2500	350	15



NOTE:

A - poorly insulatet objects with room hight up to do 3m

B - well insulatet objects with room hight up to 3m (5cm insulation)

C - extremely well insulatet objects with room hight up to 3m (10cm insulation)

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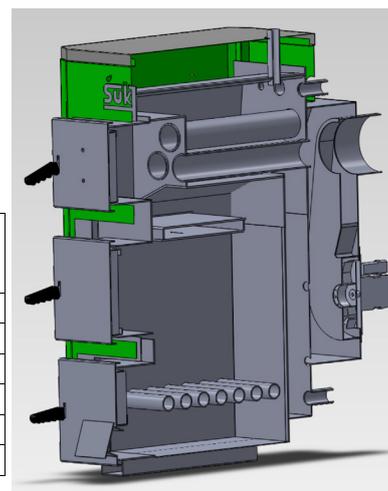
# ŠUKOPLAM VPR 25-80 kW

Hot water solid fuel boilers type Šukoplam VPR 25-80kW are basically the modification of boilers type Šukoplam R 25-80 kW. This modification includes installing the special sediment chamber with exhaust fumes fan instead of the normal boiler flue. In this way boiler works with „artificial draft“. Installation of exhaust fumes fan makes better combustion in the boiler as well as keeping the required temperature within the fine borders. This fine temperature regulation is very important in numerous industrial processes, which make these boilers an excellent choice for process industry. Also, because of the exhaust fumes fan, boiler can work without problems coupled with chimneys which by their characteristics (diameter and height) wouldn't give the desired draft for the standard boiler. In case of power supply disruption or exhaust fumes fan malfunction, sediment chamber is equipped with a by-pass flap which allows the boiler to go from artificial to normal (chimney) draft.

Work of the exhaust fumes fan and practically maintaining the desired temperature within the fine limits is controlled by the boiler automatic controller. Installing the exhaust fumes fan also, because of the increased draft in the boiler, demands that turbulators must be installed into flue pipes. Turbulators are used to change the increased laminar flow of flue gases into turbulent flow and in that way increase the heat exchange between the water and flue gases. This as a result has higher efficiency of the boiler (7-10% higher) and savings in fuel in use.

Boiler itself is constructed as „three drafted“ with one water cooled chamber and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar. Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion as well as by changing the RPM of the exhaust fumes fan. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW		CONNECTION DIMENSIONS							BOILER DIMENSIONS (mm)								Water content (l)	
	Wood	Oil	R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E	F		G
Plam 25VPR	25	27	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	400	500	600	1080	1200	160	1010	170	845	120
Plam 30VPR	30	34,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	530	670	1100	1295	160	1095	170	920	140
Plam 40VPR	40	46	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	470	580	670	1060	1295	180	1095	170	920	165
Plam 50VPR	50	57,5	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	500	650	700	1230	1295	180	1095	170	920	190
Plam 65VPR	65	74,8	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	750	730	1330	1295	200	1140	170	965	245
Plam 80VPR	80	92	3/4"	1"	6/4"	5/4"	1/2"	6/4"	1/2"	530	800	730	1380	1330	200	1170	170	1000	280

\*The manufacturer reserves the right to change the dimensions

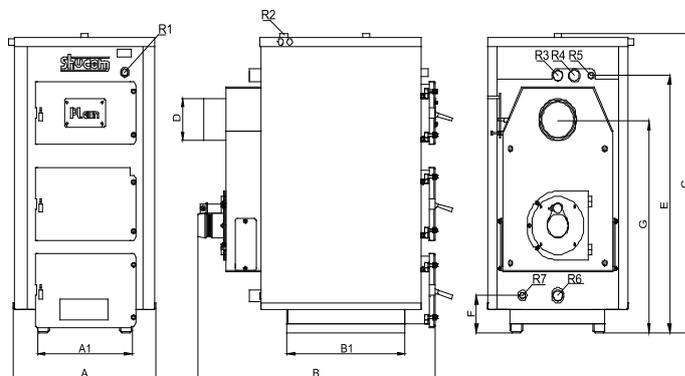
Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )			Approximate chimney dimensions	
				A	B	C	Diameter (mm)	Height (m)
Plam 25VPR	28	2,5	320	125	168	250	160	5
Plam 30VPR	28	2,5	345	150	200	300	160	5,5
Plam 40VPR	28	2,5	375	200	270	400	160/180	7
Plam 50VPR	30	2,5	410	250	335	500	180/200	8
Plam 65VPR	34	2,5	465	325	435	650	220	9
Plam 80VPR	37	2,5	510	400	536	800	220	10

NOTE:

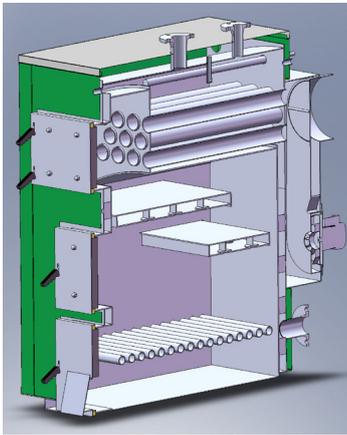
A - poorly insulated objects with room height up to do 3m

B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)



# ŠUKOPLAM VPR 100-900 kW



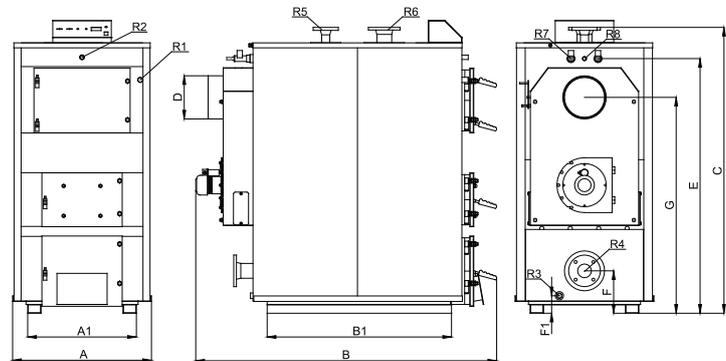
Hot water solid fuel boilers type Šukoplam VPR 100-900kW are basically the modification of boilers type Šukoplam 100-900 kW. This modification includes installing the special sediment chamber with exhaust fumes fan (for boilers 100-200kW) and mechanical particle separator (cyclone) with exhaust fumes fan (for boilers 250-900kW) instead of the normal boiler flue. In this way boiler works with „artificial draft“. Installation of exhaust fumes fan makes better combustion in the boiler as well as keeping the required temperature within the fine borders. This fine temperature regulation is very important in numerous industrial processes, which make these boilers an excellent choice for process in dusty. Also, because of the exhaust fumes fan, boiler can work without problems coupled with chimneys which by their characteristics (diameter and height) wouldn't give the desired draft for the standard boiler. In case of power supply disruption or exhaust fumes fan malfunction, sediment chamber (cyclone) is equipped with a by-pass flap which allows the boiler to go from artificial to normal (chimney) draft.

Work of the exhaust fumes fan and practically maintaining the desired temperature within the fine limits is controlled by the boiler automatic controller. Installing the exhaust fumes fan also, because of the increased draft in the boiler, demands that turbulators must be installed into flue pipes. Turbulators are used to change the increased laminar flow of flue gases into turbulent flow and in that way increase the heat exchange between the water and flue gases. This as a result has higher efficiency of the boiler (7-10% higher) and savings in fuel in use.

Boiler itself is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar. Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion as well as by changing the RPM of the exhaust fumes fan.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



#### NOTE:

A - poorly insulated objects with room height up to do 3m

B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)

- 250-900kW boilers have as special components a mechanical impurities impeller (cyclone) as well as a flue gas fan, the layout of which depends on the available space in the boiler room. The maximum weight of these boilers are increased by the weight of

Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )			Approximate chimney dimensions		Boiler	Boiler power kW	CONNECTION DIMENSIONS								BOILER DIMENSIONS (mm)									
					A	B	C	Diameter (mm)	Height (m)			Drvo	Ulje	R1	R2	R3	R4 / R6	R5	R7	R8	A1	B1	A	B	C	D	E	F	F1
VPR 100	310	40	3	690	500	670	1000	250	10	VPR 100	100	115	3/4"	1/2"	3/4"	DN50 NP6	DN25 NP16	5/4"	1/2"	550	850	730	1445	1380	200	1194	250	120	1030
VPR 125	355	45	3	805	625	840	1250	250	12	VPR 125	125	144	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	620	900	800	1510	1665	200	1470	255	105	1300
VPR 150	400	47	3	900	750	1010	1500	300	12	VPR 150	150	172	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	670	1000	850	1700	1685	240	1464	250	130	1300
VPR 175	475	48	3	1180	875	1175	1750	300	12	VPR 175	175	200	3/4"	1/2"	3/4"	DN80 NP6	DN40 NP16	5/4"	1/2"	670	1100	850	1800	1710	260	1527	250	100	1300
VPR 200	625	52	3	1390	1000	1340	2000	300	15	VPR 200	200	230	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	900	1100	1050	1825	1790	300	1495	260	110	1250
VPR 250	700	53	3	1510	1250	1675	2500	350	15	VPR 250	250	288	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	920	1260	1070	1935	1950	350	1737	250	120	1431
VPR 300	840	54	3	1750	1500	2010	3000	350	15	VPR 300	300	350	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1020	1230	1180	1910	2050	350	1815	250	170	1525
VPR 350	970	55	3	2065	1750	2345	3500	400	15	VPR 350	350	420	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1120	1230	1280	1910	2050	350	1895	250	170	1605
VPR 400	1200	56	3	2300	2000	2680	4000	400	18	VPR 400	400	500	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1180	1320	1340	2055	2260	400	2025	250	170	1705
VPR 500	1540	58	3	2980	2500	3350	5000	450	18	VPR 500	500	600	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1220	1500	1380	2235	2680	430	2430	245	120	2100
VPR 550	1750	59	3	3350	2750	3685	5500	450	18	VPR 550	550	660	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1220	1650	1380	2385	2680	430	2445	250	120	2100
VPR 750	1990	62	3	4685	3750	5025	7500	500	20	VPR 750	750	900	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1420	1750	1580	2545	2880	480	2610	245	100	2230
VPR 900	2500	70	3	5200	4500	6030	9000	500	24	VPR 900	900	1080	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1470	1870	1675	2630	2880	480	2615	245	100	2220

\*The manufacturer reserves the right to change the dimensions

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# ŠUKOPLAM BUNKER 100-900 kW

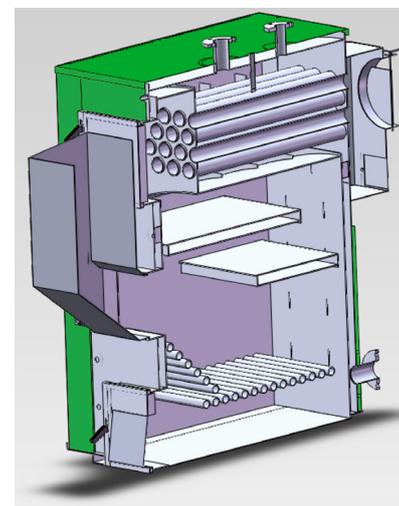
Boilers type Šukoplam bunker with power range 100-900kW are ment primerily for combustion of bulk solid fuel (coal) which is manually or automatically loaded into the bunker and than from the bunker into the boiler through spacious middle boiler door. In the front section of the boiler combustion grate is at an angle to give better combustion effect. On the bunker itself a flap is installed to prevent the return of flame and flue gases into the bunker. After emptying the bunker content into the boiler, bunker remains open while middle boiler door gets closed for better boiler efficiency. On the side of the boiler revision door is installer which at the same time serves the purpose of enterering and cleaning the back section of combustion grate.

Boiler is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximasing the heat exchange. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar.

Regulation of air flow needed for combustion is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion.

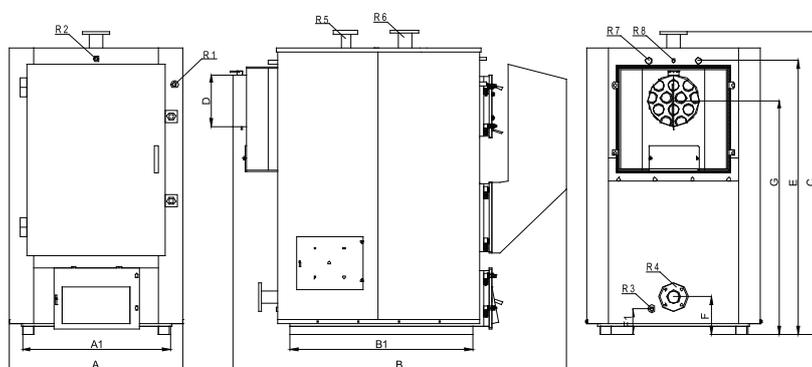
Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



BOILER	Boiler power kW		CONNECTION DIMENSIONS								BOILER DIMENSIONS (mm)								
	Wood	Oil	R1	R2	R3	R4 / R6	R5	R7	R8	A1	B1	A	B	C	D	E	F	F1	G
Plam 100	100	115	3/4"	1/2"	3/4"	DN50 NP6	DN25 NP16	5/4"	1/2"	550	850	730	1875	1630	200	1444	250	120	1290
Plam 125	125	144	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	620	900	800	1925	1915	200	1720	255	105	1538
Plam 150	150	172	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	670	1000	850	2025	1935	240	1714	250	130	1490
Plam 175	175	200	3/4"	1/2"	3/4"	DN80 NP6	DN40 NP16	5/4"	1/2"	670	1100	850	2125	1960	260	1777	250	100	1570
Plam 200	200	230	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	900	1100	1050	2125	2040	300	1745	260	110	1500
Plam 250	250	288	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	920	1260	1070	2250	2200	350	1987	250	120	1448
Plam 300	300	350	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1020	1230	1180	2250	2300	350	2065	250	170	1700
Plam 350	350	420	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1120	1230	1280	2250	2300	350	2145	250	170	1865
Plam 400	400	500	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1180	1320	1340	2340	2510	400	2275	250	170	1955
Plam 500	500	600	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1220	1500	1380	2520	2930	430	2680	245	120	2350
Plam 550	550	660	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1220	1650	1380	2570	2930	430	2695	250	120	2355
Plam 750	750	900	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1420	1750	1580	2800	3130	480	2860	245	100	2475
Plam 900	900	1080	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1470	1870	1675	2830	3130	480	2865	245	100	2470

\*The manufacturer reserves the right to change the dimensions

BOILER	Water content (l)	Draft needed (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )			Approximate chimney dimensions	
					A	B	C	Diameter (mm)	Height (m)
Plam 100	350	40	3	700	500	670	1000	250	12
Plam 125	395	45	3	805	625	840	1250	250	15
Plam 150	440	47	3	890	750	1010	1500	300	15
Plam 175	515	48	3	1175	875	1175	1750	300	15
Plam 200	640	52	3	1390	1000	1340	2000	300	18
Plam 250	740	53	3	1610	1250	1675	2500	350	18
Plam 300	880	54	3	1850	1500	2010	3000	350	18
Plam 350	1110	55	3	2165	1750	2345	3500	400	18
Plam 400	1240	56	3	2400	2000	2680	4000	400	20
Plam 500	1580	58	3	3080	2500	3350	5000	450	20
Plam 550	1790	59	3	3550	2750	3685	5500	450	20
Plam 750	2050	62	3	4885	3750	5025	7500	500	22
Plam 900	2600	70	3	5400	4500	6030	9000	500	24



#### NOTE:

A - poorly insulattet objects with room hight up to do 3m

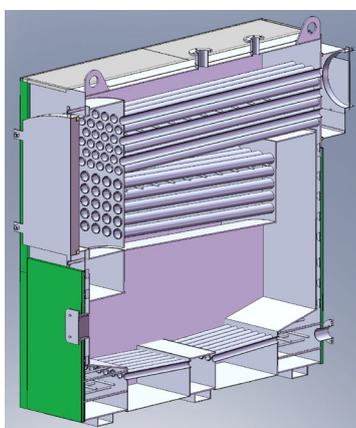
B - well insulattet objects with room hight up to 3m (5cm insulation)

C - extremely well insulattet objects with room hight up to 3m (10cm insulation)

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# ŠUKOPLAM MEGA 1000-2500 kW



Boilers type Šukoplam MEGA with power range 1000-2500kW are ment primerily for combustion of bulk solid fuel (wood,coal) as well as diverse wood waste. Boiler is ment to work coupled with exhaust fumes fan so that quality of combustion and boiler efficiency can be as high as it can. Coupled with special „adiabatic“ firebox (gas generator) wood chips, pellet, fruit stones and small chipped wood waste with moisture content up to 60% can be combusted. This combustion is done totally automated, while combustion of chunk solid fuel is done in the boiler firebox by manually loading through spaceous side boiler door. Because of the great depth of the boiler firebox, boiler has two side doors for ashtray cleaning and easy access to the boiler firebox grate.

