

Instruction manual

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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 **will be carried out by an installation company trained by the manufacturer**. This company also completes a boiler installation report (p.50).
2. When burning pellets **use only good quality fuel of 6 – 8 mm diameter** made from soft barkless wood (white pellets).
3. During the **gasification process, wood tar and condensates (acids)** form in the fuel storage tank. Therefore, there must be a Laddomat 21/22 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. When the boiler operates in the wood-burning mode, **it must not be permanently** operated in an output **lower than 50 %**.
5. 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**.
6. The boiler operates environmentally-friendly if burning wood at the nominal output level.
7. We therefore recommend to install the boiler with **accumulating storage tanks and Laddomat 21/22, which provides 20 - 30 % fuel-wood consumption decrease in wood-burning mode, longer service life of both – the boiler and the chimney and user-friendlier operation**.
8. If you cannot install the boiler into an accumulation system, then we recommend installing it at least with **one equalising tank**; the volume of which should be 500 – 1000 l. This increases the pellet burner's service life.
9. When operating the boiler in a **lower output mode** (summer operation or heating up hot potable water) and burning pieces of wood, it is **necessary to fire-up daily**.
10. Use only dry **fuel wood with 12 - 20 % moisture content – higher moisture content decreases the boiler's performance and increases consumption**.



CAUTION – if the boiler is installed with a Laddomat 21/22 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 instructions the drum's and the heatproof shaped pieces' service life may dramatically decrease. The boiler drum may corrode in as little time as 2 years.

1. Intended use

The environmentally friendly boilers ATMOS DC15EP, DC18SP, DC25SP, DC32SP are designed for domestic heating using pellets and wood. Boilers are suitable for buildings with heat loss ranging between 5 - 35 kW.

Good quality pellets of 6 – 8 mm diameter and dry firewood of 330 - 530 mm length (depending on the boiler type) may be used for heating. The boiler is not intended for burning saw dust or small-particle wood waste. These can be burnt in small quantities only, together with log-firewood. MAX.10 %. Due to their huge feeding hoppers, the boilers save the user a lot of laborious wood treating and splitting operations. They save both - the physical effort and also the time dedicated to these operations.

2. Technical description

The boilers are designed for electronically controlled burning of pellets in a pellet burner and for wood burning, both based on the generator gasification principle utilising an extraction ventilator which extracts the waste gas from the boiler (with the exception of type DC15EP type).

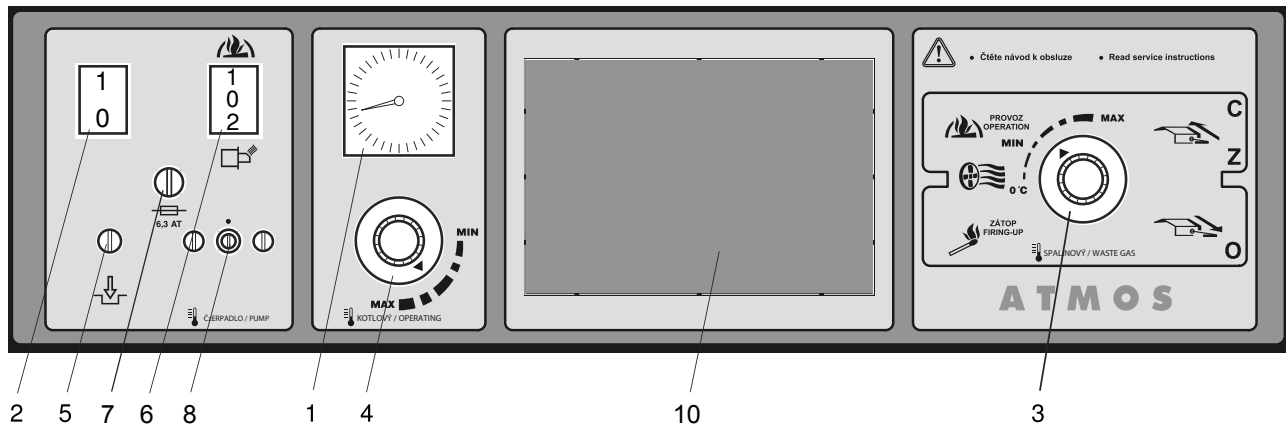
The boiler drum is manufactured as a welded structure from 3 - 6 mm thick steel sheets. The boiler's upper section which comprises of two chambers one on top of the other and which is intended for wood burning, consists of a fuel feeding hopper which is in the lower section equipped with a heatproof shaped piece with a longitudinal opening allowing combustion products and gases to penetrate into the lower burn-off chamber. The burn-off chamber is equipped with ceramic shaped pieces allowing ideal burn off of all combustible materials. Below the burn-off chamber, there is a separate combustion chamber lined with ceramics into which a pellet burner ATMOS A25 is inserted from the front. This chamber also serves as an ash area when in pellets burning mode. There is a vertical combustion gas duct in the back of the boiler body, which is in the upper section equipped with a heating valve and the gas outlet pipe for connecting to chimney. Waste gas exhausts from the middle (wood) and lower (pellets) combustion chambers lead into the vertical waste gas duct. An aperture for setting the quality of the burner's combustion utilising a waste gas analyser is fitted in the lower part of the waste gas duct.

The front boiler wall is fitted with three stoking doors. The upper door of the wood stoking chamber is equipped with a limit switch which renders the lower chamber burner out of operation when the door is opened. This safety feature prevents using both systems simultaneously. To re-ignite the pellet burner the limit switch button on the left or right near the upper door must be pressed. In the front section of the upper hood there is an ignition valve pull rod. The boiler's drum is externally heat insulated by mineral wool placed beneath the sheet metal covers of the boiler's external housing. A control panel for electromechanical regulation is situated in the upper part of the boiler. In the rear section of the boiler, there is a primary and secondary air feeding duct fitted with a control valve. The control valve is designed for output regulation when burning wood. When burning pellets, the valve must be closed so that no "false air" can enter through; which would decrease the boiler's effectiveness.

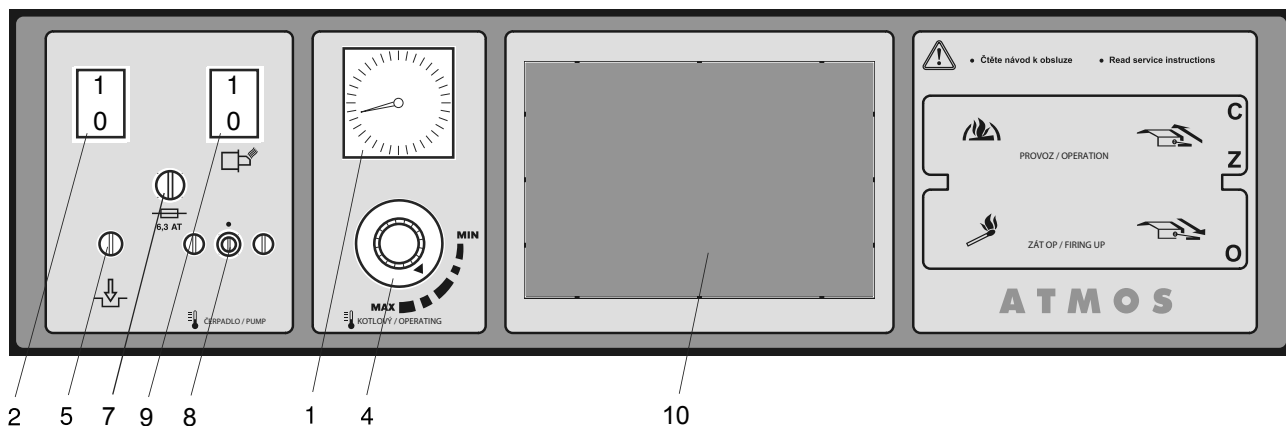
Control panel appearance

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For types DC18SP, DC25SP, DC32SP



For type DC15EP



- | | |
|-----------------------------------|--|
| 1. Thermometer | 6. Selector switch (Wood/Pellets) |
| 2. Main switch | 7. Fuse (6,3A) 5x20/T6,3A/1500 - type H |
| 3. Waste gas thermostat | 8. Pump thermostat |
| 4. Control thermostat | 9. Burner switch (only DC15EP) |
| 5. Safety irreversible thermostat | 10. 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.
3. **Waste gas thermostat** – is used to switch off the ventilator when the fuel has burnt out (for model 2012 with 6-pin connector as well as control pump in the boiler circuit)



CAUTION – when firing up (igniting), set the waste gas thermostat to („0 °C“- firing-up). After flaring up, set the waste gas thermostat to „operation“. Should the waste gas temperature fall below the preset value, the thermostat switches the extraction ventilator off. If you want the ventilator to start operating, set a lower temperature on the waste gas thermostat (set to „0 °C“ - firing-up). It is necessary to detect the optimal operating position.

