EN

Attack®

INSTRUCTION FOR USE



THE BOILER FOR COMBUSTION OF WOODEN PELLETS

ATTACK PELLET

ATTACK, s.r.o. - 08/2010

ATTACK PELLET - the boiler for burning the pellets

- Boiler designed for combustion of wooden pellets.

- Assembly, heating up and training of the attendance is performed by trained assembly technician trained by the manufacturer, who also fills the document on the boiler installation.

- Recommended operation boiler temperature is between 80°C and 90°C. Operation in lower temperature can cause the condensate creation, loss of life and therefore the warranty cannot be applied.

- Only pellets by authorized classification of fuels can be used as fuel.

-The choice of the right boiler size, that means its heating output, is a very important condition for economic operation and right function of the boiler. The boiler must be chosen so that its nominal output responds to heat losses of the heated object.

The warranty does not apply for the boiler if:

-the boilers is not operated with specified fuel- pellets by authorized specification of fuels
- if a proper mixing appliance (Regumat ATTACK-OVENTROP) is not installed in the system, which provides minimum temperature of 65°C for return water during operation.

Warning sign ⚠

This warning sign occures in the manual everytime, when it is necessary to warn about health detriment and also about the damage of items, in case the instructions of this manual are not literally followed.

In this manual are used two kinds of the warning signs and texts:

⚠ **WARNING** warns about the life´s dangerous situations and situations that may cause health detriment and damages, in case the necessary actions were not executed.

⚠ **CAUTION** warns about the less safe ways of work and work processes, that may cause health detriment or material damages.

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Introduction:

Dear customer,

Thank you for confidence that you showed us by purchasing our product - ATTACK PELLET- boiler for wooden pellet burning. We wish you long and reliable operation. Proper attendance of the boiler is one of the conditions for reliable and right operation, therefore please, read this instruction for use carefully. The manual is written in the way to respect the right operation of the boiler.
Conditions of right boiler operation:
- right choice of type and output of the boiler
- impeccable putting into operation
- sensitive attendance
- regular technical maintenance
- reliable service

General description:

ATTACK PELLET boiler for wooden pellet burning is designed for economic and ecological heating of family houses, cottages, small plants, workshops and similar objects.
Specified fuel for ATTACK PELLET boilers are wooden pellets.

Description of ATTACK PELLET boilers:

ATTACK PELLET 30 Automatic

PELLET - Boilers for wooden pellet burning
30 - Boiler output
Automatic - Automatical cleaning of ashes

Purpose of use:

The boiler for wooden pellet burning ATTACK PELLET is the modern appliance saving the environment with its combustion technology, offering a user comfort comparable with the gas boilers. The boilers are designed for heating the family houses, shops, industrial objects and other similar buildings. The wooden pellets are used as the fuel, or biomass, according to type of used burner.

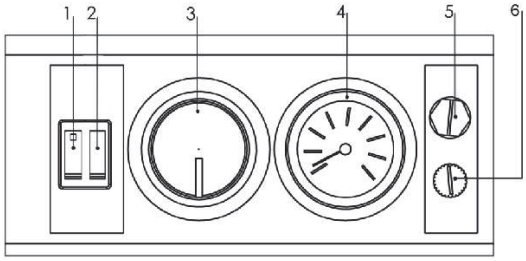
Description of the boiler:

The ATTACK PELLET boiler is designed for burning of wooden pellets of 6-10 mm diameter and maximum lenght of 35 mm. Alternatively, by the type of burner, other type of biomass can be used. Other biomass can be used under the condition of a written approvement of the manufacturer. The boiler consists of a combustion chamber with a partition, heat exchanger and exhaust pipe. The base of the boilers is a boiler body cooled by water the weldment of which is made of steel plates of 3 to 6 mm thickness that provides long service life for the boilers. The pipe exchanger has turbulators which improve the heat transfer to heating water, and at the same time they are used for cleaning the exchanger, ensuring thus its even efficiency.
Fuel is burned by a burner that is used especially for this kind of fuel. Optimal conditions of burning and output regulation are created by the supply of fuel and air controlled by an electronic appliance set up by a user according to required parameters of heating.
The burner, combustion chamber and exchanger are designed for optimal burning of all combustible parts.The "A"item is accessorized with equipment for the automatical ash removing from the combustion chamber bottom into the external box. The equipment is from manufacturer setted for the ash removing every 12 hours.
The boiler body is insulated by mineral fleece, the casing is treated by the dust colour technology. The design of the boiler enables using the wooden pellet or biomass burners of various suppliers. This is possible due to a fitting opening with a flange specified for a certain type of burner in the front part of the burner. Installation of burners from another producers requires written consent of the boiler manufacturer. Boilers can be equipped with a device for fuel supply and fuel bins of 300l. For the emergency heating in the lack of fuel or burner failure, or as the protection against freezing it is possible to use the electrical heating spiral of output up to 6 kW and max. length of 450 mm from the flange end. The spiral can be installed to the flange with internal thread G6/4“on the boiler left side. The spiral is equipped with operation and safety thermostat and its electric installation is independent on the electrical installation of the boiler.