Boiler is constructed as „three drafted“ with two rows of flue pipes which means that products of combustion pass water area in three occasions maximasing the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in first row of flue pipes mostly by methods of irradiation and convection, and the third heat exchange is in the second row of flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar. At buyer deman boiler can be equipped with automatic ash removal as well as automatic cleaning of flue pipes.

Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion. When using gas generator coupled with the boiler regulation of air flow needed for the combustion is done through the generator and boiler automatic controler.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.

Boiler	Boiler power kW	CONECTION DIMENSIONS								BOILER DIMENSIONS (mm)									
		R1	R2	R3	R4 / R5	R6	R7	R8	R9	A1	B1	A	B	C	D	E	F	F1	G
Plam 1000 MEGA	1000	1/2"	3/4"	1"	DN125 NP6	DN65 NP16	1"	1/2"	DN20 NP25	1488	2605	1935	3445	2796	500	2545	355	155	2195
Plam 1250 MEGA	1250	1/2"	3/4"	1"	DN125 NP6	DN65 NP16	1"	1/2"	DN20 NP25	1395	2580	1740	3050	3190	500	2850	435	200	2560
Plam 1500 MEGA	1500	1/2"	3/4"	1"	DN150 NP6	DN80 NP16	1"	1/2"	DN20 NP25	1950	2800	2330	3300	2650	550	2440	380	115	2030
Plam 1750 MEGA	1750	1/2"	3/4"	1"	DN150 NP6	DN80 NP16	1"	1/2"	DN20 NP25	1950	3030	2330	3530	2650	600	2440	380	115	2030
Plam 2000 MEGA	2000	1/2"	3/4"	5/4"	DN200 NP6	DN100 NP16	1"	1/2"	DN20 NP25	1970	3260	2385	3760	2805	650	2555	410	160	2035
Plam 2500 MEGA	2500	1/2"	3/4"	5/4"	DN200 NP6	DN100 NP16	1"	1/2"	DN20 NP25	1970	3490	2385	4280	2805	725	2555	410	160	2035

\*The manufacturer reserves the right to change the dimensions

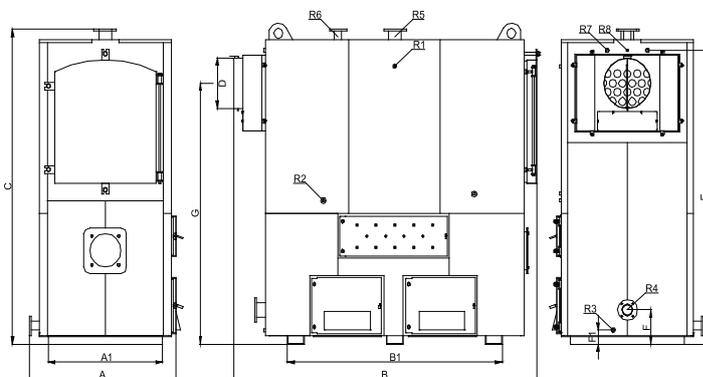
Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
					A	B	C	Diameter (mm)	Height (m)
Plam 1000 MEGA	2670	69	3	5850	5000	6700	10000	800	22
Plam 1250 MEGA	3000	73	3	6750	6250	8375	12500	800	24
Plam 1500 MEGA	3800	78	3	7650	7500	10050	15000	800	26
Plam 1750 MEGA	5370	89	3	8500	8750	11725	17500	800	28
Plam 2000 MEGA	7250	100	3	9000	10000	13400	20000	1000	32
Plam 2500 MEGA	9000	120	3	9500	12500	16750	25000	1000	35

#### NOTE:

A - poorly insulatet objects with room hight up to do 3m

B - well insulatet objects with room hight up to 3m (5cm insulation)

C - extremely well insulatet objects with room hight up to 3m (10cm insulation)



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# ŠUKOPLAM ENERGY 1000-3000 kW

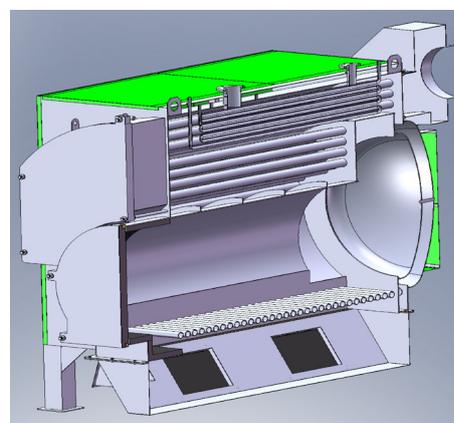
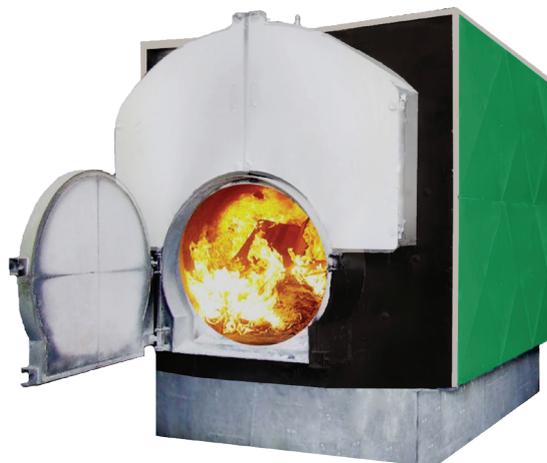
Boilers type Šukoplam ENERGY with power range 1000-3000kW are ment primerily for combustion of bulk solid fuel (wood, coal) as well as diverse wood waste. Boiler is ment to work coupled with exhaust fumes fan so that quality of combustion and boiler efficiency can be as high as it can.

On buyer demand boiler can be manufactured in two different ways.- First way is for combustion of chunk solid fuel manually stocked and the second way is for automated combustion of chipped solid fuel and biomass with maximum moisture content up to 60% (pellet, wood chips, fruit stones) within the pecial „adiabatic“ firebox (gas generator) copled with the boiler.

Boiler is constructed as „three drafted“ with two rows of flue pipes which means that products of combustion pass water area in three occasions maximasing the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in first row of flue pipes mostly by methods of irradiation and convection, and the third heat exchange is in the second row of flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar. At buyer demand boiler can be equiped with automatic ash removal as well as automatic cleaning of flue pipes.

Regulation of air flow needed for combustion of chunk solid fuel is done with draft regulator which moves the flap on the ash collection tray and by doing so increases or decreases the amount of air needed for the combustion. When using gas generator coupled with the boiler regulation of air flow needed for the combustion is done through the generator and boiler automatic controler. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW	CONECTION DIMENSIONS									BOILER DIMENSIONS (mm)								
		R1	R2	R3	R4 / R5	R6	R7	R8	R9	A1	B1	A	B	C	D	E	F	F1	G
<b>Plam 1000 ENERGY</b>	1000	3/4"	3/4"	1"	DN125 NP6	DN65 NP16	1"	1/2"	DN20 NP25	2175	2315	2385	3550	2995	500	2845	625	515	2600
<b>Plam 1500 ENERGY</b>	1500	3/4"	3/4"	1"	DN150 NP6	DN80 NP16	1"	1/2"	DN20 NP25	2535	2932	2745	4115	3295	500	3097	787	692	2830
<b>Plam 2000 ENERGY</b>	2000	3/4"	3/4"	5/4"	DN150 NP6	DN80 NP16	1"	1/2"	DN20 NP25	2535	3425	2745	4600	3440	650	3226	930	725	2890
<b>Plam 2500 ENERGY</b>	2500	3/4"	3/4"	5/4"	DN200 NP6	DN100 NP16	1"	1/2"	DN20 NP25	2535	3725	2745	4900	3440	700	3300	915	715	2890
<b>Plam 3000 ENERGY</b>	3000	3/4"	3/4"	5/4"	DN200 NP6	DN100 NP16	1"	1/2"	DN20 NP25	2535	3925	2745	5300	3400	770	3350	905	700	2900

\*The manufacturer reserves the right to change the dimensions

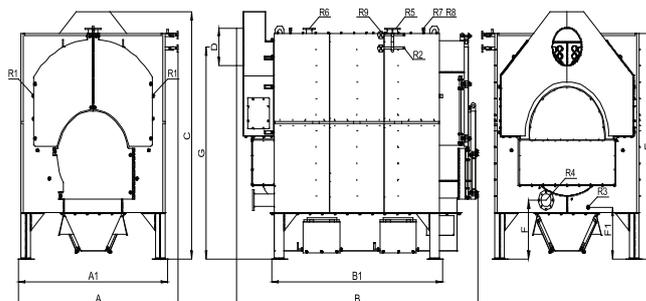
Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
					A	B	C	Diameter (mm)	Height (m)
<b>Plam 1000 ENERGY</b>	5200	69	3	6400	5000	6700	10000	800	24
<b>Plam 1500 ENERGY</b>	7000	78	3	7300	7500	10100	15000	800	28
<b>Plam 2000 ENERGY</b>	9000	85	3	11000	10000	13400	20000	800	28
<b>Plam 2500 ENERGY</b>	10300	100	3	12800	12500	16750	25000	1000	32
<b>Plam 3000 ENERGY</b>	11000	120	3	14000	15000	20100	30000	1000	36

#### NOTE:

A - poorly insulatet objects with room hight up to do 3m

B - well insulatet objects with room hight up to 3m (5cm insulation)

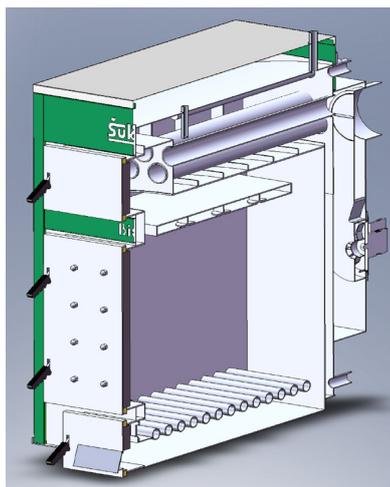
C - extremely well insulatet objects with room hight up to 3m (10cm insulation)



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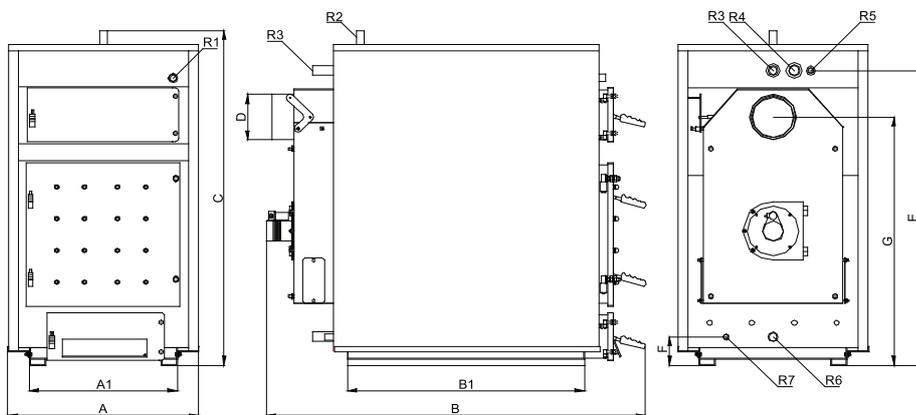
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# ŠUKOPLAM BIOS 25-60 kW



Boiler type Šukoplam BIOS with power range 25-60kW is constructed and manufactured as a boiler for combustion of baled biomass for the needs of domestic heating. Except for the baled biomass boiler can also combust other chunk solid fuel. Because of the specificity (high content of fly ash) of combustion of baled biomass (straw, etc...) boiler is equipped with sediment chamber and exhaust fumes fan.

Boiler is constructed as „three drafted“ with one water cooled chamber and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in the water cooled chamber of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of conduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Boiler is meant for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar. Because of the use of exhaust fumes fan, tabulators are installed into flue pipes of the boiler so that the efficiency of the boiler can be higher. Work of the exhaust fumes fan and also maintaining the desired water temperature in the boiler is regulated by the boiler automatic controller. Regulation of air flow needed for combustion is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion, while boiler power regulation is done by changing the RPM on the exhaust fumes fan. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW	CONNECTION DIMENSIONS							BOILER DIMENSIONS (mm)								Water content (l)	
		R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E	F		G
Plam 25-40 BIOS	25-40	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	580	910	764	1550	1290	160	1130	125	1100	135
Plam 40-60 BIOS	40-60	3/4"	1"	5/4"	5/4"	1/2"	5/4"	1/2"	630	1010	810	1610	1510	200	1330	155	1125	170

\*The manufacturer reserves the right to change the dimensions

Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )			Approximate chimney dimensions	
				A	B	C	Prečnik (mm)	Visina (m)
Plam 25-40 BIOS	27	2,5	410	100-150	130-200	200-300	180-200	8-9
Plam 40-60 BIOS	30	2,5	660	150-325	200-435	300-650	220	9

Straw energy value kJ/kg		
Wheat with W=14%	Wheat with W=14%	Wheat with W=14%
13700	13700	13700

#### NOTE:

A - poorly insulated objects with room height up to do 3m

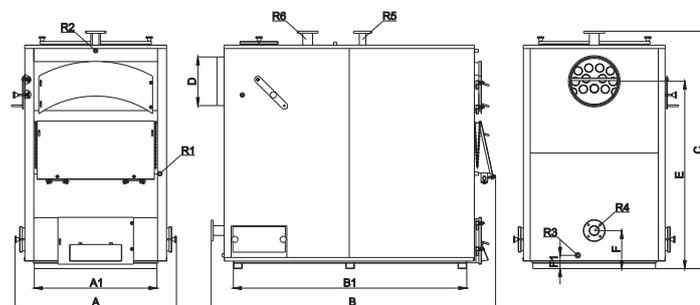
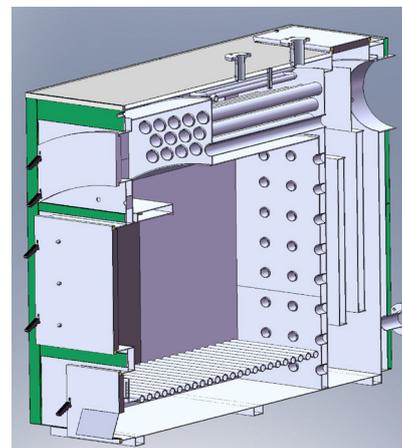
B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)

# ŠUKOPLAM BIOS 100-550 kW

Boilers type Šukoplam BIOS with power range 100-550kW are constructed and manufactured as boilers for combustion of baled biomass (straw, baled wood branches...) for the needs of large industrial consumers. Because of the specificity (high content of fly ash) of combustion of baled biomass (straw, etc...) boiler is equipped with sediment chamber or with mechanic particle separator (cyclone) with exhaust fumes fan.

