Instruction manual

Contents

WE HOPE THAT YOU ARE SATISFIED WITH OUR PRODUCT AND WE KINDLY RECOMMEND YOU TO FOLLOW THESE MAIN RULES IMPORTANT FOR A LONG SERVICE LIFE AND THE CORRECT FUNCTIONALITY OF THE BOILER

1. Installation, ignition test and operator‘s training **shall be carried out by an installation company trained by the manufacturer**. This company also completes a boiler installation report (p.37).

2. When burning pellets **use only good quality fuel of 6 – 8 cm diameter** made from soft barkless wood (white pellets).

3. Therefore, there must be a Laddomat 21 or a thermoregulatory valve installed behind the boiler in order to keep the **minimum temperature of water returning to the boiler at 65°C. Operating temperature** of water in the boiler must be in the **80-90°C** range.

4. Every circulating pump in the system must be regulated by an individual thermostat in order to keep the **specified minimum temperature of water returning to the boiler.**

5. We recommend installing the boiler with at least **one equalising tank**; the volume of which should be 500 – 1000 litres. Thus a longer service life of the pellet burner and lower fuel consumption are achieved.

CAUTION – if the boiler is installed with a Laddomat 21 or with a TV 60°C thermoregulatory valve and with the accumulation tanks (see attached schematics), the guarantee period for the boiler drum is extended from 24 to 36 months. The guarantee period for other parts remains unaffected. In non-compliance with these principles, the drum's and the heatproof shaped pieces' service life may dramatically decrease due to low-temperature corrosion.
The boiler drum may corrode in as little time as 2 years.

1. Intended use

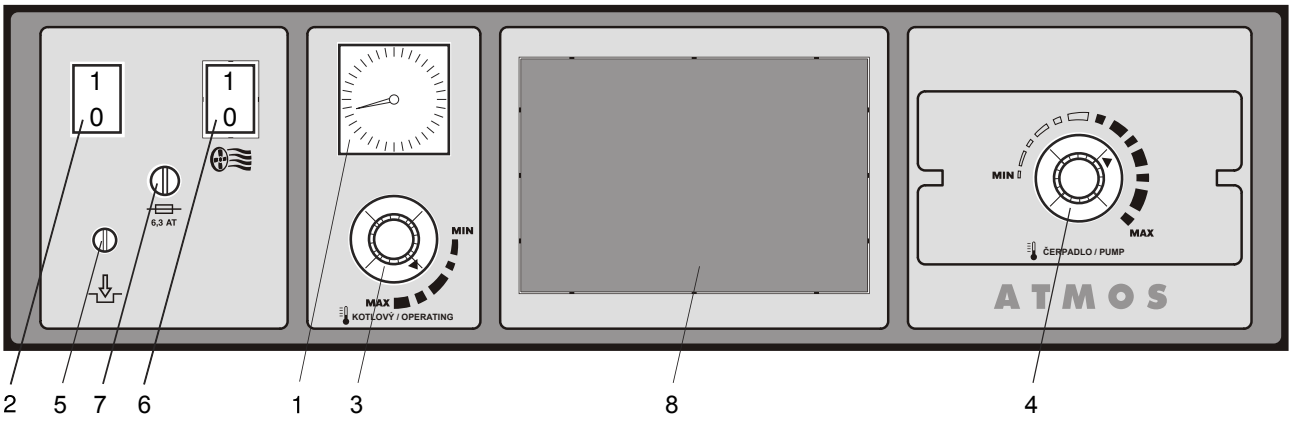
The hot water boilers ATMOS D15P, D20P, D30P and D45P are designed for convenient heating in residential houses, weekend house and other similar buildings by wood pellets 6 – 8 mm diameter. The boiler is not intended for burning sawdust or small-particle wood waste.

2. Technical description

A pellet burner with a conveyor is fitted to the left or right side of the boiler. It is attached to a frame with sealing cord (18 x 32) by a screw. The boiler drum is manufactured as a welded structure of 3-6 mm thick steel sheets. The boiler consists of a fuel-feeding hopper (combustion chamber) which is in the lower and rear section fitted with a heatproof shaped piece and in the upper part with a ceramic spherical chamber (shaped piece). The boiler types D15P and D20P have a heatproof shaped piece fitted opposite the pellet burner. The shaped piece protects the boiler drum against damage and also serves as a place on which the flame burns out completely. In the lower part of the boiler, there is a movable grill (for facilitating the ash removal) under which an ash-pan is located. A loading (cleaning) door is located in the front wall of the boiler. The boilers drum is externally heat insulated by mineral wool placed beneath the sheet metal covers of the boilers' external housing. A panel with a switch, operating (control) thermostat, pump thermostat, safety thermostat, thermometer and fuse is located in the upper area of the boiler. The air inlet is equipped with a control flap-valve operated by the Honeywell FR124 draught regulator. The boiler standard model is fitted with a cooling loop protecting it against overheating. The models D20P, D30P and D45P have also an extraction ventilator fitted to the rear side. The ventilator facilitates reaching the maximum output. It is switched on and off by an independent switch located in the boiler control panel and it is controlled by the same operating thermostat as the pellet burner.

With the D20P boiler type, use the extraction ventilator with the burner preset to an output ranging from 16 – 22 kW only. With types D30P and D45P, the extraction ventilator must be always operating when burning pellets.

Control panel appearance



1. Thermometer
2. Main switch
3. Control thermostat (for boiler)
4. Pump thermostat
5. Safety thermostat
6. Extraction ventilator switch (except for the D15P type)
7. Fuse
8. Area for electronic regulation of the heating system (92x138 mm)

Description:

1. **Thermometer** – monitors the temperature of water exiting the boiler

2. **Main switch** – allows for completely shutting down boiler if necessary (restart the pellet burner)

3. **Control thermostat** – regulates the operation of the pellet burner and also (with the D20P or D30P models) regulates the extraction ventilator. The regulation is based on the temperature of water exiting the boiler.

4. **Pump thermostat** – serves for switching the pump placed in the boiler circuit (set it to temperature between 70 – 80°C).

5. **Safety irreversible thermostat** – serves as boiler protection against overheating in case of control thermostat failure or as an indication of exceeding the emergency temperature. If such exceeding occurs, it is then necessary to depress the thermostat.

6. **Extraction ventilator switch** – serves for switching the extraction ventilator of D20P, D30P and D45P boiler types in pellet-burning operation mode.
7. **Fuse (6.3 A)** – pellet burner electronics protection.

8. **Area for electronic regulation** of the heating system can be used to house any type of regulation that fits into an aperture of 92x138 mm. The electric harness is prefabricated and ready to be used for the regulation's power supply.

3. Technical data

ATMOS boiler type		D15P	D20P	D30P	D45P
Boiler output	kW	4,5-15	6,5-22	8,9-29,8	13,5-45
Heating surface	m^2	1,9	2	2,7	3,6
Fuel shaft volume	dm^3	70	70	105	140
Feeding hole dimensions	mm	270x450	270x450	270x450	270x450
Specified chimney draught	Pa	18	15	21	23
Max.operating water-pressure	kPa	289	250	250	250
Boiler weight	kg	259	305	370	430
Gas-outlet pipe diameter	mm	152	152	152	152
Boiler height	mm	1405	1405	1405	1405
Boiler width	mm	606	606	606	606
Boiler depth	mm	470	470	670	870
Electric parts ingress protection	IP	20			
Electric input - at start-up - in operation	W	1120 120	1170 170	510 110	510 110
Boiler efficiency	%	90,4	91,1	>90	>90
Boiler class		3			
Waste gas temperature at nominal output	°C	141	128	170	170
Waste gas combustion products flow weight at nominal output	kg/s	0,012	0,016	0,025	0,035
Specified fuel		Good quality pellets with 6 – 8 mm diameter and 15-18 MJ.kg-1 caloric power.			
Average fuel (pellets) consumption at nominal output	$kg.h^{-1}$	3,7	5	8,6	11,8
Boiler water volume	l	65	82	91	117
Hydraulic pressure drop	mbar	0,22	0,22	0,23	0,24
Equalising tank minimum volume	l	500	500	750	1000
Connecting voltage	V/Hz	230/50			

Specified min. temperature of water returning to boiler is 65°C when in operation.
Specified boiler operating temperature is 80-90°C.

Boiler drawings key

1. Boiler drum
2. Loading (cleaning) door
3. Ash-pan
4. Control panel
5. Control valve
6. Heatproof shaped piece – combustion area bottom
7. Heatproof shaped piece – upper spherical chamber
8. Frame screen
9. Extraction ventilator
10. Output regulator - Honeywell FR 124
11. Door filling - Sibral
12. Door sealing 18 x 18 mm
13. Lock
14. Heatproof shaped piece – rear face of the spherical chamber
15. Ash-pan lock
16. Cooling loop
17. Burner aperture lid
18. Tube heat exchanger cleaning lid
19. Air-break valve (also serves as a brush with D20P, D30P and D45P models)
20. Rear-duct cleaning lid
21. Thermometer
22. Main switch
23. Control (boiler) thermostat
24. Pump thermostat
25. Safety thermostat
26. Fuse
27. Extraction ventilator switch (except for the D15P type)
28. Grill

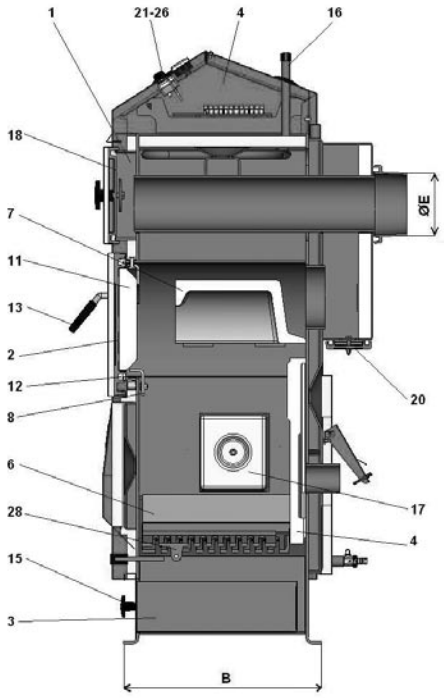
K – the flue-gas duct neck
L – the boiler water outlet
M – the boiler water inlet
N – filling valve pipe sleeve
P – sleeve for a sensor of the valve which reg lates the cooling loop (TS 130, STS 20)

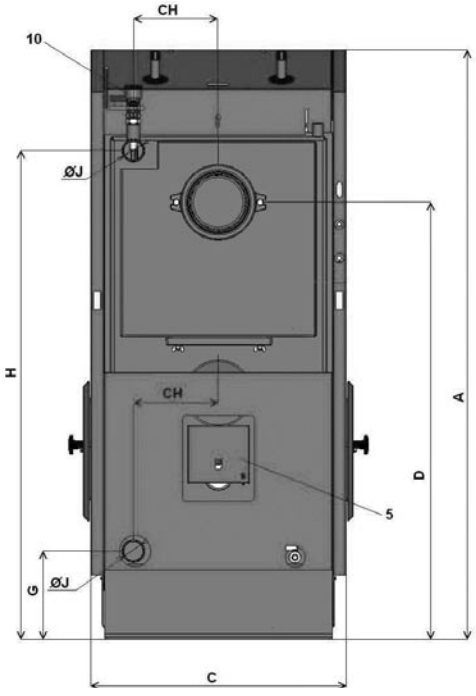
Technical data

Dimen-sions	D15P	D20P	D30P	D45P
A	1405	1405	1405	1405
B	470	470	670	870
C	606	606	606	606
D	1040	848	848	848
E	152	152	152	152
G	211	211	211	211
H	1163	1163	1163	1163
CH	202	202	202	202
J	6/4”	6/4”	6/4”	2”