Control of the boiler

The pellet boilers "ATTACK PELLET" are controlled by the control panel on the upper casing of the boiler.

1 - Main switch of boiler- Turning the boiler On/Off from the main.
2 - Switch of the burner - switches the boiler between stand-by mode and operation mode
3 - The boiler thermostat -setting the boiler operation temperature
4 - Thermomanometer
5 - Reset button -Under the cover
6 - Fuse 10A/250V



Description of function, parameters and settings of the burner are in the supplement of their instruction.

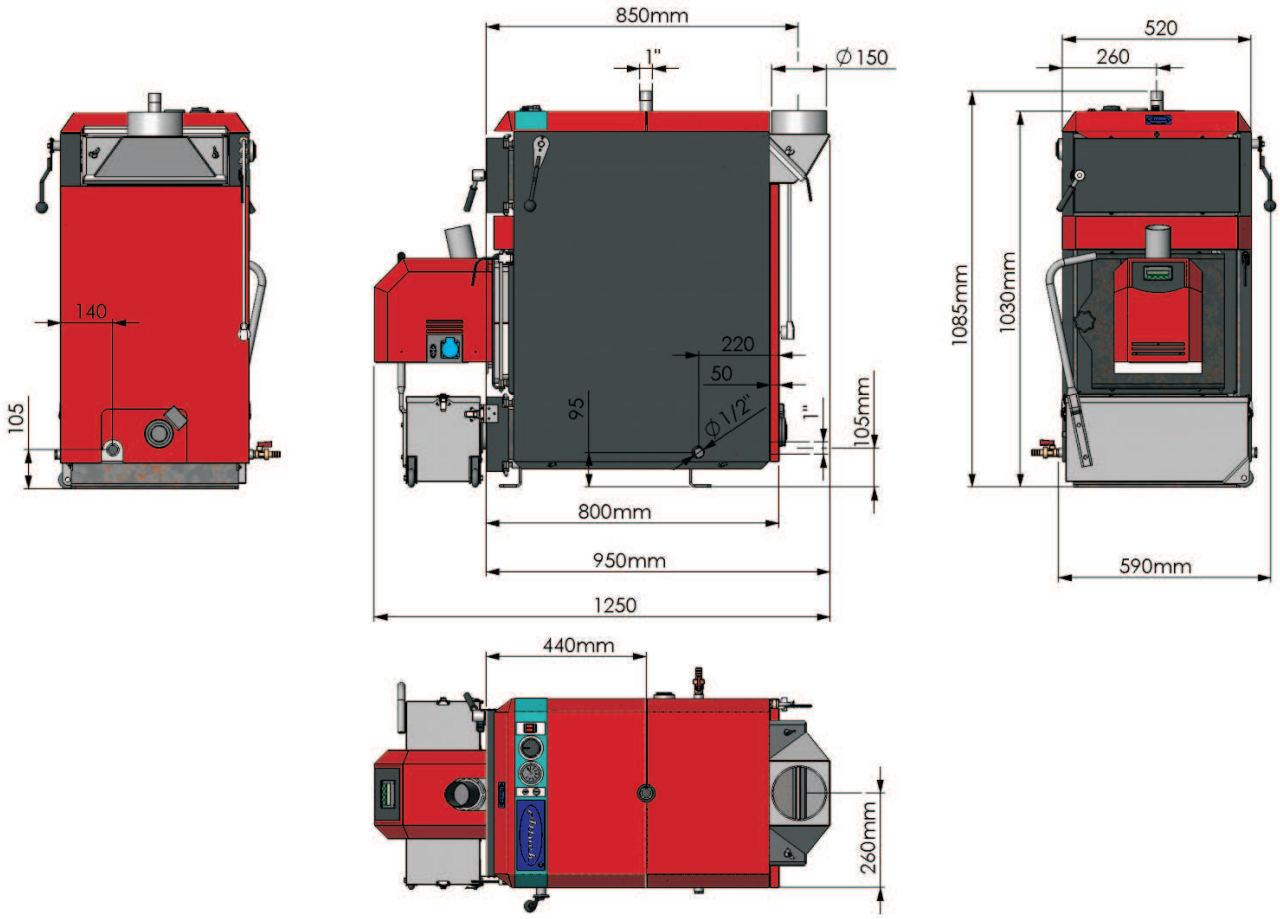
Technical parameters::

Boiler type:		PELLET 30
Boiler output:	kW	30
Range of output:	kW	8-30
Heating surface:	m^2	1,9
Prescribed chimney draught:	Pa	15-20
Max. operation pressure of water:	kPa	300
Pressure loss between the water in- and outlet	Pa	152 (ΔT = 10K); 38 (ΔT = 20K)
Boiler weight:	kg	270
Diameter of flue connection	mm	150
Boiler height:	mm	1085
Boiler width:	mm	590
Boiler depth:	mm	1250
Shielding of electric parts:	IP	IP 40
Max. electrical input (for ignition)	W	1200
Operational electrical input:	W	90
Boiler efficiency:	%	92,8
Class of boiler by CO emissions (EN 303-5)		3
Flue gas temperature in nominal output	°C	127
Prescribed fuel:		wood pellets d=6-10mm, l=35mm max.
Average fuel consumption	kgh^{-1}	2,4 - 4,5
Volume of water in the boiler	l	60
Range of temperature of heating water	°C	60-90
Voltage	V/Hz	230/50