Boiler is constructed as „three drafted“ with one horizontal and two vertical water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. Boiler firebox in which the first heat exchange is done, is separated into three zones, drying, combustion and afterburning zone. Drying zone is coated with fire resistant concrete which (after heating up) irradiates heat back to the firebox and dries the baled biomass. Most of the heat exchanged is done by methods of irradiation. Second heat exchange is in the horizontal water cooled chamber and in flue pipes of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in vertical water cooled chambers before the flue gasses exit the boiler mostly by methods of conduction and convection. Vertical water cooled chambers also serve as the first phase in mechanical separation of combustion particles. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Dimensions of boiler combustion doors are done on buyer demand and adapted to meet the buyer's needs. Boiler is meant for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar. Because of the use of exhaust fumes fan, turbulators are installed into flue pipes of the boiler so that the efficiency of the boiler can be higher. Work of the exhaust fumes fan and also maintaining the desired water temperature in the boiler is regulated by the boiler automatic controller. Regulation of air flow needed for combustion is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion and also by changing the RPM on the exhaust fumes fan. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



Boiler	Boiler power kW	CONNECTION DIMENSIONS					BOILER DIMENSIONS (mm)								
		R1	R2	R3	R4 / R6	R5	A1	B1	A	B	C	D	E	F	F1
<b>BIOS 100</b>	100	3/4"	1/2"	3/4"	DN50 NP6	DN25 NP16	550	1560	905	2060	1500	300	1000	350	125
<b>BIOS 150</b>	150	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	670	1760	1025	2260	1800	350	1285	350	125
<b>BIOS 200</b>	200	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	900	1870	1255	2370	1910	400	1315	350	125
<b>BIOS 250</b>	250	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1035	1970	1390	2470	2175	450	1680	350	125
<b>BIOS 350</b>	350	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1115	2125	1470	2575	2175	450	1715	350	125
<b>BIOS 550</b>	550	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1220	2950	1575	3450	2800	500	2265	350	125

\*The manufacturer reserves the right to change the dimensions

Straw energy value kJ/kg		
Wheat with W=14%	Barley with W=14%	Soy with W=10%
13700	14200	15500

Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )		Approximate chimney dimensions		
					A	C	Diameter (mm)	Height (m)	
<b>BIOS 100</b>	400	52	3	1200	500	670	1000	250	12
<b>BIOS 150</b>	600	53	3	1650	750	1010	1500	300	15
<b>BIOS 200</b>	750	54	3	2160	1000	1340	2000	300	18
<b>BIOS 250</b>	900	55	3	2400	1250	1675	2500	350	18
<b>BIOS 350</b>	1200	57	3	3600	1750	2345	3500	400	18
<b>BIOS 550</b>	2100	62	3	5100	2750	3685	5500	450	20

#### NOTE:

A - poorly insulated objects with room height up to 3m  
 B - well insulated objects with room height up to 3m (5cm insulation)  
 C - extremely well insulated objects with room height up to 3m (10cm insulation)

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# ŠUKOPLAM VENT-P 13-27 kW

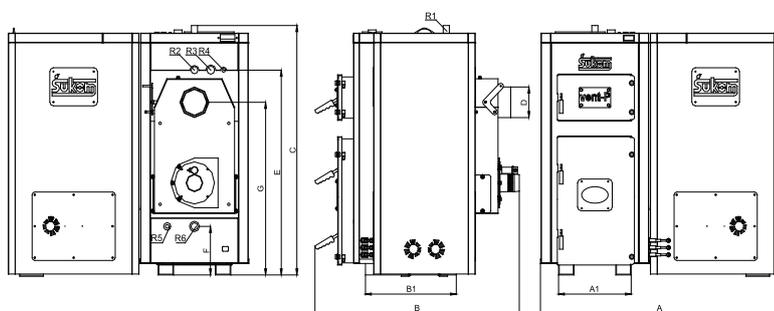
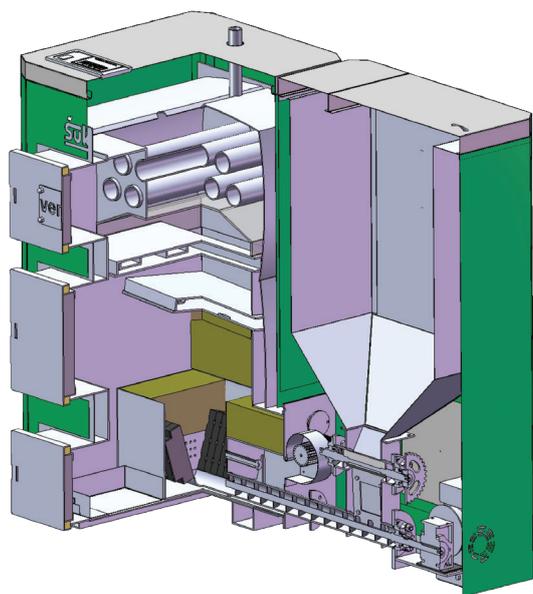


Boilers type Šukoplam VENT-P are intended for automatic combustion of granular biomass (pellets).

The boiler is made as three-drafted with two water-cooled partitions and a pipe bundle, which means that the combustion products pass by the water space on three occasions, while maximally transferring heat to the water. The boiler is fired with granular material via a screw conveyor on the side of the boiler. The granular material is stored in a dosing basket under which, via a rotary feeder, a screw conveyor with a chain transmission takes the fuel and carries it to the fluidization chamber. Ignition of granular biomass is fully automatic via an electric lighter. For the combustion of granular material, only artificial draft is used with the help of the primary and the flue gas fan.

The introduced air in the fluidization chamber is divided into primary and secondary, while part of the air is introduced into the worm conveyor in order to prevent the return of flame from the combustion zone to the dosing basket.

By installing a sedimentation chamber and a flue gas fan, the boiler is kept under pressure and there is no risk of the flame returning to the dosing basket or the door, and by installing a turbulators in the flue pipes, the boiler efficiency is increased by 7-10%. Uninterrupted operation of the boiler is provided by automation which, based on the input data, maintains all the set parameters necessary for quality combustion and the best possible operation of the boiler.



**NOTE:**

- A - poorly insulated objects with room height up to do 3m
- B - well insulated objects with room height up to 3m (5cm insulation)
- C - extremely well insulated objects with room height up to 3m (10cm insulation)

Boiler	Boiler power kW	CONNECTION DIMENSIONS						BOILER DIMENSIONS (mm)							Water content (l)		
		R1	R2	R3	R4	R5	R6	A1	B1	A	B	C	D	E		F	G
Plam 24 VENT-P	22-29	1"	5/4"	5/4"	1/2"	1/2"	5/4"	400	500	1330	1130	1305	160	1072	255	904	110

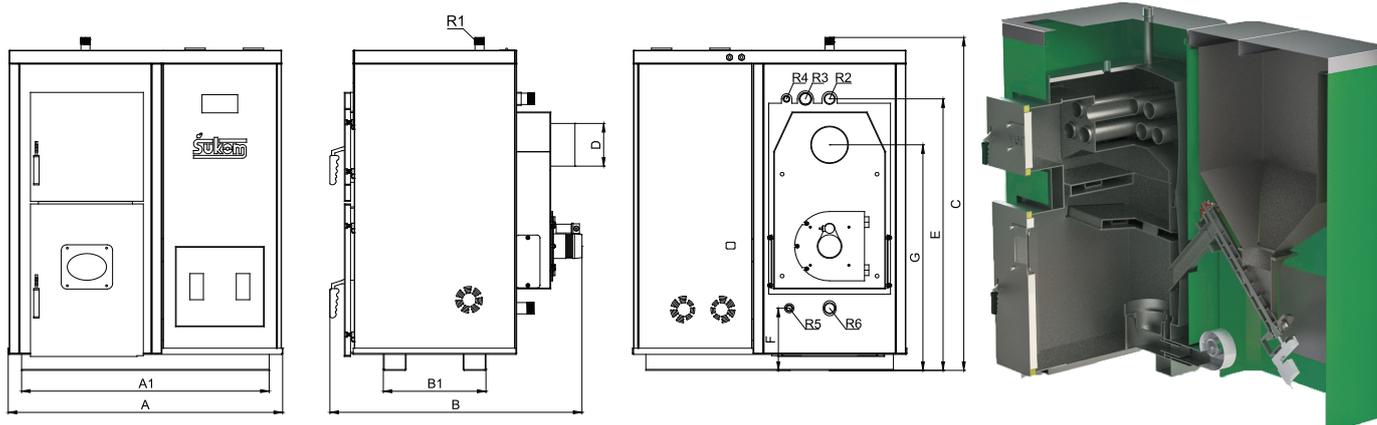
\*The manufacturer reserves the right to change the dimensions

Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> )	Approximate chimney dimensions			Boiler	
					A	B	C	Prečnik (mm)	Visina (m)
Plam 24 VENT-P	90/70	28	2,5	420	105-135	140-180	210-270	160	7

# ŠUKOPLAM PELET 15-27 kW

Boilers of the Šukoplam PELLET type are boilers intended for automatic combustion of granular biomass (pellets).

The boiler is made as a three-pass with two water-cooled partitions and a pipe bundle, while maximally transferring heat to the water. In the boiler firebox there is a cup made of refractory material for combustion of granular biomass. The granular material is stored in the dosing basket below when the screw conveyor takes the fuel and carries it to the combustion cup. Ignition of granular biomass is fully automatic via an electric lighter. For the combustion of granular material, only artificial draft is used with the help of the primary and the flue gas fan. By installing a sedimentation chamber and a flue gas fan, the boiler is kept under pressure and there is no risk of the flame returning to the dosing basket or the door, and by installing a turbulator in the flue pipes, the boiler efficiency is increased by 7-10%. Uninterrupted operation of the boiler is provided by automation which, based on the input data, maintains all the set parameters necessary for quality combustion.



Boiler	Boiler power kW	CONNECTION DIMENSIONS						BOILER DIMENSIONS (mm)									Water content (l)
		R1	R2	R3	R4	R5	R6	A1	B1	A	B	C	D	E	F	G	
Šukoplam 15 PELET	15-21	1"	1"	5/4"	1/2"	1"	1/2"	740	390	840	780	1250	135	1020	235	845	73
Šukoplam 20 PELET	20-27	1"	5/4"	5/4"	1/2"	1/2"	5/4"	920	390	1025	915	1350	160	1020	235	845	92

\*The manufacturer reserves the right to change the dimensions

Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m <sup>2</sup> ) A	Approximate chimney dimensions			Boiler	
					B	B	C	Prečnik (mm)	Visina (m)
Šukoplam 15 PELET	90/70	26	2,5	330	75-105	100-140	150-210	140	7
Šukoplam 20 PELET	90/70	30	2,5	370	90-125	125-165	180-250	160	7

#### NOTE:

A - poorly insulated objects with room height up to do 3m

B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)

## ŠUKOM

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# ŠUKOPLAM VENT 24-90 kW

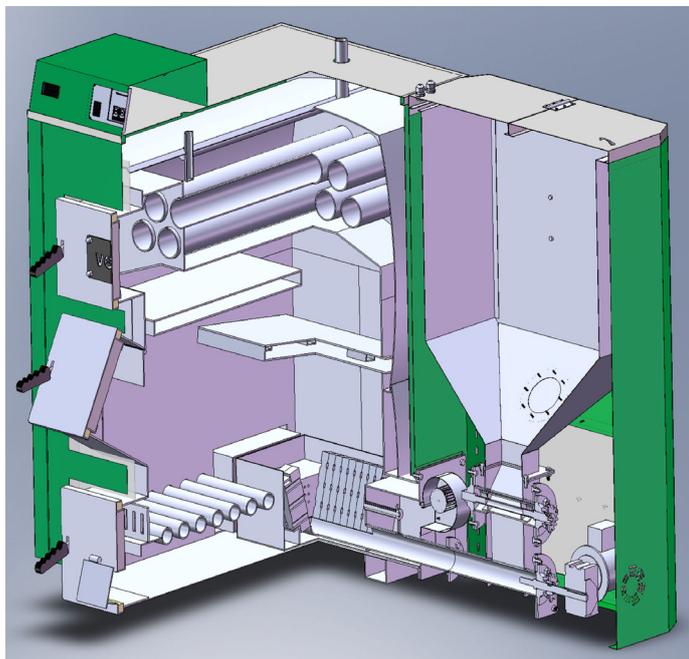


Boilers type Šukoplam VENT with power range 24-90kW are in essence modified boilers of Šukoplam R 25-80kW family. This modification is done in adapting the standard boiler for combustion of chunk solid fuel and grain biomass (pellet, fruit stones, coal with maximum granulation of 8mm). Combustion of grain biomass is done completely automatically.

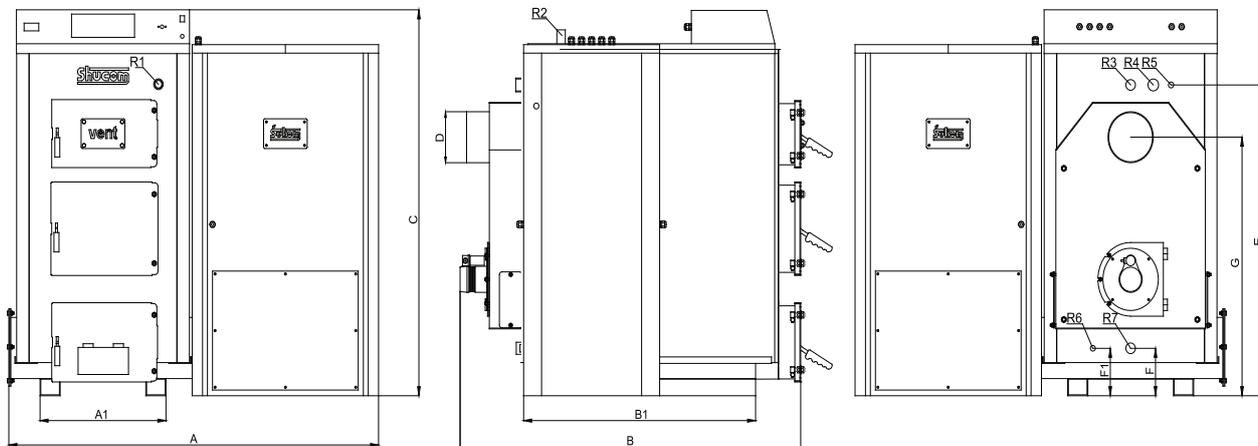
Boiler is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. Boiler firebox is divided into two sections, front section for combustion of chunk solid fuel and back section with fluidisation chamber for combustion of grain biomass. Chunk solid fuel loading is done through middle boiler door while grain biomass loading is done with screw conveyor at the side of the boiler. Storage of grain biomass is done in fuel storage tank underneath, via the rotational dosage mechanism, screw conveyor takes the fuel and brings it to the fluidisation chamber. Volume of fuel storage tank is done so that it meet the daily need of the boiler. Ignition of grain biomass is completely automatic via the electric igniter. For combustion of grain biomass primary air fans are used and are chosen in a way to deliver enough fresh air for combustion and fuel fluidisation. Primary combustion air is divided in the fluidisation chamber into primary and secondary air, and also part of the primary air is delivered to the screw conveyor to prevent the return of the flame from the combustion chamber to the fuel storage tank. Air for combustion of chunk solid fuel enters the boiler through the flap on the bottom boiler door, and its volume is regulated with draft regulator. In this case only the exhaust fumes fan works while primary air fans do not work. By installing the sediment chamber and exhaust fumes fan boiler is kept in underpressure so there is no risk of the return flame towards the fuel storage tank and to the middle boiler door, and by installing the turbulators into flue pipes boiler efficiency can be raised 7-10%. Automatic controller, based on the input parameters (water temperature, flue gas temperature, room temperature), gives command to output devices (fans, igniter, screw conveyor) and maintains all the desired parameters for smooth boiler work. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is meant for production of hot water in operating mode 110/90°C and 90/70 °C with maximum allowed work pressure of 2,5bar.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.