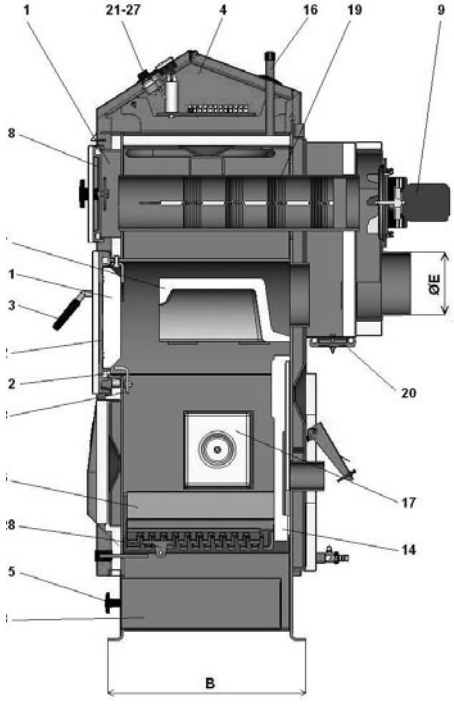
Drawings of boilers

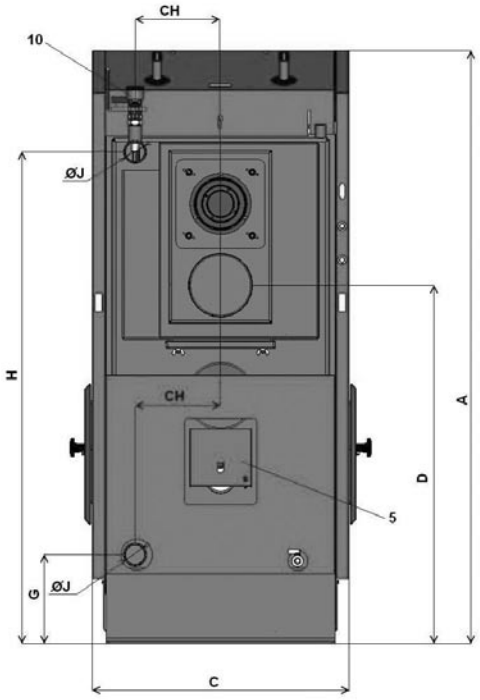
Cut away views - type D15P



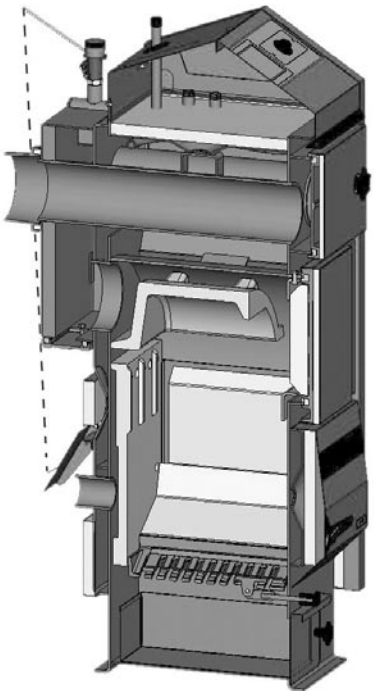


Cut away vies – types D20P, D30P, D45P



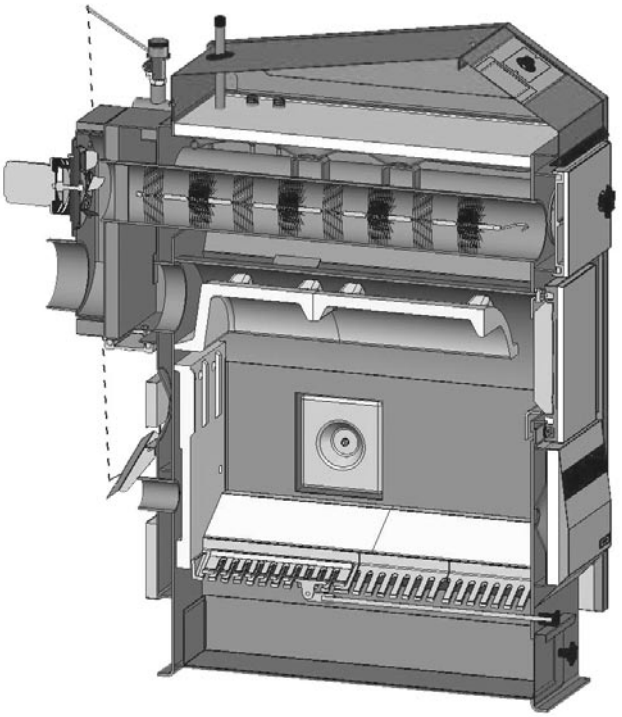


Cut away view - type D15P



Boiler without an extraction ventilator

Cut away view – type D45P

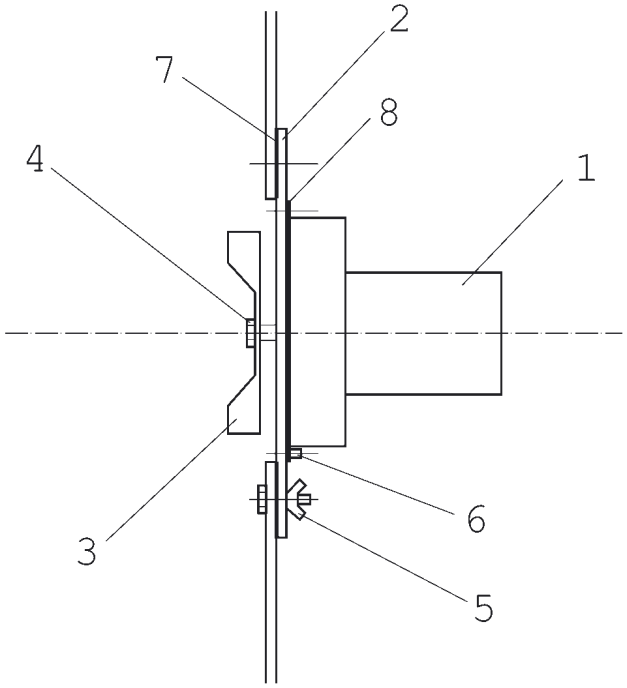


Boiler with an extraction ventilator

Extraction ventilator schematics – boiler types D20P, D30P, D45P

CAUTION – The extraction ventilator is supplied disassembled. Place it over the rear flue-gas duct, tighten everything well, connect into a socket and test for its smooth operation.

1 - Motor
2 - Plate
3 - Rotating wheel (stainless steel)
4 - **Nut with left-handed thread** and washer
5 - Wing nut
6 - Bolt
7 - Large gasket (2pcs)
8 - Small gasket

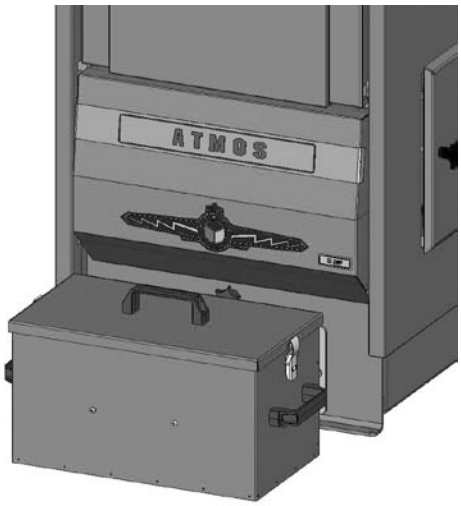


4. Supplied boiler accessories

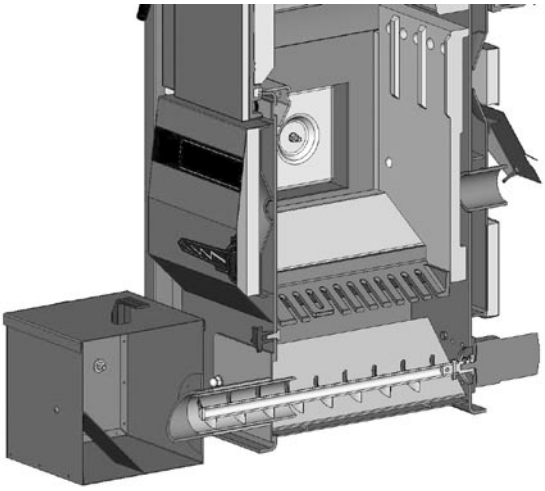
Steel brush with accessories	1pc
Poker	1pc
Filling-in valve	1pc
Operating and maintenance instructions manual	1pc
Draught regulator - Honeywell FR 124	1pc

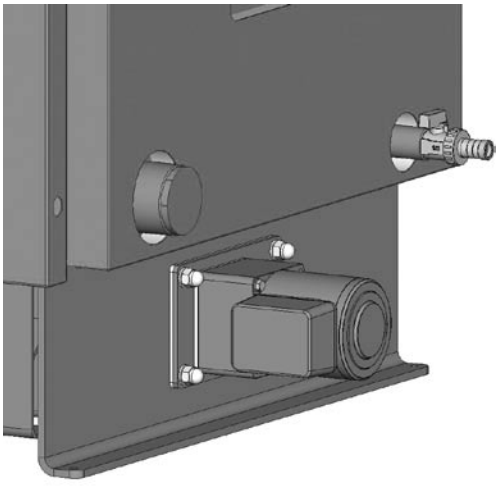
Automatic ash removal from the boiler drum

Each pellet type boiler produced after 1.3. 2007 can be fitted with automatic ash removal from the boiler body into the additional ash-pan, which will require emptying once in 14 to 45 days, depending on the quality of the pellets. For one minute, this automatic device removes the ash from the chamber under the burner by means of screw conveyor in regular interval of one hour or according another setting in the ash removal module. We can repeat this cycle in the boiler several times by switching the main switch on and off. When the additional ash-pan is completely full, the ash removal device will stand off (a screw) and a sound signal will start. New start up should be performed after cleaning the external ash-pan by means of switching the main boiler switch on and off.



The automatic ash-removal system does not need any specific operating procedures. Just make sure that the additional ash container /30/ is emptied regularly. The container is attached to the boiler by means of two clips with safety catches /32/. These clips must be fastened well during the boiler operation so that no inadvertent release of the ash-removal device and consequent transfer of ash into the boiler room may occur. This device must be installed in compliance with the supplied installation instructions.
When installing the device, we follow the
installation manual delivered with the device.





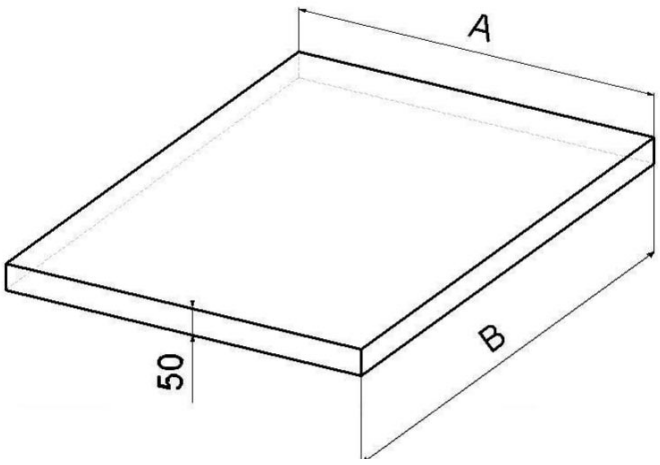
5. Fuel

The specified fuel are good quality pellets of 6-8 mm diameter, 10-25 mm length and 16-19 MJ.kg-1 caloric power. Good quality pellets are such that do not disintegrate into sawdust and are made from soft barkless wood (so called white pellets).

6. Boiler bases

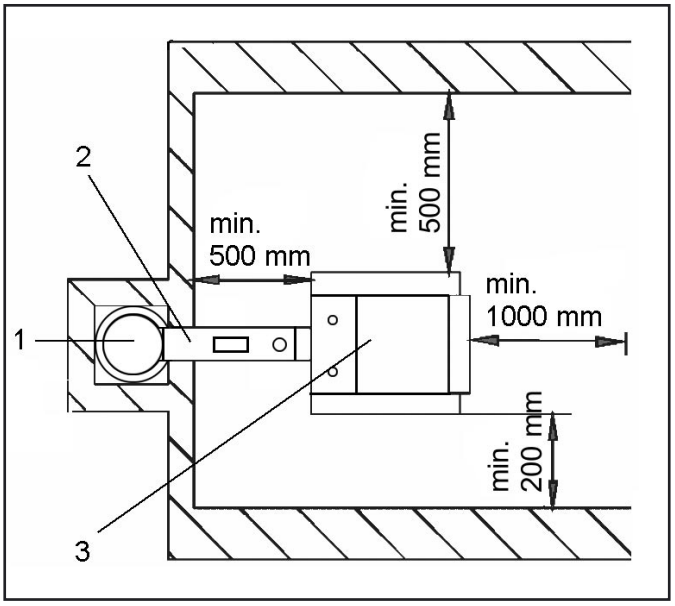
Boiler type (mm)	A	B
D15P, D20P	600	600
D30P	600	800
D45P	600	1000

We recommend providing a concrete (metal) base under the boiler.



7. Environment type and boiler placement in a boiler room

Boilers may be used in a "basic environment" - AA5/AB5 as specified in Czech standard ČSN3320001/ 1995. Boilers must be placed in a boiler room with sufficient air access necessary for combustion. Placing boilers in living areas (including halls/corridors) is not permitted. The combustion air inlet aperture in the boiler room must be of minimum 300 cm2 for boilers of 4.5 - 48 kW outputs.