4. **Control thermostat** – controls the boiler operation depending on the temperature of water exiting the boiler.
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 (dual-circui).
6. **Selector switch** – is used to set the boiler operation mode. In position I, the boiler is set for heating the building with firewood utilising an extraction ventilator which is controlled by the waste gas and control thermostats. In position II, the boiler is set for operation with the pellets burner, controlled solely by the control thermostat; depending on the temperature of water exiting the boiler. In this case the waste gas thermostat and the extraction ventilator are put out of operation. The safety thermostat and fuse protect the boiler in both cases.
7. **Fuse (6,3A) - 5x20/T6,3A/1500** - type H – burner electronics protection
8. **Pump thermostat** – is used for switching the boiler circulation pump on and off
9. **Burner switch** –is used to switch the burner on and off (only with DC15EP)
10. **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

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Type of boiler ATMOS		DC15EP	DC18SP	DC25SP	DC32SP
Boiler output – pellet type – wood type	kW	15	15	20	20
		14,9	20	25	35
Heating surface	m ²	2,5	2,5	3,3	3,8
Fuel shaft volume	dm ³	66	66	100	140
Feeding hole dimensions	mm	450x260	450x260	450x260	450x260
Specified chimney draught	Pa	18	20	23	24
Max. operating water-pressure	kPa	250	250	250	250
Boiler weight	kg	424	429	531	596
Gas-outlet pipe diameter	mm	152	152	152	152
Boiler height	mm	1695	1695	1695	1772
Boiler width	mm	643	643	643	678
Boiler depth	mm	694	757	957	957
Electric parts ingress protection	IP	20			
Electric input - at start-up - in operation	W	1120	1120	1120	1120
		120	120	120	120
Boiler effectiveness – pellet type – wood type	%	85 - 89%			
		81 - 87%			
Boiler class		3	4	4	4
Waste gas temperature at nominal output – pellet type – wood type	°C	169	169	157	154
		230	208	225	230
Waste gas combustion products flow weight at nominal output – pellet type – wood type	kg/s	0,008	0,008	0,010	0,010
		0,008	0,010	0,015	0,018
Specified fuel		good quality pellets of 6 – 8 cm diameter and 15 - 18 MJ.kg ⁻¹ calorific power, dry wood of 15 - 17 MJ.kg ⁻¹ calorific power, 12 - 20 % moisture content and 80 - 150 mm diameter			
Average fuel consumption – wood type	kg.h ⁻¹	3,5	3,8	6	7,2
Per heating season		1 kW = 1 stacked cubic meter			
Maximum wood length	mm	330	330	530	530
Burning time at nominal output – wood type	hour	3	2	3	3
Boiler water volume	l	78	78	109	160
Hydraulic pressure drop	mbar	0,22	0,22	0,23	0,23
Equalising tank minimum volume	l	500	500	500	500
Connecting voltage	V/Hz	230/50			
Specified minimum temperature of water returning to boiler is 65°C when in operation. Specified boiler operating temperature is 80 - 90°C.					

Boiler drawings key

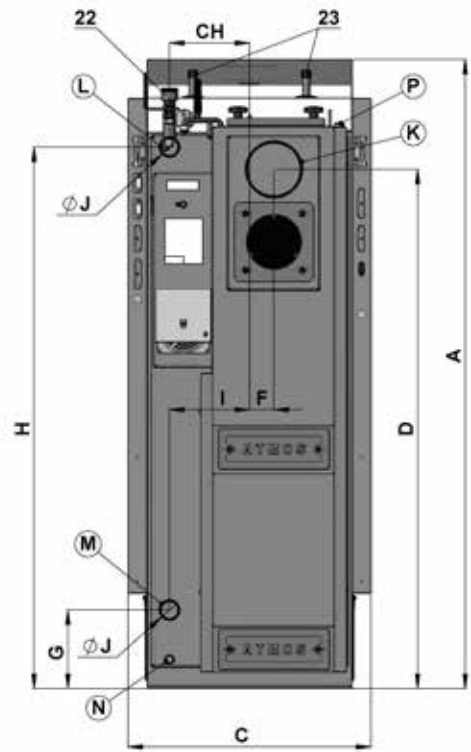
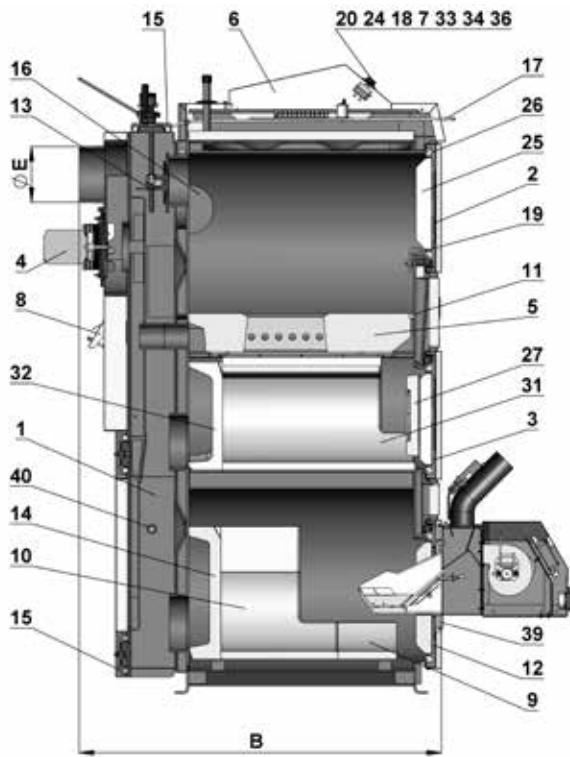
- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Boiler drum 2. Loading door 3. Ash-pan door 4. Gas extraction ventilator (except for DC15EP) 5. Heatproof shaped piece - nozzle 6. Control panel 7. Safety thermostat
(Caution – in overheat condition must be depressed) 8. Control valve 9. Heatproof shaped piece – extension of the spherical space (Kombi) 10. Heatproof shaped piece – spherical space (Kombi) 11. Sealing – nozzle - 12x12 12. Door for the pellet burner 13. Ignition valve 14. Heatproof shaped piece – rear face of the spherical space (Kombi) 15. Cleaning lid 16. Screen 17. Ignition valve pulling rod 18. Thermometer 19. Combustion area screen 20. Switch with an indicator light 22. Output regulator - Honeywell FR 124 23. Cooling loop protecting against overheating | <ol style="list-style-type: none"> 24. Control thermostat 25. Door filling - Sibrál 26. Door sealing – cord 18 x 18 27. Heatproof shaped piece - half moon (door shield) 28. Pellet burner ATMOS A25 29. Heatproof shaped piece – spherical space (DC15EP) 30. Heatproof shaped piece – spherical space internal lining (DC15EP) 31. Heatproof shaped piece – spherical space - wood 32. Heatproof shaped piece – rear face of the spherical space - wood 33. Pump thermostat 34. Fuse (6,3A) 5x20/T6,3A/1500 - type H 35. Waste gas thermostat (except for DC15EP) 36. Selector Switch 37. Limit switch with a push-button 39. Sibrál sealing under burner 40. Measurement point for the waste gas analyzer <p>K – gas outlet pipe
L – the boiler water outlet
M – the boiler water inlet
N – filling valve pipe sleeve
P – pipe sleeve for valve sensor controlling the cooling loop (TS 131, STS 20)</p> |
|---|---|

Technical data

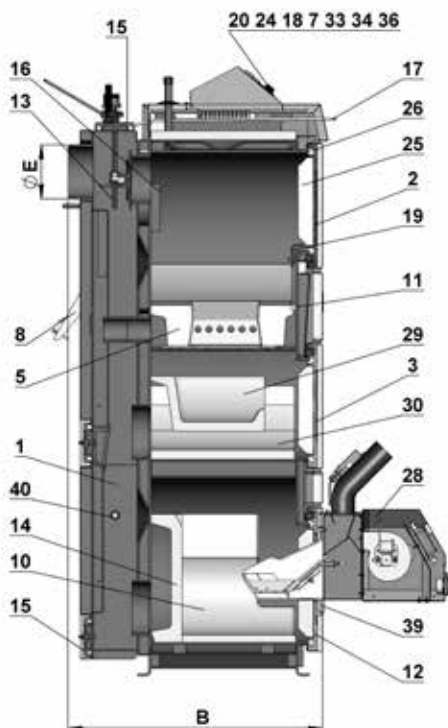
Dimensions	DC15EP	DC18SP	DC25SP	DC32SP
A	1695	1695	1695	1772
B	694	757	957	957
C	643	643	643	678
D	1375	1375	1375	1448
E	150/152	150/152	150/152	150/152
F	65	65	65	70
G	207	207	207	184
H	1436	1436	1436	1507
CH	212	212	212	256
I	212	212	212	256
J	6/4"	6/4"	6/4"	6/4"

Drawings of boilers

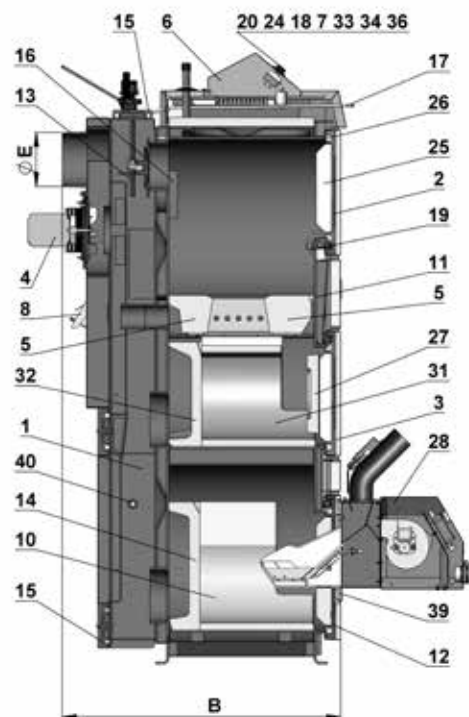
Cut away view – types DC25SP, DC32SP



Cut away view - DC15EP



DC18SP

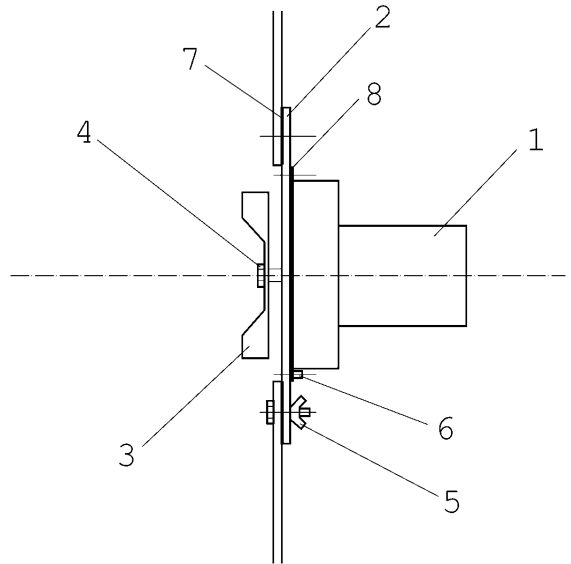


Extraction ventilator schematics



CAUTION – The extraction ventilator (S) is provided 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 (2 pcs)
- 8 - Small gasket



4. Type and seating of shaped pieces into combustion area

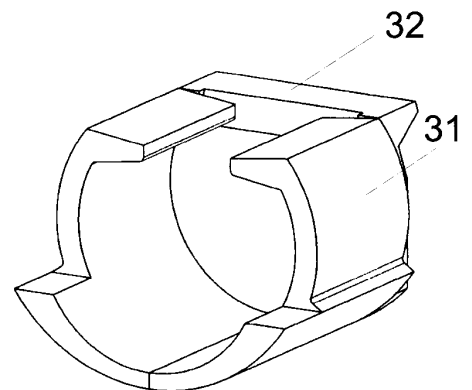
a) The middle wood combustion chamber for type DC18SP, DC25SP, DC32SP

31. The shaped piece (spherical space L+P) must be assembled in a way that ensures that the front section of the piece /31/ is 3 cm away from the front edge of the boiler frame.

