THE WOOD GASIFYING BOILER
ATTACK® SLX, DPX, DP
STANDARD / PROFI / LAMBDA TOUCH / COMBI PELLET

WWW.ATTACK.SK

ABOUT THE COMPANY ATTACK

ABOUT THE COMPANY ATTACK, S.R.O.

- *The largest Slovak producer of heat technology with purely Slovak capital and sole owner*
- *Satisfied customers in more than 49 countries of the world*
- *Wide assortment of products*
- *44 sale points in Slovak republic*
- *709 service points in Slovak republic*
- *3 centres of development and research in Slovak republic*
- *More than 150 employees (SK, CZ, HU)*
- *The ATTACK, s.r.o. company is holder of the quality certificate ISO 9001 for boiler manufacturing, service and management*

PRODUCT PORTFOLIO

The product portfolio of the ATTACK, s.r.o. company is characterized by wide assortment of the ATTACK® products, classified by concrete product type, output and kind of fuel.

- *wood*
- *natural gas / LPG-propane*
- *solar technique*
- *accumulation tanks*
- *wood pellets, resp. biomass*
- *electrical energy*
- *D.H.W. tanks*
- *radiators*

In this moment has the ATTACK, s.r.o. company the widest product portfolio in comparison with the competitors.

AWARDS

The ATTACK, s.r.o. company struggles to make every product to be among the best in its class. Almost all our product groups have achieved plenty of awards at domestic and international exhibitions, given by the committee of specialists.

CERTIFICATES

The ATTACK, s.r.o. company is holder of the quality certificate ISO 9001 for:

- *boiler design and development*
- *boiler manufacturing*
- *service of boiler and appliances*

All the ATTACK® articles are quality premium products made by the latest technology and they are approved and tested for the CE, TÜV, and GOST certificates, granted by world prestigious test institutes.

ABOUT THE COMPANY ATTACK

RESEARCH AND DEVELOPMENT

The ATTACK, s.r.o. company has its own research and development centre. The company emphasizes development of sophisticated and innovative products of high quality, competitive on the European as well as on the world markets.

All the ATTACK® products are designed and developed in conformity with appropriate norms, specifications, juridical and other prescriptions.

Suitable components are selected under the strictest criteria. Only reliable and by long-time utilization approved components and materials from prestigious suppliers can be used for assembly of the ATTACK® boilers.

The ATTACK, s.r.o. does not cooperate in development with other producers, but struggles to be a step before the competition.

THE ATTACK PRODUCTION PLANT

Assembly of the floor standing and wall hung boilers

The ATTACK, s.r.o. manufactures their products in the own production halls. Production is divided into the manufacture of biomass boilers from cast iron and steel, wall hung gas boilers and floor standing cast iron boilers.

Production of the biomass boilers

The ATTACK, s.r.o. disposes with the latest and the most advanced technology for boiler production (robotized welding workstations, laser workstation, CNC workstation, etc.) which exceeds the actual European standard in many ways and markedly increases quality and service life of the final products.

Technology of the biomass boiler production

There are the highest requirements for the ATTACK® product quality. The boilers are made from the special boiler sheet metal.

WHY TO CHOOSE THE ATTACK TRADEMARK?

- *The company produced more than 500 000 pieces of products until now*
- *The latest production technologies used to manufacture the ATTACK® products*
- *Innovative solutions*
- *Excellent customer and emission values of the products*
- *Complete technical support*
- *Top products of the best quality, functionality and design*
- *Training organized for customers and partners anywhere in the world*
- *Wide assortment of products for biomass and gas and solar technique from one manufacturer*

EXPORT ACTIVITIES

Export activities of the ATTACK company have been developed in more than 49 countries of the world and this number is still increasing. Nowadays we export our products to all EU countries, Russia, USA, Canada, New Zealand, … The modern wood gasifying and pellet boilers have gained the biggest interest and they are demanded in Europe and in America as well. Our floor standing gas boilers represent us even in the far Siberia.

In different countries there is demand for different products. Personal approach to every customer helps us to fulfil particular requirements and to achieve more and more satisfied customers. The ATTACK, s.r.o. company is able to satisfy everyone thanks to the wide product offer.

Model Line 9000

ATTACK W&P

- **ATTACK WOOD&PELLET**

- **Output: wood 12,5–25 kW, pellets 9–30 kW**
- **Efficiency: wood 90,5 %, pellets 90,4 %**

Innovative combined boiler – 2 operating modes – maximum user comfort

Extraordinary feeding chamber of the boiler to ensure longer heating by one fuel load

Automatic clearning of turbulators and pellet chamber – the highest comfort

Optional dry coat around the whole feeding chamber – increased protection against creation of tar in the chamber

The pellet burner with fully automatic operation (i.e. ignition and extinguishing), automatic cleaning and error diagnostics

Automatic combustion of pellets and wood – one chimney

Stainless steel ATTACK burner – combustion chamber and grate are made from the quality stainless steel

Automatic grate cleaning, adjustable adequately to the quality of the pellets used

Option to connect various types of fuel feeders

Operation with wood is automatically switched to the operation with pellets – flexible fuel choice

Sophisticated electronics with the LAMBDA Touch 6 inch display – the most advanced technology of combustion process control used to achieve the excellent values of emissions and efficiency

User comfort, reliability of operation, easy use and maintenance

Multiple protection system

Reliable flame supervision

Possibility to load big wood logs saves time for chopping the wood into smaller pieces, it is only necessary to prepare the wood logs of 0,5 m

Option to start, watch, control and stop the boiler via internet or by Smartphone

Left and right door version

Cyclonic separator is delivered together with the boiler

Option to place the pellet tank next to the boiler or in the distance up to 10 m

Model Line 8000

ATTACK PELLET

- **ATTACK PELLET 30 AUTOMATIC Plus**

- **Output: 8–30 kW**
- **Efficiency: 90,6 %**

High efficient tubular exchanger equipped with spiral turbulators that ensure better heat transfer in the exchanger, higher boiler efficiency and cleaning of the exchanger

The pellet burner with fully automatic operation (i.e. ignition and extinguishing), automatic cleaning and error diagnostics

Automatic cleaning of the tubular exchanger

Automatic boiler operation ensuring high user comfort

Automatic ash removing into the detachable container

Automatic fuel supply

Stainless steel ATTACK burner – combustion chamber and grate are made from the quality stainless steel

Automatic grate cleaning, adjustable adequately to the quality of the pellets used

Option to connect various types of fuel feeders

Safety kits for protection against back burning, 4× protection against overheating – emergency, boiler, flue gas thermostat and after-cooling circuit

Option of additional heating by a coil with output up to 6 kW that can be also used as an antifreeze protection

Model Line 7000

ATTACK SLX

- **ATTACK SLX 20–55 PROFI**
- **ATTACK SLX 20–55 LAMBDA Touch**

- **Output: 20–55 kW**
- **Efficiency: 90,3–91,8 %**

High efficient tubular exchanger „flue gas-water" with movable turbulators

Extraordinary volume of the feeding chamber of 200–230 l to ensure longer heating by one fuel load

Optional dry coat placed around the whole feeding chamber – increased protection against creation of tar in the chamber

Adjustable fan rotations – the PROFI modification, version PID

Exhaust fan for balanced, effective combustion and dustless operation

Possibility to load big wood logs saves time for chopping the wood into smaller pieces, it is only necessary to prepare the wood logs of 0,5 m

Automatic control of the heat-up flap, connected with the feeding door

Option of the LAMBDA Touch version – the most advanced technology of the burning process control to achieve the excellent values of emissions and efficiency

Improved electronics with fluent PID regulation of fan rotations according to the flue gas temperature – the PROFI modification , version PID

Refractory shaped pieces, heat resistant up to 1 350 °C to ensure the best burning parameters and boiler life

MODEL STUCTURE OF THE ATTACK® BOILERS

THE NEW LINE OF THE ATTACK BOILERS FOE WOOD AND PELLETS

Model Line 6000

ATTACK DPX

- **ATTACK DPX 15–80 STANDARD**
- **ATTACK DPX 15–80 PROFI**
- **ATTACK DPX 15–45 LAMBDA**
- **ATTACK DPX 15–50 COMBI Pellet**

- **Output: 15–80 kW**
- **Efficiency: 86,5–91,3 %**

High efficient tubular exchanger „flue gas-water" with movable turbulators

Voluminous feeding chamber of the boiler ensures longer heating by one fuel load

Exchanger is cleaned by turbulators moved by lever; clean exchanger = high efficiency = lower operating costs, fuel saving

Improved electronics with fluent PID regulation of fan rotations according to the flue gas temperature – the PROFI modification , version PID

Adjustable fan rotations – the PROFI modification, version PID, LAMDA Touch

Flue gas fan for balanced and effective combustion and dustless operation

Possibility to load big wood logs (from 25 kW output) saves time for chopping the wood into smaller pieces, it is only necessary to prepare the wood logs of 0,5 m

Automatic control of the heat-up flap, connected with the feeding door

Option of the LAMBDA Touch version – the most advanced technology of the burning process control to achieve the excellent values of emissions and efficiency

Option to burn alternative fuel types like olive pits and crushed pits in the automatic burners with the output of 30 and 50 kW – the COMBI Pellet modification

Refractory shaped pieces, heat resistant up to 1350 °C to ensure the best burning parameters and boiler life

Model Line 5000

ATTACK DP

- **ATTACK DP 25–95 STANDARD**
- **ATTACK DP 25–95 PROFI**

- **Output: 15–95 kW**
- **Efficiency: 85,3–86,2 %**

Flat rib boiler heat exchanger

Voluminous feeding chamber of the boiler to ensure longer burning by one load

Customer comfort, reliability of operation, easy use and maintenance

Manufactured from special boiler steel of 6 mm thickness to ensure long life of the boiler

Adjustable rotations of fan – the PROFI modification - PID version

Exhaust fan for balanced, effective combustion and dustless operation

Possibility to load big wood logs saves time for chopping the wood into smaller pieces, it is only necessary to prepare the wood logs of 0,5 m

Left door and right door version

Refractory shaped pieces, heat resistant up to 1 350 °C to ensure the best burning parameters and boiler life