1 - Chimney
2 - Flue duct
3 - Boiler

8. Chimney

Connecting the appliance to the chimney vent stack must always be carried out with the permission of the appropriate chimney authority. The vent stack must always be capable of providing sufficient draught and it must discharge the waste gas into the open atmosphere in a reliable manner for all possible operating conditions. The dimensions of the individual vent stack must be correct to ensure good functionality of the boiler; b**ecause the draught influences combustion, performance and the service life of the boiler**. The chimney draught is directly dependent on its cross section, height and the inner wall ruggedness. It is not permitted to connect another appliance into a chimney into which a boiler is connected. **The chimney diameter must not be smaller than the boiler outlet (min. 150 mm)**. The chimney draught must comply with the specified values (see technical data, page 7). The chimney must not be excessively high, otherwise the boiler effectiveness is decreased and the combustion is affected (the flame "breaks"). In case of excessive draught, install a throttle valve in the flue gas duct between the boiler and the chimney.

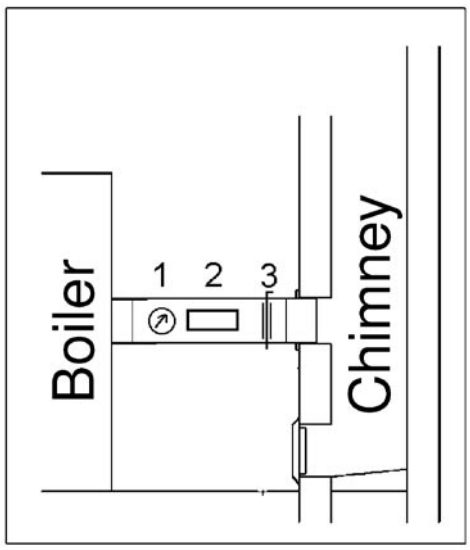
Indicative values of the chimney cross-section dimensions:

20 x 20 cm	height 7 m
20-cm diameter	height 8 m
15 x 15 cm	height 11 m
16-cm diameter	height 12m

Exact chimney dimensions are stipulated in Czech standard ČSN 73 4201:2002.
Specified chimney draught is stated in section 3 „Technical Data".

9. Flue-gas duct

The flue-gas duct must be connected into the chimney vent stack. If the boiler cannot be connected to the chimney directly, the appropriate flue-gas duct extension must be as short as possible in the given circumstances, **but not longer than 1m**, it must be without additional heating surface and must **incline upwards in the direction towards the chimney**. Flue-gas ducts must be mechanically durable and sealed against combustion products and gas penetration, and it must be possible to **clean them inside**. The flue-gas ducts must not be lead through another person's apartment or property. The internal diameter of the flue-gas duct must not be larger than the internal diameter of the chimney intake and it must not decrease in width in the direction towards the chimney. Use of elbow-pipes is not suitable. Methods for providing flue-gas duct entries through flammable material structures are stipulated in appendices 2 and 3 of the Czech standard ČSN 061008/97. These are appropriate for mobile installations, wooden cottages etc.



1 Waste gas thermometer
2 Cleaning aperture
3 Throttle valve (draught limiter)

In case of excessive chimney draught, install a throttle valve (3) or draught limiter.

10. Fire prevention during installation and use of heating appliances

Selected from ČSN 061008/97 – Fire safety of local appliances and heat sources.

Safe distances

When installing the appliance, keep a minimum safe distance of 200 mm from building materials. This distance is valid for boilers and flue-gas ducts positioned near flammable materials of the B, C1 and C2 flammability class (the flammability classes are listed in chart 1). It is necessary to double the 200 mm safe distance if the boilers and flue-gas ducts are placed near flammable materials of C3 class (see chart 1). It is also necessary to double the safe distance if the flammability class of the material in question cannot be determined. The safe distance can be decreased to one half (to 100 mm) if a heat insulating, non-combustible screen (asbestos board) of a 5 mm minimum thickness, is placed 25 mm from the protected combustible material (so called flammable insulation). The screening board or protection screen (on the protected object) must exceed the boiler outline including its flue-gas duct on each side by at least 150 mm and by at least 300 mm above its upper surface. The screening board or protection screen must be also used for all fixtures and fittings from combustible materials in cases where the safe distance cannot be maintained (such as in mobile structures or wooden cottages etc. - for more details see ČSN 061008 standard). The safe distance must be maintained even when placing fixtures and fittings near the boilers.
If boilers are placed on floors from combustible materials, the floor must be fitted with a non-combustible, heat insulating pad exceeding the boiler's ground-outline on the side where the stoking and ash-pan apertures are, by at least 300 mm (in front of the aperture) and on all the other sides by at least 100 mm. The non-combustible, heat-insulating pad can be made from any material of A flammability class.

Chart 1

Flammability classes of building materials and products	**Building materials and products categorised by their flammability class (selected from Czech standard ČSN 730823)**
A – non-combustible	granite, sandstone, concrete, bricks, ceramic tiles, mortars, fireproofing plasters etc.)
B – non-easily flammable	Akumin, Izomin, Heraklit, Lignos, basalt felt boards, fibreglass boards, Novodur
C1 – low degree of flammability	deciduous tree wood (oak, beech), Hobrex boards, plywood, Sirkolit, Werzalit, hardened paper (Formica, Ecrona)
C2 – medium degree of flammability	coniferous tree wood (pine tree, larch, spruce), chipboards and cork boards, rubber flooring (Industrial, Super)
C3 – high degree of flammability	fibreboards (Hobra, Sololak, Sololit), cellulose materials, polyurethane, polystyrene, polyethylene, foamed PVC

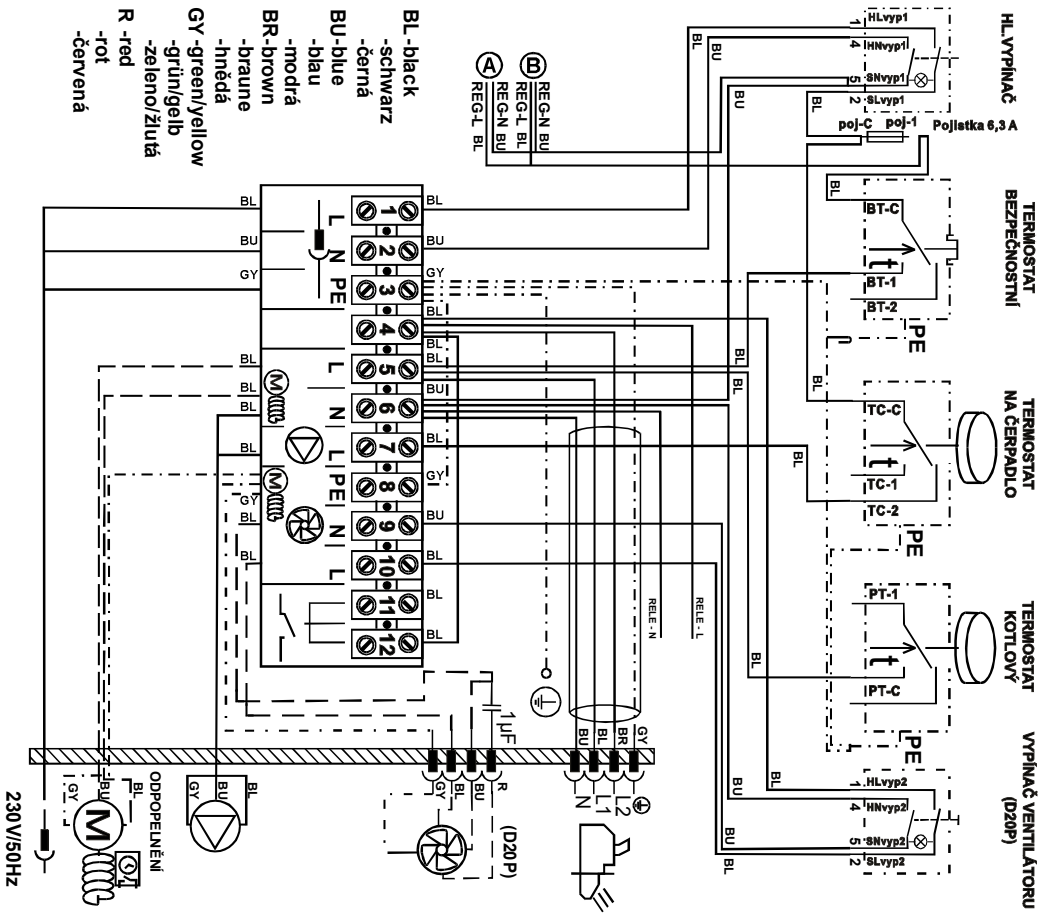
CAUTION - In circumstances when there is a risk of temporary access of flammable gases or fumes, or during works when a temporary fire or explosion risk may possibly occur (such as gluing linoleum, PVC etc.) the boilers must be put out of operation long enough before the risk occurrence. **No items from flammable materials may be placed on the boilers or near them into a distance lower than the specified safe distance**.

11. Connecting boilers to the electric network

Boilers are to be connected to a 230 V, 50 Hz electric network with electric cord without plug. The network connection is of the M type and when replacement is needed the service company must use the same type connection to replace it. Connection may only be carried out by a person qualified in compliance with all valid regulations of the particular country.

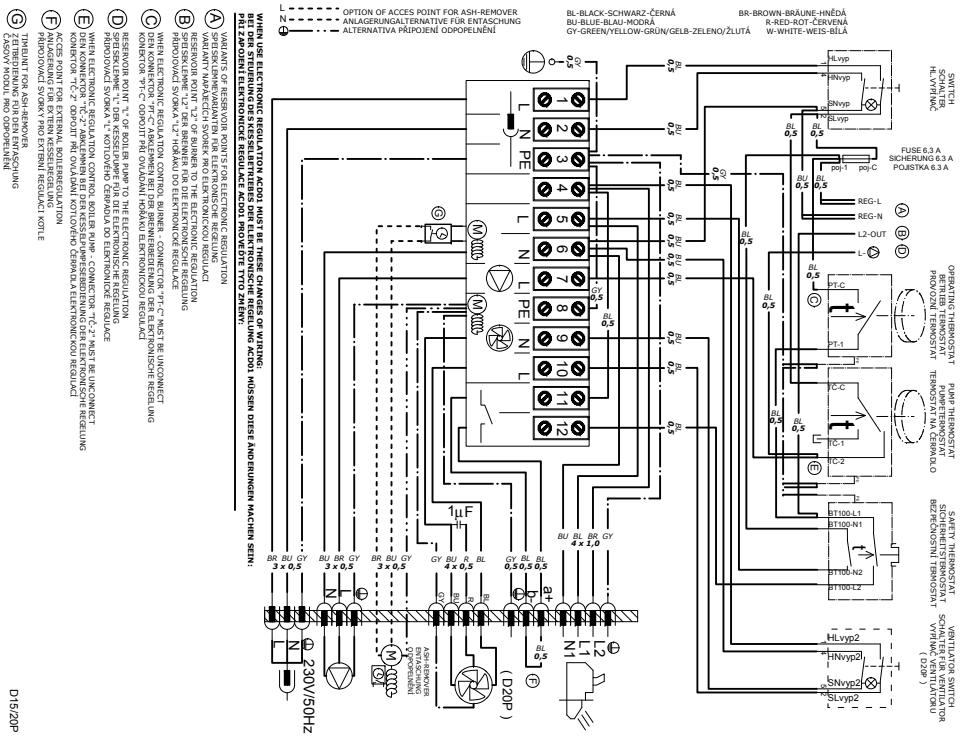
CAUTION – the electric cord must not be fitted with a termination (male plug for a socket). It must be connected into a distribution box in a permanent manner so that no mistake in cable identification is possible.