# ŠUKOPLAM VENT 24-90 kW



Boiler	Boiler power kW		CONNECTION DIMENSIONS							BOILER DIMENSIONS (mm)							Water content (l)		
	Drvo	Pelet	R1	R2	R3	R4	R5	R6	R7	A1	B1	A	B	C	D	E		F	G
<b>Plam 25VENT</b>	25	24-32	3/4"	1"	5/4"	5/4"	1/2"	1/2"	5/4"	400	550	1355	1177	1340	160	1006	170	840	160
<b>Plam 30VENT</b>	30	30-43	3/4"	1"	5/4"	5/4"	1/2"	1/2"	5/4"	470	705	1440	1295	1360	160	1097	170	915	180
<b>Plam 50VENT</b>	50	40-60	3/4"	1"	5/4"	5/4"	1/2"	1/2"	5/4"	450	830	1470	1415	1360	180	1097	170	915	240
<b>Plam 80VENT</b>	80	65-90	3/4"	1"	6/4"	5/4"	1/2"	1/2"	6/4"	530	865	1485	1525	1450	200	1175	165	995	280

\*The manufacturer reserves the right to change the dimensions

Boiler	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions	
				A	B	C	Diameter (mm)	Height (m)
<b>Plam 25VENT</b>	30	2,5	460	90-145	130-195	210-290	160	8
<b>Plam 30VENT</b>	30	2,5	520	125-200	168-268	250-400	160	9
<b>Plam 50VENT</b>	37	2,5	600	200-325	268-435	400-650	200	10
<b>Plam 80VENT</b>	40	2,5	700	350-475	470-635	700-950	220	13

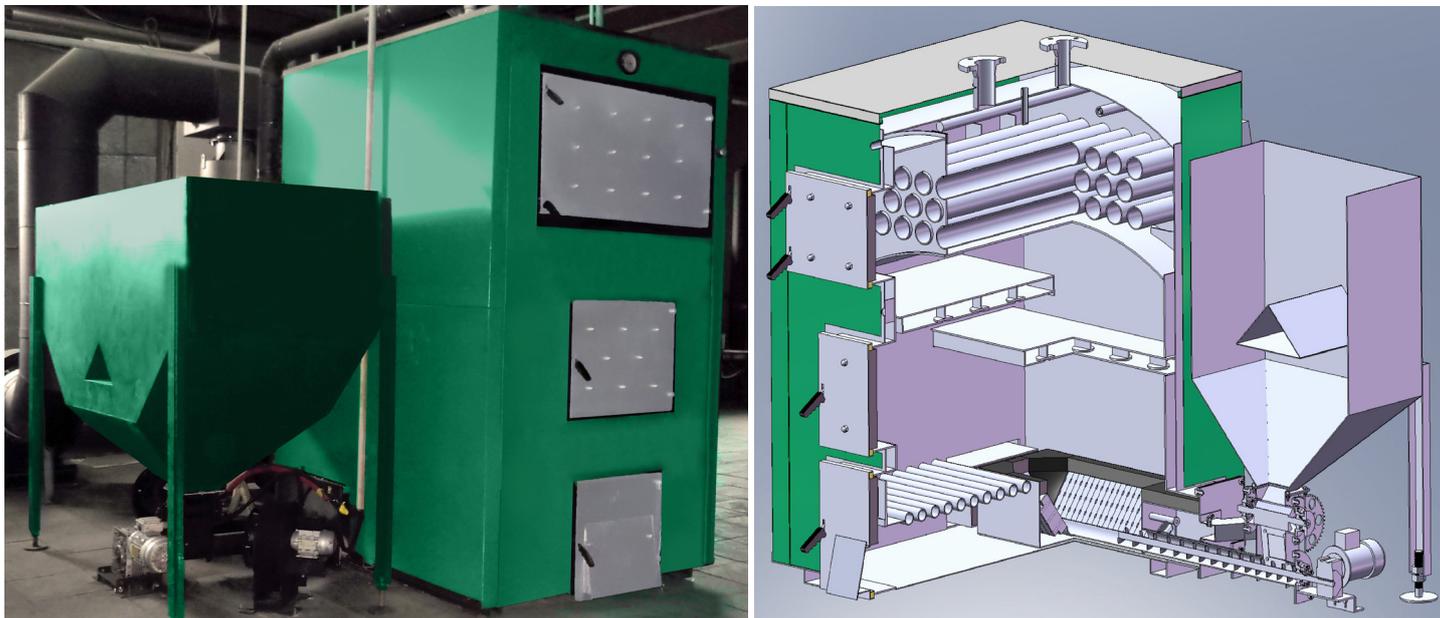
**NOTE:**

A - poorly insulated objects with room height up to 3m

B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)

# ŠUKOPLAM VENT 90-1100 kW



Boilers type Šukoplam VENT with power range 100-1100kW are in essence modified boilers of Šukoplam 100-1000kW family. This modification is done in adapting the standard boiler for combustion of chunk solid fuel and grain biomass (pellet, fruit stones, coals with maximum granulation of 8mm). Combustion of grain biomass is done completely automatically.

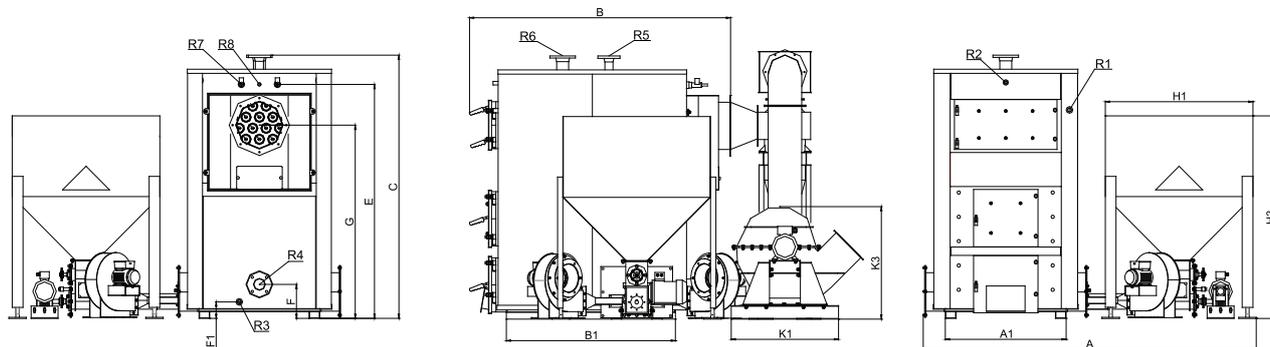
Boiler is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. Boiler firebox is divided into two sections, front section for combustion of chunk solid fuel and back section with fluidisation chamber for combustion of grain biomass. Chunk solid fuel loading is done through middle boiler door while grain biomass loading is done with screw conveyor at the side of the boiler. Storage of grain biomass is done in fuel storage tank underneath, via the rotational dosage mechanism, screw conveyor takes the fuel and brings it to the fluidisation chamber. Volume of fuel storage tank is done so that it meet the daily need of the boiler. Ignition of grain biomass is completely automatic via the electric igniter. For combustion of grain biomass primary air fans are used and are chosen in a way to deliver enough fresh air for combustion and fuel fluidisation. Primary combustion air is divided in the fluidisation chamber into primary and secondary air, and also part of the primary air is delivered to the screw conveyor to prevent the return of the flame from the combustion chamber to the fuel storage tank. Air for combustion of chunk solid fuel enters the boiler through the flap on the bottom boiler door, and its volume is regulated with draft regulator. In this case only the exhaust fumes fan works while primary air fans do not work. By installing the sediment chamber (cyclone) and exhaust fumes fan boiler is kept in underpressure so there is no risk of the return flame towards the fuel storage tank and to the middle boiler door, and by installing the turbulators into flue pipes boiler efficiency can be raised 7-10%. Automatic controller, based on the input parameters (water temperature, flue gas temperature, room temperature), gives command to output devices (fans, igniter, screw conveyor) and maintains all the desired parameters for smooth boiler work. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is meant for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3bar.

On buyer demand boilers can be made for combustion of wood chips with granulation G30 with the maximum moisture content of 30%, can be equipped with automatic ash removal and automatic flue pipes cleaning. Also on buyer demand these boilers can be made as low pressure steam boilers.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler, while protection of the boiler from increased temperatures is done by installing the safety heat exchanger which, if the need arises, cools down the boiler.

# ŠUKOPLAM VENT 90-1100 kW



Boiler	Boiler power kW		CONNECTION DIMENSIONS								BOILER DIMENSIONS (mm)									
	Drvo	Pelet	R1	R2	R3	R4 / R6	R5	R7	R8	A1	A2	B1	A	B	C	D	E	F	F1	G
<b>Plam 100VENT</b>	100	90-110	3/4"	1/2"	3/4"	DN50 NP6	DN25 NP16	5/4"	1/2"	530	930	850	1490	1445	1455	200	1194	250	120	1030
<b>Plam 125VENT</b>	125	110-140	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	600	1060	900	1655	1510	1705	200	1470	255	105	1300
<b>Plam 150VENT</b>	150	140-170	3/4"	1/2"	3/4"	DN65 NP6	DN32 NP16	5/4"	1/2"	650	1110	1000	1720	1700	1765	240	1530	250	130	1300
<b>Plam 175VENT</b>	175	160-190	3/4"	1/2"	3/4"	DN80 NP6	DN40 NP16	5/4"	1/2"	650	1110	1100	1720	1800	1765	260	1530	250	100	1300
<b>Plam 200VENT</b>	200	180-220	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	880	1355	1100	1950	1825	1740	300	1495	260	110	1250
<b>Plam 250VENT</b>	250	225-280	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	5/4"	1/2"	900	1390	1260	2485	1935	1950	350	1735	250	120	1431
<b>Plam 300VENT</b>	300	270-340	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1000	1485	1230	2585	1910	2030	350	1820	250	170	1525
<b>Plam 350VENT</b>	350	330-390	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1100	1585	1230	2685	1910	2115	350	1895	250	170	1605
<b>Plam 400VENT</b>	400	380-450	3/4"	1/2"	3/4"	DN80 NP6	DN50 NP16	1"	1/2"	1160	1630	1320	2735	2055	2285	400	2025	250	170	1705
<b>Plam 550VENT</b>	550	500-630	3/4"	1/2"	3/4"	DN100 NP6	DN50 NP16	1"	1/2"	1200	1670	1650	2775	2385	2675	430	2445	250	120	2100
<b>Plam 750VENT</b>	750	630-850	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1400	1880	1750	2985	2545	2865	480	2610	245	100	2230
<b>Plam 1000VENT</b>	1000	900-1100	3/4"	1/2"	3/4"	DN100 NP6	DN65 NP16	1"	1/2"	1470	1950	1870	3055	2665	2880	480	2615	245	100	2220

\*The manufacturer reserves the right to change the dimensions

Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Heating area (m2)			Approximate chimney dimensions		PELLET TANK DIMENSIONS (mm)			Boiler
					A	B	C	Diameter (mm)	Height (m)	H1	H2	H3	
<b>100 VENT</b>	310	40	3	870	450-600	605-805	900-1200	250	12	720	615	1260	0,225 / 165
<b>125 VENT</b>	375	45	3	990	575-750	770-1005	1150-1500	250	15	810	890	1405	0,435 / 320
<b>150 VENT</b>	410	47	3	1095	675-900	905-1205	1350-1800	300	15	810	890	1405	0,435 / 320
<b>175 VENT</b>	485	48	3	1385	800-1050	1070-1405	1600-2100	300	15	810	890	1405	0,435 / 320
<b>200 VENT</b>	615	52	3	1630	900-1200	1205-1610	1800-2400	300	15	810	890	1405	0,435 / 320
<b>250 VENT</b>	800	53	3	1900	1125-1500	1510-2010	2250-3000	350	15	1150	1260	1500	0,845 / 630
<b>300 VENT</b>	870	54	3	2150	1350-1800	1810-2410	2700-3600	350	15	1150	1260	1500	0,845 / 630
<b>350 VENT</b>	990	55	3	2490	1575-2100	2110-2815	3150-4200	400	15	1150	1260	1500	0,845 / 630
<b>400 VENT</b>	1200	56	3	2910	1800-2400	2410-3215	3600-4800	400	18	1160	2110	1900	2,25 / 1650
<b>550 VENT</b>	1650	59	3	4170	2475-3300	3315-4425	4950-6600	450	18	1160	2110	1900	2,25 / 1650
<b>750 VENT</b>	2230	62	3	5655	3375-4500	4520-6030	6750-9000	500	20	1160	2110	1900	2,25 / 1650
<b>1000 VENT</b>	2670	70	3	6200	4050-5400	5430-7235	8100-10800	500	22	1160	2110	1900	2,25 / 1650

Boiler	CYCLONE DIMENSIONS (mm)			FAN DIMENSIONS (mm)		
	J1	J2	J3	K1	K2	K3
<b>Plam 250VENT</b>	536	930	2021	830	800	833
<b>Plam 300VENT</b>	536	930	2125	830	800	833
<b>Plam 350VENT</b>	579	1054	2328	830	800	833
<b>Plam 400VENT</b>	560	1063	2430	830	800	833
<b>Plam 550VENT</b>	675	1304	2962	1315	1209	1013
<b>Plam 750VENT</b>	723	1420	3195	1315	1209	1013
<b>Plam 1000VENT</b>	723	1420	3245	1315	1209	1013

NOTE:

- A - poorly insulated objects with room height up to do 3m
- B - well insulated objects with room height up to 3m (5cm insulation)
- C - extremely well insulated objects with room height up to 3m (10cm insulation)
- Boiler weight includes the weight of boiler flue (sediment chamber)
- Boilers with power range 250-1100kW have as their component parts cyclone and exhaust fumes fan which positioning depends on available boiler room space.