Model Line 3000

ATTACK FD AUTOMAT PELLET, BIOHEAT

- **ATTACK FD 25 Automat**
- **ATTACK FD 20–42 PELLET**
- **ATTACK FD 20–42 BIOHEAT**

- **Output: 24,2 kW FD Automat**
  8–30 kW FD PELLET
  6–25 kW FD BIOHEAT
- **Efficiency: 90,71 % FD Automat**
  88 % FD PELLET
  87 % FD BIOHEAT

Fully automatic burner operation (ver. PELLET)

Compact design, easy control, information on LCD display

Boiler efficiency by nominal output of 88 % (ver. PELLET)

Automatic grate cleaning, adjustable according to the quality of the pellets used (ver. PELLET)

Automatic start – ignition and termination of the burning process

Precise measuring of the flame intensity by photocell

Possibility to set the output within the range of 8–30 kW

Burner operation controlled by the room thermostat or thermal probe

Possibility to adjust combustion according to the fuel used

Quality stainless steel of the combustion chamber and burner grate

Safety kits for protection against back burning, 4× protection against overheating – the emergency, boiler, flue gas thermostat and after-cooling circuit

Multilingual menu, option to set wide range of parameters

Indication of the operating states

Error diagnostics

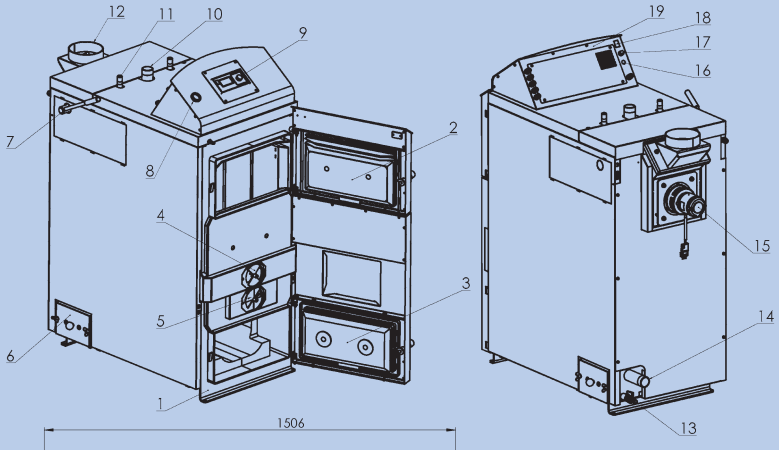
THE WOOD GASIFYING BOILER

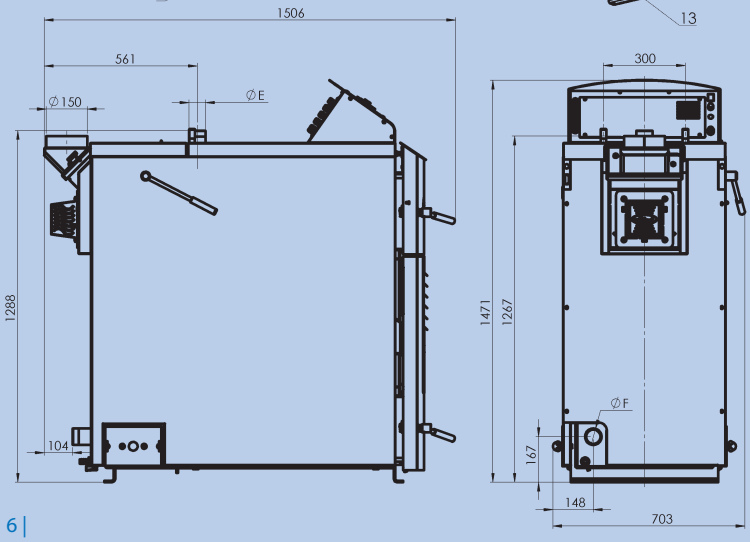
The wood gasifying boilers **ATTACK SLX** in the versions **PROFI** and **LAMBDA Touch** are intended for economical and ecological heating of dwelling houses, cottages, small plants, work rooms and similar objects. Prescribed fuels for **ATTACK SLX** boilers are dry wood and pellets. By full utilization of the feeding chamber there is possibility of the continual burning for 8–12 hours.

BOILER ADVANTAGES

- *Modern and innovative boiler design of ecological boiler*
- *High efficient tubular exchanger "flue gas-water" with turbulators*
- *Boiler efficiency of 90,3–91,8 %*
- *Wide output range of 20–55 kW*
- *2 modifications – PROFI and LAMBDA Touch*
- *High combustion efficiency of 91 % ensured by the tubular heat exchanger with movable turbulators*
- *Long time approved construction, thousands of the satisfied customers*
- *Heat exchanger cleaning by turbulators, by moving the lever, clean exchanger = high efficiency = lower operating costs, fuel saving*
- *The volume of the boiler´s feeding chamber is unique: 200–230 l and ensures longer burning on one fuel load*
- *Option of the dry coat placed around the whole feeding chamber – increased protection against tar creation*
- *Burns soft and hard wood and wood briquettes*
- *Possibility to load big wood logs – length of the feeding chamber is 580 mm (by 25 kW and higher outputs) and enables to load the wood logs of half-meter, which saves time by chopping the wood*
- *Minimum of ash*
- *Better burning and lower fuel consumption*
- *Excellent emissions and efficiency*
- *Fixed position of the lever for easier cleaning*
- *User comfort, reliability of operation, easy use and maintenance*
- *Manufactured from the special boiler steel of 6 mm to ensure long life-time*
- *Suction fan for balanced and effective burning and dustless operation*
- *Automatic regulation of the heat-up flap, which is connected with the door of the feeding chamber*
- *Fluently modulated fan rotations*
- *Option of the LAMBDA touch modification – the most advanced technology for the burning process regulation, which ensures the excellent values of emissions and efficiency*
- *Left and right door version*
- *Automatic boiler stop after the fuel burns-out*
- *Equipped with aftercooling circuit against overheating of boiler in the water*
- *Refractory pieces are resistant up to the temperature of 1 350 °C, which ensure better parameters of burning*
- *The boiler fulfils criteria of the highest class under the European norm EN303-5*

DESCRIPTION AND DIMENSIONS OF THE BOILER ATTACK SLX





KEY:

1. Boiler body
2. Feeding door
3. Door of the combustion chamber
4. Primary air suction
5. Secondary air suction
6. Cover of the cleaning opening
7. Lever of turbulators
8. Thermo-manometer
9. Boiler thermostat
10. C.H. flow connection
11. Aftercooling circuit
12. Rotatable Chimney
13. Drain valve
14. C.H. return connection
15. Suction fan
16. Electrical fuse
17. Reset of emergency thermostat
18. Main switch of lambda
19. Control panel

TECHNICAL PARAMETERS

Parameter / Boiler Type		SLX20	SLX25	SLX30	SLX35	SLX40	SLX45	SLX50	SLX55
Nominal output	kW	20	25	30	35	40	45	50	55
Output range	kW	10–20	12,5–25	15–30	17,5–35	20–40	22,5–45	25–50	27,5–55
Heat exchange area	m^2	2,95				3,32			
Volume of feeding chamber	dm^3	200				230			
Dimension of feeding chamber	mm	235 × 445							
Prescribed chimney draught	Pa	23							
Prescribed chimney draught	mbar	0,23							
Max. operating overpressure	kPa	250							
Pressure loss of water (ΔT 10K)	kPa	1,9	2,1	2,4	2,7	3,9	4,5	5,2	6,1
Pressure loss of water (ΔT 20K)	kPa	0,8	0,9	1,2	1,6	1,9	2,1	2,4	3,2
Boiler weight	kg	570				650			
Diameter of flue gas connection	mm	150							
Boiler height	mm	1 472							
Boiler width	mm	703							
Boiler depth	mm	1 337				1 506			
Length of the feeding chamber „D“	mm	690				790			
Diameter of the flow connection	"	G 6/4"				G 2"			
Diameter of the return connection	"	G 6/4"				G 2"			
Grade of protection	IP	21							
Electrical power consumption at nominal output	W	42				78			
Electrical power consumption at minimum output	W	31				52			
Electrical power consumption in standby mode	W	< 15							
Boiler efficiency	%	91,8	91,6	90,3	90,3	90,4	90,4	90,3	90,3
Boiler class by CO (under the norm EN 303-5)	—	5							
Flue gas temperature by nominal output	°C	165	170	175	180	165	170	170	180
Flue gas temperature by minimal output	°C	130	135	140	145	135	140	140	145
Flue gas flow by nominal output	kg/s	0,018	0,020	0,021	0,023	0,027	0,029	0,031	0,033
Flue gas flow by minimal output	kg/s	0,008	0,011	0,014	0,016	0,017	0,021	0,022	0,023
Max. noise level	dB	65							
Fuel class and type	—	A, wood logs with relative humidity of 12 % – max. 20 %, ∅ 50–150 mm							
Average fuel consumption	kg/h	5,2	6,5	7,8	9,1	10,4	11,7	13	14,3
Approximate wood consumption	—	1 kW = 1 m^3							
Max. length of wood logs	mm	650				750			
Burning time at nominal output *	h	8	7,2	6,5	5,8	6	5,1	4,6	4
Volume of water in the boiler	l	117				136			
Recommended volume of the accumulation tank	l	1500	2000	2200	2500	3 000	3 200	3 500	4 000
Connection voltage	V/Hz	~230/50							
Range to set the heating water temperature	°C	65 ÷ 85							
Capacity of the contacts of the boiler regulator PROFI	—	2 A/ ~230 V							

** Depending on the type of fuel and filling perfection of feeding chamber*

ATTACK DPX

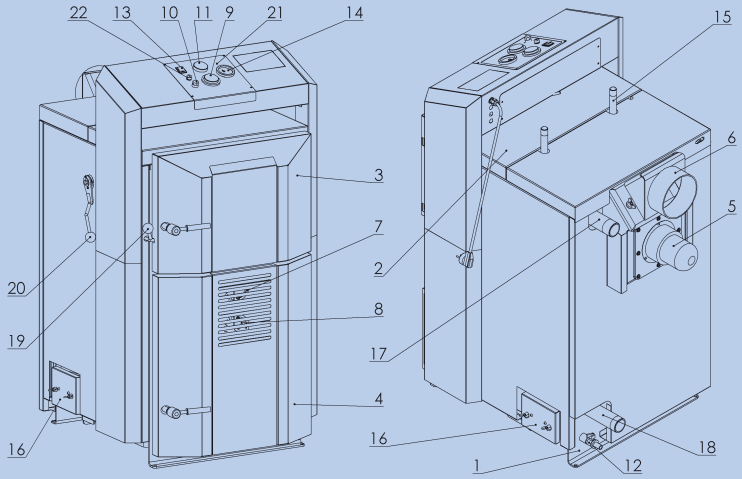
THE WOOD GASIFYING BOILER

The wood gasifying boilers **ATTACK DPX** in the versions **STANDARD, PROFI**, **LAMBDA** and **COMBI Pellet** are intended for economical and ecological heating of dwelling houses, cottages, small plants, work rooms and similar objects. Prescribed fuels for **the ATTACK DPX boilers** are dry wood and pellets. By full utilization of the feeding chamber there is possibility of the continual burning for 8–12 hours.