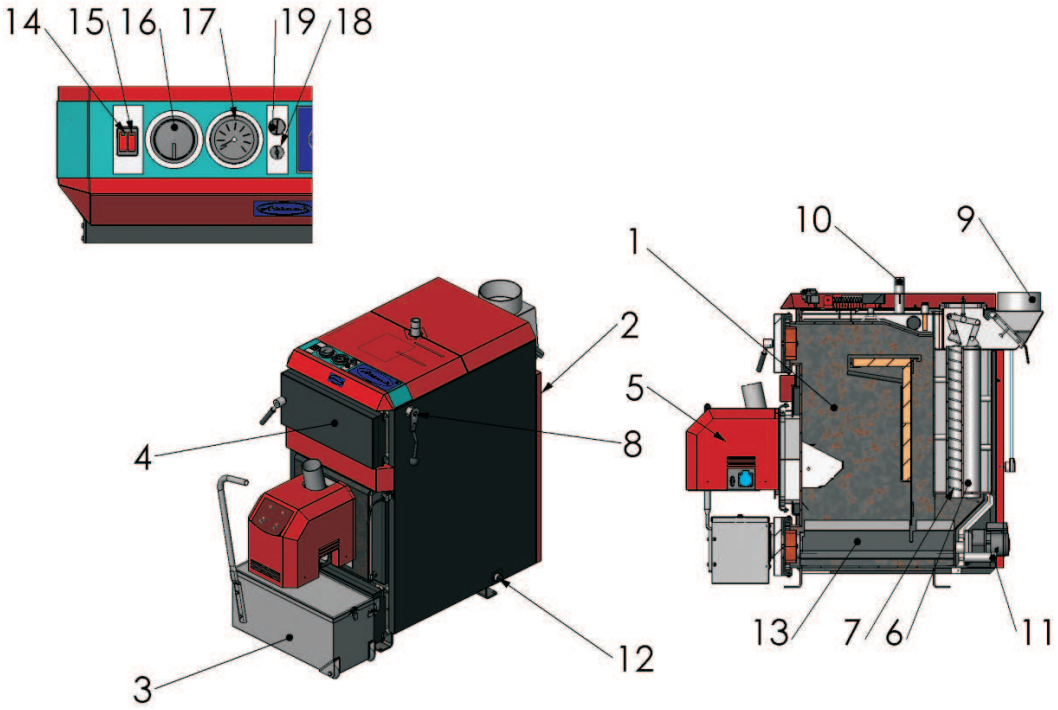
Prescribed min. temperature of returnable water to the boiler in operation is 65°C.
Recommended operation tempereaute of water in boiler is 80 - 90°C.

ATTACK, s.r.o. producer reserves the right to change technical parameters and dimensions of boilers without previous warning.

Dimensions of the boiler ATTACK PELLET



The main parts of ATTACK PELLET boiler



1 boiler body
2 casing
3 ash pan door - removable - design „A“
4 door of the inspectional opening
5 burner
6 pipe exchanger
7 turbulators
8 pull rod of turbulators control
9 flue gas reciever with flue
10 rising pipe 1"
11 return pipe 1"
13 ashpan
12 filling valve 1/2"
14 main switch
15 burner switch
16 boiler thermostat
17 thermomanometer
18 electrical fuse 10A
19 emergency thermostat

ASSEMBLY AND INSTALLATION OF BOILERS

Boiler installation

Boilers can be installed only by an organization with a certificate for installation and assembly of heating equipment. Before the installation there must be a project responding to valid regulations. Before installing the boiler, an assembly worker is obliged to check if the data on the production label of the boiler correspond to the data in the project and documentation for the boiler. Connection of the boiler must correspond to regulations, norms, standards and this manual. **The producer is not responsible for damage caused by inappropriate connection or operation.**

Localization of boilers

For the installation it is necessary to keep safe distance of its surface from flammable materials by the degree of flammability and combustibility:

- materials of B,C1,C2 combustibility 200mm
- materials of C3 combustibility 400mm
- materials with the degree not tested by STN 73 0853 400mm

Examples of building materials divided by the degree of combustibility:

-A degree - noncombustible materials (bricks, blocks, ceramic tiles, mortar, plaster)
-B degree - very difficult to ignite (heraklith, lignos, boards from bazalt felt)
-C1 degree - difficult to ignite (beech, oak, plywood, werzalit, hardened paper)
-C2 degree - normal combustibility (wood, pine, spruce pulpboard, solodur)
-C3 degree - easily ignited (wood pulpboards, polyurethane, PVC, foam rubber, styrofoam)

If the boiler is located on the floor from combustible materials, the floor must be covered with a noncombustible, thermal insulating pad exceeding boiler dimensions at least in 150 mm. Solid materials of A degree of combustibility can be used for thermal insulation. No objects made from flammable materials can be put on the boiler or nearby in the distance shorter than 500mm.