32. Ceramics – rear face with a rearward recess.

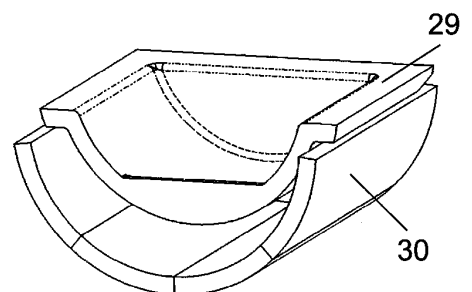


CAUTION – when handling do not turn the rear face



b) The middle wood combustion chamber for type DC15EP

29. The shaped piece - spherical space must be tucked rearward!



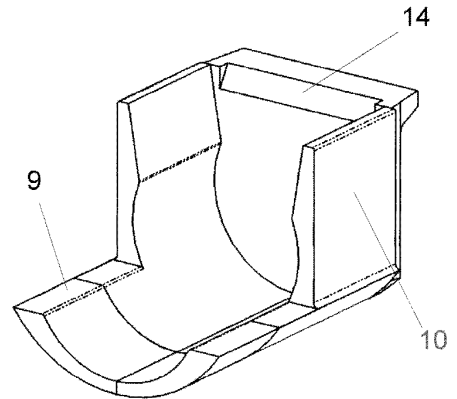
c) The lower pellets combustion chamber for DC25SP and DC32SP types

9 a 10. The shaped piece (spherical space L+P) must be assembled in a way that ensures that the front section of the piece /9/ is 3 cm away from the front edge of the boiler frame.

14. Ceramics – rear face with a rearward recess.



CAUTION – when handling do not turn the rear face



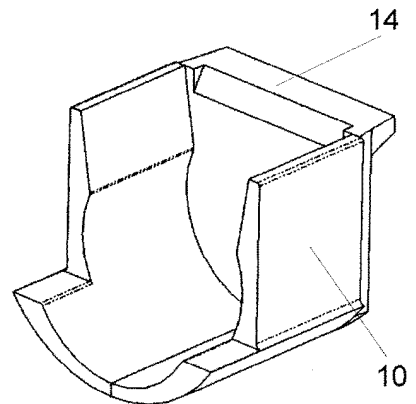
d) The lower pellets combustion chamber for DC15EP and DC18SP types

10. The shaped piece (spherical space L+P) must be assembled in a way that ensures that the front section of the piece /14/ is 3 cm away from the front edge of the boiler frame.

14. Ceramics – rear face with a rearward recess.



CAUTION – when handling do not turn the rear face



5. Boiler accessories

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

6. Fuel

The specified fuel are good quality wood pellets (white) of 6 - 8 cm diameter and length 10 - 25 mm with a caloric power of 16 - 19 MJ.kg⁻¹. Good quality pellets are such that do not disintegrate into sawdust and are made from soft barkless wood. Dry split log firewood of 80 – 150 mm diameter, minimum age of 2 years and moisture content between 12 – 20 %. The split log length is 330 mm for the DC15EP and DC18SP type and 530 mm for the DC25SP and DC32SP types with a caloric power of 15 - 17 MJ.kg⁻¹. It is also possible to burn large pieces of wood waste together with crude logs.



High-quality wooden pellets - white without black dots (bark)



Poor-quality wooden pellets - dark with bark (with black dots)

Basic wood burning data

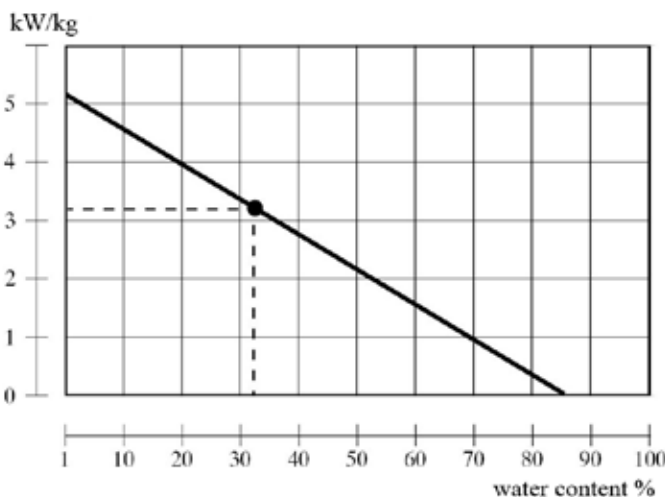
You can ensure maximum output and a long service life if you burn wood which has been left for at least 2 years to dry. The following graph illustrates the relationship of moisture content to heating capacity of the fuel. The energy content declines dramatically with increased water contents.

Example:

Wood with 20 % moisture contents has thermal power of 4 kWh /1 kg of wood

Wood with 60 % moisture contents has thermal power of 1.5 kWh /1 kg of wood

● Example – spruce wood which has been stored for 1 year under shelter – see graph



The boilers maximum output with wet fuel illustrated in the graph

Boiler Model	Maximum Output (kW)
DC 15EP	10
DC 18SP	13
DC 25SP	19
DC 32SP	25

The information is relevant to other gasification boiler types.



Boilers are not suitable for burning wood with moisture content lower than 12 %.

Fuel heating capacity

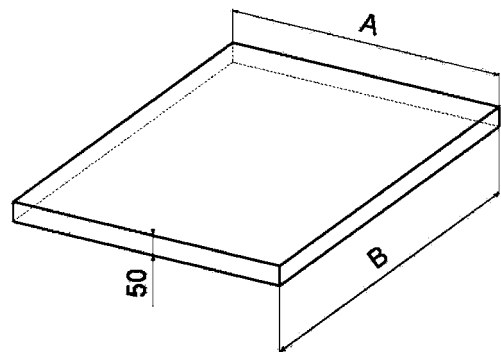
Wood - type	Heating capacity per 1 kg		
	kcal	kJoule	kWh
spruce	3900	16250	4,5
pine	3800	15800	4,4
birch	3750	15500	4,3
oak	3600	15100	4,2
beech	3450	14400	4,0



Raw wood does not burn easily, produces a lot of smoke and substantially decreases the service life of your boiler and chimney. Boiler output drops as low as 50% and fuel consumption doubles.

7. Boiler bases

Boiler type (mm)	A	B
DC15EP, DC18SP	600	600
DC25SP	600	800
DC32SP	700	800

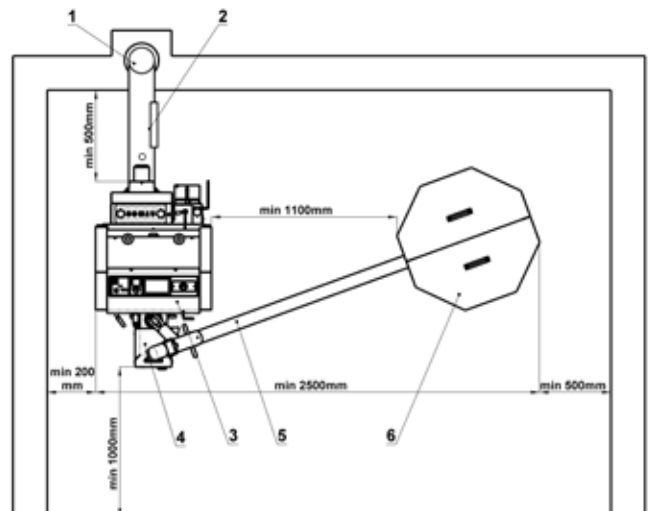


We recommend providing a concrete (metal) base under the boiler.

8. 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. Boilers must be placed in a boiler room with sufficient air access necessary for combustion. Placing boilers in living areas (including halls) is not permitted. The combustion air inlet aperture in the boiler room must be of minimum 250 cm² for boilers of 15 - 35 kW outputs.

- 1 - Chimney
- 2 - Flue-gas duct
- 3 - Boiler
- 4 - Burner
- 5 - Conveyor
- 6 - Pellets silo



9. 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; **because 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 8). 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:

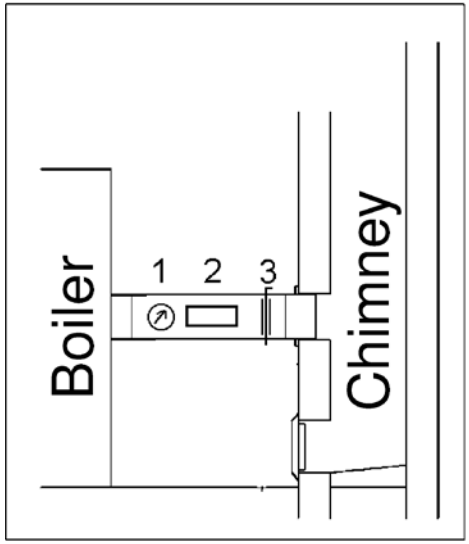
20 x 20 cm	height 7 m
Ø 20 cm	height 8 m
15 x 15 cm	height 11 m
Ø 16 cm	height 12 m

Exact chimney dimensions are stipulated in Czech standard ČSN 73 4201.

Specified chimney draught is stated in section 3 „Technical Data“.

10. 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. 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.

11. Fire prevention during installation and use of heating appliances

Selected from ČSN 061008 – 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 materials (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	
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),
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



NOTE - 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 for a distance lower than the specified safe distance.** (more ČSN EN 13501-1)

12. 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 mains supply cable in case of repair it must be replaced with the same type by the servicing organization. Connection, maintenance and reparation can be made only by a qualified person in accordance with valid regulations of the particular country.



CAUTION – the electric cord must not be fitted with a termination (male plug for a socket). A permanent connection into a distribution box must be made.