BOILER ADVANTAGES

- *Modern and innovative boiler design*
- *High efficient tubular exchanger "flue gas-water" with turbulators*
- *Long time approved construction, thousands of the satisfied customers*
- *Boiler efficiency of 86,5–91,3 %*
- *Wide output range of 15–80 kW*
- *4 modifications – STANDARD, PROFI, LAMBDA and COMBI Pellet*
- *High combustion efficiency of 91 % ensured by the tubular heat exchanger with movable turbulators*
- *Extraordinary voluminous feeding chamber of the boiler, which ensures longer burning by one fuel load*
- *Burns soft and hard wood and wood briquettes*
- *Possibility to load big wood logs – length of the feeding chamber is 580 mm (by 25 kW and higher outputs) and enables to load the wood logs of half-meter, which saves time by chopping the wood*
- *Minimum of ash*
- *User comfort, reliability of operation, easy use and maintenance*
- *Suction fan for balanced and effective burning and dustless operation*
- *Automatic regulation of the heat-up flap, which is connected with the door of the feeding chamber*
- *Fluently modulated fan rotations (modification PROFI, LAMBDA)*
- *Automatic boiler stop when fuel burns out*
- *Option of the LAMBDA modification – the most advanced technology for the burning process regulation, which ensures the excellent values of emissions and efficiency*
- *Left and right door version*
- *Possibility to burn alternative fuel types like olive pits and pit crumb in the automatic burners with of 30 and 50 kW output – the COMBI Pellet modification*
- *Equipped with aftercooling circuit against overheating of boiler in the water*
- *Refractory pieces are resistant up to the temperature of 1 350 °C, which ensure better parameters of burning*
- *The boiler fulfils criteria of the highest class under the European norm EN303-5*
- *Attention: The Attack DPX 15 boiler is not equipped with turbulators and it has to be cleaned by the tools delivered.*

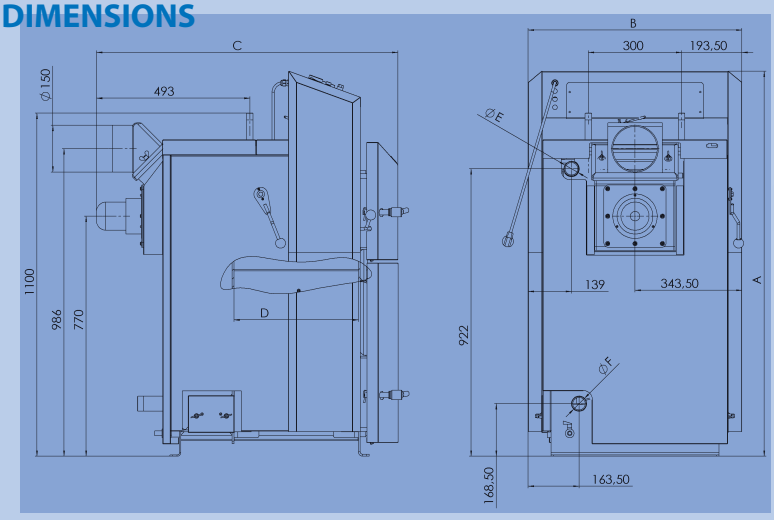
DESCRIPTION OF THE BOILER ATTACK DPX



KEY:

1. Boiler body
2. Front upper cover
3. Feeding door
4. Door of the combustion chamber
5. Suction fan
6. Chimney
7. Primary air suction
8. Secondary air suction
9. Boiler thermostat
10. Reset of emergency thermostat
11. Flue gas thermostat
12. Inlet valve
13. Main switch
14. Thermo-manometer
15. Aftercooling circuit
16. Cover of the cleaning opening
17. C.H. flow connection
18. C.H. return connection
19. Pull rod of the chimney flap
20. Lever of turbulators
21. Control panels
22. Electrical fuse

DIMENSIONS



TECHNICAL PARAMETERS

Parameter	Unit	DPX15	DPX25	DPX30	DPX35	DPX40	DPX45	DPX80
Nominal output (STANDARD version)	kW	15	25	30	35	40	45	80
Output range (PROFI, LAMBDA versions)	kW	7,5–15	12,5–25	15–30	17,5–35	20–40	22,5–45	32–80
Heat exchange area	m^2	1,98	2,52	2,78	2,78	3,03	3,03	5,6
Volume of feeding chamber	dm^3	82	125	158	158	190	190	440
Dimension of feeding door	mm	235×445	235×445	235×445	235×445	235×445	235×445	292×542
Prescribed chimney draught	Pa	23	23	23	23	23	23	35
Max. operating overpressure of water	kPa	250	250	250	250	250	250	250
Boiler weight	kg	370	430	460	460	490	490	800
Diameter of flue gas connection	mm	150	150	150	150	150	150	200
Boiler height „A“	mm	1 240	1 240	1 240	1 240	1 240	1 240	1 575
Boiler width „B“	mm	700	700	700	700	700	700	915
Boiler depth „C“	mm	840	1 240	1 340	1 340	1 440	1 440	1 340
Length of feeding chamber „D“	mm	400	590	690	690	790	790	1 100
Diameter of flow connection	"	G ⅘"				G 2"		
Diameter of return connection	"	G ⅘"				G 2"		
Grade of protection	IP	21						
El. input	W	32	38	48	54	54	78	90
Boiler efficiency	%	91,3	90,4	90,1	90,1	90,2	90,2	86,5
Boiler class by CO (under the norm EN 303-5)	–	5						
Flue gas temperature by nominal output	°C	170	170	180	180	190	190	204
Flue gas flow by nominal output	kg/s	0,019	0,019	0,021	0,021	0,027	0,027	0,045
Max. noise level	dB	65						
Fuel type	–	Wood logs with relative humidity of 12 % – max. 20 %, ∅ 50–150 mm						
Average fuel consumption	kg/h	3,9	6,5	7,8	9,1	10,4	11,75	18,7
Approximate wood consumption per season	–	1 kW = 0,9 m^3						
Max. length of wood logs	mm	350	550	650	650	750	750	1 000
Volume of water in the boiler	l	80	100	110	110	128	128	250
Recommended volume of the accumulation tank	l	375	625	750	900	1 000	1 200	2 000
Connection voltage	V/Hz	~230/50						
Range to set the heating water temperature	°C	65–90						
Range to set the room temperature	°C	10–27						
Capacity of the contacts of the boiler regulator (PROFI version)	–	2 A/230 V						

THE WOOD GASIFYING BOILER **ATTACK DP**

The wood gasifying boiler **ATTACK DP** in modifications **STANDARD** and **PROFI** is intended for economical and ecological heating of the family houses, small plants, work stations and similar objects.

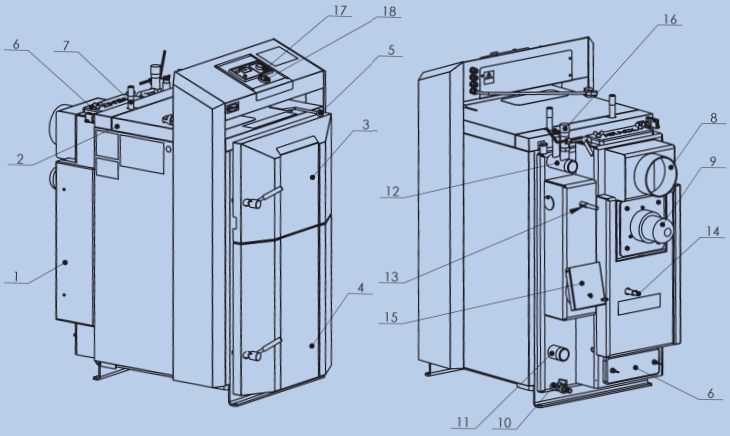
Dry wood and pellets are the prescribed fuel for the **ATTACK DP** boilers. By full utilization of the feeding chamber there is possibility of the continual burning for 8–12 hours.