When locating the boiler in the boiler room, there must be free space of min. 1 meter in front of the boiler and of 0.5 m from the side walls and the rear. Above the boiler there must be free space of min. 1 meter. This space is necessary for basic operation, maintenance and service of the boiler. Localization of ATTACK Pellet boilers in dwelling spaces (including halls) **is not allowed!**

Air inlet

For the right operation of the boiler it is necessary to have sufficient air inlet for combustion. Minimum cross section of the opening for fresh air inlet is 200 cm2.

Connecting the boiler to the heating system

ATTACK PELLET boilers can be installed only by a service technician certified and trained to their installation and maintenance. Before the installation of the boiler to an older heating system the company must wash out (clean) all the system. The heating system must be filled with water corresponding to specified requirements by the norm and its hardness must not exceed 1mmol/l and concentration of Ca^{2+} 0,3mmol/l.
If these conditions are not kept, the warranty cannot be accepted!

Attachment of regulation and control elements

The boiler is delivered to a consumer equipped with basic regulation and control elements. Attachment of these elements is indicated on the chart of connection. We recommend to extend the regulation of boiler with other regulation elements which enable more comfortable and economic operation. Each pump in the system must be controlled by an individual thermostat so as the boiler was not undercooled on the inlet of return water under 65°C. Attachment of these elements can be suggested by a designer due to specific conditions of the heating system. Electric installation together with the additional equipment of the boiler must be done by a specialist according to valid standards.

Setting of the ash removing regime

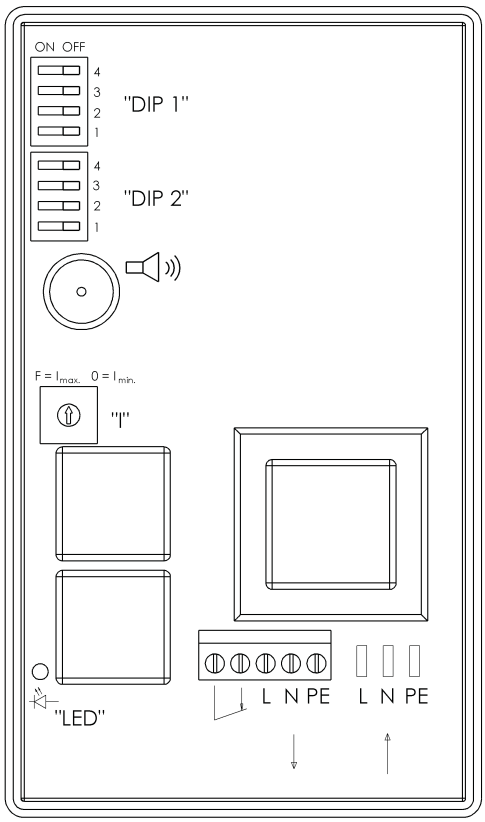
The ash removing control box is set by producer to remove the ash every 12 hours, in duration of 1 minute.These intervals can be changed by resetting of „DIP2“ switches inside the control electronics box TCU-3:

Duration of ash removing:
Switch 4 - „ON“: 1min.; „OFF“ . 5min

Interval of ash removing:
Switch 3 - „ON“: 12 hours (1,2 OFF);
Switch 2- „ON“: 3 hours (1,3 OFF);
Switch 1 - „ON“: 1 hours (2,3 OFF);