12. Wiring diagram of electromechanical regulation with an extraction ventilator, type UCJ 4C52 (D15P, D20P)

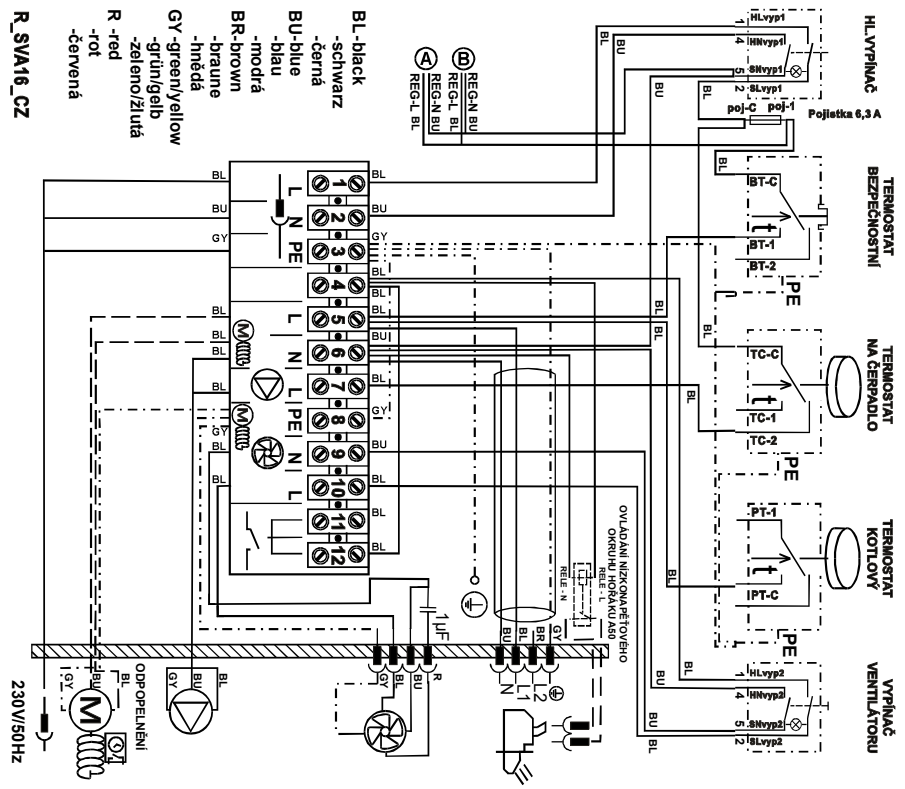


The A and B connectors are used for the power supply of the heating-system electronic regulation. The electronic regulation may be fitted in the control panel of certain boiler types.

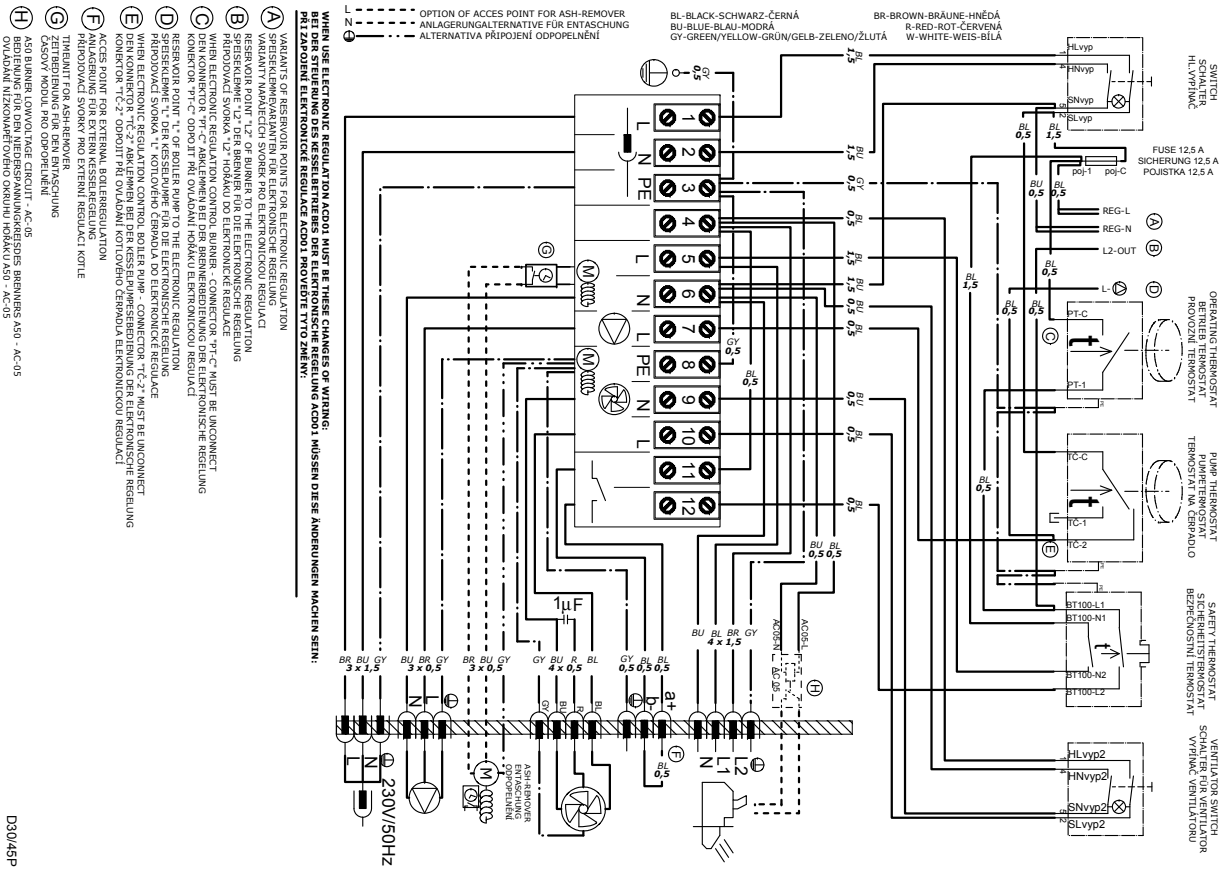
13. New wiring diagram of electromech. regul. with an extraction ventilator, type UCJ 4C52 (D15P, D20P), valid from 12/2007



14. Wiring diagram of electromechanical regulation with an extraction ventilator, type UCJ 4C52 (D30P, D45P)



15. Wiring diagram of electromech. regul. with an extraction ventilator, type UCJ 4C52 (D30P, D45P), valid from 12/2007



16. Obligatory ČSN EN standards related to boiler designing and installation

ČSN EN 303-5	- Solid fuel boilers for central heating
ČSN 06 0310/98	- Central heating, designing and assembly
ČSN 06 0830/96	- Safety devices for central heating and hot potable water heating
ČSN EN 73 4201/02	- Designing chimneys and flue-gas ducting
ČSN EN 1443/03	- Chimney structures – general requirements
ČSN 06 1008/97	- Fire safety of local appliances and heat sources
ČSN 73 0823/84	- Construction materials flammability class
ČSN EN 1264-1	- Floor heating – Systems and components – Definitions and symbols
ČSN EN 1264-2	- Floor heating – Systems and components – Heat output calculation
ČSN EN 1264-3	- Floor heating – Systems and components – Designing
ČSN EN 442-2	- Heaters – Testing and test analysis

CAUTION – the boiler must be installed in compliance with a design prepared in advance. Installation may only be carried out by persons trained by the manufacturer.

17. Choice and connection method of control and heating elements

Boilers are provided to the user with the basic boiler performance control elements compliant with requirements for convenient heating and its safety. The regulation ensures that the required temperature of the water exiting the boiler (80 - 90°C) is adhered to. Boilers are fitted with an integral thermostat for switching the pump in the boiler circuit on and off. Connection of these elements is illustrated in the wiring diagram. Every pump in the system must always be controlled by an individual thermostat to avoid a temperature drop of water returning to the boiler 65°C. When connecting the boiler without an accumulation tank or equalizing tank, the pump placed in the heated building circuit must be switched by an individual thermostat or electronic regulation so that it only operates when the pump in boiler circuit operates. If two thermostats are used – each for switching one pump – set the thermostat that switches the heated building circuit pump to 80°C, and the thermostat that switches the boiler circuit pump, to 75°C. Both pumps may also be switched by just one thermostat at the same time. If there is an adequately functioning gravity water circulation between the boiler and the system, which prolongs the required temperature build-up, the value of the thermostat designated for switching the boiler circuit pump can be reduced. Setting the required water temperature for the building is always achieved by means of a three-way mixing valve. The mixing valve can be regulated manually or by electronic regulation, which contributes to a more convenient and economical operation of the heating system. The connection of all the elements is designed by a specialist designer to suit specific conditions of the heating system. Electric installations related to the additional equipping the boilers with the above mentioned elements must be carried out by an expert in compliance with valid ČSN EN standards.

When installing the boiler, we recommend using a closed expansion tank. However, an open tank may also be used if permitted in the standards of the specific country. The boiler must always be installed in a way which prevents overheating (and subsequent damage) even during a power cut. It is because the boiler has certain momentum.

There are several ways of protecting the boiler against overheating. Connecting an overheat prevention cooling loop with a TS 130 3/4 A (95/110°C) or WATTS STS 20 (97°C) valve to the public water system. In cases of personal wells, the boiler can be additionally protected by using a back-up power supply (battery with an exchanger) for operation back up of at least one pump. Another option is connecting the boiler to an after-cooling tank and reversal zone valve.

When installing the boiler, position the rear section 10 mm higher (prop it up) in order to facilitate circulating and air-bleeding.

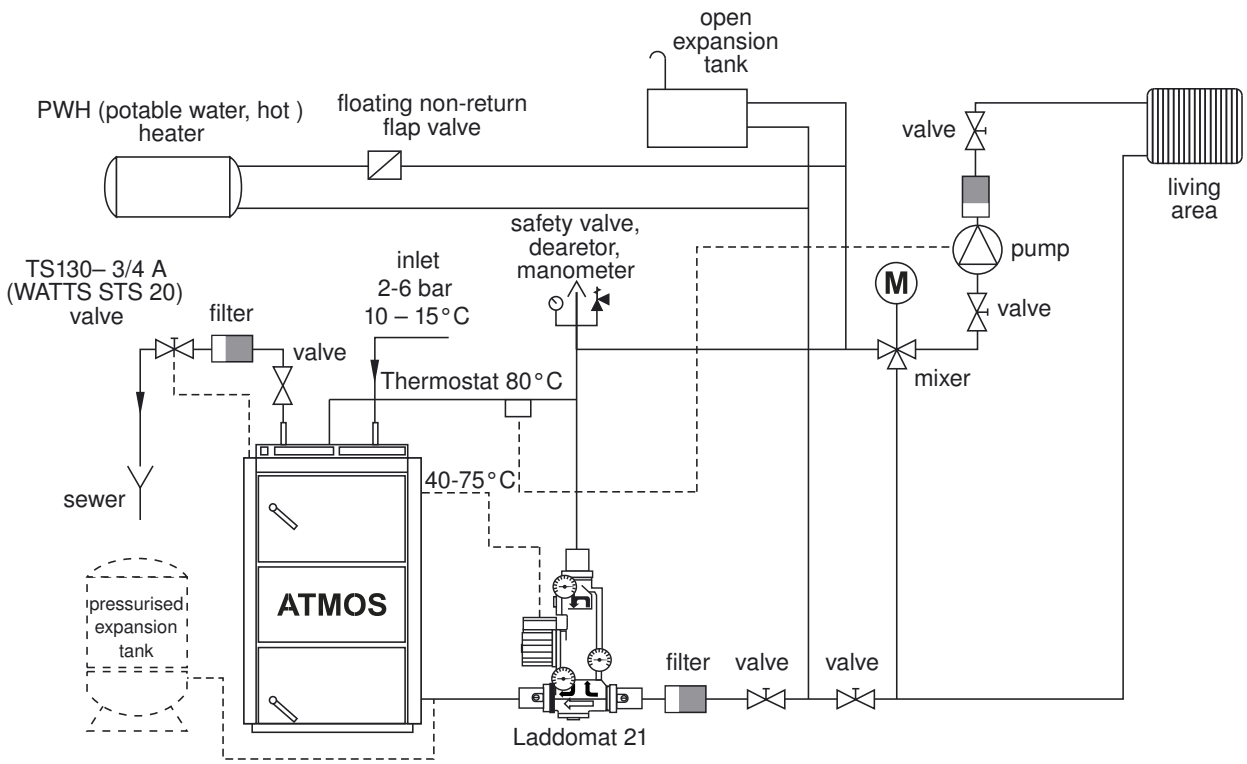
For the heating system regulation we recommend regulation elements provided by the following companies:

a) ATMOS ACD 01	tel.: +420 326 701 404
b) KOMEXTHERM, Praha	tel.: +420 235 313 284
c) KTR, Uherský Brod	tel.: +420 572 633 985
d) Landis & Staefa	tel.: +420 261 342 382