# ŠUKOPLAM BIOREST 125-750 kW



Boilers on combined fuel Šukoplam BIOREST are made on the basis of many years of experience in the construction and manufacture of boilers, as well as using the experience of renowned European manufacturers.

The construction of the boiler is fully compliant with European and Serbian standards SRPS EN 303-5 and SRPS EN 12953.

The standard variant of these boilers is primarily intended for manual burning of wood waste and automatic combustion of dry sawdust up to 30% humidity, where dosing is done with a worm conveyor from a rotating dosing basket and manual burning can be done on the front and side doors.

The boilers are made exclusively with an inclined grid on which the auger doses the selected fuel and thus the effect of partial drying of the fuel on the inclined grid is achieved before the fuel reaches and burns on the flat grid.

The boiler is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximizing the heat exchange. This achieves complete fuel combustion, excellent heat exchange as well as minimal heat losses in the flue gases.

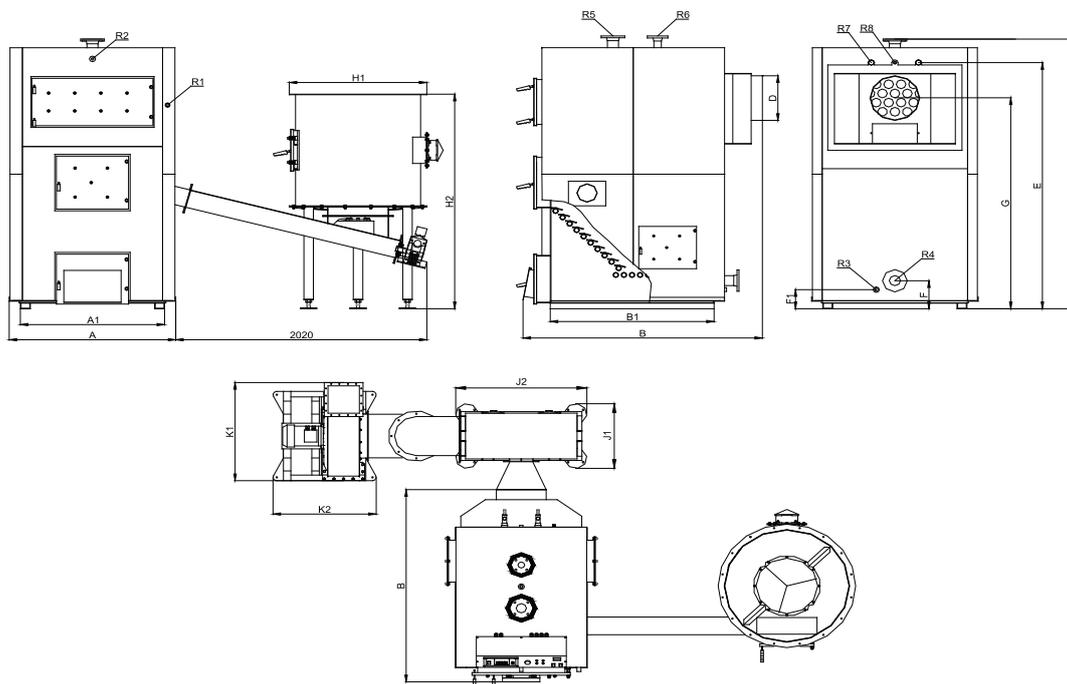
In addition to automatic dosing and combustion of the boiler, this type of boiler can also be manually fired from the front with various types of solid fuel. Within the entire combustion system, in addition to the boiler itself, a rotating dosing basket for fuel is delivered, as well as a worm conveyor with a motor reducer.

Also, in boilers of this type, there is a possibility of installing a cyclone deduster for the deposition of unburned fuel particles, as well as a flue gas fan for a higher degree of utilization and better combustion and removal of flue gases from the boiler.

Special automation controls and regulates the temperature of the water in the boiler, the operation of the screw conveyor and the flue gas fan with frequency regulation, which enables complete automation of the combustion process.

Boilers type Šukoplam BIOREST are intended for the production of hot water in the operating mode of 90 / 70°C, as well as 110 / 90°C with reinforced construction and installed thicker materials with a maximum working pressure of 3bar.

# ŠUKOPLAM BIOREST 125-750 kW



Boiler	Boiler power kW	CONNECTION DIMENSIONS					BOILER DIMENSIONS (mm)										Sadržaj vode u kotlu (l)	Potrebna promaja (Pa)	Radni pritisak (bar)	Težina kotla (kg)
		R1/R3	R2/R8	R4 / R6	R5	R7	A1	B1	A	B	C	D	E	F	F1	G				
BIOREST 125	125	3/4"	1/2"	DN65 NP6	DN32 NP16	5/4"	620	900	800	1425	1665	200	1470	255	105	1288	355	45	3	765
BIOREST 150	150	3/4"	1/2"	DN65 NP6	DN32 NP16	5/4"	670	1000	850	1525	1685	240	1464	250	130	1240	400	47	3	840
BIOREST 175	175	3/4"	1/2"	DN80 NP6	DN40 NP16	5/4"	670	1100	850	1625	1710	260	1527	250	100	1320	475	48	3	1125
BIOREST 200	200	3/4"	1/2"	DN80 NP6	DN50 NP16	5/4"	900	1100	1050	1625	1790	300	1680	260	110	1425	625	52	3	1325
BIOREST 250	250	3/4"	1/2"	DN80 NP6	DN50 NP16	5/4"	920	1260	1070	1750	1950	350	1737	250	120	1448	700	53	3	1510
BIOREST 350	350	3/4"	1/2"	DN80 NP6	DN50 NP16	1"	1120	1230	1280	1750	2050	350	1895	250	170	1615	970	55	3	2065
BIOREST 400	400	3/4"	1/2"	DN80 NP6	DN50 NP16	1"	1180	1320	1340	1840	2415	400	2025	250	170	1890	1200	56	3	2300
BIOREST 500	500	3/4"	1/2"	DN100 NP6	DN50 NP16	1"	1220	1500	1380	2020	2680	430	2430	245	120	2100	1540	58	3	2980
BIOREST 750	750	3/4"	1/2"	DN100 NP6	DN65 NP16	1"	1420	1750	1580	2300	2880	480	2610	245	100	2225	1990	62	3	4685

\*The manufacturer reserves the right to change the dimensions

Boiler	CYCLONE DIMENSIONS (mm)			VENTILATOR DIMENSIONS (mm)			PELLET TANK DIMENSIONS (mm)		Heating area (m2)			Approximate chimney dimensions	
	J1	J2	J3	K1	K2	K3	H1	H2	A	B	C	Diameter (mm)	Height (m)
BIOREST 125	536	930	2021	700	600	620	1105	1750	625	840	1250	250	15
BIOREST 150	536	930	2125	700	600	620	1105	1750	750	1010	1500	300	15
BIOREST 175	536	930	2125	700	600	620	1105	1750	875	1175	1750	300	15
BIOREST 200	579	1054	2328	980	830	835	1105	1750	1000	1340	2000	300	18
BIOREST 250	579	1054	2328	980	830	835	1105	1750	1250	1675	2500	350	18
BIOREST 350	560	1063	2430	980	830	835	1105	1922	1750	2345	3500	400	18
BIOREST 400	580	1055	2962	980	830	835	1105	1922	2000	2680	4000	400	20
BIOREST 500	675	1304	2962	1210	1315	1015	1105	1922	2500	3350	5000	450	20
BIOREST 750	723	1420	3195	1210	1315	1015	1105	1922	3750	5025	7500	500	22

#### NOTE:

A - poorly insulated objects with room height up to do 3m

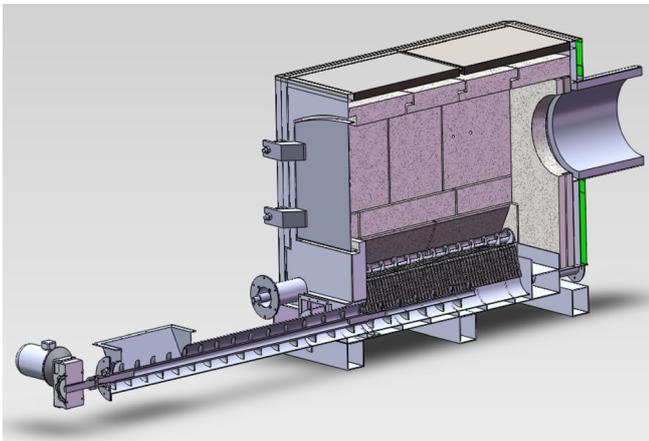
B - well insulated objects with room height up to 3m (5cm insulation)

C - extremely well insulated objects with room height up to 3m (10cm insulation)

# GAS GENERATOR



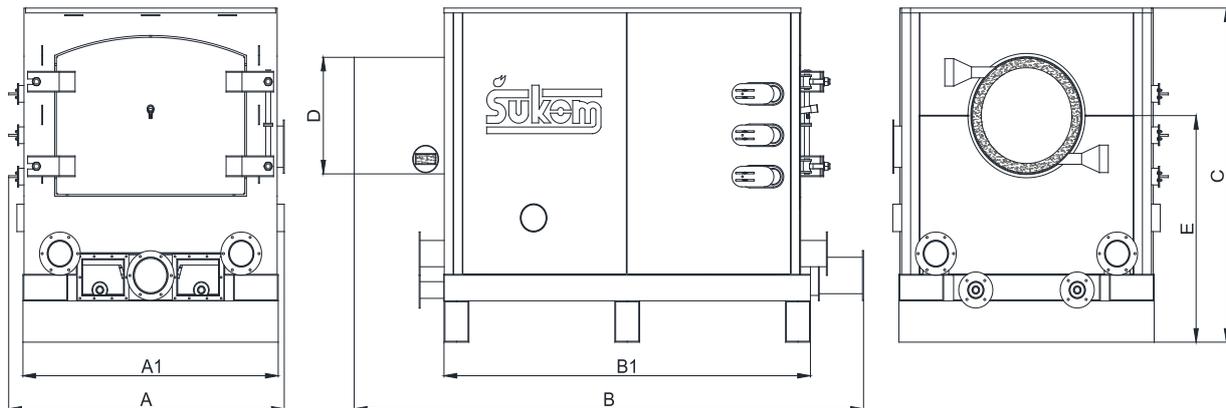
Gas generators type GG 1-6 are concrete built „adiabatic“ pre fireboxes ment for combustion of materials with higher moisture content (up to 60%). Fuel combustion and ash removal is completely automatic in gas generators. As a fuel, pelet, wood chips with granulation G30, fruit stones and other grain biomass can be combusted. Fuel enters the gas generator via screw conveyor which has its end built from fire-resistant steel. Gas generator is completely built with fire-resistant concrete which (when heated) irradiates heat back to the firebox, dries the wet fuel and makes combustion better. Between the blocks of fire-resistant concrete a gap of 10mm is left so that the concrete can have room to expand due to thermal dilatations. Primary and secondary air needed for combustion is brought in via middle pressure radial fans type SRV, and chosen in a way that can deliver enough air for combustion and fluidisation of the fuel. Primary air is brought in under the combustion grate. This air, before being sucked in by the fan, passes around the heated fire-resistant concrete, gets heated, and as heated gets inserted into the gas generator firebox. This as a result has much better combustion of the fuel. Secondary air is inserted tangentially at the exit pipe of gas generator. This as a result has turbulent flow of combustion gases and their better afterburning. Secondary air is entered on need based on information from Lambda probe at the exit of the boiler. Gas generator has 5 ash removal screw conveyors. First two water-cooled transporters remove the ash from the afterburning zone of the firebox. Water for cooling the transporter is taken from the cold boiler zone, and after the water cools down the transporter and gets heated, gets sent back to the hot zone of the boiler. Second two screw conveyors remove the ash that has after combustion fallen through the combustion grate, while the last, fifth, transporter takes all the ash and removes it to the special ash container.



Gas generators are coupled with adequate boilers type Šukoplam, Šukoplam MEGA, Šukoplam ENERGY, Šukoplam NP and Šukoplam VP for the best result of heat exchange and the best usage and efficiency of the entire system. It is necessary to have an exhaust fumes fan in the system to keep the whole system in underpressure and minimise the risk of return flame from gas generator firebox back to the fuel storage tank. As an extra safeguard against the return flame, on the fuel screw conveyor pipe, the fire extinguishing system is installed. This system if needed through the system nozzles lets the water enter the pipe and in that way extinguish the flame. Gas generator is well insulated (in two layers) so that there is no burn hazard on its surface.

Automatic controller that commands the work of gas generator coupled with the boiler based on informations from input parameters (water temperature probe, flue gas temperature probe, lambda probe) gives command to output and ensures the quality combustion of even low quality fuels.

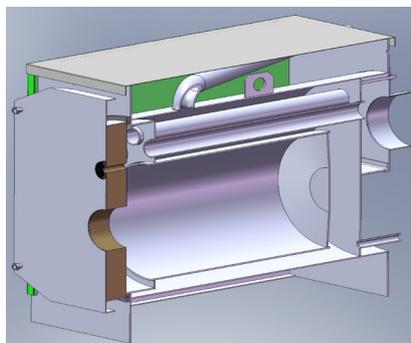
# GAS GENERATOR



GAS GENERATOR	GAS GENERATOR DIMENSIONS							GAS GENERATOR CHARACTERISTICS		Weight (kg)
	A1	A	B1	B	C	D	E	Power at W=10%	Power at W=60%	
GG-1	1115	1205	1245	1645	1195	265	630	415	150	1450
GG-2	1115	1205	1445	1970	1380	375	925	605	220	2005
GG-3	1185	1340	1615	2135	1525	462	935	1100	400	2965
GG-4	1435	1550	2065	2865	1780	620	1205	2065	750	3790
GG-5	1435	1550	2515	3350	1780	620	1205	2750	1250	5115
GG-6	1435	1550	2960	4050	1780	620	1205	3500	1750	6910

\*The manufacturer reserves the right to change the dimensions

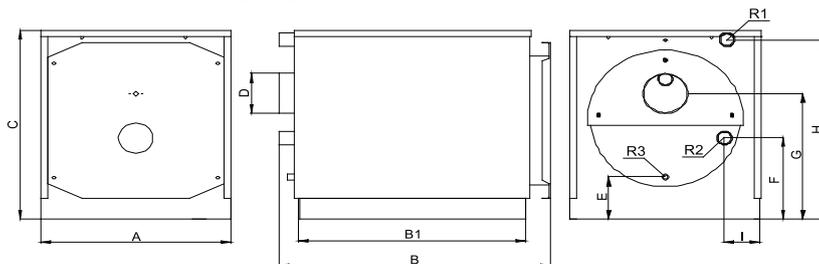
# PRIMULA R 18-320 kW



Boilers type Primula R with power range 18-320kW are ment for combustion of liquid and gas fuel with the use of fan burners. Coupling the boiler with fan burners on liquid or gas fuel gives maximal boiler output and boiler efficiency of 90-92%.