BOILER ADVANTAGES

- *Modern and innovative design of the ecological boiler*
- *Flat rib heat exchanger*
- *Long time approved construction, thousands of the satisfied customers*
- *High combustion efficiency – low fuel consumption – low emissions*
- *Boiler efficiency of 85,3–86,2 %*
- *Wide output range of 25–95kW*
- *2 modifications – STANDARD and PROFI*
- *Burns soft and hard wood and wood pellets*

- *Extraordinary voluminous feeding chamber of the boiler, which ensures longer burning by one fuel load*
- *Possibility to load big wood logs - length of the feeding chamber is 580 mm (by 25 kW and higher outputs) and enables to load the wood logs of half-meter, which saves time by chopping the wood*
- *Minimum of ash*
- *User comfort, reliability of operation, easy use and maintenance*
- *Manufactured from the special boiler steel of 6 mm to ensure long life-time*
- *Suction fan for balanced and effective burning and dustless operation*
- *Automatic boiler stop when fuel burns out*
- *Controlled rotations o f the fan – the PROFI version*
- *Left and right door version*
- *Refractory pieces are resistant up to the temperature of 1 350 °C, which ensure better parameters of burning*

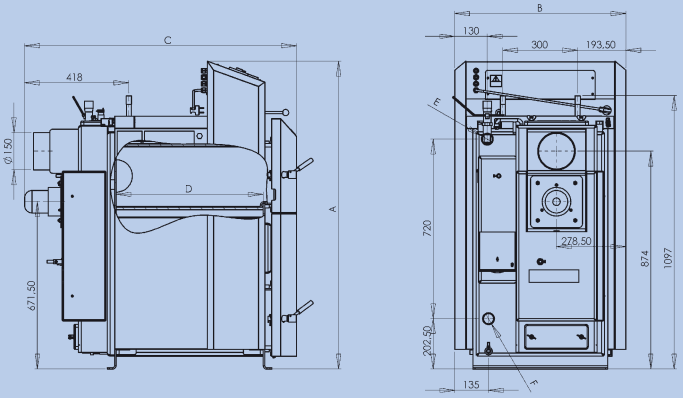
DESCRIPTION OF THE BOILER ATTACK DP



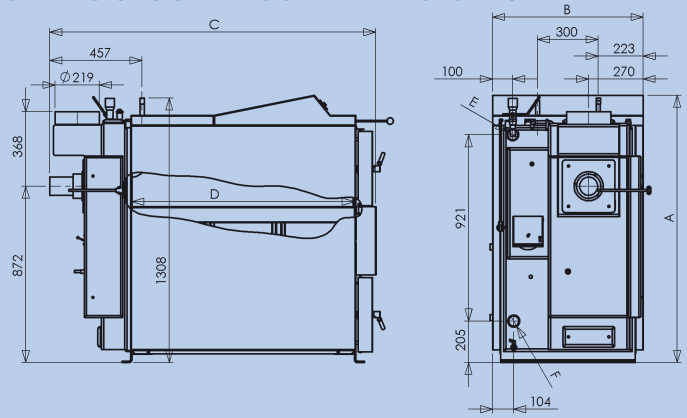
KEY:

1. Boiler body
2. Front upper cover
3. Feeding door
4. Door of the combustion chamber
5. Control of the exhaust flap
6. Cleaning opening of the heat exchanger
7. Aftercooling circuit
8. Flue gas exhaust
9. Flue gas fan
10. Outlet valve
11. Return connection
12. Flow connection
13. Primary air control
14. Secondary air control
15. Flap of the air inlet
16. Thermostatic regulator
17. Control electronics
18. Combined thermo-manometer

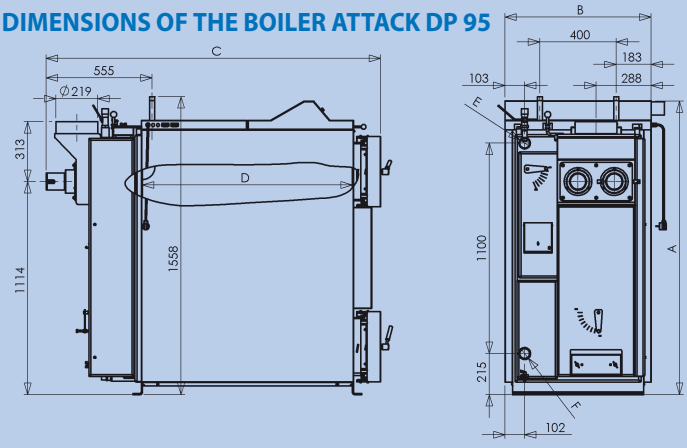
DIMENSIONS OF THE BOILER ATTACK DP 25–45



DIMENSIONS OF THE BOILER ATTACK DP 75



DIMENSIONS OF THE BOILER ATTACK DP 95



TECHNICAL PARAMETERS

Parameter	Unit	DP25	DP35	DP45	DP75	DP95
Nominal output (STANDARD version)	kW	25	35	45	75	95
Output range (PROFI version)	kW	10–25	14–35	18–45	30–75	38–95
Heat exchange area	m^2	1,52	1,74	1,95	3,6	5,6
Volume of the feeding chamber	dm^3	125	158	190	360	440
Dimension of the feeding door	mm	235×445	235×445	235×445	292×542	292×542
Prescribed chimney draught	Pa	23	23	23	23	25
Max. operating overpressure of water	kPa	250	250	250	250	250
Pressure loss of water (ΔT 10K)	kPa	2,1	4,0	6,1	8,8	8,8
Pressure loss of water (ΔT 20K)	kPa	0,6	0,8	1,1	1,6	1,6
Boiler weight	kg	370	405	430	650	800
Diameter of the flue gas outlet	mm	150	150	150	219	219
Boiler height „A“	mm	1 240	1 240	1 240	1 320	1 535
Boiler width „B“	mm	700	700	700	750	766
Boiler depth „C“	mm	1 090	1 190	1 295	1 600	1 750
Length of the feeding chamber „D“	mm	590	690	790	1 100	1 100
Diameter of the flow connection	"	G 6/4"	G 6/4"	G 2"	G 2"	G 2"
Diameter of the return connection	"	G 6/4"	G 6/4"	G 2"	G 2"	G 2"
Grade of protection	IP	21	21	21	21	21
Electrical input	W	38	38	48	54	108
Boiler efficiency	%	85,3	85,3	86	86,2	80,6
Boiler class by CO (under the norm EN 303-5)	–	3	3	3	3	3
Flue gas temperature by nominal output	°C	230	225	220	262	287
Flue gas flow by nominal output	kg/s	0,019	0,021	0,027	0,045	0,059
Max. noise level	dB	65	65	65	65	65
Fuel type	–	Wood logs with relative humidity of 12 % – max. 20 %, ∅ 50–150 mm				
Average fuel consumption	kg/h	7,75	9,75	11,75	18,7	29,2
Approximate wood consumption per season	–	1 kW = 0,9 m^3				
Max. length of wood logs	mm	550	650	750	1 000	1 000
Time of operation by max. output	h	3	3	3	3	3
Volume of water in the boiler	l	68	78	87	164	250
Recommended volume of the accumulation tank	l	625	900	1 200	1 800	2 400
Connection voltage	V/Hz	~230/50				
Range to set the heating water temperature	°C	65–90				
Range to set the room temperature	°C	10–27				
Capacity of the contacts of the boiler regulator (PROFI version)	–	~230 V/2 A				

BOILER **MODIFICATIONS** ATTACK DP, DPX AND SLX

The wood gasifying boilers **ATTACK**® are equipped with the following types of regulation: **STANDARD, PROFI** and **LAMBDA Touch**.

MAIN ADVANTAGES OF THE BOILER LINE ATTACK SLX, DPX

The boiler line ATTACK 7000 – SLX and ATTACK 6000 – DPX is equipped with the most efficient tubular heat exchanger „flue gas-water". Special movable turbulators installed inside the exchanger serve to brake and to make the turbulent flow of the flue gas through the heat exchanger. Thereby it comes to higher heat transfer through the steel exchanger wall into the heating water. Turbulators also enable the exchanger cleaning. The clean exchanger reaches the most effective operation parameters – the high efficiency.

From technical view it is a boiler line with high efficiency, low flue gas temperature and more effective combustion process. **Achieved efficiency of the ATTACK SLX boiler exceeds 91%. The efficiency of the boiler ATTACK DPX exceeds 90 %. By installation of more efficient boiler of the ATTACK SLX line it comes to significant decrease of the operating costs,** projected into the fuel savings, in comparison with less efficient boilers that combust same fuel.

From the social-wide view, it is an environment-friendly source, combusting wooden biomass, which is a kind of CO_2 – neutral fuel.

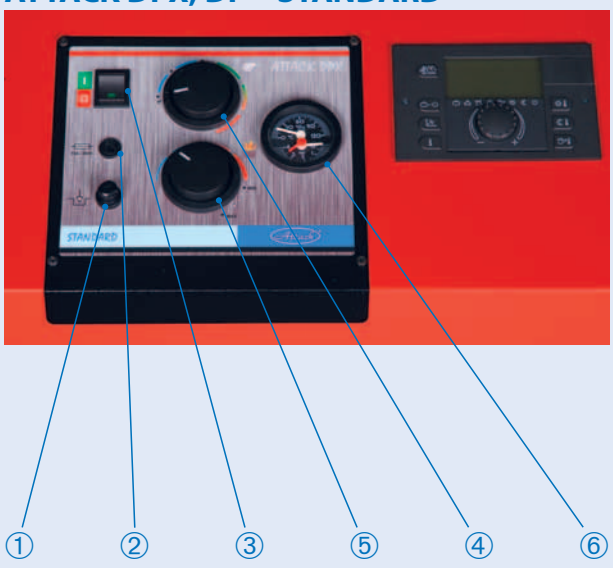
Considering the creation of harmful emissions, the average concentration of CO value in the flue gas, is during operation of the LAMBDA Touch version under the level of 200 mg/m³ related to 10 % of O_2.

Under the valid European norm EN303-5, classifying the solid fuel boilers by efficiency and emissions to individual classes, the ATTACK SLX, DPX boiler (version LAMBDA Touch) **reaches 5 times lower concentration of harmful CO emissions** in the flue gas in comparison with the allowed level of this norm!

ATTACK DPX, DP **STANDARD**

The wood gasifying boiler **ATTACK DPX, DP STANDARD** is controlled by the flue gas thermostat and the boiler thermostat.

ATTACK DPX, DP – STANDARD



DESCRIPTION

1. **Reset** – boiler protection against overheating (after exceeding the temperature of 110 °C is the boiler disconnected from electricity mains)
2. **Fuse** – protection against short circuit
3. **Main switch** – boiler start and boiler stop for the case of need
4. **Flue gas thermostat** – when the temperature of the flue gas decreases under the adjusted value, the fan is switched off
5. **Boiler thermostat** – serves to set the required temperature of the water in boiler (in case of exceeding is the fan switched off and the boiler works at min. output, after decreasing of the required temperature is the fan switched on again and the boiler works at maximum output)
6. **Thermo-manometer** – shows the output temperature and the actual pressure of the heating water in boiler

ATTACK SLX, DPX, DP **PROFI**

The ATTACK PROFI of the **„PID“** generation is a kind of the advanced regulator, which enables to modulate the heat output in the **ATTACK®** wood gasifying boilers by regulation of the fan rotations. The well-readable display shows the necessary information and makes the boiler control easier.