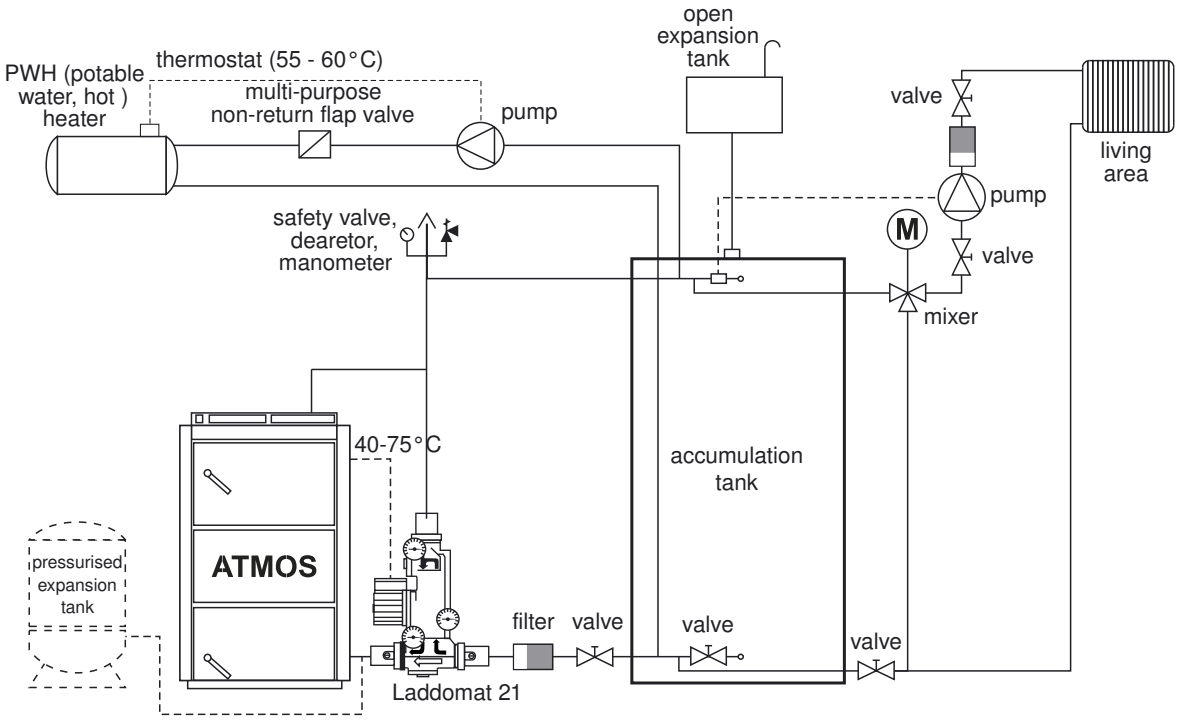
18. Boiler corrosion protection

The specified solution is connecting the boiler with **Laddomat 21** or with a thermoregulatory valve, which can separate the boiler circuit from the heating circuit (primary and secondary circuits), and provide **minimum of 65°C for water returning to boiler**. The higher the temperature of water returning to the boiler, the fewer tars and acids condensing; which damage the boiler. Temperature of the outgoing water must permanently range between 80 - 90°C. The combustion products (waste gas) temperature must not drop **below 110°C** during normal operation. Low waste gas temperature causes condensation of tars and acids even when the specified outgoing water temperature of 80 - 90°C and returning water temperature of 65°C are adhered to. For outputs of 15 - 100 kW it is also possible to keep the minimum temperature of the returning water (65-75°C) by utilising a three-way mixing valve with an electric actuator and electronic regulation.

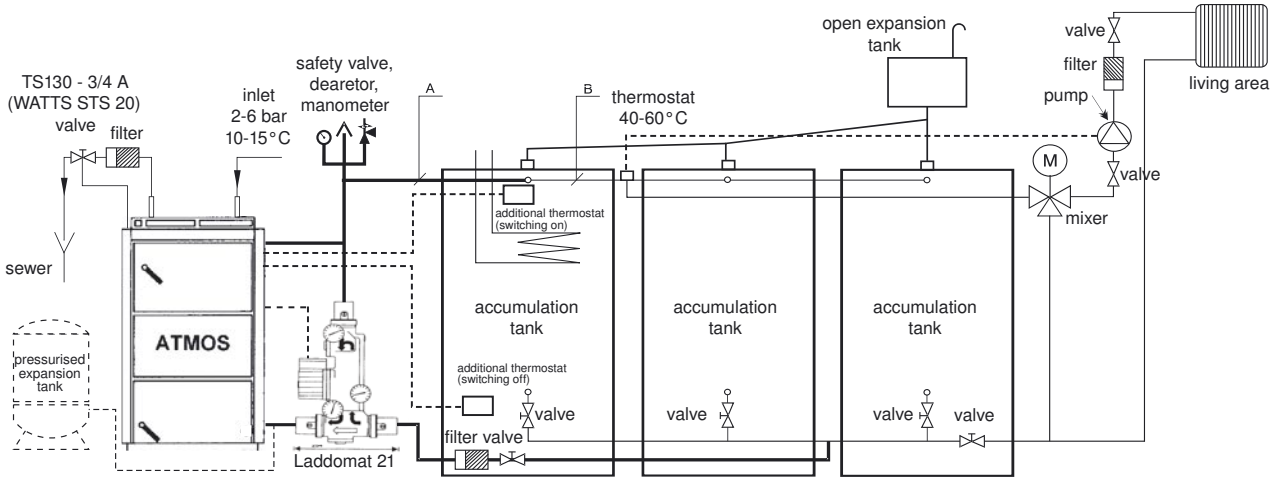
19. Specified boiler connection with Laddomat 21



20. Specified boiler connection with an equalizing tank



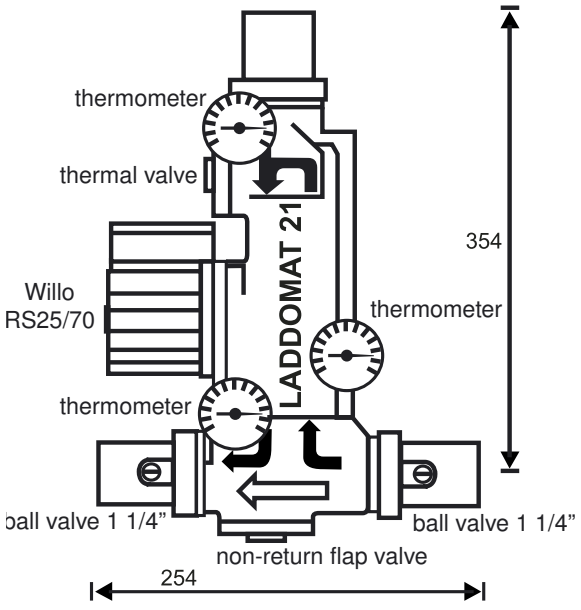
21. Recommended wiring diagram with Laddomat 21 and accumulators



Pipeline diameters if connected with accumulation tanks

Boiler type and output	section A		section B	
	in copper	in steel	in copper	in steel
D15P, D20P	28x1	25 (1”)	28x1	25 (1”)
D30P	35x1,5	32 (5/4”)	28x1	25 (1”)
D45P	54x2	50 (2”)	35x1,5	32 (5/4”)

22. Laddomat 21

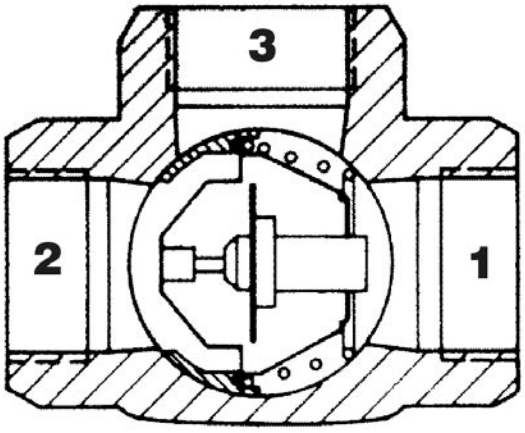


With its construction, Laddomat 21 replaces the traditional connection composed of individual parts. It consists of a cast-iron body, thermoregulatory valve, pump, non-return flap valve, ball valves and thermometers. When the water temperature reaches 78 °C, the thermoregulatory valve opens the water supply from the storage tank. The connection with Laddomat 21 is considerably easier and therefore, we recommend it. A spare thermo-cartridge of 72°C is supplied with the Laddomat 21 device. It is used for boilers over 32 kW.

OPERATION DATA	
Max. operating pressure	0,25 MPa
Design pressure	0,25 MPa
Withstand test pressure	0,33 MPa
Max. operating temperature	100°C

WARNING - Laddomat 21 is designed only for boilers with output up to 75 kW. However, we recommend using it only with boilers with output up to 50 kW (inclusive).

23. Thermoregulatory valve ESBE



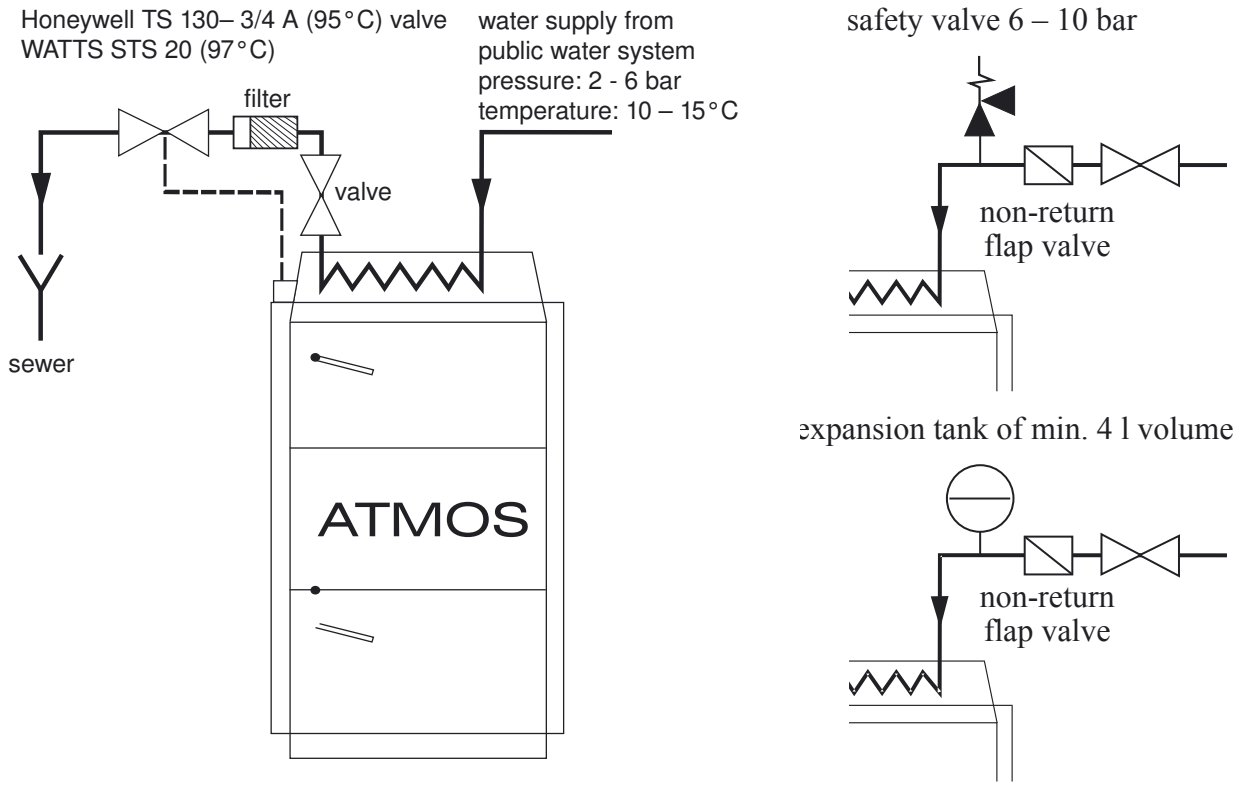
Thermoregulatory valve type ESBE, TV 60 °C is used with solid fuel boilers. When the boiler water temperature reaches + 60 °C, the thermoregulatory valve opens and fluid from the building heating circuit (2) enters the boiler circuit (3 →1). Inlets 1 and 3 always remain open. This ensures that the minimum temperature of the water returning to the boiler is maintained. If need be, a thermoregulatory valve set to a higher temperature (E.g. 72°C) may be used.

Recommended size of the thermoregulatory valve TV 60°C.

For boilers: D15P, D20P ..... DN 25
D30P DN32
D45P DN40

24. Connection of overheat protecting cooling loop with a safety valve Honeywell TS 130 - 3/4 A or WATTS STS20

(valve opening temperature 95 - 97°C)



CAUTION – in compliance with the EN ČSN 303-5, the cooling loop must not be used for any other purpose than overheat protection (never for heating hot potable water).