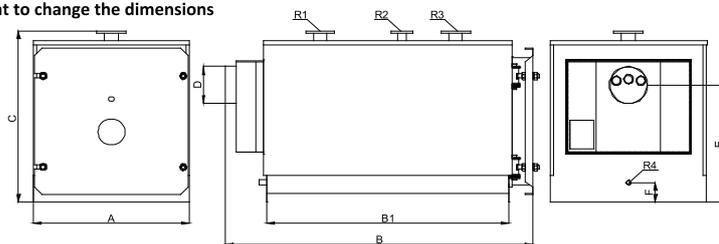
Boiler is constructed as „three drafted“ with reversible fire tube and flue pipes which means that products of combustion pass water area in three occasions maximising the heat exchange. First and second heat exchange are in the reversible fire tube, mostly by methods of irradiation and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection. Because of the use of fan burners, turbulators are instaled into flue pipes which maximases the heat exchange between the flue gases and water and increases the boiler efficiency. Construction of the boiles is such that provides free dilatations of fire tube and flue pipes which as a result has that these boiler can easily stand the sudden heat regime changes. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 2,5bar (for 22-60 boilers) and 3 bar (for 80-400 boilers) Regulation of air flow needed for combustion is done through the burner and boiler automatic controler.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler.



Boiler	Boiler power kW	CONECTION DIMENSIONS		BOILER DIMENSIONS (mm)										Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)
		R1/R2	R3	A	B1	B	C	D	E	F	G	H	I				
Primula R 22	18-26	5/4"	1/2"	550	550	650	630	120	155	300	415	570	105	22	20	2,5	113
Primula R 29	25-34	5/4"	1/2"	550	550	650	680	120	165	310	425	620	105	30	30	2,5	154
Primula R 36	38-42	5/4"	1/2"	550	550	650	680	120	165	310	425	620	105	34	35	2,5	171
Primula R 46	42-54	6/4"	1/2"	625	750	880	730	150	155	300	465	665	110	50	40	2,5	205
Primula R 60	54-70	6/4"	1/2"	625	750	880	780	150	165	310	465	715	110	60	45	2,5	251

\*The manufacturer reserves the right to change the dimensions



Boiler	Boiler power kW	CONECTION DIMENSIONS			BOILER DIMENSIONS (mm)								Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)
		R1/R3	R2	R4	A	B1	B	C	D	E	F					
Primula R 80	60-85	DN50 NP6	5/4"	5/4"	765	850	1170	935	200	510	80	122	55	3	324	
Primula R 99	74-106	DN50 NP6	5/4"	5/4"	765	850	1170	935	200	510	80	130	67	3	360	
Primula R 120	90-128	DN65 NP6	5/4"	5/4"	765	1180	1350	935	200	510	80	138	88	3	400	
Primula R 150	112-160	DN65 NP6	5/4"	5/4"	765	1180	1350	935	200	510	80	152	102	3	443	
Primula R 180	135-193	DN65 NP6	6/4"	5/4"	875	1430	1600	985	220	510	80	200	120	3	585	
Primula R 210	157-224	DN65 NP6	6/4"	5/4"	875	1430	1600	985	220	510	80	218	180	3	650	
Primula R 250	188-268	DN80 NP6	2"	5/4"	875	1660	1850	985	250	510	80	280	220	3	725	
Primula R 300	280-320	DN80 NP6	2"	5/4"	875	1660	1850	985	250	510	80	320	250	3	807	

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# ŠUKOMAX 245-5000 kW

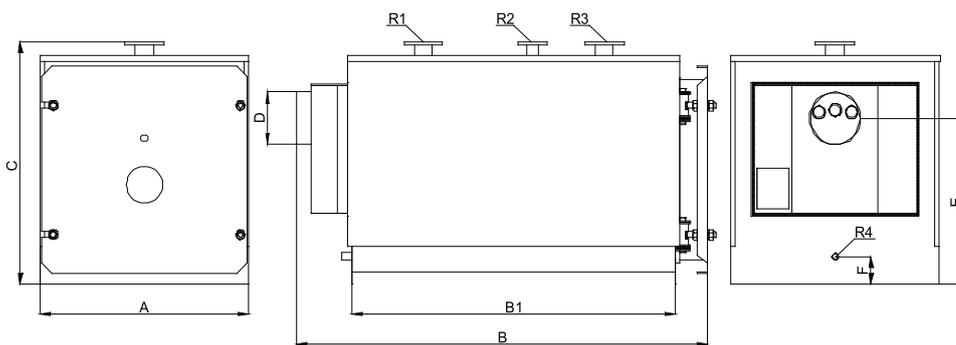
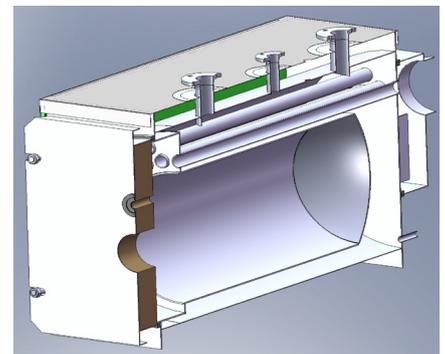
Boilers type Šukomax with power range 245-5000kW are ment for combustion of liquid and gas fuel with the use of fan burners. Coupling the boiler with fan burners on liquid or gas fuel gives maximal boiler output and boiler efficiency of 90-92%.

Boiler is constructed as „three drafted“ with reversible fire tube and flue pipes which means that products of combustion pass water area in three occasions maximising the heat exchange. First and second heat exchange are in the reversible fire tube, mostly by methods of irradiation and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of coduction and convection. Because of the use of fan burners, turbulators are instaled into flue pipes which maximases the heat exchange between the flue gases and water and increases the boiler efficiency. Construction of the boiles is such that provides free dilatations of fire tube and flue pipes which as a result has that these boiler can easily stand the sudden heat regime changes. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of hot water in operating mode 110/90°C and 90/70°C with maximum allowed work pressure of 3 bar.

Regulation of air flow needed for combustion is done through the burner and boiler automatic controler.

Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler.

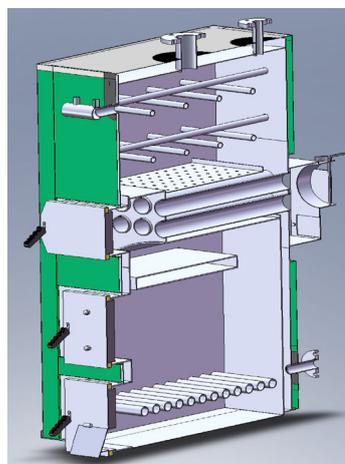


Boiler	Boiler power kW	CONECTION DIMENSIONS			BOILER DIMENSIONS (mm)								Water content (l)	Draft (Pa)	Work pressure (bar)	Boiler weight (kg)
		R1/R3	R2	R4	A	B1	B	C	D	E	F					
Šukomax 35	245-350	DN80 NP6	DN50 NP16	3/4"	1030	1580	1960	1170	250	780	130	340	210	3	690	
Šukomax 45	350-465	DN80 NP6	DN50 NP16	3/4"	1050	1645	2035	1210	250	650	150	500	230	3	990	
Šukomax 60	465-600	DN80 NP6	DN50 NP16	3/4"	1060	1780	2190	1270	300	700	150	550	290	3	1135	
Šukomax 70	600-750	DN100 NP6	DN65 NP16	3/4"	1150	1980	2380	1340	350	750	150	640	350	3	1325	
Šukomax 100	700-930	DN100 NP6	DN65 NP16	3/4"	1260	2200	2630	1450	350	830	150	890	400	3	1705	
Šukomax 115	930-1150	DN125 NP6	DN80 NP16	5/4"	1390	2505	2935	1510	400	880	100	1550	420	3	2355	
Šukomax 140	1150-1400	DN125 NP6	DN80 NP16	5/4"	1420	2815	3290	1510	450	1000	100	1716	440	3	2680	
Šukomax 160	1400-1800	DN150 NP6	DN80 NP16	5/4"	1520	2950	3420	1690	550	1150	180	2220	470	3	3705	
Šukomax 200	1800-2300	DN150 NP6	DN80 NP16	5/4"	1750	3790	4590	1840	650	1250	130	2690	480	3	4000	
Šukomax 300	2300-2800	DN200 NP6	DN100 NP16	5/4"	2000	3650	4300	2190	670	1550	180	4670	550	3	6500	
Šukomax 360	2800-3600	DN200 NP6	DN100 NP16	6/4"	2200	3950	4675	2440	670	1650	180	6870	720	3	9500	
Šukomax 400	3600-5000	DN250 NP6	DN125 NP16	6/4"	2585	6270	7030	2830	710	2110	300	9800	930	3	14000	

\*The manufacturer reserves the right to change the dimensions

# ŠUKOPLAM NP 100-900 kW

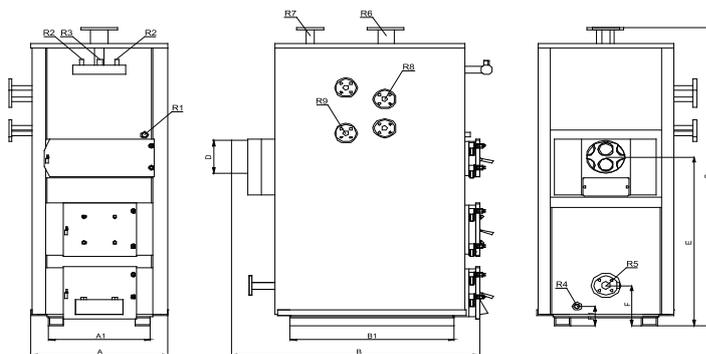
Boilers type Šukoplam NP with power range 100-900kW are low pressure steam boiler ment for combustion of bulk solid fuel (wood,- coal) and production of saturated steam in amount of 144-1296 kg/h. At buyer demand these boilers can be adapted so that they can also have automated combustion of pellet or wood chips with maximum granulation G30 and maximum moisture content up to 30%. Boiler is constructed as „three drafted“ with two water cooled chambers and flue pipes which means that products of combustion pass water area in three occasions maximising the heat exchange and better the process of evaporation. First heat exchange is in boiler firebox, mostly by methods of irradiation, through large surface area of boiler firebox, second heat exchange is in the water cooled chambers of the boiler mostly by methods of irradiation and convection, and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of conduction and convection. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes. Boiler is ment for production of saturated steam with maximum allowed work pressure of 0,5bar. On buyer demand water level indicator conection and water level limiter connection can be either on the right or on the left side of the boiler. Regulation of air flow needed is done with draft regulator which moves the flap on the bottom boiler door and by doing so increases or decreases the amount of air needed for the combustion. When using pellet or wood chips as fuel regulation of air flow needed for the combustion is done through the boiler automatic controler. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler.



Boiler	Power/ Steam production kW / kg/h	CONECTION DIMENSIONS								BOILER DIMENSIONS (mm)								
		R1	R2	R3	R4	R5	R6	R7	R8/R9	A1	B1	A	B	C	D	E	F	F1
Plam 100 NP	100 / 144	3/4"	3/8"	1/2"	3/4"	DN32 NP6	DN80 NP6	DN32 NP16	DN20 NP25	550	850	730	1375	1840	200	1040	250	120
Plam 125 NP	125 / 180	3/4"	3/8"	1/2"	3/4"	DN32 NP6	DN80 NP6	DN40 NP16	DN20 NP25	620	900	800	1425	1970	200	1288	255	105
Plam 150 NP	150 / 216	3/4"	3/8"	1/2"	3/4"	DN32 NP6	DN80 NP6	DN40 NP16	DN20 NP25	670	1000	850	1525	2190	240	1240	250	130
Plam 175 NP	175 / 252	3/4"	3/8"	1/2"	3/4"	DN32 NP6	DN80 NP6	DN50 NP16	DN20 NP25	670	1100	850	1625	2190	260	1320	250	100
Plam 200 NP	200 / 288	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN80 NP6	DN50 NP16	DN20 NP25	900	1100	1050	1625	2175	300	1250	260	110
Plam 250 NP	250 / 360	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN100 NP6	DN65 NP16	DN20 NP25	920	1260	1070	1750	2320	350	1448	250	120
Plam 300 NP	300 / 432	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN100 NP6	DN65 NP16	DN20 NP25	1020	1230	1180	1750	2550	350	1535	250	170
Plam 350 NP	350 / 505	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN100 NP6	DN65 NP16	DN20 NP25	1120	1230	1280	1750	2715	350	1615	250	170
Plam 400 NP	400 / 576	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN125 NP6	DN65 NP16	DN20 NP25	1180	1320	1340	1840	3030	400	1705	250	170
Plam 500 NP	500 / 720	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN150 NP6	DN80 NP16	DN20 NP25	1220	1500	1380	2020	3290	430	2100	245	120
Plam 550 NP	550 / 792	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN150 NP6	DN80 NP16	DN20 NP25	1220	1650	1380	2170	3290	430	2105	250	120
Plam 750 NP	750 / 1080	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN150 NP6	DN80 NP16	DN20 NP25	1420	1750	1580	2300	3900	480	2225	245	100
Plam 900 NP	900 / 1296	3/4"	3/8"	1/2"	3/4"	DN50 NP6	DN200 NP6	DN100 NP16	DN20 NP25	1470	1870	1675	2530	3980	480	2615	245	100

\*The manufacturer reserves the right to change the dimensions

Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)	Approximate chimney dimensions	
					Diameter (mm)	Height (m)
Plam 100 NP	370	40	0,5	780	250	12
Plam 125 NP	450	45	0,5	920	250	15
Plam 150 NP	495	47	0,5	1010	300	15
Plam 175 NP	585	48	0,5	1350	300	15
Plam 200 NP	740	52	0,5	1590	300	18
Plam 250 NP	960	53	0,5	1815	350	18
Plam 300 NP	1050	54	0,5	2100	350	18
Plam 350 NP	1165	55	0,5	2480	400	18
Plam 400 NP	1450	56	0,5	2760	400	20
Plam 500 NP	1850	58	0,5	3575	450	20
Plam 550 NP	1950	59	0,5	4020	450	20
Plam 750 NP	2680	62	0,5	5625	500	22
Plam 900 NP	3120	70	0,5	6500	500	24



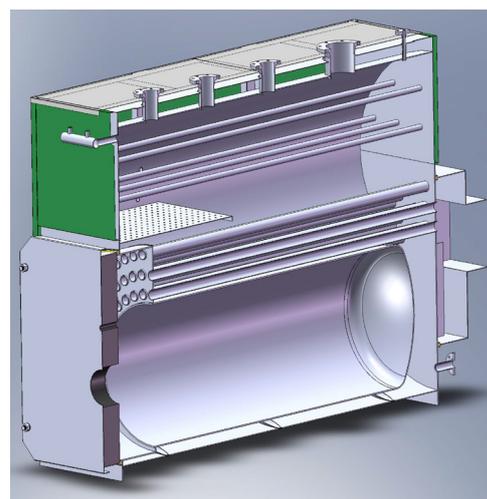
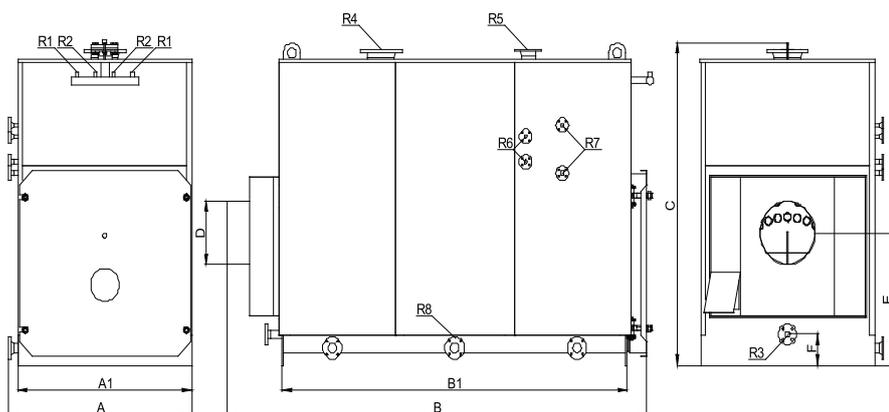
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# ŠUKOMAX NP 70-3500 kW

Boilers type Šukomax NP with power range 70-3500kW are low pressure steam boilers ment for combustion of liquid or gas fuel coupled with fan burners and with production of saturated steam in amount of 100-5185 kg/h. Coupling the boiler with fan burners on liquid or gas fuel gives maximal boiler output and boiler efficiency of 90-92%.