The ATTACK SLX, DPX, DP PROFI boiler brings the improvement of the **PID** regulation to control the fan rotations according to the temperature of water and flue gas and thereby to achieve the optimal efficiency. The regulator uses the advanced Fuzzy logic system for control to regulate the wood gasification system in the optimal way – to ensure the lowest heat loss possible.

The boiler equipped with the regulator **ATTACK PROFI „PID“** can control the heating system equipped with the following items: a pump for charging the accumulation tank, accumulation tank, circuit pump of heating circuits and room thermostat, by the lowest loss of heat energy possible. The regulator can be connected and set in the way enabling to control the pump of heating circuits and pump to charge the tank for domestic hot water.

THE MAIN ADVANTAGES OF REGULATION:

- *Innovated electronics with fluent PID regulation of the fan rotations according to the flue gas temperature*
- *Fuzzy logic – optimal regulation of the operating cycle of wood burning*
- *Increased boiler efficiency and stable burning*
- *Several options of control, including the pump to charge the accumulation tank, pump to charge the D.H.W. tank and the circuit pump of the heating circuits*
- *Option to control the circuit pump by thermostat*
- *Well-readable display indicating the operation of particular elements*

ATTACK SLX, DPX, DP – PROFI

DESCRIPTION

1. **0/1** – main switch of electronics
2. **OK** – button to confirm the parameters in menu
3. **STOP** – button to stop the boiler and to browse the menu
4. **START** – button to start the boiler and to browse the menu
5. **Small propeller sign** – icon indicating the fan operation
6. **Water tap sign** – icon indicating operation of the pump to charge the D.H.W. tank or the accumulation tank
7. **Pump sign** – icon indicating operation of the circuit pump of heating circuits
8. **Key sign** – icon indicating enter into the menu of settings
9. **Warning triangle** – icon indicating the dangerous state
10. **Info sign** – icon indicating browsing the information menu
11. **Manometer** – shows the actual pressure of the heating water in boiler

ATTACK SLX, DPX **LAMBDA TOUCH**

The wood gasifying boiler **ATTACK SLX, DPX LAMBDA Touch** for soft and hard wood burning disposes with the most advanced technology of control to achieve the excellent values of efficiency, low emissions and low wood consumption. The combustion process is very precisely regulated according to the measurement of the oxygen content in flue gas, primary and secondary air inlet into the boiler and controlled rotations of suction fan, to ensure the fluent modulation of the boiler output.

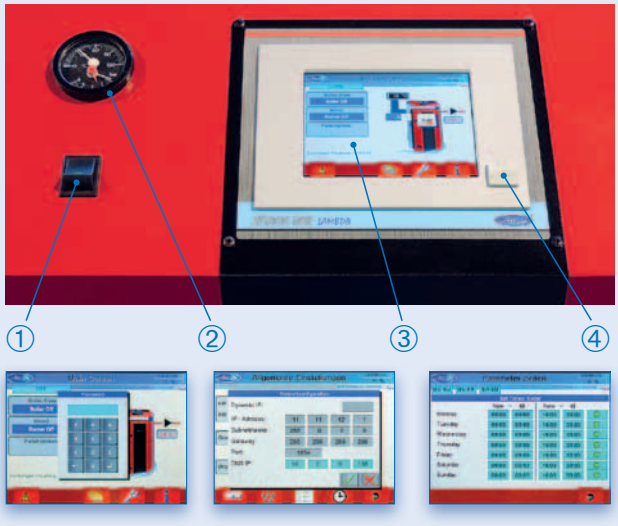
The electronics consists of the well-readable touch display for quick access to the necessary information and settings. Software of electronics can be anytime upgraded by the USB key. The boiler can be connected to internet by the LAN cable and controlled from the distant point, even by the Smartphone.

The boiler is designed with reference to the user comfort. Thereby is the heat exchanger cleaned automatically by motor and turbulators. The boiler electronics can be extended with additional external modules to control the heating mixing circuits, D.H.W. tank, solar panels or other automatic boiler **ATTACK LAMBDA Touch**.

THE MAIN ADVANTAGES OF REGULATION:

- *Electronics with well-readable display*
- *Perfect control of combustion by the Lambda probe*
- *Fluent output regulation*
- *Automatic heat exchanger cleaning by turbulators*
- *Option of control via internet or Smartphone*
- *Option to use additional modules and to control D.H.W., MIX1, MIX2, solar, etc.*

ATTACK SLX, DPX, DP – LAMBDA TOUCH



DESCRIPTION

1. **0/1** – main switch of electronics
2. **Thermo-manometer** – shows the output temperature and the actual pressure of the heating water in boiler
3. **Touchscreen**
4. **USB connection**

ATTACK DPX COMBI PELLET

COMBINED BOILER FOR WOOD AND PELLETS

The warm water boiler **ATTACK® DPX COMBI Pellet** is a modern heat source with new construction of heat exchanger. The prescribed fuel is wood and pellets – if the automatic stainless steel burner is installed. This innovative solution brings higher comfort thanks to the automatic pellet burner, which is simply installed in the boiler, and the advantage of the cheapest heat energy gained from wood in the wood gasifying boiler.

By installation of the burner into the steel body of the boiler ATTACK® DPX you get the combined boiler for solid fuel and pellets with adjustable output, automatic grate cleaning, automatic start and termination of the burning process. The pellet burner is placed on a movable construction, which enables to insert the burner easily into the upper door of the boiler and to remake the wood gasifying boiler into the pellet boiler. If the burner is not disposable, the burner can be simply dismantled and the boiler can be used as a standard wood gasifying boiler.

The boiler is controlled by the **PROFI „PID“** regulator and burner electronics. Both regulators can be turned off by the main switch, according to the fuel used. It is possible to choose the burner of 8–30 kW or 15–50 kW output. The boiler is intended for economical and ecological heating of dwelling houses, cottages, small factories, workshops and similar objects.

BOILER ADVANTAGES

- *High efficient tubular exchanger „flue gas-water“*
- *High efficiency of burning: 90 % – thanks to the tubular exchanger, equipped with special movable turbulators for cleaning of heat exchanger*
- *Extraordinary voluminous feeding chamber up to 230 l, that enables longer burning by one wood load*
- *Option to burn pellets*
- *Boiler enabling operation with wood and fully automatic operation with pellets*
- *User comfort, reliability of operation, easy use and maintenance*
- *Manufactured from the special boiler steel of 6 mm to ensure long life-time*
- *Stainless steel burner of the highest quality with automatic cleaning*
- *Option of easy installation of the burner into the boiler by a movable construction and thereby – the fuel use change within 1 minute*
- *Decreased operating costs per season thanks to the combination of fuels*
- *Option of the gradual output regulation according to the burner type*
- *Option to re-build the already installed boiler DPX to the DPX COMBI Pellet by the set for re-building*
- *Fully automatic burner operation*
- *Compact design, easy use, information given on the LCD display*
- *Automatic grate cleaning, adjustable in dependence on the quality of pellets*
- *Automatic start and termination of the burning process by pellet combustion*
- *Precise measuring of flame intensity by the photocell – by the operation with pellets*
- *Option to set the burner output within the range of 8–30 kW or 15–50 kW, according to the type of burner*
- *Option to connect the external sensor into the accumulation tank*

- *Regulation of the burner operation by the room thermostat or thermal probe*
- *Option to burn wood pellets of 6–10 mm diameter and 35 mm length*
- *Option to adjust the combustion according to the fuel used*
- *Quality stainless steel used for combustion chamber and burner grate*
- *Option to connect fuel feeders of different length*
- *Safety elements against backward burning, 4× protection against overheating – emergency, boiler, flue gas thermostat and aftercooling circuit*
- *Requirement for low operating under-pressure in the combustion chamber*
- *Multi-lingual menu, option to adjust the wide scale of parameters*
- *Indication of operating modes*
- *Error diagnostics*

BOILER MODIFICATIONS

ATTACK DPX 15–50 COMBI Pellet

COMBINED BOILER ATTACK DPX 15–50 COMBI PELLET CONTAINS:

Wood gasifying boiler ATTACK DPX,
Burner ATTACK PELLET BURNER Automatic 8–30 kW or burner ATTACK PELLET BURNER Automatic 15–50 kW,
Door DPX for burner,
movable construction (holder, arms, door), pellet feeder, pellet tank of 500 l

ACCESSORIES FOR THE BOILERS

ATTACK PELLET BURNER Automatic are fully automatic stainless steel burners for wood pellets with option to set the output within the **range of 8–30 kW** and **15–50 kW**, automatic grate cleaning, automatic ignition, controlled start and regulated burning process.

BURNER ADVANTAGES

- *Fully automatic burner operation*
- *Compact design, easy control, information on LCD display*
- *Automatic grate cleaning, adjustable in dependence on quality of the pellets used*
- *Automatic start and termination of the burning process*
- *Precise measuring of flame intensity by photocell*
- *Option to set output within the range of 8–30 kW or 15–50 kW*
- *Option to connect external sensor into accumulation tank*
- *Burner operation controlled by room thermostat or thermal probe*
- *High combustion efficiency and low operating emissions*
- *Possibility to burn wood pellets with diameter of 6–10 mm and length of 35 mm*
- *Option to regulate combustion according to the fuel used*
- *Quality stainless steel of combustion chamber and burner grate*
- *Option to connect fuel feeders of different lengths*
- *Safety elements against backward burning, 4× protection against overheating – emergency, boiler, flue gas thermostat and aftercooling circuit*
- *Requirement for low operating under-pressure in combustion chamber*
- *Multilingual menu, option to set wide scale of parameters*
- *Displaying operating modes*
- *Error diagnostics*

DESCRIPTION

Stainless steel burner **ATTACK®** works on principle of fuel -pellet falling from fuel feeder through supply hose and pipe on the grate to be combusted.

Burner works under fully automatic mode**,** from evaluation of heat supply need, fuel supply, electrical ignition, burning-up, burning, shutting-down, burning-out, cleaning and switching to the emergency regime.