The TS 130 - 3/4 A valve or WATTS STS 20 valve, the sensor of which is placed in the rear of the boiler, prevents overheating in the following way: if the boiler water temperature rises above 95 °C, the valve opens and allows water from public water supply system to enter the cooling loop. This water then absorbs the excessive energy and exits to the sewer. In case that a non-return flap valve has been installed to the cooling loop water inlet for the purpose of preventing reversed water flow (which might be caused by pressure drop in the public water supply system), the cooling loop

25. Operating instructions

Preparing boilers for operation

Before putting boilers into operation, it is necessary to ensure that the system has been filled with wa-

ter, and air-bled. The boilers must always be operated in compliance with the instructions stipulated in this manual so that satisfactory and safe functioning is achieved. They should only be operated by adults. The boilers may only be put in operation in compliance with these instructions and the manual enclosed with the pellet burner and by a qualified person. Before burning pellets, several steps must be carried out; ensure that all lids and doors are fully closed. Check that the burner is well drawn towards the boiler through its gasket and the limit switch position-stop is in its place (with ATMOS IWABO and ERATO burners). Also check the tube between the burner and conveyor so that it is stretched and at a sufficient angle to ensure that the pellets can drop without difficulty into the burner. They must not cumulate inside the tube! The screw conveyor should be at a maximum of 45-degree angle otherwise the boilers might not reach their nominal output. If all checks are satisfactory, load the pellets into the conveyor.

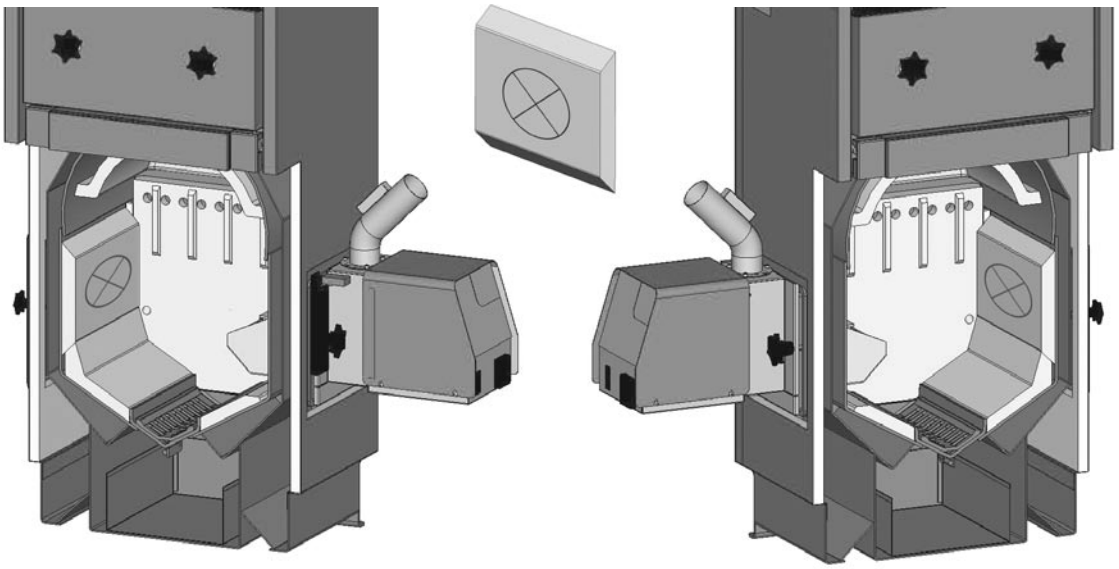
With the ATMOS IWABO burner, plug the conveyor‘s lead into a regular 230V-50Hz socket. With the ATMOS ERATO burner, plug the conveyor‘s lead into the socket placed on the pellet burner, which serves for the pellets loading. With the ATMOS A50 load the pellets by selecting the „primary pellets loading program“ on the burner display, see the burner instruction manual. After the pellets start falling out of the conveyor, plug the ATMOS IWABO or ATMOS ERATO conveyor‘s electric lead back into the socket for regular operation. With the ATMOS A50 burner put the program back into „regular mode“, see the burner instruction manual.

For the D20P boiler with its burner set to output ranging between 16 – 22 kW, switch the extraction ventilator permanently on by the control panel switch. For the burner output pre-set to a value lower than 16 kW, the control panel switch must be permanently off. When burning pellets in the boiler types D30P or D45P, the extraction ventilator must be operating during all boiler‘s output modes. With the D30P type, the pellet burner (the fuel loading wheel) must be adjusted (the number of pins must be reduced from 6 to 4, see the A50 burner instruction manual).

Boiler adjustments before burning pellets:

Before switching the main switch on, close (lower) the control flap-valve, which is operated by the FR 124 draught regulator. The valve must be completely closed so that no „false“ air can enter. Switch the main (green) switch on.

26. Placing the shaped pieces into the combustion area (for D15P and D20P types)

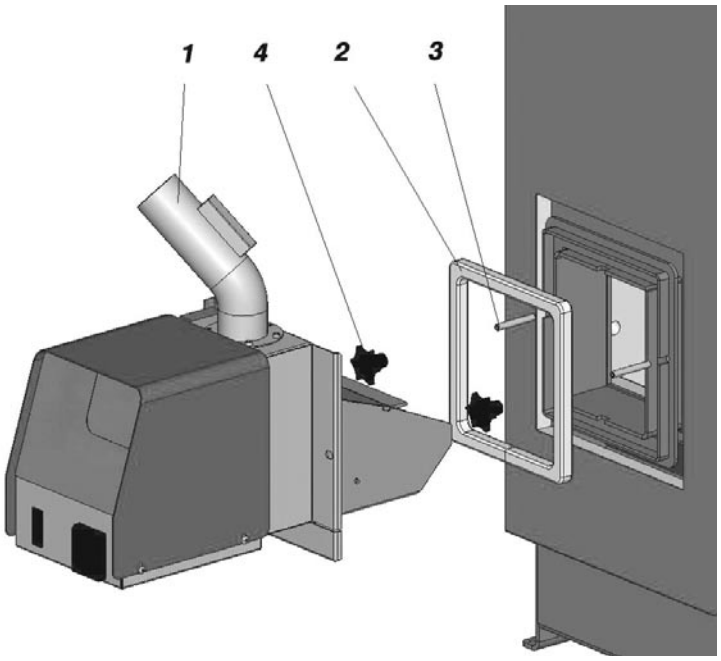


Burner on the right side

Burner on the left side

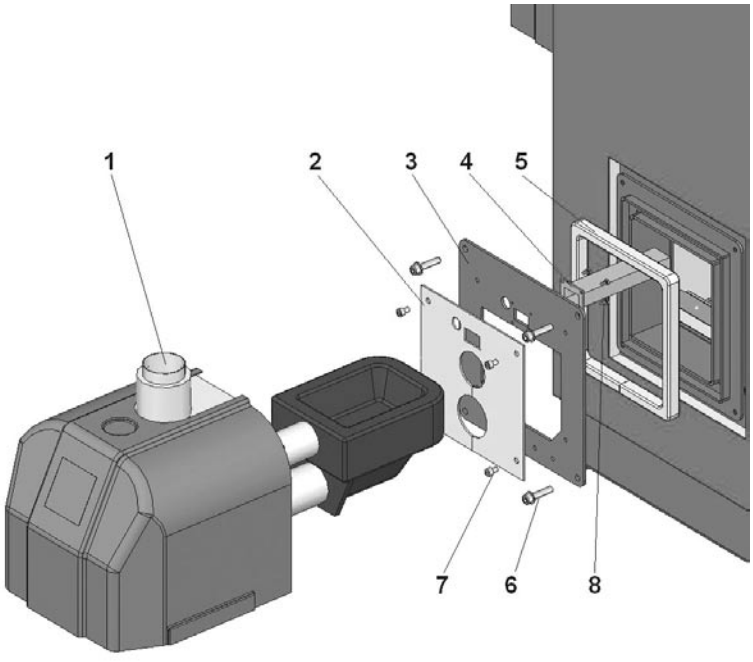
CAUTION – do not forget to place the fire clay shaped-piece into the chamber. The shaped piece must always be placed opposite the burner. The shaped piece serves as a place on which the flame burns out completely and it also protects the boiler parts situated opposite the burner against overheating and damage.

Connecting the burner (for D15P and D 20P types)



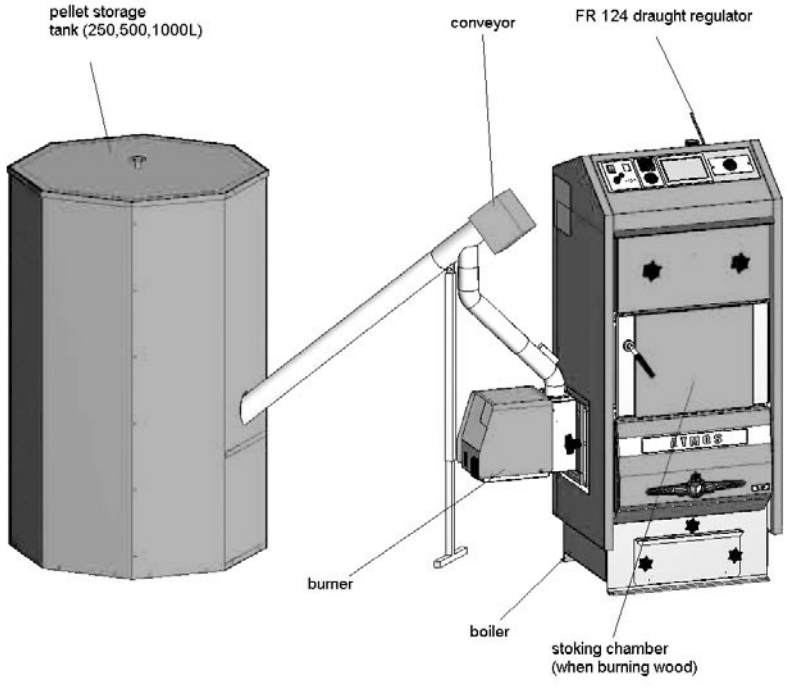
1 - ATMOS (IWABO or ERATO) pellet burner
2 – Sealing cord 18x32 - small
3 – Two M8 screws
4 - Two M8 decorative nuts

Connecting the burner (for D30P and D 45P types)

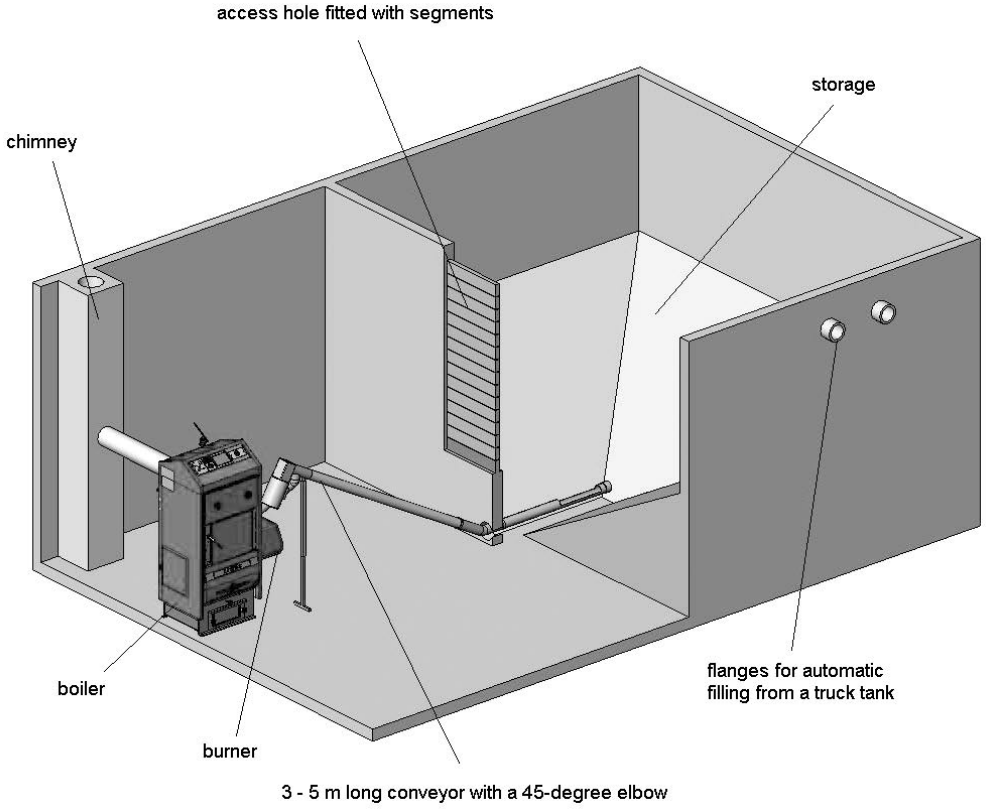


1 - ATMOS A50 pellet burner
2 - burner gasket
3 - burner connection plate
4 - secondary air inlet
5 – sealing cord 18x32 - large
6 - four M10x45 mm screws
7 - four M8x10 mm (12mm) screws
8 - four M6 screws

Boiler system with an external storage container and conveyor



Boiler room with a built-in pellet storage



WE RECOMMEND choosing sufficiently big pellet storage, at least 250or 500 litres, based on the required output. The bigger the storage, the better. The conveyor length may be 1.5, 2.5 or 5.0 meters. The pellet storage may also clearly define the area of the room from which – in compliance with fire safety regulations – may the pellets be transported into the boiler intermediate storage tank, or directly into the boiler.