Boiler is constructed as „three drafted“ with reversible fire tube and flue pipes which means that products of combustion pass water area in three occasions maximising the heat exchange and better the process of evaporation. First and second heat exchange are in the reversible fire tube, mostly by methods of irradiation and the third heat exchange is in flue pipes before the flue gasses exit the boiler mostly by methods of conduction and convection. Because of the use of fan burners, turbulators are instaled into flue pipes which maximases the heat exchange between the flue gases and water and increases the boiler efficiency. Construction of the boiles is such that provides free dilatations of fire tube and flue pipes which as a result has that these boiler can easily stand the sudden heat regime changes. Boiler body is well insulated with mineral wool and boiler sheeting is protected with painting or powder coating processes.

Boiler is ment for production of saturated steam with maximum allowed work pressure of 0,5bar. On buyer demand water level indicator conection and water level limiter connection can be either on the right or on the left side of the boiler. Regulation of air flow needed for combustion is done through the boiler automatic controler. Protection of boiler from increased pressure is done by installing the safety valve on the appropriate place on the boiler.



Boiler	Boiler power kW	Steam production kg/h	CONNECTION DIMENSIONS					BOILER DIMENSIONS (mm)								
			R1	R2	R3	R4	R5	R6/R7	A1	A	B1	B	C	D	E	F
Šukomax 8 NP	70-80	100-115	3/8"	1/2"	DN25 NP6	DN65 NP6	DN50 NP16	DN20 NP25	765	840	1020	1170	1550	200	510	80
Šukomax 12 NP	80-120	115-173	3/8"	1/2"	DN25 NP6	DN80 NP6	DN50 NP16	DN20 NP25	765	840	1180	1350	1550	200	510	80
Šukomax 18 NP	120-170	173-245	3/8"	1/2"	DN40 NP6	DN80 NP6	DN65 NP16	DN20 NP25	875	950	1430	1600	1580	220	510	80
Šukomax 25 NP	170-245	245-353	3/8"	1/2"	DN40 NP6	DN100 NP6	DN65 NP16	DN20 NP25	875	950	1660	1850	1620	250	510	80
Šukomax 35 NP	245-350	353-504	3/8"	1/2"	DN50 NP6	DN100 NP6	DN65 NP16	DN20 NP25	1030	1105	1580	1960	1650	250	780	130
Šukomax 45 NP	350-465	504-670	3/8"	1/2"	DN50 NP6	DN125 NP6	DN80 NP16	DN20 NP25	1050	1025	1645	2035	1650	250	650	150
Šukomax 60 NP	465-580	670-835	3/8"	1/2"	DN50 NP6	DN125 NP6	DN80 NP16	DN20 NP25	1060	1035	1780	2190	1780	300	700	150
Šukomax 70 NP	580-700	835-1008	3/8"	1/2"	DN50 NP6	DN125 NP6	DN80 NP16	DN20 NP25	1150	1225	1980	2380	1780	350	750	150
Šukomax 100 NP	700-930	1008-1340	3/8"	1/2"	DN50 NP6	DN150 NP6	DN100 NP16	DN20 NP25	1260	1235	2200	2630	2000	350	830	150
Šukomax 115 NP	930-1150	1340-1655	3/8"	1/2"	DN50 NP6	DN150 NP6	DN100 NP16	DN20 NP25	1390	1465	2505	2935	2200	400	880	100
Šukomax 140 NP	1150-1400	1655-2015	3/8"	1/2"	DN50 NP6	DN200 NP6	DN125 NP16	DN20 NP25	1420	1495	2815	3290	2320	450	1000	100
Šukomax 160 NP	1250-1600	1800-2305	3/8"	1/2"	DN50 NP6	DN200 NP6	DN125 NP16	DN20 NP25	1520	1595	2950	3420	2450	550	1150	180
Šukomax 200 NP	1800-2300	2592-3312	3/8"	1/2"	DN50 NP6	DN250 NP6	DN150 NP16	DN20 NP25	1750	1825	3790	4590	2500	650	1250	130
Šukomax 300 NP	2700-3600	3888-5185	3/8"	1/2"	DN50 NP6	DN250 NP6	DN150 NP16	DN20 NP25	2000	2075	3650	4300	2500	670	1550	180

\*The manufacturer reserves the right to change the dimensions

Boiler	Water content (l)	Necessary draft (Pa)	Work pressure (bar)	Boiler weight (kg)
Šukomax 8 NP	183	55	0,5	400
Šukomax 12 NP	207	88	0,5	500
Šukomax 18 NP	300	120	0,5	700
Šukomax 25 NP	420	220	0,5	800
Šukomax 35 NP	510	220	0,5	1050
Šukomax 45 NP	750	230	0,5	1200
Šukomax 60 NP	825	290	0,5	1550
Šukomax 70 NP	960	350	0,5	2000
Šukomax 100 NP	1340	400	0,5	2500
Šukomax 115 NP	1860	420	0,5	2800
Šukomax 140 NP	2145	440	0,5	3400
Šukomax 160 NP	2775	470	0,5	4500
Šukomax 200 NP	3360	480	0,5	5300
Šukomax 300 NP	5835	550	0,5	7800

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# PRIMULA V 100-750 kW



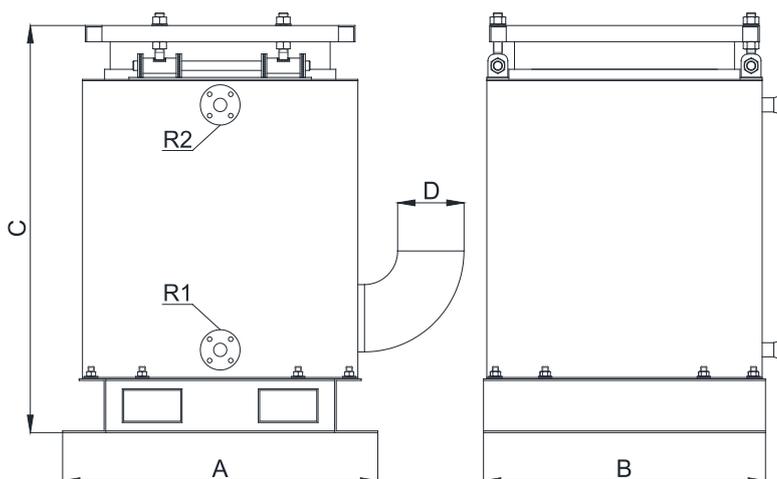
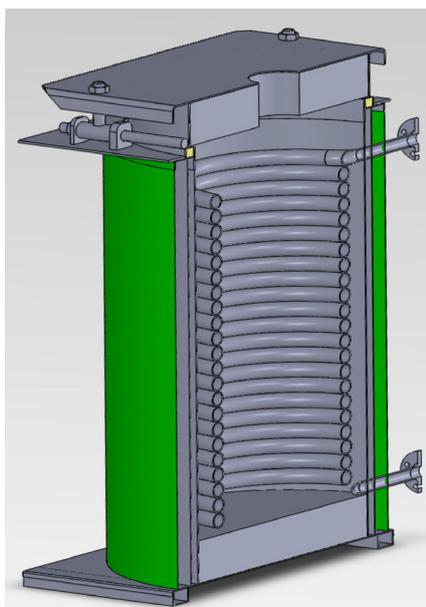
Hot oil boilers type Primula V with power range 100-750kW are ment to use in instalations that require high temperatures up to 320°C such as:

- chemical industy for maintaining high temperature processes
- production of plastic masses, varnish and acids
- oil rafineries
- process technique, drying, cooking, destilation
- technology process such as gluing, vulkanisation etc...

Boiler is constructed from pipes, though which hot oil circulates, bent in a spiral (it can be spiral in one, two or three rows) while combustion fumes pass in several occations by the pipe and maximise heat exchange. Boilers are consturcted for combustion of solid, liquid and gas fuel coupled with pelet, wood chips. oil or gas fan burners. Based on the type of burner being used and buyer demand, an adequate opening for the burner is left on the boiler.

Regulation of air flow needed for combustion is done through the burner and boiler automatic controler.

Protection of boiler from increased pressure is done by installing two contact manometer in the special boiler measurement place while protection of the boiler from increased temperatures is done by installing the two contact safety thermometers.

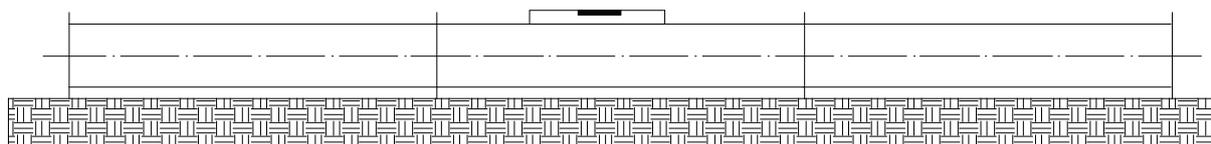


Boiler	Boiler power kW	Oil content (l)	Tmax (°C)	ΔTmax (°C)	Vmin (m3/h)	Δp (Pa)	CONNECTION DIMENSIONS		BOILER DIMENSIONS (mm)			
							R1	R2	A	B	C	D
<b>Primula V 10</b>	100	240	320	47	4,8	125	DN40 NP6	DN40 NP6	1010	760	1100	230
<b>Primula V 15</b>	150	300	320	50	5,3	140	DN40 NP6	DN40 NP6	1380	1130	1200	280
<b>Primula V 25</b>	250	420	320	48	9,2	165	DN50 NP6	DN50 NP6	1550	1300	1480	330
<b>Primula V 35</b>	350	640	320	50	12,2	180	DN65 NP6	DN65 NP6	1600	1350	1860	370
<b>Primula V 55</b>	500	850	320	50	17,5	215	DN80 NP6	DN80 NP6	1670	1420	1900	420
<b>Primula V 75</b>	750	1050	320	53	24,4	230	DN100 NP6	DN100 NP6	1750	1500	2340	470

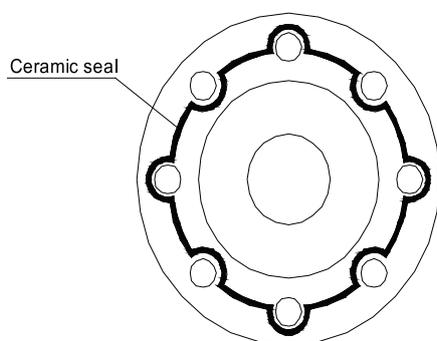
\*The manufacturer reserves the right to change the dimensions

# DIMNJACI

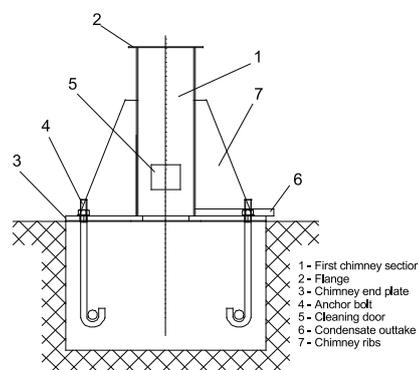
Chimneys that we manufacture on order are the most important part of every boiler room. From well chosen and constructed chimney depends the quality of combustion and of course the quality of heating. Chimney are manufactured in wide range and cover all the needs starting from residential up to large industrial chimneys with hight up to 24 meters. Chimneys are depending on size done in one piece or in sections, free standing or anchored chimneys, with or without protective cap, insulated or double chimneys with steel spiral. Chimneys have an opening for cleaning and inspection as well as condensate drainge pipe. If chimneys need to be anchored, there are 3 anchoring places on the chimney positioned at 120° from each other at the needed chimney height. If the chimney is for industrial use it is equiped with ladders for chimney inspection. Chimneys are insulated in two ways. First way is light thermoinsulating material insulation and coverage with aluminium sheet metal. Second way is done for larger chimneys and includes thermoinsulation in amount od 100mm and coverage with sheet metal of 3mm thickness. This coverage with sheet metal of larger thickness allows the installing od steel spiral at the upper 2/3 height of the chimney. This steel spiral allows easier air flow around the chimney (Carno vortex street effect) and much smaller stress on the chimney and on the anchors.



Chimney segment connection in horisontal position using level



Connection of two chimney segments using ceramical seal



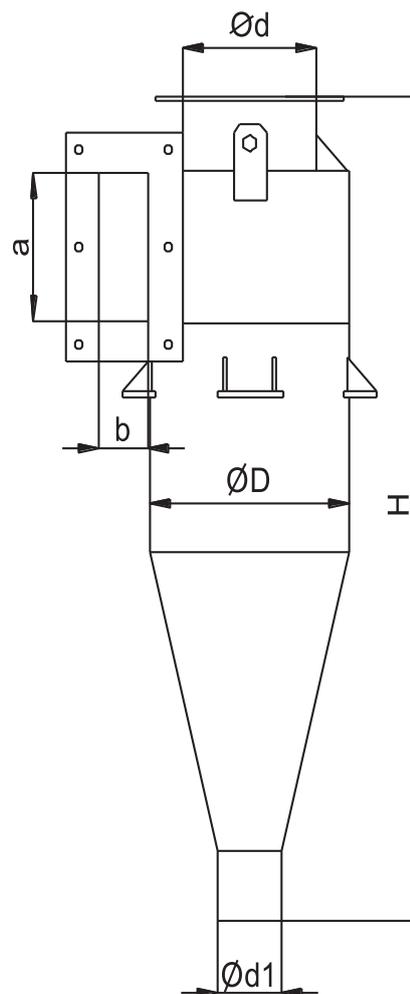
Chimney installing

# CIKLONI FAMILIJE ŠC-100



Cyclones from the ŠC-100 family belong to the group of cyclones with high degree of mechanical filtering. Their main feature is that they keep the same degree of purification in the whole area, between the minimal and maximal recommended flow rate. Degree of purification depends on the particle size and density. On buyer demand cyclones are manufactured as left or right while exit from the cyclone can be into the free atmosphere, into the collection bin and at an 90° angle. They are used in mechanical particle separation installations and in heating installations where they are connected to the exit flue pipe of the boiler. Pressure drop in the cyclones is between 700-1000 Pa depending on the cyclone capacity and the fluid entrance speed. When there are higher demands of mechanical separation in question we recommend using several smaller cyclones combined into one unit instead of using just one bigger cyclone. Separated particles are collected at the bottom of cyclone from where they can be periodically cleaned either manually or automatically via screw conveyor. On buyer demand cyclones are delivered with complete holding and placing construction that is adapted to the best buyer needs.