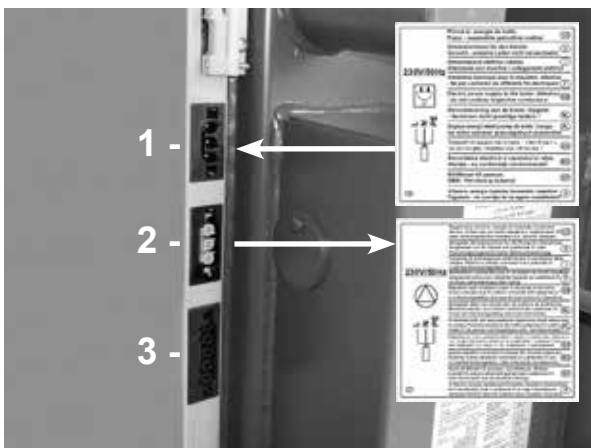
Mains cable must be regularly checked and maintained in the prescribed condition. It is forbidden to interfere in to the safety circuits and elements for safe and reliable operation of the boiler. If any damage of electrical equipment must be the boiler out of operation, disconnect from the mains and ensure a qualified repair according to applicable standards and regulations.



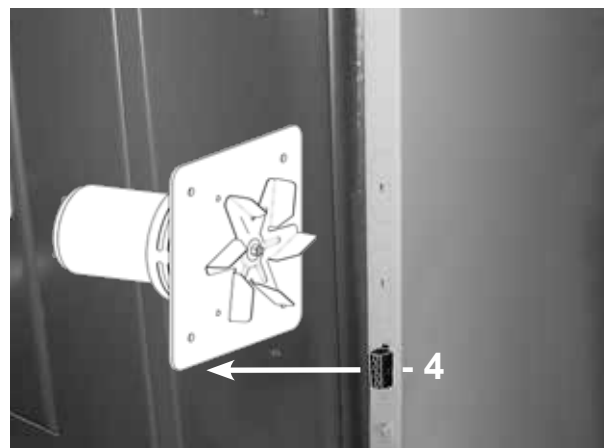
NOTE - When installing the boiler with electronic unit ACD01 we connect the connectors described in D and F together (program version 3.0) or separately (program version 3.3) into the electronic unit ACD01. The suction ventilator is in this case in operation simultaneously with the pellet burner.

When operating the boiler without electronic unit ACD01 the extraction ventilator of the boiler is decommissioned when burning pellets (doubleswitch in position II). In position 0 of the doubleswitch the suction ventilator is in operation when the temperature of waste gas is higher then set on the waste gas thermostat. You can use it for cleaning the boiler and burner. In case of degraded chimney draught we are able to adjusted the boiler that the extraction ventilator run when burning pellets. You need to use special connector to selector switch (Wood/Pellets). This connector is included in the set AS25 (separate ordering code for this connector is S0725).

Connectors in the right side hood:



Connectors in the right side hood

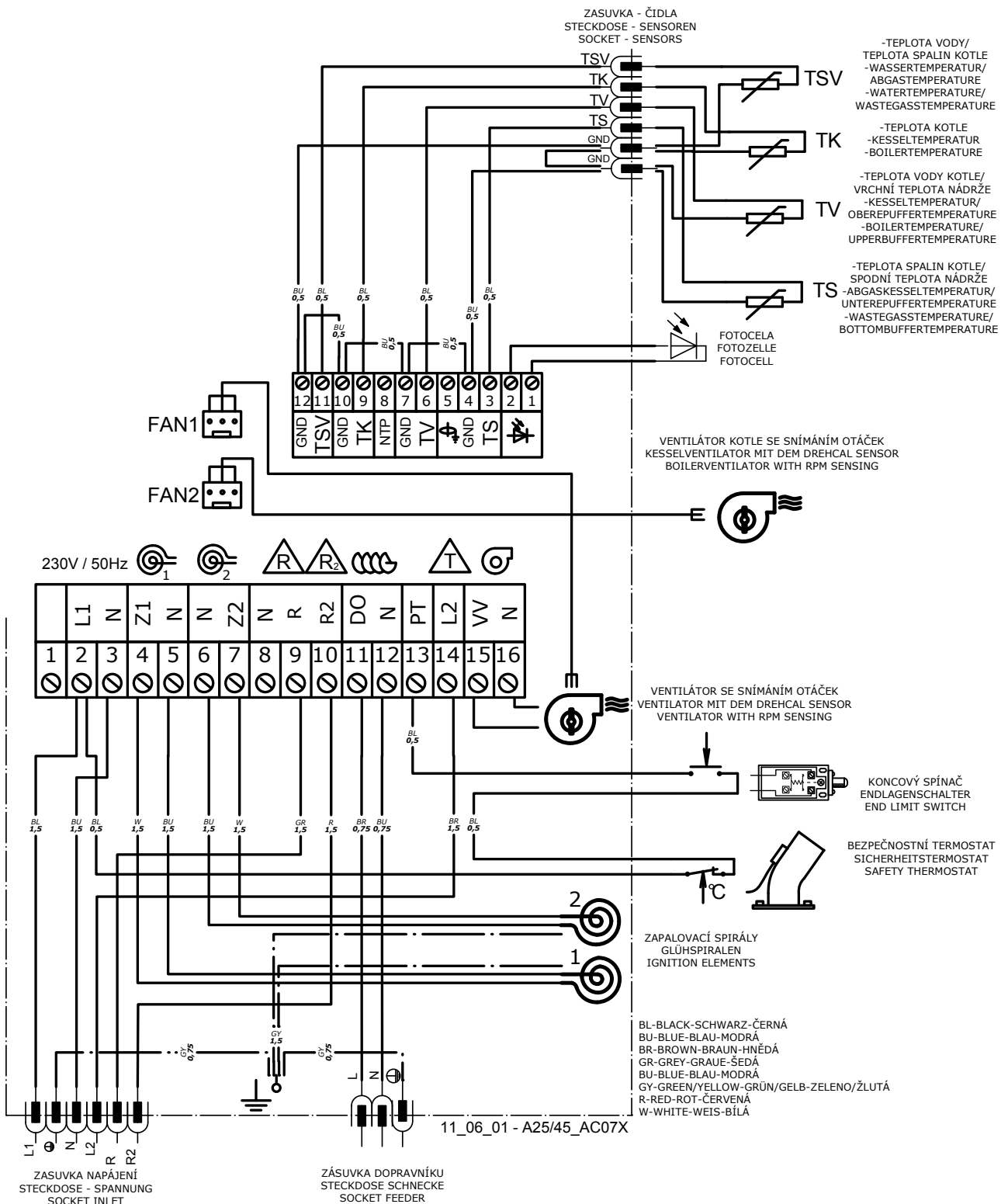


Connector in the left side hood

- 1 - connector for power cord - black (L - brown, N - blue, PE - green/yellow)
- 2 - connector for pump in boiler circuit - white (L - brown, N - blue, PE - green/yellow)
- 3 - connector for burner ATMOS connection model AC07X - (L1, L2, R, R2,N, PE)
- 4 - connector for extraction fan

13. Electric diagram of the burner ATMOS A25 - 6-pin connector - model 2012 AC07X - (R, R2, sensors TV, TS, TK, TSV)

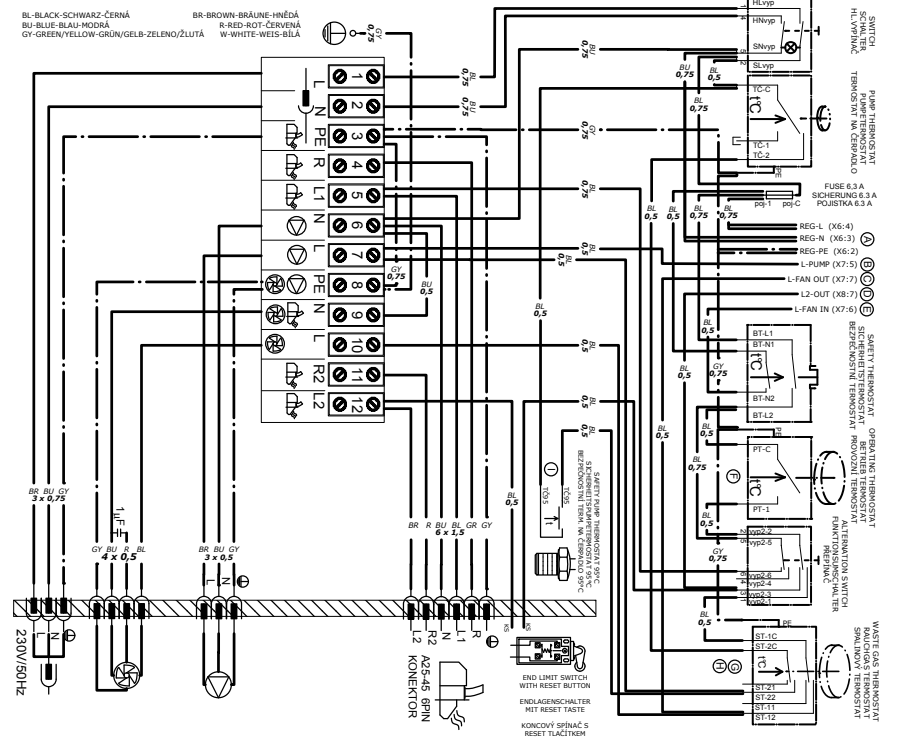
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14. Wiring diagram of electromechanical regulation with an UCJ 4C52 type extraction ventilator (boilers DC18SP, DC25SP and DC32SP), model 2012 - 6-pin connector