Setting the output and basic parameters when putting the boiler and IWABO VILLAS S1 burner into operation

When putting the boiler into operation, it is necessary to set a few basic parameters on the pellet burner. In order to satisfactorily set these parameters, it is necessary to explain how the burner operates. When the boiler thermostat is switched on, the conveyor starts dispatching a sufficient amount of pellets (P1 potentiometer) necessary for a rapid and smooth fuel ignition in the burner throat. When the pellets ignite and the burner detects a flame, a period of time (P4 potentiometer) necessary for the sufficient flaring up of the pellets commences. After the pellets have flared-up sufficiently, the conveyor starts dispatching an amount of fuel which corresponds to the pre-set output (P2 potentiometer) and continues until the system is sufficiently heated and the boiler thermostat switches off. Then, the conveyor is automatically stopped and only the burner ventilator continues operating for a period of time necessary (P3 potentiometer) for the complete combustion of pellets. The whole cycle keeps repeating.

To set parameters of P1 to P4, it is necessary to remove the covering sheet metal, with a visor, attached

to the burner's body by screws. This provides access to an electronic panel with five potentiometers; which have the following functions (setting must only be carried out by a trained person):

P1 (R7) – for setting the ignition-fuel conveying time (30 - 165 sec) - number of pellets which must be fed into the burner throat to allow good ignition (choose the lowest possible amount).

P2 (R9) – for setting conveyor pause and circulation (2.0 - 7.4 sec) – to set the burner (boiler) output – amount of pellets per hour (operation in a 15-second period).

P3 (R8) – for setting the ventilating stage (30 – 300 sec) – the time for which the burner ventilator keeps operating after the boiler has been switched off by the control thermostat. This feature influences good pellets combustion (set to allow all cinders to burn out).

P4 (R10) – for setting the conveyor start delay (0 – 3 minutes) – the amount of time (after pellet ignition) for which the conveyor waits before the fuel flares up sufficiently so that it can start dispatching pellets in a standard way (set the longest possible time so that the burner does not get choked on smoke. On the other hand, the flame must not go out either).

P5 – photocell sensitivity 0 – 9. Caution – **do not set!**

The burner electronic panel is further equipped with two LEDs indicating the current setting (see the charts) and with two micro-switches.
The last parameter is the amount of air which is blown into the burner throat. This feature is regulated by a throttle valve situated on the burner ventilator - inside, under the upper cover.
Setting these parameters is sensitive and therefore can only be performed by a trained person using a waste gas analyser (analysing the waste gas in stabilised boiler state). After all these parameters have been set, close the burner in a manner preventing any incompetent manipulation. When the burner operates in ordinary mode, the operator only switches it on and sets the required temperature of water exiting the boiler (80 - 90°C) on the boiler thermostat. The boiler regulates everything automatically. The operator only removes ashes and cleans the boiler. Set the switching temperature of the primary circuit pump to 40 - 80°C.

Indication - setting

LD3 – green diode – indicates the potentiometer number (P1 - P5; 1 - 5 flashes)

LD2 – yellow diode – indicates particular potentiometer setting (0 – 9 flashes)

E.g. The green diode flashes 3 times followed by 6 flashes of the yellow diode – this means that the fuel burn-off time is set in a way that the burner ventilator keeps operating for 210 seconds after the photocell detects no more light.

Comparative chart

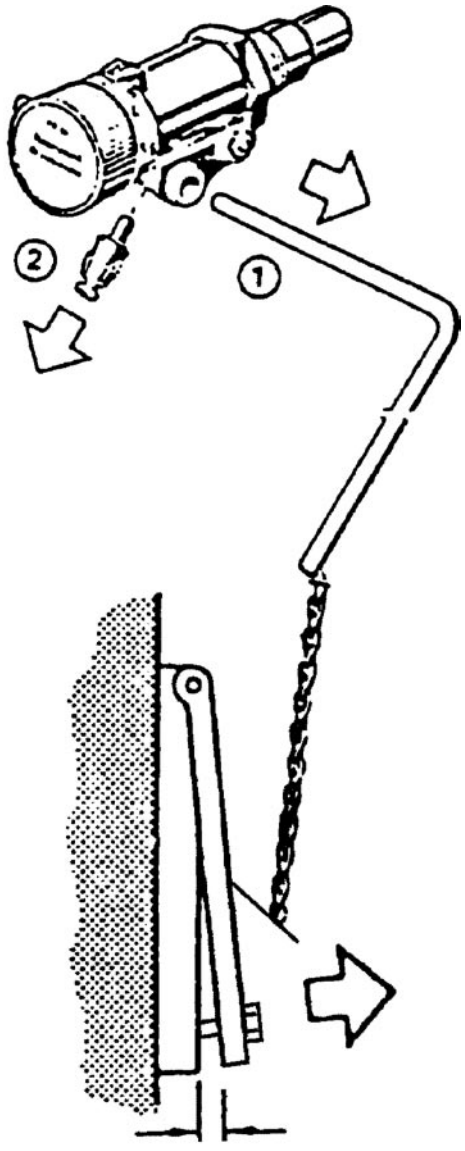
	P1	P2	P3	P4	P5
0 flashes	30 s	2,0 s	30 s	30 s	sensitivity 0
1 flashes	45 s	2,6 s	60 s	60 s	sensitivity 1
2 flashes	60 s	3,2 s	90 s	90 s	sensitivity 2
3 flashes	75 s	3,8 s	120 s	120 s	sensitivity 3
4 flashes	90 s	4,4 s	150 s	150 s	sensitivity 4
5 flashes	105 s	5,0 s	180 s	180 s	sensitivity 5
6 flashes	120 s	5,6 s	210 s	210 s	sensitivity 6
7 flashes	135 s	6,2 s	240 s	240 s	sensitivity 7
8 flashes	150 s	6,8 s	270 s	270 s	sensitivity 8
9 flashes	165 s	7,4 s	300 s	300 s	sensitivity 9
Manufacturer's default settings:					
	75 s	**3,8 s**	**150 s**	**150 s**	**sensitivity 8**

Setting of the electronic panel switches

Switch SW1 in position "ON": the burner ventilator does not run during the first, start-up mode.
Switch SW1 in position "OFF": the burner ventilator runs during the first start-up mode.
Switch SW2 in position "ON": during a second attempt to ignite, only half the pellets amount will be fed in the burner chamber**.**
Switch SW2 in position "OFF": during a second attempt to ignite, no pellets will be fed in the burner chamber.
If the yellow LD2 light is on permanently: the ignition was unsuccessful after two attempts.
If the green LD3 light is on permanently: the photocell has lost any indication of light for 30 seconds and a new attempt to ignite was unsuccessful.
Recommended (manufacturer's) setting SW1 - "ON" SW2 – "ON"

CAUTION – carry out the commissioning and setting of the ATMOS ERATO or ATMOS A50 burners in compliance with their separate manuals that are supplied with the burners.

Draught regulator - HONEYWELL Braukmann FR124 – Assembly instructions
When burning pellets the flap should be permanently closed.



cca. 3 - 50 mm

Disassemble the lever /1/ and coupler /2/ and screw the regulator into the boiler.

Setting

Heat the boiler to approx. 80°C. Set the setting handle to the temperature read on the boiler thermometer. Tension the air flap valve chain in a way that provides the required boiler output; the gap at the air (control) flap valve may range between 3-50 mm. In cases where there are insufficient general draught conditions, slightly increase the flap-valve gap.

Draught regulator functional check

Set the setting handle to the required temperature of water exiting the boiler (80 - 90 °C). When the water temperature reaches its maximum of 95°C, the control flap valve must be fully closed (only providing the setscrew gap). It is always necessary to fine-tune the specified operating temperature (80 - 90°C) utilising the mixing valves behind the boiler either manually or by electronic regulation with electric actuator.

27. Boiler cleaning and ash removal

It is necessary to clean the boilers regularly and thoroughly every 1 to 14 days (depending on the heating mode) because the flue cinder accumulated in the fuel storage tank together with tars and acids insulate the heat-transfer surface and dramatically decrease the boiler's output and service life. Before cleaning, let the boiler completely combust the fuel and burn-off. Then open the loading door and sweep the ashes down through the grill into the lower area (ash-pan). Remove the ashes. Also clean the tube heat exchanger (placed above the combustion chamber) regularly by the supplied brush. With the boiler types D20P, D30P or D45P, carry out the cleaning with the brush inserted in the exchanger (the brush also serves as an air-break valve). If the upper ceramic part is substantially clogged with cinder, clean it by sweeping (Caution – fragile). If the boiler operates with a pellet burner, also clean the cinder from the burner's burn-off chamber. With the boiler types which feature an extraction ventilator (the D20P, D30P and D45P models), clean the ventilator's rotating wheel which is placed on the motor (in the rear section of the boiler) at least once a year. The cleaning and ash-removing interval depends on the fuel quality, heating intensity, chimney draught and other conditions. At least once a year remove the burner and clean it thoroughly.

28. Heating system maintenance - including boilers

Inspect at least once every 2 weeks. If necessary, refill the system with water. If the boilers are out of operation during wintertime, a risk of water freezing in the system arises. Therefore, we recommend letting all the water out from the system or filling it with antifreeze mixture. In other situations, only let water out if absolutely necessary and keep without water for as little time as possible. After the heating season is over, clean the boiler thoroughly and replace damaged parts. **Do not leave parts replacement for the last moment; prepare your boiler for the heating season as early as in spring**.

29. Use and inspections

The operator must always act in compliance with the usage and maintenance instruction manual. Any adjustments to the boilers which may lead to operator's or other persons' health risk are prohibited. The boiler may be operated by a person older than 18 years who is familiar with the instruction manual and with the appliance operation, and who is in compliance with the Section 14 of the 24/1984 Coll. government decree. It is prohibited to leave unattended children in the vicinity of operating boilers. It is prohibited to place any flammable items on the boilers or within the vicinity of their loading and ash-pan apertures. Removed ash must be placed into vessels from non-combustible materials fitted with a lid. Operating boilers must be occasionally inspected by the operator. The user may only carry out repairs consisting of replacement of delivered spare part (such as fireclay shaped piece or sealing cord etc.). When in operation, always check that the boiler doors and cleaning apertures are well sealed – always tighten them well. The user must not tamper with the boiler construction or its electrical installation. The boiler must be well cleaned and in time ensuring that all ducts are always obstacle-free. Loading door and ash-pan door must always be well closed.