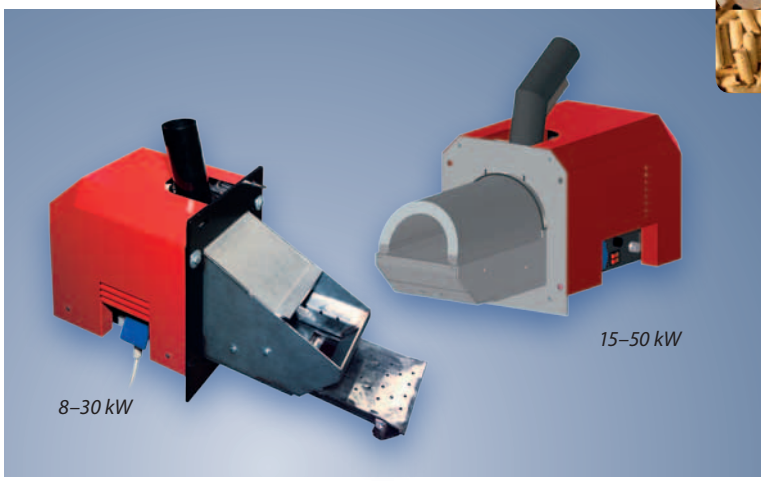
ATTACK PELLET BURNER Automatic 8–30 kW – output range of **14–30 kW** is set from production. There are three levels of output: 1. (14 kW), 2. (22 kW) and 3. (30 kW). Output range of three levels: 8–12 kW, 14–30kW can be set in the advanced menu.

ATTACK PELLET BURNER Automatic 15–50 kW – output range of **15–50 kW**. There are three levels of output: 1. (15 kW), 2. (32 kW) and 3. (50 kW).

Output range of both burners can be set in steps of 2 kW.

The burner is cleaned automatically – after every burn out or in particular time intervals, set by the user. The grate is cleaned by automatic movement towards the scraper. Dirts like ash and eschars fall out of the opening of the grate.

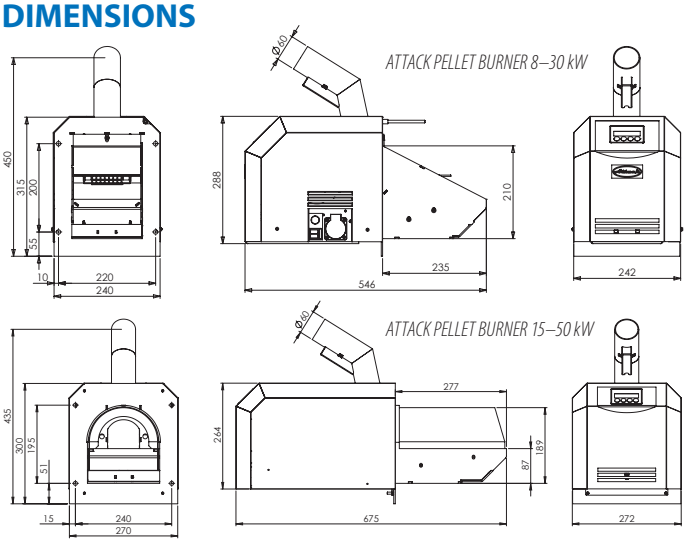
Burner body, grate, tinplate of lighter and scraper are made from high quality refractory stainless steel.



FUEL

The burner is intended and certified for combustion of wood pellets with diameter of **6–10 mm** and length of **35 mm**. After feeder exchange it burns different fruit pits and milled olive pits up to the max. size of peach pits. Eventual conversions have to be consulted with producer.

DIMENSIONS



TECHNICAL PARAMETERS

Parameter	PELH30A	PELH50A
Prescribed fuel	wood pellets d = 6–10 mm, l = 35 mm max.	
Mode	8–12 kW, 14–30 kW	15–50 kW
Output scale	8–30 kW, scaled by 2 kW	15–50 kW, scaled by 2 kW
Connection voltage	~230 V/50 Hz	
Electrical fuse	10 A	
Weight	22 kg	33 kg

TABLE OF ACCESSORY ITEMS

Name
ATTACK PELLET BURNER Automatic 8–30 kW
ATTACK PELLET BURNER Automatic 15–50 kW
Door DPX for burners PELH30A and PELH50A
Pantograph set for PELH30A
Pantograph set for PELH50A
Pellet feeder 2,5 m (with eventual preparation of own length)
Pellet tank 500 l

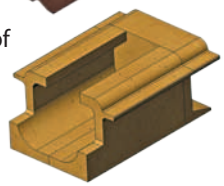
ATTACK SLX, DPX, DP

DESCRIPTION OF BOILERS – MODEL LINES 7000, 6000, 5000

The boiler is constructed for combustion of wood, on principle of wood gasification by usage of the suction fan, which exhausts the flue gas from the boiler and makes under-pressure in the feeding chamber. The under-pressure in the feeding chamber ensures that in the moment of opening of the feeding door, the clean air is sucked from the environment to avoid of the small elements elusion from the feeding chamber into the boiler room. The boiler room with this kind of boiler is significantly less dusty.

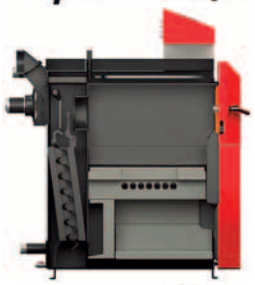
Basic part of the **ATTACK® boilers** is a water cooled boiler body. The welded body is made from the steel plate up to the 6 mm thickness.

The boiler **consists of two chambers divided by nozzle.** The feeding chamber is in the bottom part equipped with the heat-proof adapting piece with longitudinal opening for transfer of the gas and flue gas. **The quality heatproof nozzle is the essential part of the boiler. It guarantees reliable functioning** by extremely high operating temperatures of about 1.100 °C. The refractory adapting pieces are resistant up to the temperatures of 1 350 °C. The adapting pieces of the boiler´s ashtray part accumulate the heat from flue gas. Thereby, their surface temperature increases and they serve as the combustion „catalyser" that ensures burning out of the harmful emissions in the boiler and prevents their elusion through chimney into the surrounding atmosphere.



The refractory pieces have been chosen and manufactured under the very strict view. Shape of these adapting pieces has been developed following the long-year experiences with the purpose of reaching the best combustion parameters of the boiler. The adapting pieces are thermally strained during the boiler operation and thereby they are suitably divided into several parts to enable their dilatation without the subsequent damage.

Every adapting piece is for several days flame-patterned in the special furnace to gain the required mechanical properties and to get dried. To reach higher tightness, the material for adapting piece is strengthening by the special steel micro-bracing. This unique manufacturing process ensures the long life of the refractory adapting pieces. **The refractory ashtray** is placed in the burning-out space under the nozzle in the boiler rear part.



Line 6000 – DPX and **7000 – SLX** – the tubular heat exchanger with the heat-up flap in its upper part is placed in the rear part of the boiler body. There is also the exhaust connection for chimney. It is possible to turn this connection horizontally or vertically, following requirements at installation.

Line 5000 – DP – in the rear part of boiler body is the vertical flue gas channel with the heat-up flap in its upper part. There is also the exhaust connection to the chimney.

In the upper part of the front wall, there is the feeding door and in the bottom part is the ashtray door.

To enable comfortable manipulation, it is necessary to isolate the boiler door from the combustion section of the boiler properly. At the full operation – the insulation ensures that the door surface will be just a little bit warmer than the surrounding environment. For this purpose, the compressed isolation filling of high quality is used for the ATTACK® boilers. This isolation is typical with the low heat transfer coefficient, low specific weight and sufficient tightness in comparison with standard isolation materials. Moreover, in the boiler door it is protected by the plate to prevent mechanical damage in case of careless treating.

Line 5000 – DP - Pull rod of the heat – up flap is placed in the front covering. The channel for the primary and the secondary air inlet is placed in the front part of the boiler, together with the regulation flap, where it is warmed to the high temperature.

The boiler body is from external side thermally isolated with mineral wool, fitted under the coverings of external coating. The control panel for electromechanical regulation is placed in the upper part of the boiler. Boiler covering is powder treated.

The boiler is equipped with the safety thermostat, that turns the ventilator electrically off in the state of emergency when the temperature exceeds 95 °C.

LINE 7000 – SLX AND 6000 – DPX

The boiler ATTACK SLX, DPX is equipped with the tubular heat exchanger with special movable turbulators to increase its efficiency and to ensure its cleaning.

The channel for the primary and the secondary air inlet is in the front part of the boiler.

The boiler is equipped with the heat-up flap. This flap opens automatically, when the feeding door is opened and shuts automatically, when the feeding door is closed. The heat up flap ensures direct flue gas exhaust from the feeding chamber into the chimney and eases the heating up in the boiler.

The manufacturer basically adjusts the flap for primary and secondary air.

By the **ATTACK SLX LAMBDA Touch, DPX LAMBDA** version is this setting made automatically by electrical servo-gears following evaluation of the data from the lambda probe during the boiler operation.

The combustion control system with Lambda probe ensures optimal operation conditions for the highest boiler efficiency and also for minimum harmful emissions in the flue gas.

The boiler is equipped with all functional and security elements. The boiler is equipped with the safety thermostat, that turns the ventilator electrically off in the state of emergency when the temperature exceeds 95 °C.

PYROLYSIS OF WOOD

The wood gasification is a traditional technology that improves efficiency of the wood combustion. The combustion means rapid oxidation of material, when the warmth is released.

Operation of the wood gasifying boiler can be divided into three processes - warming and drying of the wooden material in the feeding chamber, decomposition of wood by high temperature and emission of the wood gas without sufficient oxygen supply and its burning in the refractory nozzle with supply of the secondary air.