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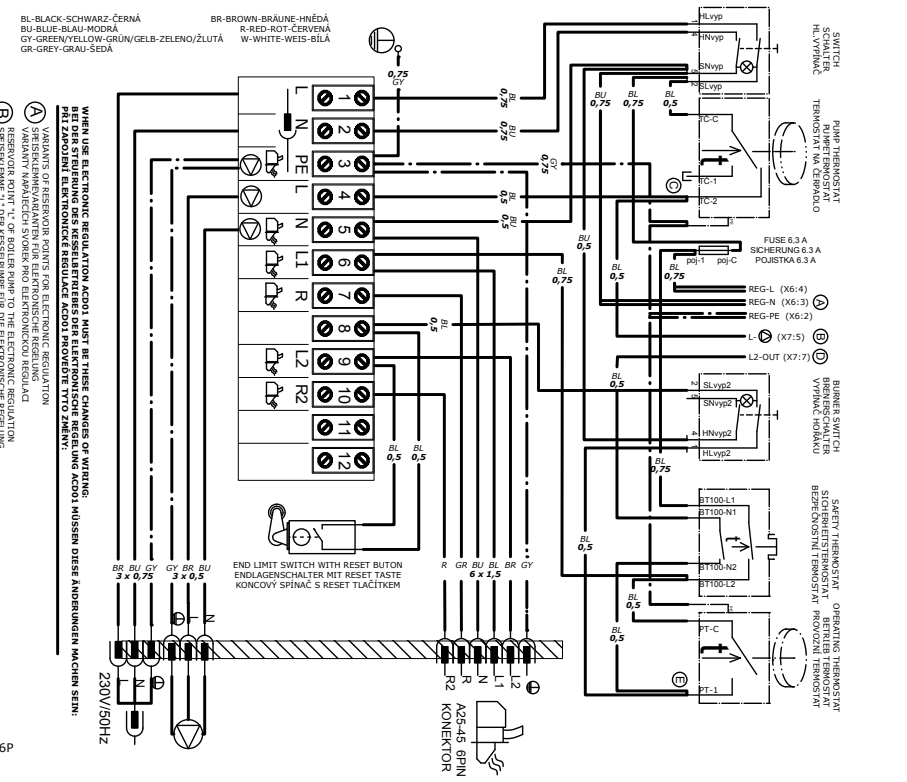
- Ⓐ WHEN USE ELECTRONIC REGULATION AC001 AND PLETTURNER A25-45 MUST BE THESE CHANGES OF WIRING. BEI DER STUPELUNG GIBS KESSELNUTZERS ODER ELEKTRONISCHE REGELUNG AC001 UND PLETTURNER A25-45 IN DERSEN DISE ANBRINGEN IN MACHEN SIEH.
- Ⓑ PRÍ POUŽITÍ ELEKTRONICkej REGULÁCIE AC001 A PLETTURNER A25-45 MUSIAŠTE Urobiť Tieto ZMENy V OBEHNE.
- Ⓐ VARIANTS OF RESERVOIR POINTS FOR ELECTRONIC REGULATION. VARIANTE NÁVARNÉCH SVOZOK PRO ELEKTRONICKOU REGULÁCIU.
- Ⓑ RESERVOIR POINT "1" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "1" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓒ RESERVOIR POINT "2" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "2" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓓ RESERVOIR POINT "3" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "3" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓔ RESERVOIR POINT "4" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "4" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓕ RESERVOIR POINT "5" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "5" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓖ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "1" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "1" ABGEMACHT WERDEN.
- Ⓗ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "2" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "2" ABGEMACHT WERDEN.
- Ⓘ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "3" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "3" ABGEMACHT WERDEN.
- Ⓛ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "4" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "4" ABGEMACHT WERDEN.
- Ⓜ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "5" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "5" ABGEMACHT WERDEN.



DCxxSP_11-05-01_A25-45_6P

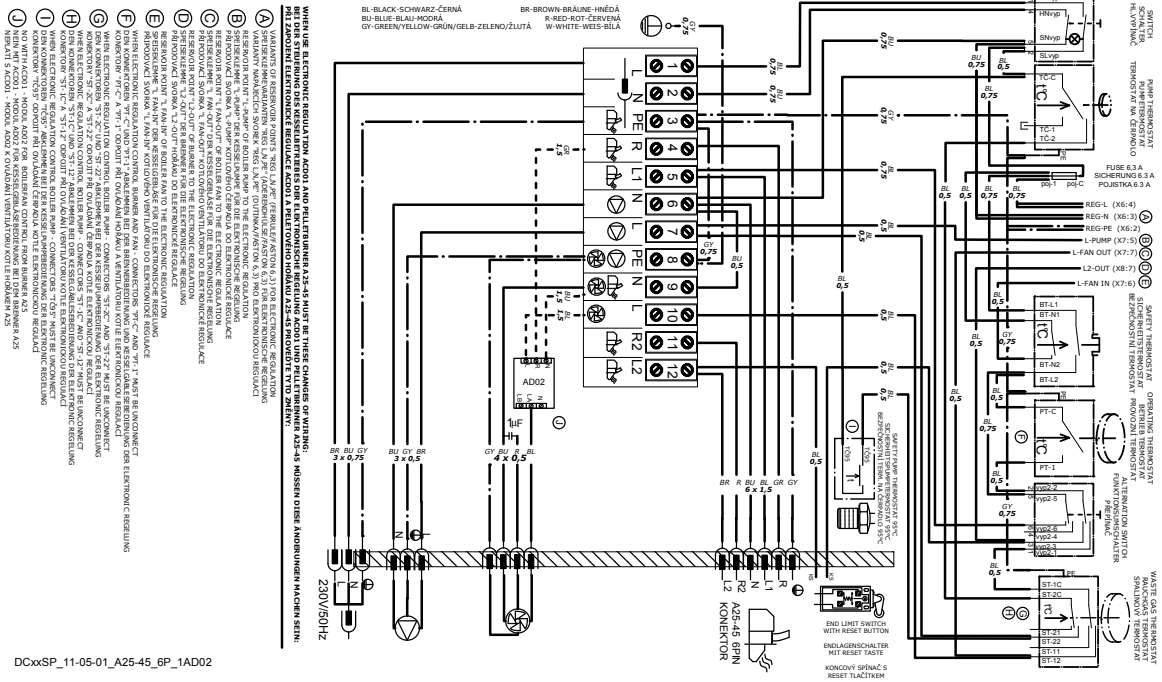
15. Wiring diagram of electromechanical regulation of the DC15EP type boiler, model 2012 - 6-pin connector

- Ⓐ WHEN USE ELECTRONIC REGULATION AC001 MUST BE THESE CHANGES OF WIRING. BEI DER STUPELUNG GIBS KESSELNUTZERS ODER ELEKTRONISCHE REGELUNG AC001 MUSSSEN DISE ANBRINGEN IN MACHEN SIEH.
- Ⓑ PRÍ POUŽITÍ ELEKTRONICkej REGULÁCIE AC001 MUSIAŠTE Urobiť Tieto ZMENy V OBEHNE.
- Ⓐ VARIANTS OF RESERVOIR POINTS FOR ELECTRONIC REGULATION. VARIANTE NÁVARNÉCH SVOZOK PRO ELEKTRONICKOU REGULÁCIU.
- Ⓑ RESERVOIR POINT "1" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "1" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓒ RESERVOIR POINT "2" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "2" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓓ RESERVOIR POINT "3" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "3" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓔ RESERVOIR POINT "4" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "4" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓕ RESERVOIR POINT "5" CAN BE USED FOR THE ELECTRONIC REGULATION. PRÍPOJNÝ BOD "5" MOŽE BYŤ POUŽITÝ NA ELEKTRONICKÚ REGULÁCIU.
- Ⓖ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "1" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "1" ABGEMACHT WERDEN.
- Ⓗ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "2" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "2" ABGEMACHT WERDEN.
- Ⓘ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "3" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "3" ABGEMACHT WERDEN.
- Ⓛ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "4" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "4" ABGEMACHT WERDEN.
- Ⓜ WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAH - CONNECTORS "9", "C" AND "7", "5" MUST BE UNCONNECTED. BEI DER ELEKTRONISCHEN REGELUNG MÜSSEN DIE ANSCHLÜSSE FÜR DEN BRENNEGER UND FAH - ANSCHLÜSSE "9", "C" UND "7", "5" ABGEMACHT WERDEN.



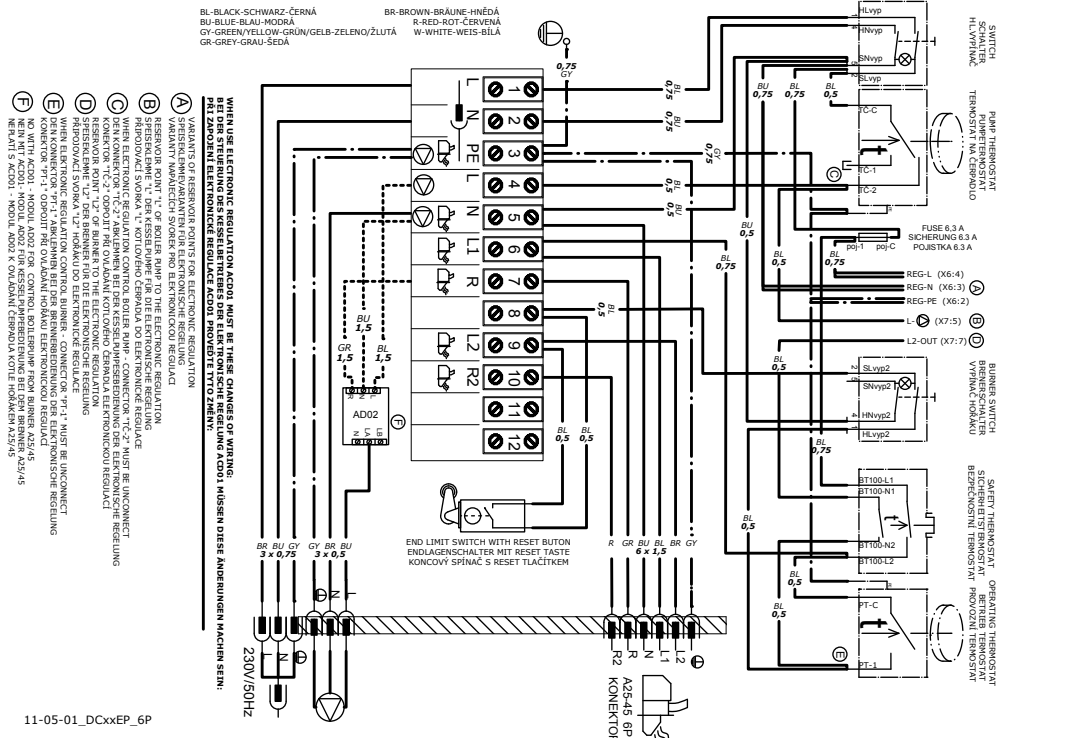
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16. Wiring diagram connection of the boilers DC18SP, DC25SP, DC32SP with extraction fan, model 2012 with 6-pin connector and module AD02 - to control extraction fan of the boiler