The switches „DIP1“ are not working under this function

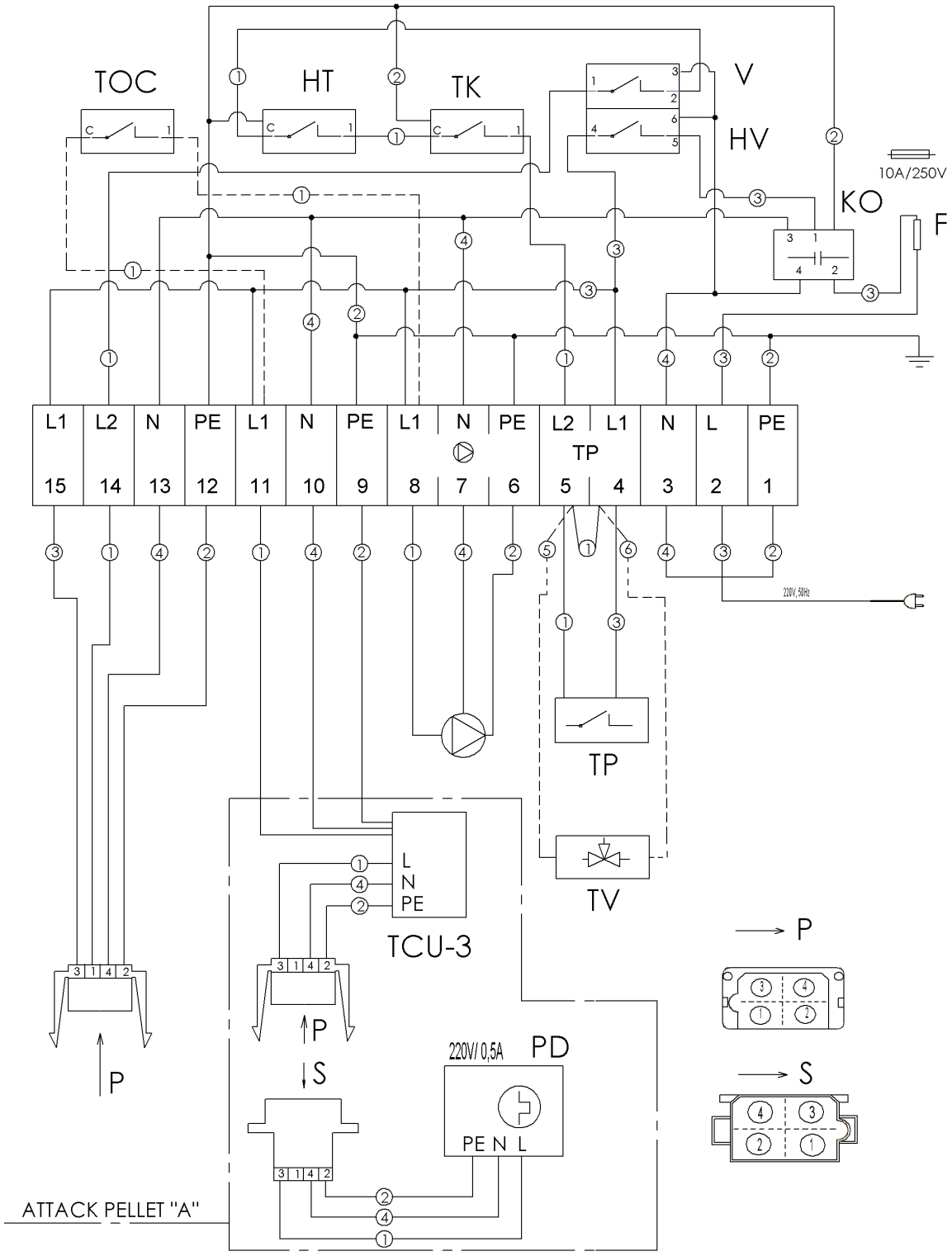
The ash-conveyor-gear-overvoltage sensitivity of the electronics can be set by the „I“ knob. We do recommend to keep the setting from production, otherwise the damage of the gear-motor or the ash-conveyor blockage may occure.



Connecting the boiler to the mains

The boiler is connected to the net of 230 V, 50 Hz by a supply cord and plug. The voltage is of M type and when replaced, the same type must be used by a service organization. The appliance must be located in such a way that the plug is within the reach of the attendance.
(according to STN EN 60 335-1 + A11:1997). Connection of a socket must suit to STN 33 2000-4-46, the socket equipped with centre contact pin connected to the conductor. Any multicontact plugs or extension cables are not allowed. After connection to the net, the power supply must be approachable because of safety.

Chart of connection



The legend

1- brown
2- yellow- green
3- black
4- blue
5- grey
6- orange

HV- main switch
V - burner switch
TK- boiler thermostat
TP- room thermostat
HT- safety thermostat with reset
C - Interference capacitor
F - fuse 10A/250V
TV- three way valve
TOC - thermostat of the heating pump
TCU 3 - electronics of ash removing - only the „A“ design
PD - gear of the ash removing conveyor

Exhaust pipe

Exhaust pipe must have the outlet into the flue. If the boiler cannot be attached to the flue directly, the adapter to the exhaust pipe must be as short as possible and not longer than 1m without excess heating surface and it must rise upwards to the chimney. Exhaust pipes must be tight and resistant against flue gas leakage and cleanable from inside. Inside section of the flue must not narrow to the chimney. Exhaust pipes must not come through dwelling and utility spaces. Using of bents is not suitable.

Chimney

Attachment of the appliance to the chimney must be always done with approval of authorized chimney-sweeping company. There must always be sufficient draft in the flue and flue gas must be draught to the atmosphere in all possible operation conditions. For the right operation of the boiler the independent flue must be dimensioned in the right way. The draught is influenced by the section of the flue, height and roughness of the internal wall. The flue must be insulated sufficiently so as there is no condensate. The temperature 1 meter under the mouth of the flue must not be lower than 60°C. Into the flue where the boiler is attached, no other appliance can be attached. The flue diameter must not be smaller than the outlet on the boiler. Flue draught must have the specified values. But it must not be too high so as not to decrease the efficiency of boiler or interrupt burning. If the draught is too strong, install a throttle valve between the flue and boiler.