30. Possible failures and troubleshooting

Failure	Cause	Solution
The "mains" indicator not lit up	- no voltage in el. network - plug incorrectly inserted to el. socket - defective power supply switch - defective electric cord	- check - check - replace - replace
Boilers do not reach their required outputs and the pre-set water temperatures	- not enough water in the system - excessive pump output - the boiler output is not sufficiently rated for the particular heating system - low quality fuel - insufficient chimney draught - excessive chimney draught - extraction ventilator blades are bent - insufficiently cleaned boiler	- refill - adjust the flow rate and pump's switching - design issue - burn good quality pellet - new chimney; unsuitable connection - place a throttle valve (draught limiter) in the flue-gas duct - straighten blades (to a 90-degree angle) - replace - clean
Door leaking	- defective fibreglass cord - insufficient chimney draught	- replace - adjust the door hinges -chimney defect
Ventilator does not turn	- boiler overheated - safety thermostat fuse interrupted - rotating wheel clogged - defective capacitor - defective motor - bad contact in plug of motor cable lead	- press the thermostat push-button (use a pencil) - clean the ventilator including the ducting from tar and sediments - replace - replace - check - measure

Defects and failures of the burner and conveyor	- fuel has run out	- refill
	- the fuel clinkers and blocks the burner chamber; the fuel clinkers and does not burn; the pellet feeding nozzle is obstructed with pellets	- clean the tube and replace pellets or reduce the burner's output (reduce amount of pellets - pot. P2)
	- insufficient burner's output	- low fuel heating capacity
	- screw conveyor does not operate (keeps stopping)	- replace the control unit - replace conveyor's transmission – the current one is damaged - check the safety thermostat placed on the burner throat - temperature too high - reduce the burner's output (the conveyor gets overloaded and keeps stopping – pot P2)
	- other burner defects	- adhere to the burner's instruction manual

31. Spares

Heatproof shaped piece – combustion area bottom /6/	2
Heatproof shaped piece – upper spherical chamber /7/	1
Heatproof shaped piece – combustion area rear face /14/	1
Grill /28/	1
Thermometer /21/	1
Main switch /22/	1
Control thermostat /23/	1
Pump thermostat /24/	1
Safety thermostat /25/	1
Fuse /26/	1
Door sealing cord 18 x 18 /12/	1
Ash-pan /3/	1
Sealing cord placed between burner and boiler (18x32 mm)	1
Extraction ventilator switch /27/	1

Door sealing cord replacement

Procedure: Use a screwdriver to remove the old sealing cord and to clean the groove in which it was seated. Lightly shape the cord from a square into a trapeze cross-section using a hammer. Manually press the sealing cord along the door circumference (place the narrower base into the groove first) in such a way to ensure that the cord sticks well in the groove (if necessary, use a hammer). Position the lock's handle upwards, and with several gentle, careful taps of the door against the boiler, press the cord into the groove until the door can be closed. Fine-tune the position of the wheel that engages the lock's cam. This is the only procedure that can ensure good door seal!

Adjusting the door hinges and locks

The loading door and ash-pan door are firmly connected to the boiler drum by two sets of hinges. Each hinge consists of a nut, which is welded to the boiler drum, and a setting-screw to which the door is connected by means of a pin. If you want to adjust the hinge settings, first take off the upper hood (control panel) and remove both pins. Then remove the door and slightly turn the screw with a right-hand thread, as necessary. By following these steps in reverse order, you can replace the door.
The door lock consists of a lever with a handle and a cam which engages a wheel that is screwed into the boiler and secured by a nut preventing its turning. After a certain time, the sealing cord gets pressed down and therefore it becomes necessary to screw the wheel further into the boiler. First, loosen the wheel's nut and screw the wheel into the boiler in such a way that after firmly closing the door, the lock's handle is in the 20 minutes past the hour position. Then tighten the nut.

32. Environmental protection

The ATMOS gasifying boilers comply with the most demanding environmental requirements and were awarded the "Environmentally friendly product" mark, in compliance with directive No. 13/ 2002 of the Ministry of Environment of the Czech Republic. The boilers are certified in compliance with the European standard EN 303-5 and they fall within class 3.

Disposal of the boiler after expiration of its service life

It is necessary to provide an ENVIRONMENTALLY FRIENDLY disposal of the boiler's individual parts.
Before disposal, clean all the flue cinder and place it in a refuse bin.
Take the boiler drum and hood to a scrap-metal collection site.
Take all the ceramic (fireclay) parts to an approved refuse site.

NOTE – In order to comply with the environmentally friendly operation requirements, it is prohibited to burn any other substances than specified for the boiler. Plastic bags, various plastic materials, paints, textiles, laminate are substances which should be particularly avoided but also avoid burning sawdust, sediment and coal dust.

GUARANTEE CONDITIONS

Hot-water boiler

1. If adhered to the product's use, operation and maintenance as described in the instruction manual, we guarantee that the product will maintain the characteristics as stipulated by the corresponding technical standards and terms for the duration of a guarantee period – of 24 months after the product's acquisition by the user, a maximum of 32 months after the manufacturer sells it to the sales representative. If the boiler is installed with a TV 60°C thermoregulatory valve or with a Laddomat 21 in combination with the accumulation tanks (see attached schematics), the guarantee period for the boiler drum is extended from 24 to 36 months. The guarantee period for other parts remains unaffected.
2. If a defect not caused by the user appears on the product during the guarantee period, the defect will be repaired free of charge.
3. The guarantee period is extended by the period of time for which has the product been under repair.
4. A claim to provide a guarantee period repair shall be made by the customer at the service company.
5. The guarantee claim is justified only in cases where the boiler installation was carried out by a person trained by the manufacturer and in compliance with valid standards and the instruction manual. A necessary condition for justifying a guarantee claim is possession of a legible and complete record identifying the company who installed the boiler. If the installation was not carried out in a professional manner, the subsequent costs are borne by the company that carried out the installation.
6. The purchaser was familiarised with the use and operation of the product – in a provable way.
7. A claim to provide an after-guarantee period repair shall be made by the customer at the service company, too. In this case, the customer bears the repair costs.
8. The user is obliged to adhere to instructions from the operation and maintenance manual. If the operation and maintenance manual is not adhered to, in cases of negligent or unprofessional handling, or burning prohibited substances, the guarantee expires and the repair costs are borne by the customer.
9. Boiler installation and operation must be in compliance with the instruction manual where the outgoing water temperature is in the 80 - 90° range and the temperature of water returning to boiler at least 65 °C in all its operation modes.
10. There is an obligation to have the boiler inspection carried out including its controls settings, structural elements and extraction system by an expert company at least once a year – confirmed in a warranty card

    For boilers designated for the Czech Republic, Poland, Russia, Romania, Lithuania, Latvia and Hungary no guarantee conditions or insurance policies from outside these countries apply.

Guarantee and post-guarantee period repairs are carried out by:
- company representing ATMOS in the particular country for the particular region
- installation company that carried out the installation
- Jaroslav Cankař and son, ATMOS,
Velenského 487, 294 21 Bělá pod Bezdězem, Czech Republic, Tel. +420 326 701 404

BOILER INSTALLATION REPORT

Installation carried out by:

Company: .....

Street: ..... Town: .....

Telephone: ..... Country: .....

Ascertained data:

Chimney:

Dimensions: .....

Height: .....

Chimney draught: .....*

Date of last inspection: .....

Flue-gas duct:

Diameter: .....

Length: .....

Number of elbow pieces: .....

Waste gas temperature: .....*

Boiler connected with mixing valves and fittings (brief description of connection):

.....

.....

.....

.....

Fuel:

Type: .....

Size: .....

Moisture content: .....*

Measured data:

Waste gas temperature: ..... °C

Emissions in stabilised state : CO .....

CO_2 .....

O_2 .....

Person responsible for the inspection: ..... Date: .....

Stamp : ..... Customer's signature: .....

(Responsible person's signature)

** measured values*

ANNUAL INSPECTIONS RECORDS

Date stamp and signature	Date stamp and signature	Date stamp and signature	Date stamp and signature
Date stamp and signature	Date stamp and signature	Date stamp and signature	Date stamp and signature
Date stamp and signature	Date stamp and signature	Date stamp and signature	Date stamp and signature
Date stamp and signature	Date stamp and signature	Date stamp and signature	Date stamp and signature
Date stamp and signature	Date stamp and signature	Date stamp and signature	Date stamp and signature

RECORDS OF GUARANTEE PERIOD AND POST-GUARANTEE PERIOD REPAIRS

Repair: ....
Repair: ....
Repair: ....
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Declaration of Conformity No. 005-10-02/DP

in compliance with Section 13, Subsection 2 of the Act No. 22/1997 Coll. , as amended; Section 5 of the Government Decree No. 168/1997 Coll., as amended; Section 13 of the Government Decree No. 163/2002 Coll.

issued by the company

The Manufacturer:	Jaroslav Cankař a syn ATMOS Velenského 487 294 21 Bělá pod Bezdězem ID No: 11303344

hereby declares under sole responsibility that

The product:	pellet-burning hot-water boilers
Type:	D 15 P and D 20 P

Product application: Pellet-burning hot-water boiler model range with nominal outputs 15 and 22 kW designated for heating in residential houses and other similar buildings.

Is in conformity with basic requirements stipulated in the Government Decree No. 168/1997 Coll., as amended; and No. 163/2002 Coll.

List of Technical Regulations:

ČSN EN 50165:1999, Article 19,
ČSN 06 1008:1997
ČSN EN 303-5:2000
ČSN EN 60335-1:1997
Government Decree No. 148/2006 Coll.

The product is under the above-stipulated conditions of application safe.

The manufacturer, Jaroslav Cankař a syn, ATMOS, adopted controlled-documentation measures, which assure conformity of all products launched on the market with technical documentation and basic production requirements.

Conformity Assessment: was carried out in compliance with Section 12, Subsection 4, clause b) of the Act No. 22/1997 Coll.; Section 3 of the Government Decree 168/1997 Coll.; Section 3, Subsection 1, clause a) and Section 7 of Government Decree No. 163/2002 Coll.
The Certificate No. B-30-00058-07 was used for the conformity assessment. The certificate was issued on 1/2/2007 (and is valid till 1/2/2009) by an accredited authority No. 202 (Engineering Test Institute – Strojírenský zkušební ústav, s.p., Registered Office: Hudcova 56b, 621 00 BRNO) ID No: 00001490

In Bělá pod Bezdězem, on 1 February 2007

Jaroslav Cankař
Firm owner

Declaration of Conformity No. 006-11-06/DP

in compliance with Section 10 of the Act No. 22/1997 Coll. , as amended; Section 13 of the Government Decree No. 163/2002 Coll. and the Government Decrees No. 17/2003 and 18/2003

issued by the company

The Manufacturer:	Jaroslav Cankař a syn ATMOS Velenského 487 294 21 Bělá pod Bezdězem ID No: 11303344

hereby declares under sole responsibility that

The product:	pellet-burning hot-water boiler
Type:	D 30 P

Product application: Pellet-burning, hot-water boiler model range with nominal output of 30 kW designated for heating in residential houses and other similar buildings.

Is in conformity with basic requirements stipulated in the Government Decree No. 163/2002 Coll., as amended.

List of Technical Regulations:

ČSN EN 50165:1999
ČSN EN 303-5:2000
ČSN 06 1008:1997
ČSN EN 60335-1:1997,
Government Decree No. 148/2006 Coll.

The product is under the above-stipulated conditions of application safe.

The manufacturer, Jaroslav Cankař a syn, ATMOS, adopted controlled-documentation measures, which assure conformity of all products launched on the market with technical documentation and basic production requirements.

Conformity Assessment: was carried out in compliance with Section 10 of the Act No. 22/1997 Coll., with the Government Decree No. 163/2002 Coll. and the Government Decrees No. 17/2003 Coll. and No. 18/2003 Coll.
The Certificate No. B-30-00758-06 was used for the conformity assessment. The certificate was issued on 6/11/2006 (and is valid till 30/11/2008) by an accredited authority No. 202 (Engineering Test Institute – Strojírenský zkušební ústav, s.p., Registered Office: Hudcova 56b, 621 00 BRNO) ID No: 00001490

In Bělá pod Bezdězem, on 6 November 2006

Jaroslav Cankař
Firm owner

Declaration of Conformity No. 006-11-06/DP

in compliance with Section 10 of the Act No. 22/1997 Coll. , as amended; Section 13 of the Government Decree No. 163/2002 Coll. and the Government Decrees No. 17/2003 and 18/2003

issued by the company

The Manufacturer:	Jaroslav Cankař a syn ATMOS Velenského 487 294 21 Bělá pod Bezdězem ID No: 11303344

hereby declares under sole responsibility that

The product:	pellet-burning hot-water boiler
Type:	D 45 P

Product application: Pellet-burning, hot-water boiler model range with nominal output of 45 kW designated for heating in residential houses and other similar buildings.

Is in conformity with basic requirements stipulated in the Government Decree No. 163/2002 Coll., as amended.

List of Technical Regulations:

ČSN EN 50165:1999
ČSN EN 303-5:2000
ČSN 06 1008:1997
ČSN EN 60335-1:1997,
Government Decree No. 148/2006 Coll.

The product is under the above-stipulated conditions of application safe.

The manufacturer, Jaroslav Cankař a syn, ATMOS, adopted controlled-documentation measures, which assure conformity of all products launched on the market with technical documentation and basic production requirements.

Conformity Assessment: was carried out in compliance with Section 10 of the Act No. 22/1997 Coll., with the Government Decree No.163/2002 Coll. and the Government Decrees No. 17/2000 Coll. and No.18/2003 Coll.
The Certificate No. B-30-00755-06 was used for the conformity assessment. The certificate was issued on 6/11/2006 (and is valid till 30/11/2008) by an accredited authority No. 202 (Engineering Test Institute – Strojírenský zkušební ústav, s.p., Registered Office: Hudcova 56b, 621 00 BRNO) ID No: 00001490

In Bělá pod Bezdězem, on 6 November 2006

Jaroslav Cankař
Firm owner