DCxSP_11-05-01_A25-45_6P_1AD02

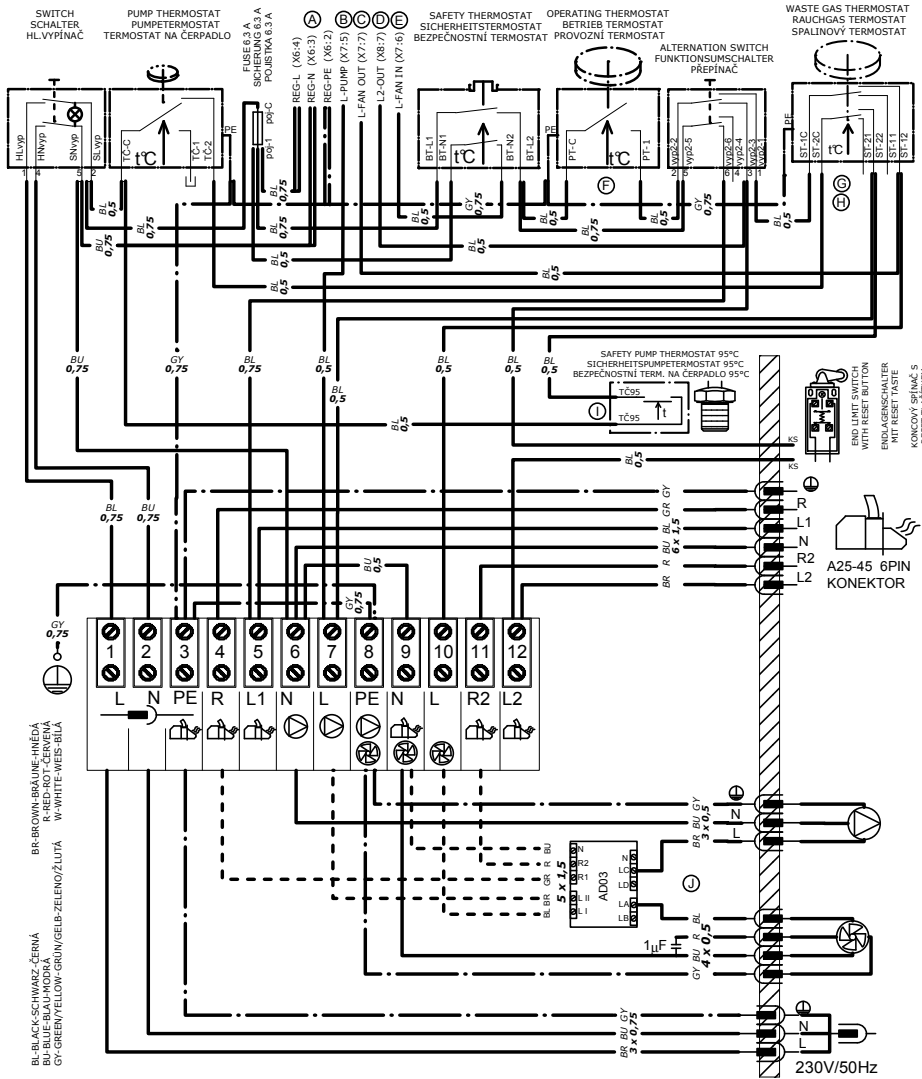
17. Wiring diagram connection of the boiler DC15EP, model 2012 with 6-pin connector and module AD02 - to control pump in the boiler circuit



11-05-01_DCxEP_6P

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18. Wiring diagram connection of the boilers DC18SP, DC25SP, DC32SP with extraction fan, model 2012 with 6-pin connector and module AD03 - to control extraction fan of the boiler and pump in the boiler circuit



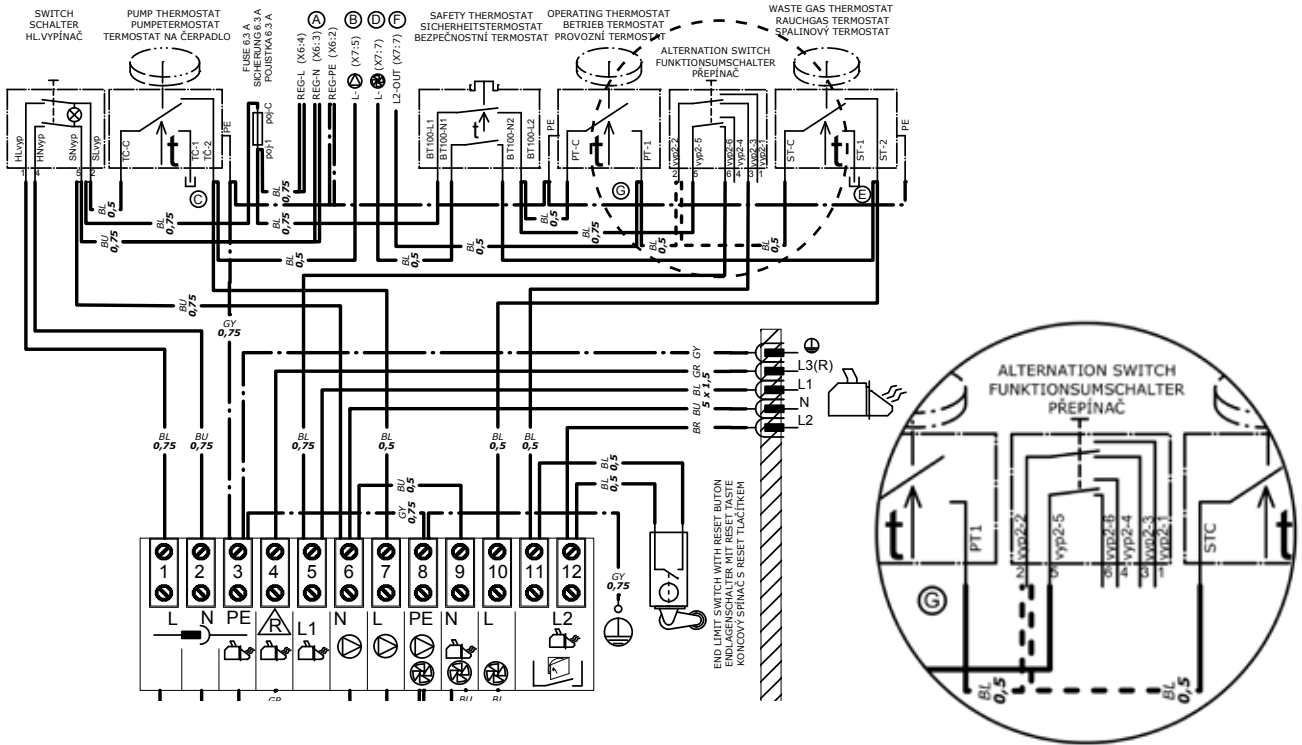
BEI DER ELEKTRONISCHEN REGULATION ACD01 UND PELLETBURNER A25-45 MÜSSEN DIESE ÄNDERUNGEN VON DER WIRUNG GEMACHT WERDEN:
BEI DER STEUERUNG DES KESSELBETRIEBES DER ELEKTRONISCHEN REGULATION ACD01 UND PELLETBURNER A25-45 MÜSSEN DIESE ÄNDERUNGEN GEMACHT SEIN:
PŘI ZAPOJENÍ ELEKTRONICKÉ REGULACE ACD01 A PELETŮVÉHO HOŘÁKŮ A25-45 PŘEDVÉSTI TYTO ZMĚNY:

- (A) VARIANTS OF RESERVOIR POINTS "REG L,N,PE" (FERRULE/FASTON 6,3) FOR ELECTRONIC REGULATION SPEISEKLEMMEN/Varianten "REG L,N,PE" (ADERHÜLSE/FASTON 6,3) FÜR ELEKTRONISCHE REGULATION VARIANTY NÁPŘÍJACÍ SVORKA "REG L,N,PE" (DUTINKA/FASTON 6,3) PRO ELEKTRONICKOU REGULACI
- (B) RESERVOIR POINT "L-PUMP" OF BOILER PUMP TO THE ELECTRONIC REGULATION SPEISEKLEMME "L-PUMP" DER KESSELPUMPE FÜR DIE ELEKTRONISCHE REGULATION PŘIPOJOVACÍ SVORKA "L-PUMP" KOTLOVÉHO ČERPADLA DO ELEKTRONICKÉ REGULACE
- (C) RESERVOIR POINT "L-FAN-OUT" OF BOILER FAN TO THE ELECTRONIC REGULATION SPEISEKLEMME "L-FAN-OUT" DER KESSELGEBLÄSE FÜR DIE ELEKTRONISCHE REGULATION PŘIPOJOVACÍ SVORKA "L-FAN-OUT" KOTLOVÉHO VENTILÁTORU DO ELEKTRONICKÉ REGULACE
- (D) RESERVOIR POINT "L2-OUT" OF BURNER TO THE ELECTRONIC REGULATION SPEISEKLEMME "L2-OUT" DER BRENNER FÜR DIE ELEKTRONISCHE REGULATION PŘIPOJOVACÍ SVORKA "L2-OUT" HOŘÁKŮ DO ELEKTRONICKÉ REGULACE
- (E) RESERVOIR POINT "L-FAN-IN" OF BOILER FAN TO THE ELECTRONIC REGULATION SPEISEKLEMME "L-FAN-IN" DER KESSELGEBLÄSE FÜR DIE ELEKTRONISCHE REGULATION PŘIPOJOVACÍ SVORKA "L-FAN-IN" KOTLOVÉHO VENTILÁTORU DO ELEKTRONICKÉ REGULACE
- (F) WHEN ELECTRONIC REGULATION CONTROL BURNER AND FAN - CONNECTORS "PT-C" AND "PT-1" MUST BE UNCONNECT DEN KONNEKTÖREN "PT-C" UND "PT-1" ABKLEMMEN BEI DER BRENNERBEDIENUNG UND KESSELGEBLÄSEBEDIENUNG DER ELEKTRONIC REGULATION KONNEKTORY "PT-C" A "PT-1" ODPPOJIT PŘI OVLÁDÁNÍ HOŘÁKŮ A VENTILÁTORU KOTLE ELEKTRONICKOU REGULACI
- (G) WHEN ELECTRONIC REGULATION CONTROL BOILER PUMP - CONNECTORS "ST-2C" AND "ST-22" MUST BE UNCONNECT DEN KONNEKTÖREN "ST-2C" UND "ST-22" ABKLEMMEN BEI DER KESSELPUMPEBEDIENUNG DER ELEKTRONIC REGULATION KONNEKTORY "ST-2C" A "ST-22" ODPPOJIT PŘI OVLÁDÁNÍ ČERPADLA KOTLE ELEKTRONICKOU REGULACI
- (H) WHEN ELECTRONIC REGULATION CONTROL BOILER FAN - CONNECTORS "ST-1C" AND "ST-12" MUST BE UNCONNECT DEN KONNEKTÖREN "ST-1C" UND "ST-12" ABKLEMMEN BEI DER KESSELGEBLÄSEBEDIENUNG DER ELEKTRONIC REGULATION KONNEKTORY "ST-1C" A "ST-12" ODPPOJIT PŘI OVLÁDÁNÍ VENTILÁTORU KOTLE ELEKTRONICKOU REGULACI
- (I) WHEN ELECTRONIC REGULATION CONTROL BOILER PUMP - CONNECTORS "TC95" MUST BE UNCONNECT DEN KONNEKTÖREN "TC95" ABKLEMMEN BEI DER KESSELPUMPEBEDIENUNG DER ELEKTRONIC REGULATION KONNEKTORY "TC95" ODPPOJIT PŘI OVLÁDÁNÍ ČERPADLA KOTLE ELEKTRONICKOU REGULACI
- (J) NO WITH ACD01 - MODUL AD03 FOR CONTROL BOILERFAN AND BOILERPUMP FROM BURNER A25 NEIN MIT ACD01 - MODUL AD03 FÜR BEDIENUNG KESSELGEBLÄSE UND KESSELPUMPE BEI DEM BRENNER A25 NEPLATI S ACD01 - MODUL AD03 K OVLÁDÁNÍ VENTILÁTORU A ČERPADLA KOTLE HOŘÁKEM A25