Informative values of flue section:

20 x 20cm	min.height 7m
Ř20cm	min. height 8m
15 x 15cm	min. height 11m
Ř16cm	min. height 12m

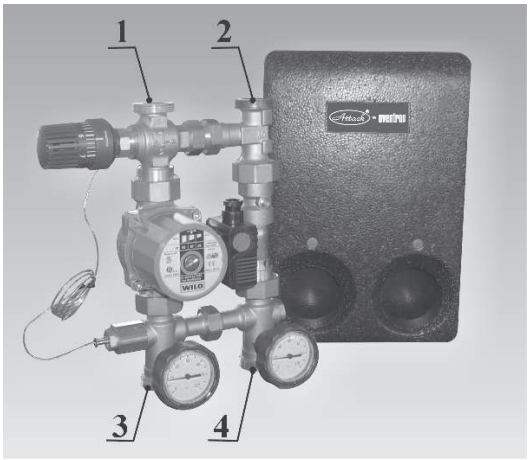
Exact dimensions of the chimney are specified by the norm. Flue draught is specified in technical parameters.

The protection of boiler against corrosion:

Suitable solution to this problem is using the appropriate mixing appliance (Regumat Attack-Oventrop). This solution enables separated boiler and heating circuit, which disable undercooling of the boiler under 65°C and reduce the possibility of steam condensation and creation of acids and tar in the boiler exchanger and combustion chamber.
Installation of this appliance is the condition to warranty preservation.

1. Regumat is used to keep the constant temperature of heating water returning to the boiler over 65°C in setting the thermostatic head on 5-6 degree. The return water temperature below 60°C can lead to creation of condensate and tar and thus to loss of boiler operation life.

Technical parameters: Inside diameter DN25
Max.pressure 10 bar
Max.temperature 20°C
Kvs value 3,9



Regumat consists of three way valve, circulation pump, throttle, thermometers and insulation. The advantage of this solution is in its compactness, easy attendance and assured protection of boiler heat exchanger.
Regumat for ATTACK PELLET boiler: The ordering code - DPP25003

Norms for design and assembly of boilers:

STN EN 303-5 - Boilers for Solid Fuels
STN EN 60335-1+A11 - Safety of Electrical Appliances for Households

The installation of ATTACK PELLET boiler has to be provided in respecting of all the local standards and norms.

Rules of operation:

Preparing the boiler for operation

Before running the boiler into operation make sure whether the system is filled with water and deaerated and the heating water pressure does not decrease. Check the tightness and assembly of the flue. The boiler must be operated in accordance with these instructions in order to work properly. It can be operated only by an adult.

Putting the boiler into operation

The boiler starts the stand-by mode by turning on the main switch (the left button of double switch) located on the boiler control panel. It is signalized by turning on the red control light in the main switch button. Running into operation is provided by turning on the burner switch (right button of double switch). This is signalized by the control light in the switch button. It is necessary to set the turning boiler thermostat on the required temperature of heating water. By turning the thermostat sunwise the required temperature of heating water insreases and vice-versa. The fuel ignition is provided automatically from the electrical spiral in-built in the boiler burner. The burner operation is fully automatic and controlled by boiler thermostat and regulation elements which can be connected to electrical connection place (e.g. the room thermostat, programmable controller,....).
The burner settings are exactly described in supplement of this instruction.
Warning:

⚠ ATTENTION:
During the first burning up the creation and effuzion of condensate can appear. After longer period of heating the condensation disappears.
If the boiler was out of operation for a longer period (turned off or in error), it is necessary to take more care in reinitializing the operation. When the boiler is out of operation, the pump can be blocked or leak of water from the system can appear.
To assure the constant output and operation life of the boiler it is necessary to provide cleaning properly and regularly. Insufficient cleaning can cause damaging of the boiler. All the doors on the boiler must be tightly shut during the operation.

Fuel

For burners for wooden pellet burning: AUTHORIZED FUEL SPECIFICATION:
Wooden pressed pellets
Weight: 600 - 750 kg/m^3
Efficiency: 4,7 - 5,0 kWh/kg
Size/diameter: 6 - 10 mm
Size/lenght: *Caution!* Max. 35 mm
Moisture content max. 12 %
Ash content/weight 0,5 - 1 %
(wooden pellets)
Crumble(dust) content: max. 3 %
Temperature of ash glow: min. 1100°C

The options of boiler regulation

The boiler regulation without room thermostat
In this case, an interconnection is installed on the terminal connector of the boiler (TP-U1/U2). The boiler is regulated only by a boiler thermostat located on the control board of the boiler.

Boiler regulation with a room thermostat

In this case the boiler is regulated by a room thermostat that is connected to the contacts of the terminal connector (TP-L1/L2) instead of the interconnection which must be removed. The boiler in this way also responds to the set up boiler temperature. Instead of a room thermostat, another device can be used, such as programmable regulator of heating.

Caution! On the connection contacts of the room temperature is high voltage of 230V! Before any manipulation with the terminal connector or electrical installation of the boiler it is necessary to switch the boiler off the mains net!