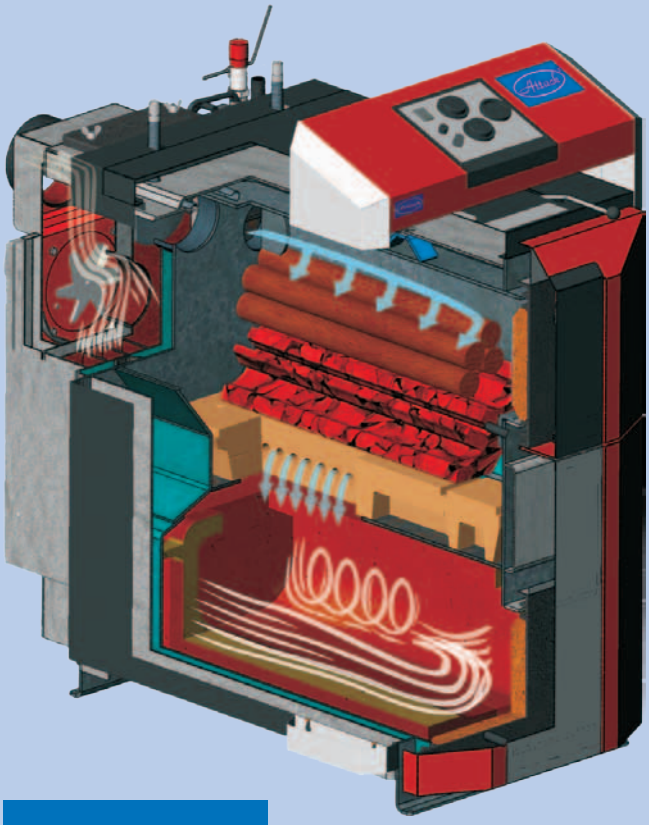
BOILER FUNCTION

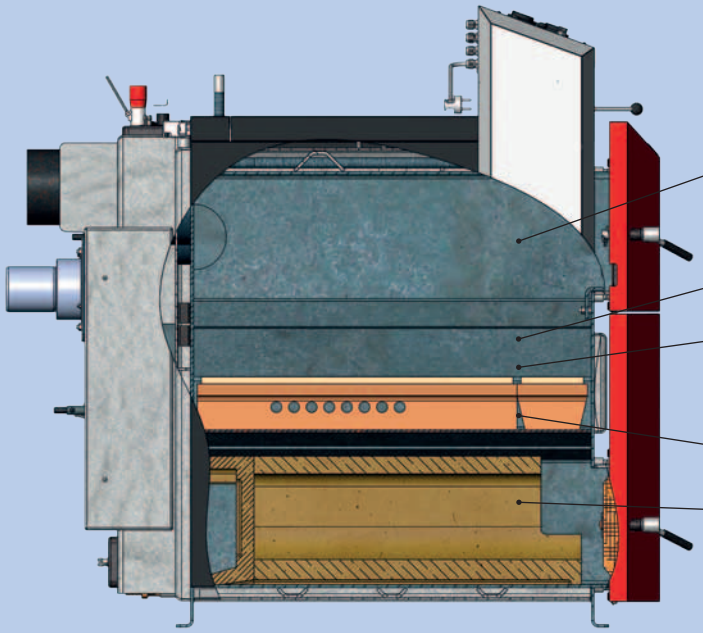
By loading the new fuel – at the temperature under 200 °C – it comes to drying of wood.

Near to the nozzle, at temperature of 200–700 °C and limited air inlet, the wood is scanned, the wood gas is emitted and the solid elements are produced. The emitted gas flows into the combustion chamber, burns and emits heat under the sufficient air inlet. The incombustible residuals are taken through nozzle into ashtray.

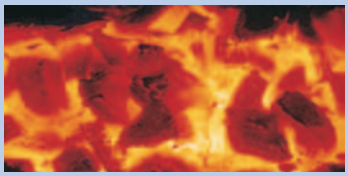
Advantage of this approach is, that every combustion phase has ideal conditions - in the regulated amount of primary and secondary air, as well as in optimum differentiation of temperatures for individual phases of combustion.

Thanks to the better usage of warmth in the wooden material there is lower fuel consumption and wide scale of the output regulation at keeping the high combustion efficiency.





- **Drying of the wooden material**
- **Warming**
- **Emission of the gas contents**
- **Combustion**
- **Gas burn-out, reduction of CO**



WOOD GAS

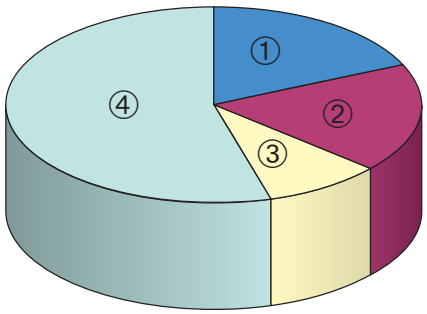
Under the certain conditions (temperature, air inlet), the wood is decomposed into gas, liquid and solid contents. The gas content is represented by the wood gas, solid one is the charcoal - basically pure carbon.

The wood gas is emitted while warming the wood with minimum oxygen inlet, and thereby it is only produced, not burned.

Heat capacity of the material depends on its chemical content and content of combustible substances.

Wood gas contents 20 % of hydrogen ①, 20 % of combustible CO ②, 0–10 % of methane ③ and 50–60 % of non-combustible nitrogen ④.

Thanks to the high content of inerth nitrogen, the heat capacity of the wood gas is in the level of 3,5-8,9 MJ/m^3.



ATTACK SLX, DPX, DP

INSTALLATION OF FLUE CONNECTION

Flue connection can be installed horizontally or vertically on the boilers SLX and DPX. This is possible by turning the flange by 180°.

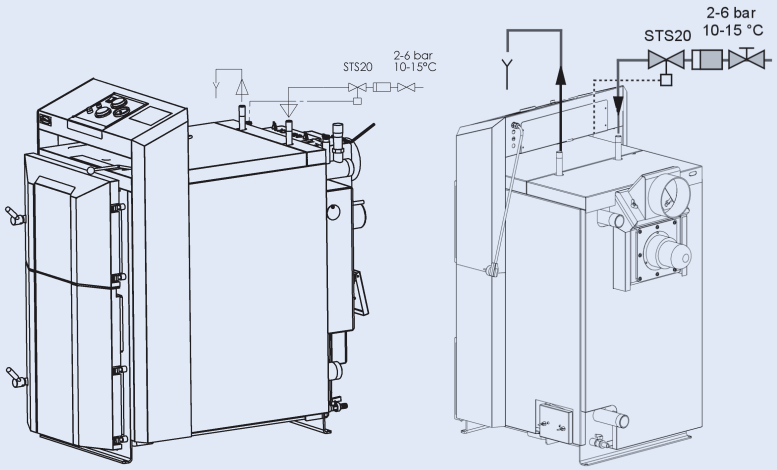
FUEL

Chopped dry **wood** logs with humidity of **12–20 %** are the prescribed fuel. It is also possible to use big pieces of the wooden waste together with thick wood logs.

The boiler is not intended for combustion of the saw dust and small wooden waste. The small wooden waste can be burned together with the wood logs **(max. 10 % share)**.

Boiler output depends also on the humidity of the wood. The correct output and the proper function of the boiler are guaranteed by **the humidity up to 20 %.**

The **ATTACK PELLET BURNER** stainless steel burner is intended for combustion of the wood pellets following the norm DIN with max. humidity of **12 %**, diameter of **6–10 mm**, length up to **35 mm** and recommended ash content of **1 %**. There is possibility to burn alternative fuel types like olive pits and pit crumb. All the prescribed fuels should achieve the heat value of **15–17,5 MJ/kg**.



BOILER PROTECTION AGAINST OVERHEATING

Each model of the ATTACK SLX, DPX, DP is equipped with an exchanger against overheating. After connection of the STS 20 valve with the probe placed in the rear part of the boiler, it protects the boiler against overheating. When the temperature of water in the boiler exceeds 95 °C, it lets the water flow into the cooling circuit to absorb the surplus heat and to discharge it into the drain.

EXAMPLE OF INSTALLATION

The required dimension of the boiler room with the **ATTACK SLX, DPX, DP** boiler connected to the accumulation tank **ATTACK AS** and the solar collectors.

PROTECTION AND PROLONGATIN OF THE BOILER´S LIFE-TIME

ATTACK-LADDOMAT

The ATTACK-Laddomat serves for protection and prolongation of the boiler's service life.

TYPE	ATTACK-LADDOMAT 60	ATTACK-LADDOMAT 100
Pump	Laddomat LM6, Laddomat LM6A ErP 2015	Wilo RS25-7, Wilo Yonos Para ErP 2015
Connection	R32 con palanca	R32 con palanca
Temperature to open the thermo-static valve	72 °C	72 °C
Max. boiler output	60 kW	120 kW

REGUMAT ATTACK-OVENTROP

When the temperature of return water flowing into the boiler is low (under 50 °C), it comes to production of harmful acids, condensate and tar on the steel walls of boiler, and thereby to their damage. **Suitable protective solution to eliminate this harmful effect and to extend life of the boiler is to use the mixing device – Regumat ATTACK-OVENTROP.** By installation of device, the boiler and the heating circuit are created. The mixing device Regumat ATTACK-OVENTROP keeps constant temperature of the return heating water flowing into the boiler over 65 °C, when the thermostatic head is set on the level 5–6 and prevents damage of the steel walls. **The mixing device ATTACK-OVENTROP guarantees significantly longer life of the boiler.**

The regumat consists of three-way mixing valve, thermostatic head with capilar, bypass, valve for self-force circulation (alt. natural circulation), three-grade circulating pump, closing valves, thermometers and isolation. **This solution is advantageous, because it is compact, enables simple operation and ensures protection of the steel boiler´s heat exchanger.**

Regumat ATTACK-OVENTROP for boiler:

ATTACK DP 25–35, ATTACK DPX 15–35, ATTACK SLX 20–35, ATTACK PELLET 30 AUTOMATIC Plus, ATTACK WOOD&PELLET 25: **type DN25** (available with the low-energetic pump)
ATTACK DP 45–95, ATTACK DPX 40–80, ATTACK SLX 40–55: **type DN32**

Regumat ATTACK-OVENTROP		
Calibre	DN25	DN32
Max. pressure	10 bar	10 bar
Max. temperature	120 °C	120 °C
Value of Kvs	3,9	5,3
Construction height of insulation	365 mm	472 mm
Width of insulation	250 mm	250 mm
Axial distance	125 mm	125 mm

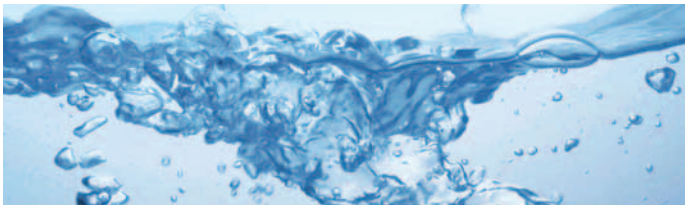
ACCESSORIES FOR THE ATTACK BOILERS

ACCUMULATION TANK ATTACK

The **ATTACK, s.r.o.** is the biggest manufacturer of the accumulation tanks in the Slovak republic with the widest offer of these articles.