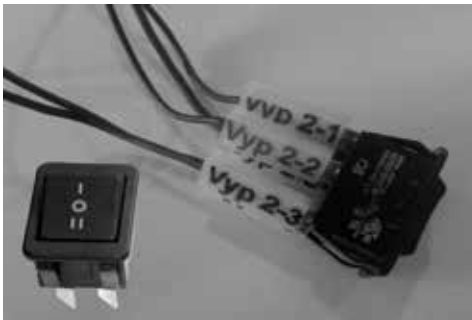
DCxxSP_11-05-01_A25-45_6P_AD03

19. Wiring diagram and process of instalation for special connector to the selector switch to keep run extraction ventilator of the boiler together with pellet burner

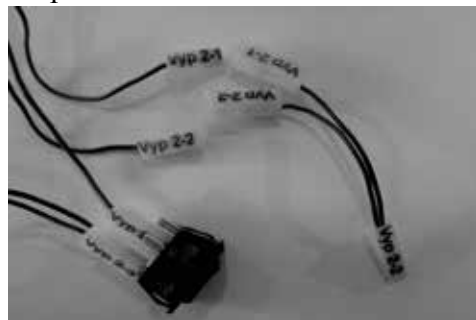
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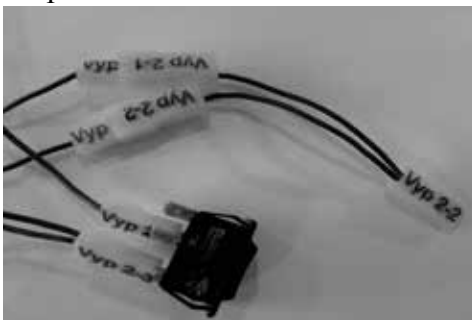
Step 1



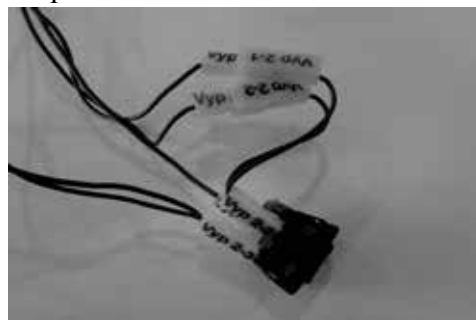
Step 2



Step 3



Step 4



CAUTION - If we use this connector in the boiler DC18SP, DC25SP and DC32SP and the burner ATMOS A25 will be controlled accordance with two sensors in the buffer tank, we have to also build in the module AD02 in to the boiler . If we connect this connector but we will not controlled the burner accordance with two temperatures in the buffer tank, we do not connect AD02 module.

20. Obligatory ČSN EN standards dealing with boiler designing and installation

ČSN EN 303-5	- Solid fuel boilers for central heating
ČSN 06 0310	- Central heating, designing and assembly
ČSN 06 0830	- Safety devices for central heating and hot potable water heating
ČSN EN 73 4201	- Designing chimneys and flue-gas ducting
ČSN EN 1443	- Chimney structures – general requirements
ČSN 06 1008	- Fire safety of local appliances and heat sources
ČSN EN 13501-1	- Fire classification of construction products and construction of buildings - Part 1
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

Standards for conformity assessment and other technical standards:

ČSN EN ISO 12100:2012, ČSN EN 953+A1:2009, ČSN EN ISO 11202:2011, ČSN EN ISO 3746:2011, ČSN ISO 1819:1993, ČSN EN 60335-1ed.2:2003



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.

21. 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 on and off, in the boiler circuit. Connection of these elements is illustrated in the wiring diagram. Each pump in the system must always be controlled by an individual thermostat to avoid a temperature drop of water returning to the boiler under 65 °C. When connecting the boiler without an accumulation tank or equalizing tank, the pump placed in the heated building circuit must be switched on and off 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 only be switched by one thermostat. 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 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.

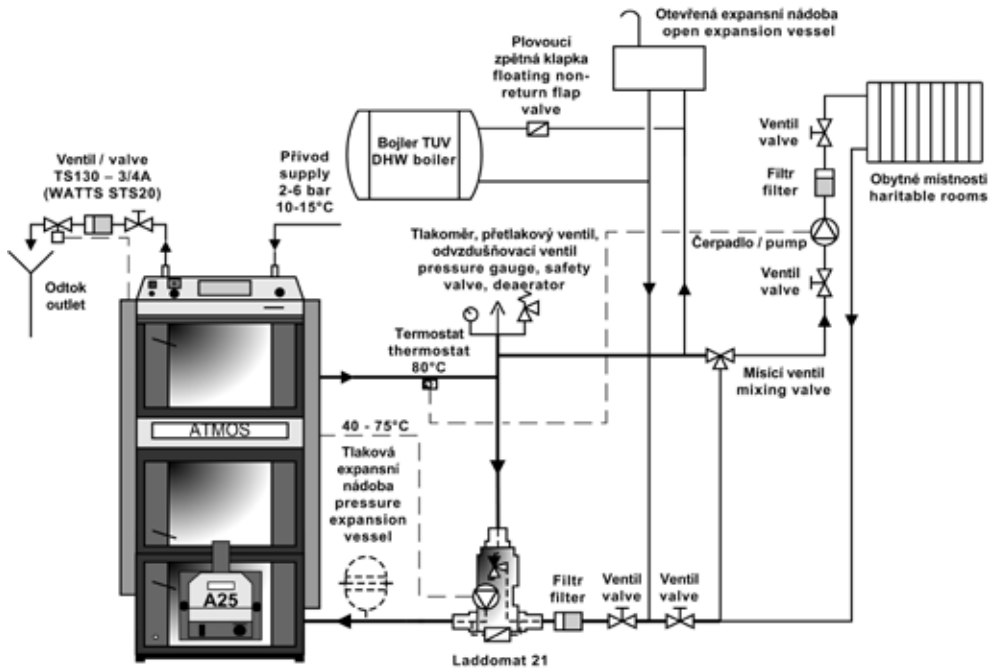


When installing the boiler, we recommend using a closed expansion tank. However, an open tank may also be used if permitted in the standards of the specific country. The boiler must always be installed in a way which prevents overheating (and subsequent damage) even during a power cut. It is because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

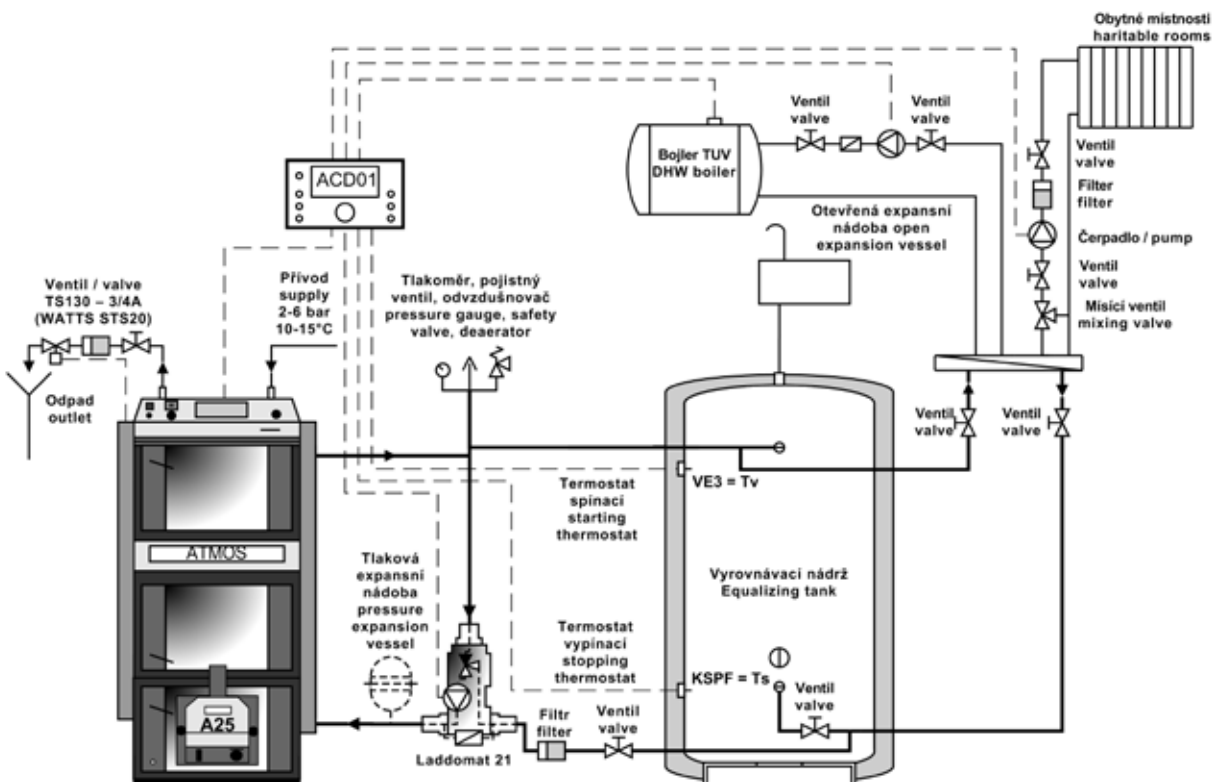


There are several ways of protecting the boiler from overheating. Connecting an over-heat prevention cooling loop with a TS 131 3/4 ZA (95 °C) or WATTS STS 20 (97 °C)