Boiler protection

Boilers are equipped with an emergency thermostat. In case that the boiler temperature overcomes 110°C, the boiler is put out of operation safely. Restarting the boiler after water temperature falls down cannot be done until the reset button is pressed on the control board.

Refuelling

Fuel is filled in the fuel feeder that can be bought as an optional accessory for the boiler. There is a rule to refuel the feeder before using all the pellet stock in the feeder.

Caution! The fuel feeder can be open for refueling or cleaning purposes only. During the operation the feeder must be closed tightly, otherwise there is a danger of fuel ingnition!

Ash removal

Ash removal must be done in regular intervals. Interval of cleaning depends on the heating intensity, flue draught and other conditions. During the operation the ash is kept in a replaceable tin ash collector basin. For cleaning of ash it is necessary to turn the boiler off with the main switch, clean out the ash collector basin and sweep the boiler bottom. The ash collector is in the lower part of the boiler behind the cover. For manipulation with the ash collector it is necessary to use safety gloves to prevent burning. After cleaning the ash collector is returned back and the cover must be closed properly.

At ATTACK PELLET Automatic design is the boiler equipped with device for automatic ash removing into the external container. In this case it is necessary to check the container 2 times in a heating season and to empty it when it is needed. After the end of the heating season it is necessary to clean the bottom of the combustion chamber.During container emptying it is necessary to put the boiler out of order for a short time.

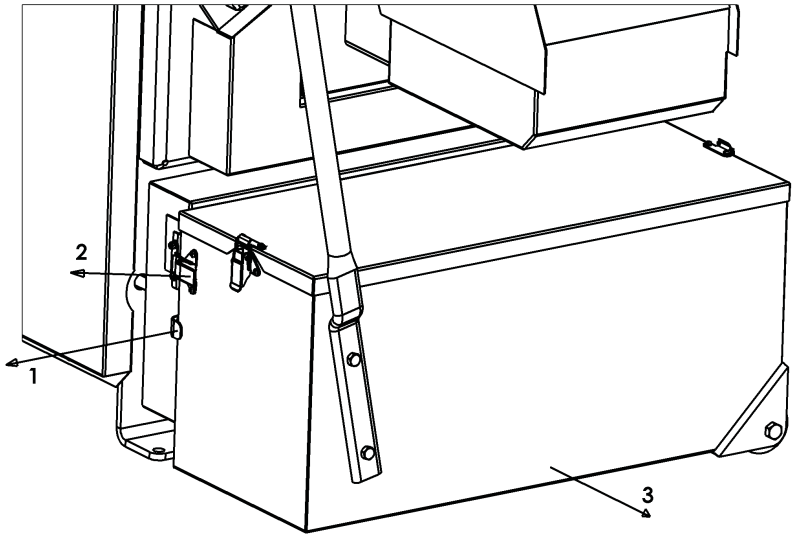
Container emtying (see the picture): 1. Close the entrance open into the container by pulling the lever on the rear container side completely to the left . 2. Release the lever opens on the sidewalls of container. 3. By pulling to yourself release the container from inlet pipe of the door guard.4.Spill the ash into the dustbin.

Mounting of the ash container is done in the inverse sequence. Cleaning of bottom of the combustion chamber is to be performed in similar way as in case of the standard design.

WARNING! In case of the ATTACK PELLET Automatic design do not put the boiler into operation without the mounted ash container with closed upper shelter (possible leakage of the exhaust gas) - danger of life-threatening!

Short therm shut-down of the boiler

If you need to get the boiler out of operation for a short time, turn the burner switch off and let the fuel in burner to burn out. Do not turn off the main switch!



Longer-therm shut-down of the boiler

In running out of operation for a long time, firstly turn off the burner switch and let the fuel burn out. After the boiler cools down below 30°C, you can turn off the main switch and take the harness connector off the main.

Maintenance of heating system and boiler

At least once a fortnight check or refill water in the heating system. If the boiler is out of operation during winter, water can be frost in the system. Therefore it is better to discharge water of the system. Otherwise discharge water only in critical situations and for the shortest time as possible. Twice a week pull and push the turbulator control lever a few times to clean pipe exchangers. Then take ash out of the ash collector below the burner (for boilers with no automatic cleaning). **After heating season is finished, clean the boiler thoroughly(after a long therm shut down of boiler take out the ash from container/ashpan and sweep walls and bottom of the combustion chamber)**, replace damaged parts.

Changing the packing cord of the door

Dismantle the old packing cord with a screwdriver and clean the rabbet where it was placed. Take a new packing cord and put its beginning on the horizontal parts of the rabbet. With your hand or a light knock of a hammer press it into the rabbet on the circumference of the door.