CYCLONE	CAPACITY (m <sup>3</sup> /h)	ØD	H	Ød	Ød1	a	b
ŠC - 101	834-1000	300	1074	180	90	198	78
ŠC - 102	1100-1362	350	1310	210	105	231	91
ŠC - 103	1470-1780	400	1560	240	120	264	104
ŠC - 104	1875-2252	450	1827	270	135	297	117
ŠC - 105	2316-2780	500	2117	300	150	330	130
ŠC - 106	2803-3363	550	2413	330	165	363	143
ŠC - 107	3336-4000	600	2644	360	180	396	156
ŠC - 108	3915-4700	650	2854	390	195	429	169
ŠC - 109	4540-5450	700	3034	420	210	462	182
ŠC - 110	5212-6253	750	3228	450	225	495	195
ŠC - 111	5930-7120	800	3688	480	240	528	208
ŠC - 112	6696-8000	850	4018	510	255	561	221
ŠC - 113	7345-8984	900	4330	540	270	594	234
ŠC - 114	8359-10031	950	4711	570	285	627	247
ŠC - 115	9266-11120	1000	5106	600	300	660	260
ŠC - 116	10165-12250	1050	5592	630	315	693	273



# FANS

## TRANSPORT RADIAL FAN TYPE TRV 40-90

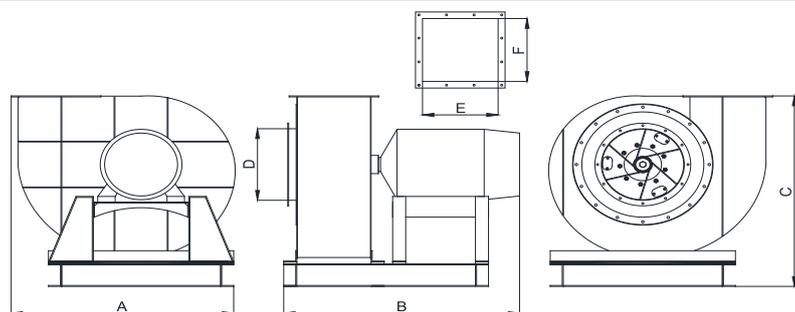
Transport radial fans type TRV 40-90 are ment for exploitation in heavy duty systems of particle extracting and systems of pneumatic transport. They are manufactured for flow rate of 750-36000 m<sup>3</sup>/h and for fluid flow resistance up to 2800 Pa. With special fan construction it is possible to meet even different parameters. Their construction is compact, robust with the fan rotor with 6 radial blades. This excludes the possibility for the fan of being „choked“ with the material that is transported. When choosing the fan it is needed to know which material is transported, in which amount and with what flow resistance. Based on these buyer demands, Šukom engineering team will choose the right transport fan that meets all the buyer needs. On buyer demand fans can be manufactured in all intake / outtake positions.

Fan	FAN DIMENSIONS					FAN CHARACTERISTICS at n=1400 RPM				Weight (kg)
	A	B	C	D	ExF	Qmin (m <sup>3</sup> /s)	Pmax (Pa)	Qmax (m <sup>3</sup> /s)	Pmin (Pa)	
TRV 41	715	650	620	265	235x235	0,21	520	0,8	420	75
TRV 56	1000	800	865	375	335x335	0,65	1150	2,5	800	185
TRV 63	1125	880	970	425	375x375	0,92	1400	3,6	1000	235
TRV 71	1270	950	1095	475	425x425	1,2	1700	4,8	1250	290
TRV 80	1430	1050	1230	530	475x475	1,85	2200	6,3	1600	390
TRV 90	1650	1150	1385	600	530x530	2,6	2800	10	2000	520

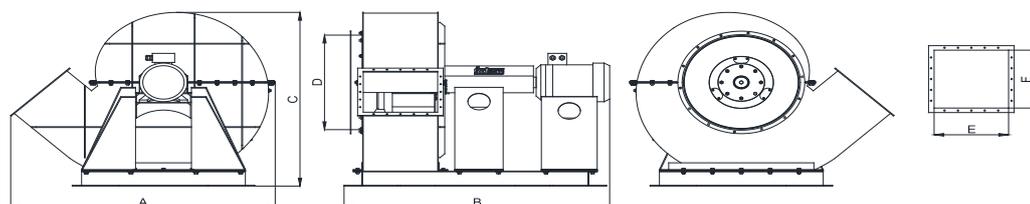


MEDIUM PRESSURE RADIAL FAN TYPE  
SRV 27-90

Medium pressure radial fans type SRV 27-90 are ment for exploitation in heavy duty systems with increased pressure drops. They are manufactured for flow rate of 165-16200 m<sup>3</sup>/h and for fluid flow resistance up to 3000 Pa. With special fan construction it is possible to meet even different parameters. Their construction is compact, robust with the fan rotor with 16 backward curved blades. Fans can work permanently with fluids with temperature up to 80°C. For fluid temperatures between 80-350 °C fans must be equipped with the special cooling fan. When choosing the fan it is needed to know flow rate of the fluid in question and what is the flow resistance of the fluid. Based on these buyer demands, Šukom engineering team will choose the right fan that meets all the buyer needs. On buyer demand fans can be manufactured in all intake / outtake positions.



Fan	FAN DIMENSIONS					FAN CHARACTERISTICS at n=1400 RPM				Weight (kg)
	A	B	C	D	ExF	Qmin (m <sup>3</sup> /s)	Pmax (Pa)	Qmax (m <sup>3</sup> /s)	Pmin (Pa)	
SRV 27	460	415	420	210	120x142	0,045	310	0,125	150	27
SRV 32	585	595	605	310	140x156	0,065	375	0,19	180	32
SRV 40	985	830	835	390	245x252	0,125	600	0,37	300	46
SRV 50	1210	1315	1015	500	309x315	0,25	900	0,75	480	110
SRV 63	1425	1430	1155	620	385x400	0,51	1500	1,4	750	167
SRV 71	1540	1570	1305	650	450x520	0,75	1900	2,1	900	215
SRV 80	1670	1750	1515	750	500x650	1,05	2400	3	1200	275
SRV 90	1820	1890	1630	800	620x700	1,5	3000	4,5	1500	340

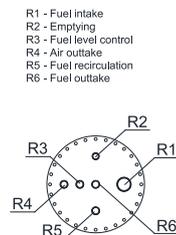
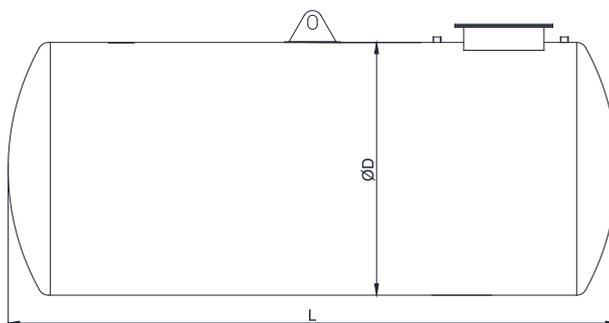
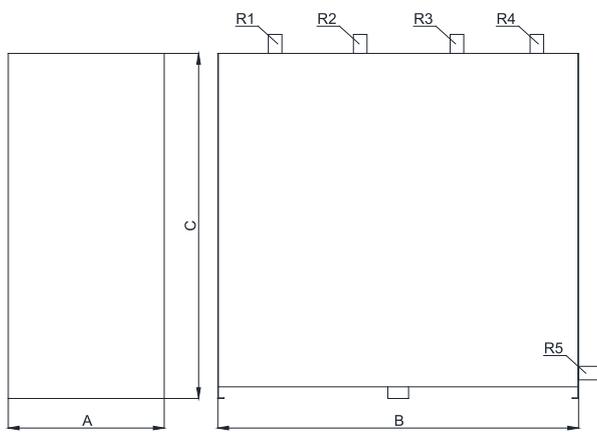


# TANKS (UNDERGROUND AND OVER)



Overground standing steel tanks are ment for storage of ligft oil and are manufactured in capacity of 1-3m3. They are manufactured from steel S235JR2 and welded together with advanced welding procedures. Their construction is done as such that they can endure the over pressure of 0,5 bar. Tanks are tested for leaks at the manufacturers test station. Tanks are protected from corosion effect as well as from static electricity.

Underground double wall tanks are ment for storage of oil derivatives and are manufactured in the capacity of 5-100m3. Tanks are hydro insulated and equipped with the grounding connection to prevent static electricity. Depending of the fuel stored in the tanks, tanks can be equipped with floor heater for anti icing of fuel and with savings heater from reheating the fuel in use. They are manufactured based on current standards in use from steel S235JR2 while the testing for leaks is at the manufacturers test station. Inner tank is tested for leaks with water pressure, while the space between the inner and outer tank is tested with compressed air.



R1 - Fuel level measure  
R3 - Fuel intake  
R5 - Emptying

R2 - Fuel outtake  
R4 - Air outtake

TYPE	V (m3)	A (mm)	B (mm)	C (mm)	Weight (kg)	TANK CONNECTIONS				
						R1	R2	R3	R4	R5
ŠNC 1	1	750	1740	935	150	6/4"	6/4"	2"	5/4"	1/2"
ŠNC 2	1,5	750	1740	1385	185	6/4"	6/4"	2"	5/4"	1/2"
ŠNC 3	2	750	1740	1835	235	6/4"	6/4"	2"	5/4"	1/2"
ŠNC 4	2,5	750	1740	2285	260	6/4"	6/4"	2"	5/4"	1/2"
ŠNC 5	3	750	1740	2735	305	6/4"	6/4"	2"	5/4"	1/2"

\*The manufacturer reserves the right to change the dimensions

TYPE	V (m3)	ØD (mm)	L (mm)	Weight (kg)	TANK CONNECTIONS NP6					
					R1	R2	R3	R4	R5	R6
ŠPC 1	5	1600	2820	790	DN80	DN32	DN32	DN40	DN40	DN40
ŠPC 2	7	1600	3740	980	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 3	10	1600	5350	1300	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 4	13	1600	6960	1600	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 5	16	1600	8570	1900	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 6	20	2000	6960	2450	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 7	25	2000	8540	2900	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 8	30	2000	10120	3450	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 9	40	2500	8800	4450	DN80	DN32	DN32	DN50	DN40	DN40
ŠPC 10	50	2500	10800	5350	DN80	DN32	DN32	DN65	DN40	DN40
ŠPC 11	60	2500	12800	6350	DN80	DN32	DN32	DN65	DN40	DN40
ŠPC 12	80	2900	12750	9550	DN80	DN32	DN32	DN65	DN40	DN40
ŠPC 13	100	2900	15960	11600	DN80	DN32	DN32	DN65	DN40	DN40

\*The manufacturer reserves the right to change the dimensions

# SYSTEMS FOR BIOMASS FUEL DOSAGE



Hydraulic puller is used for floor extraction of biomass from the biomass silo to the line of screw conveyor transport. They are built as one or in pair depending on the biomass silo dimensions and also depending on the amount of biomass fuel needed to be transported. Due to this every system is built on buyer demand. Turning the puller on and off is done by automatic controller and via electromagnetic valves. Signal for starting and stopping is given by the fuel limiter controller on the fuel storage tank.

Hydraulic puller is installed on prepared base in the biomass silo. Their construction is complex steel construction moved back and forth by hydro cylinders with force of 500 kW.

Standard delivery includes puller construction, puller blades, steel base holders and the system needed for the construction to be connected to the hydraulic cylinder. Blades on the puller are movable while, on the floor of the silo, stationary blades are fixed and used not to allow the return of biomass at the back stroke of the puller.

Transport screw conveyor for extracting the biomass from the silo is positioned at the end of the silo and under the floor level. Screw conveyor is constructed to extract wood chips with maximal granulation G30. Screw conveyor length and power depends on the silo size and amount of material transported.

On buyer demand we can produce screw conveyors that best meet your needs. With adequate diameter and spiral thickness and pitch. Spiral can have continuous or variable pitch. At the beginning of the spiral pitch is smaller and as it goes away pitch gets bigger. This prevents jamming of the transported material.



## Part of the Reference List

No.	Boiler type	Power (kW)	Pieces	User	Place
1	Šukoplam-100 Vent	90-120	3	Geysler	Kiev
2	Šukoplam-125 S	125	1	Made in Space	Budimpešta
3	Šukoplam-150	150	1	Industrija mesa Matijević	Novi Sad
4	Šukoplam-150 VP	150	1	Stiropak	Aleksinac
5	Šukoplam-200	200	1	Manastir Mileševa	Prijepolje
6	Šukoplam-200 Bio Rest	200	1	Autentic	Gruža
7	Šukoplam-250	250	2	As Comex	Bukurešt
8	Šukoplam-250	250	3	Euro Zigi Term	Ulan Bator
9	Šukoplam-300	300	2	Mlekara Beni Komerc	Sjenica
10	Šukoplam-350	350	1	Darex	Beograd
11	Šukoplam-350 P	350	1	Herba Farm	Radoviš
12	Šukoplam-350 Vent S	315-420	1	Kogast	Grosuplje
13	Šukoplam-350 P	350	1	Ditozo	Ohrid
14	Šukoplam-400	400	2	Eko Natura Plus	Maribor
15	Šukoplam-400	400	1	Ejona	Peć
16	Šukoplam-400 P	400	1	Impol Seval	Sevojno
17	Šukoplam-500	500	1	Deni Mil	Kočani
18	Šukoplam-500	500	1	Farma pilića	Bijelo Polje
19	Šukoplam-550	550	1	Carlato	Nova Bila
20	Šukoplam-550	550	2	Forma Ideale	Majdanpek
21	Šukoplam-550 Vent	500-660	2	Osnovna škola	Svrljig
22	Šukoplam-550 Vent	500-660	2	Mlekara Valeta	Kotražica
23	Šukoplam-750 Vent S	675-900	1	Artim	Grosuplje
24	Šukoplam-750 VP	750	1	Mondi Lamex	Vrdila
25	Šukoplam-750 VPR	750	1	Parketara Hrast	Čukljevik
26	Šukoplam-750 Vent	675-900	4	Volkswagen	Sarajevo
27	Šukoplam-750 Vent	675-900	1	Obed Invest	Obrež
28	Šukoplam-750 Vent	675-900	1	Mlekara Lazar	Blace
29	Šukoplam-900 Vent S	810-1080	1	Domel	Škofija Loka
30	Šukoplam-1000 postr.	1000	1	Protektor Bandag-Katalinić	Gerovo
31	Šukoplam-1000 postr.	1000	1	Jela Universal	Ivanjica
32	Šukoplam-1000 Vent S	900-1150	1	Brinox	Medvode
33	Šukoplam-1250 SL	1250	1	Termometal (staklenik)	Nikšić
34	Šukoplam-1500 Mega	1500	1	Rudnik boksita	Milići
35	Šukoplam-1500 Energy	1500	2	Falc East	Knjaževac
36	Šukoplam-1500 Energy	1500	1	Clean Energy	Malme
37	Šukoplam-1500 postr.	1500	1	Grada prevoz	Sirač
38	Šukoplam-2000 Energy	2000	1	Clean Energy	Malme
39	Šukoplam-3000 Energy	3000	1	Clean Energy	Malme
40	Šukomax-60 P	580	1	Makovica	Mladenovac
41	Šukomax-70 P	600-750	1	Bio-Šamp	Tešanj
42	Šukomax-100 P	700-930	1	Žitopromet	Zaječar
43	Šukomax-115	930-1150	1	Mlekara Gložane	Gložane
44	Šukomax-200	1800-2300	1	BN BOS Company	Zemun
45	Šukomax-300	2800-3600	1	PGP Kolašin	Zubin Potok
46	Šukomax-400	3600-5000	1	JP Novi Dom	Vranje