ATTACK AK, AS

The accumulation tanks **ATTACK AK, AS** made from the quality steel serve for accumulation and subsequent distribution of the heat energy from the biomass boiler (e.g. **ATTACK® WOOD&PELLET, PELLET 30 AUTOMATIC Plus, SLX, DPX, DP, COMBI Pellet**). The **ATTACK AS** model is accessorized with an extra exchanger to be connected to the solar system.



ATTACK AK: 9× socket G 1 ½", 4× socket G ½"
ATTACK AS: 9× socket G 1 ½", 4× socket G ½", 2× socket G 1" – solar circuit

ATTACK SLX, DPX, DP

ATTACK HR, ATTACK HRS

The accumulation tanks **ATTACK HR, HRS** are made from the quality steel and serve for accumulation of the heating water as well as for preparation of the D.H.W. by an internal enameled exchanger. The **ATTACK HRS** model is accessorized with an extra exchanger to be connected to the solar system. TTanks of this type have a built-in magnesium anode in the D.H.W. tank to increase resistance against corrosion. The manual de-aeration valve is installed in the upper part.
ATTACK HR: 9× socket G 1 ½", 6× socket G ½"
ATTACK HRS: 9× socket G 1 ½", 6× socket G ½", 2× socket G 1" – solar circuit

ATTACK TUV, ATTACK TUVS

The accumulation tanks **ATTACK TUV, TUVS** are made from a quality steel and they serve for accumulation of the heating water as well as for the D.H.W. preparation in a water coil. The **ATTACK TUVS** model is accessorized with an extra exchanger for connection to the solar system.
ATTACK TUV: 9× socket G 1 ½", 5× socket G ½", 2× socket G 1" – D.H.W.
ATTACK TUVS: 9× socket G 1 ½", 5× socket G ½", 2× socket G 1" – solar circuit, 2× socket G 1" – D.H.W.

ATTACK S, SS – STRATIFIED STORAGE TANKS

ATTACK S – is based on the **ATTACK AK** type. Disk and stratified pipe installed in the exchanger enable creation of water layers according to the temperature. This construction ensures different temperature layers at the inlets and outlets. **ATTACK SS** - is based on the **ATTACK AS and the ATTACK S** types. It is accessorized with an extra exchanger for connection to the solar circuit.
ATTACK S: 10× socket G 1 ½", 5× socket G ½"
ATTACK SS: 10× socket G 1 ½", 5× socket G ½", 2× socket G 1" – solar circuit

ADVANTAGES OF INSTALLATION WITH ACCUMULATION TANKS:

- *equalisation of an inequal boiler output and higher comfort*
- *lower fuel consumption – boiler works at full output, i.e. with optimal efficiency*

- *long life of the boiler and chimney – minimum production of tars and acids at full ouput*
- *option to combine with another means of heating (accumulation electricity, solar devices)*
- *option to combine radiators with underfloor heating*
- *higher comfort of operation*

Technical data for all models of accumulation tanks can be found on our website ***www.attack.sk***

EQUITHERMAL REGULATOR

The ATTACK REGUMAX equithermal regulator is the top regulation unit for the ATTACK PELLET boilers.

The ATTACK REGUMAX regulator is intended for regulation of heating systems, including D.H.W. preparation. It is used for control of low-temperature and warm-water systems. Two types of the room units (i.e. with and without display) can be connected to this regulation unit.

The equithermal regulator ATTACK REGUMAX represents the advantage of an easy installation with many ways of utilization.

THE ATTACK REGUMAX REGULATOR CAN CONTROL THE FOLLOWING ELEMENTS OF THE HEATING SYSTEM:

- *primary boiler circuit of the wood gasifying boiler*
- *recharging and discharging of accumulation storage devices*
- *solar system for D.H.W. preparation or additional warming of C.H.*
- *several heating circuits of different temperature levels*
- *alternative source of heat*
- *D.H.W. preparation*
- *free programmable inputs*

MODES OF OPERATION

Heating with and without time program, attenuation mode, summer operation, manual mode, mode of automatic control.

CLOCK FUNCTION

Heating with own week time program, D.H.W. preparation with time week program, 15 holiday periods.

EASY INSTALLATION

Easy and quick installation is ensured by connection terminal, connection module or by connection module with spring terminal for installation on the wall.

ADVANTAGES OF THE ATTACK REGUMAX REGULATOR

- *Wide possibilities of usage, economical advantage*
- *Pre-set basic programs for easier projecting and putting into operation*
- *Multilingual menu – CZ, DE, GB, FR, IT, NL, ES, PT, HU, PL, RO, RU, TR, S, N*
- *Intuitive control by buttons with symbols, easy multifunctional button, big size text display*
- *Simple system extension into the small network – possibility to connect several regulators into the communication network*
- *External modem enables remote switching of modes of the regulator*
- *Sophisticated control of the heating system, enabling higher comfort of operation*
- *Equithermal control of temperature of heating water*
- *High universality for different design varieties of heating systems using wood gasifying boiler*

ATTACK REGUMAX	
Mains connection	~ 230 V +6 % / -10 %
Frequency	50...60 Hz
Input	max. 5,8 VA
Recommended fuse	max. 6,3 VA slow
Grade of protection	IP 30
Dimensions (including panel)	144 x 96 x 75 mm (W x H x D)

EXAMPLE OF CONNECTION

Universal connection of the REGUMAX regulator with external D.H.W. tank, two mixing valves, solar panels and heat source for solid fuel.

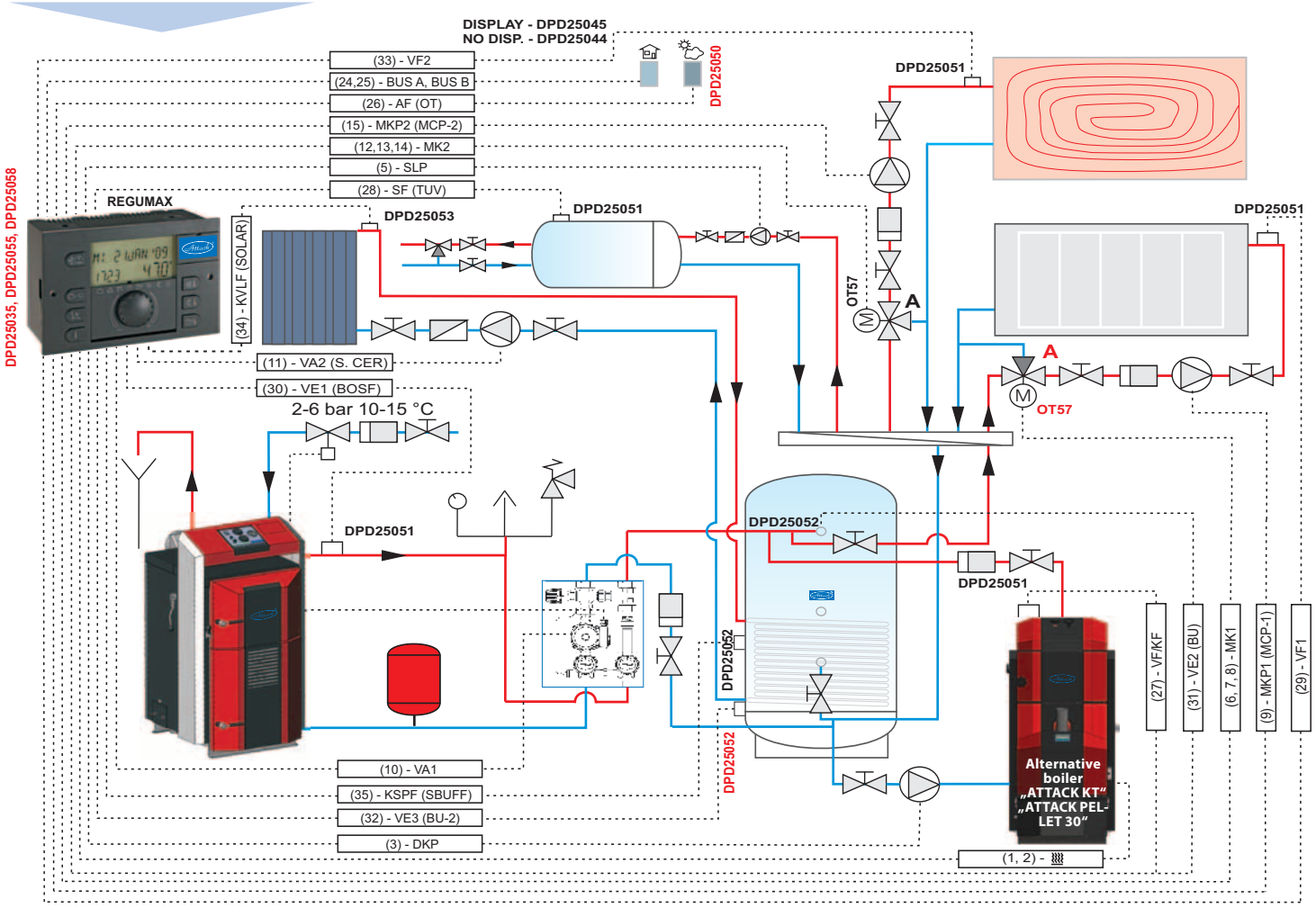
CONTROL PANEL

Multifunctional display
with illumination and clearly displayed data

Setting buttons
- Manual control
- Selection for all heating programs
- Adjustment of heating curves
- Information – overview of temperatures and operation states

Multifunctional button
for easy setting by turning and pressing

Buttons for quick access
- Required daily temperature
- Required attenuation temperature
- Required temperature of D.H.W.



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