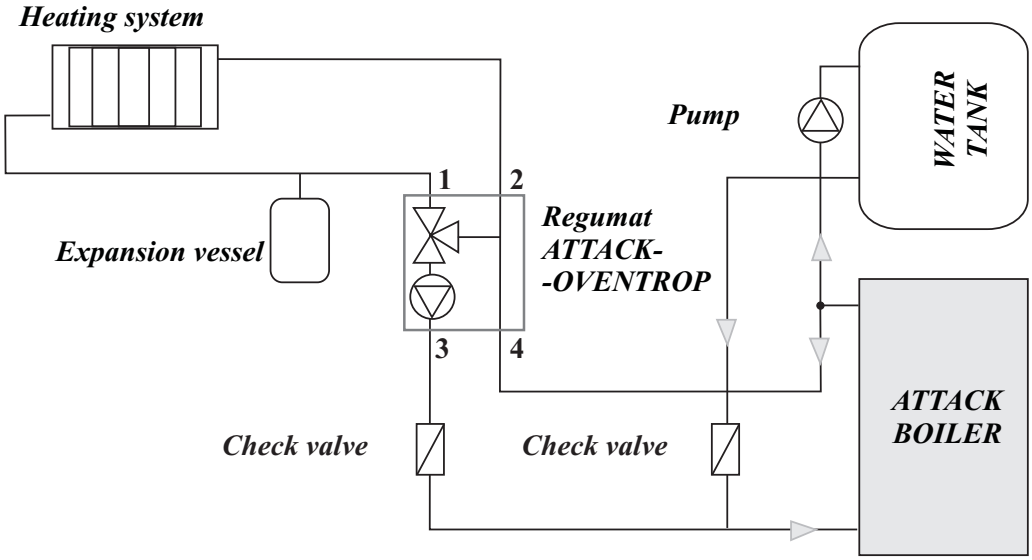
Adjustment of hinges

After some time a packing cord in the door gets deformed. To repack the door, it is necessary to change the position of the door. The position is changed by tightening the hinges of the door. Feeding door is joined to the body with two hinges attached to the door with a long pin. To change the adjustment of the hinges, it is necessary to remove the pin and screw the hinge by turning it. Fit the door and insert the pin into the hinge.

WARNING! To pull out the upper door - pin it is necessary to unmount the upper jacket of the boiler. In order to protect the health it is necessary to turn off the boiler and to pull out the plug from electricity mains before unmounting of the jacket.

Recommended connection schemes

The scheme of connection with mixing system REGUMAT ATTACK-OVENTROP



Instructions for liquidation of the product after its operation life

The product should be liquidated by selling to a scrap-material dealer or to a dump managed by a local authority.

Liquidation of wrapping

The wrapping should be liquidated by selling to a scrap-material dealer of to a dump managed by a local authority.

Accessories

The boiler ATTACK Pellet is delivered tested functionally. Standardly the boiler is equipped with the flange for the burners ATTACK.
The boiler is supplied wrapped and placed on wooden palette. The burner and pellet feeder is supplied separatelly.

These accessories are included into the delivery:
-Instruction for use
-Warranty certificatet
-List of contract service organizations

The recommended type of burner is ATTACK with the fuel feeder for the burner ATTACK - standard 1,5m, (on application up to 5 m)

Possible defects and their remedy

Defect	Cause	Remedy
Control light "power net" is not lighting	There is no voltage in the main Plug is not plugged properly Damaged switch Cord damaged	Check Check Replace Replace
The light "burner switch" is not lighting	No need of heating Interrupted safety thermostat Damaged switch	Find the cause, remove it and then reset Replace
The boiler cannot reach demanded parameters	Lack of water in system Too high pump output Boiler output is not dimensioned sufficiently for the system Bad quality of fuel Weak chimney drought Strong chimney drought Defect of the burner	Re-fill Regulate the flow and switching Mistake in project Use the prescribed fuel only New chimney, remove wrong attachment Place a cut-off slide into exhaust pipe See the supplement No.1, Or No.2 - Searching defects
Door not sealed	Damaged packing cord	Replace, set up the hinges

Notes

Notes

Notes

This page serves for confirming service examinations and is kept by a customer ! ! !

RECORD ON PUTTING THE BOILER TO OPERATION

Production number.....

Date of putting to operation.....
Service organization:
.....
.Stamp, signature
.....

Data on the customer (llegible)

Name and surname:
.....
Street: .....
Post code, town:.
.....
Tel. No. .....

Obligatory service examination after the 1st year of operation

Date : ..... Stamp, signature of service organization. : .....

Obligatory service examination after the 2nd year of operation

Date : ..... Stamp, signature of service organization. : .....

Obligatory service examination after the 3 rd year of operation

Date : ..... Stamp, signature of service organization. : .....

DOCUMENT on testing and completness of ATTACK product

Boiler production number:

Boiler type:

The product delivered with this certificate suits to technical standards and technical conditions.

The product was manufactured by its drawing design in requested quality and is approved by National testing institute.

Technical inspection

In Vrútky, date .....

Stamp and signature of the final inspection: .....

The country of delivery of the appliance:

SK	CZ	AT	CH	DK	ES	FI	FR	GB	GR	IE	IT	NL	NO	PT	SE	DE	BE	IS	LU

Producer:

ATTACK, s.r.o.
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