24. Possible boiler connection with Laddomat 21/22

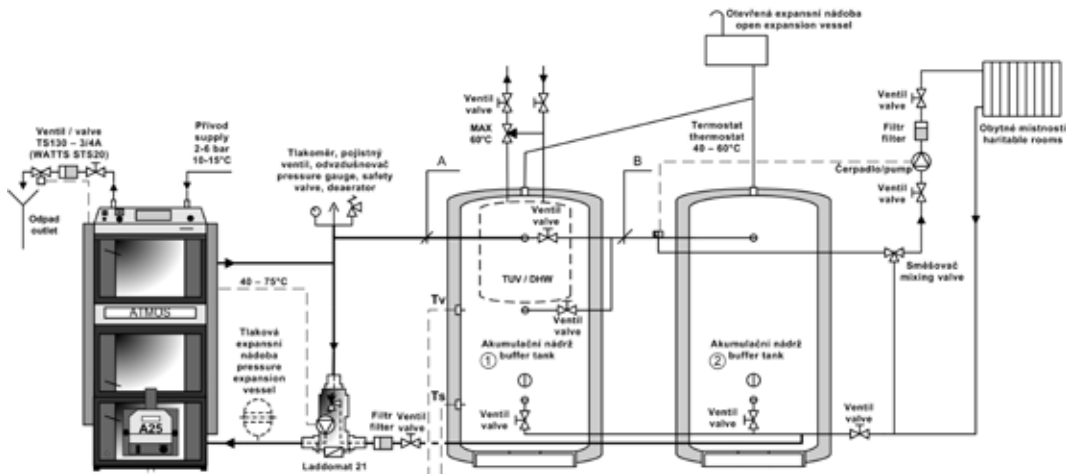


25. Specified boiler connection with equalizing tank and equalizing controller ACD01



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26. Recommended wiring diagram with Laddomat 21/22 and accumulation tanks

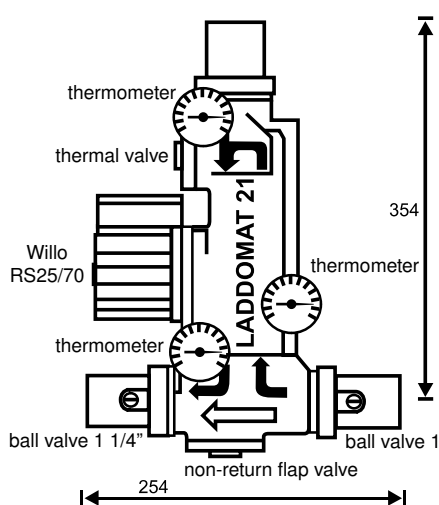


With this wiring we recommend to change pump thermostat connection which is build in boiler control panel according to wiring diagram (pump and waste gas thermostat connected in series)

Pipeline diameters if connected with accumulation tanks

Boiler type and output	section A		section B	
	in copper	in steel	in copper	in steel
DC15EP, DC18SP	28x1	25 (1")	28x1	25 (1")
DC25SP	28x1	25 (1")	28x1	25 (1")
DC32SP	35x1,5	32 (5/4")	28x1	25 (1")

27. Laddomat 21/22



With its construction, Laddomat 21/22 replaces the traditional connection composed of individual parts. It is composed 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 21/22 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.

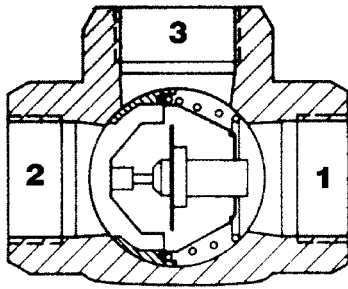
OPERATION DATA	
Max. operating pressure	0,25 MPa
Design pressure	0,25 MPa
Test pressure	0,33 MPa
Max. operating temperature	100 °C



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)**.

For boilers with an **output up to 100 kW** we recommend using **Laddomat 22**, which is factory fitted with thermo-cartridge of 72 °C.

28. Thermoregulatory valve



Thermoregulatory valve type TV 60 °C (65/72 °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 sizes of the thermoregulatory valve TV 60/65/72 °C.

For boilers: DC15EP, DC18SP, DC25SP DN 25
 DC32SP DN 32

29. Operating system with accumulation tanks when burning wood

Ignite the boiler and allow the accumulation tanks to “charge” to the required water temperature of 90 - 100 °C by the boiler’s maximum output operation (2 to 4 loads). Then leave the boiler to stop burning. Then keep withdrawing heat from the storage utilising three-way valve for a period of time corresponding to the size of accumulation tanks and the external temperature. In the heating season (and if adhering to specified min. accumulation tanks volumes – see chart) this could take 1 – 3 days. If the accumulation method cannot be used, then we recommend using at least one tank of 500 - 1000 l volume for equalising the boiler start-ups and run-outs of heating system.

RECOMMENDED MINIMUM ACCUMULATION TANK VOLUMES			
Type	DC15EP DC18SP	DC25SP	DC32SP
Output	18	25	32
Volume	1000 - 1500	1500 - 2000	2000 - 2500

The standard ATMOS accumulation tanks provided

TANK TYPE	VOLUME (l)	DIAMETER (mm)	HEIGHT (mm)
AN 500	500	600	1970
AN 750	750	750/790*	2010/1750*
AN 800	800	790	1910
AN 1000	1000	850/790*	2065/2210*

* type DH

Tank insulation

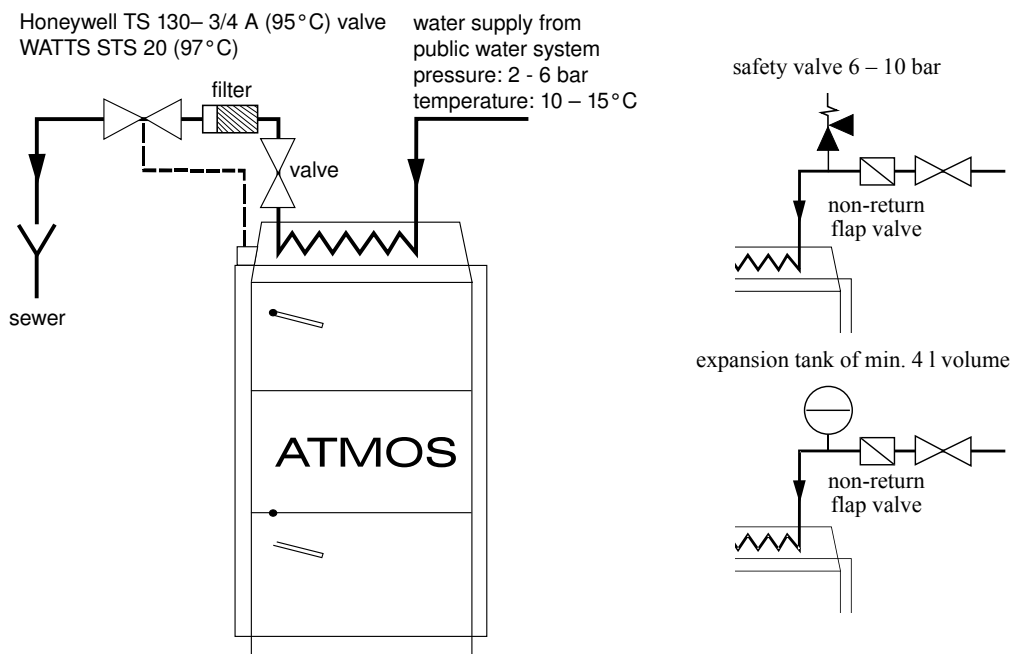
A suitable solution is joint mineral wool insulation of the particular number of tanks (of required volume) placed together into a plasterboard structure, or additional filling with granular insulation. When using the mineral wool, the specified minimum insulation thickness is 120 mm. Another option is purchasing tanks in a leather-cloth housing from our offer (see the price list).

Advantages

When burning fire wood, the installation with accumulation tanks provides several advantages:

- lower fuel consumption (by 20 – 30 %), the boiler operates in full output and at an optimal effectiveness of 81 - 89 % until the complete combustion of the fuel
- prolonged boiler and chimney service life – minimum formation of wood-tars and acids
- possibility to combine it with other heating methods – accumulated electric power, solar collectors
- combination of wall radiators and floor heating
- convenient heating and ideal fuel combustion
- environmentally friendlier heating

30. Connection of overheat protecting cooling loop with a safety valve Honeywell TS 131 - 3/4 ZA 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 131 - 3/4 ZA or WATTS STS 20 valves, the sensor of which is placed in the rear of the boiler, prevent 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 must be fitted with a 6 – 10 bar safety valve or with an expansion vessel of minimum 4 l volume.

31. Operating instructions



CAUTION - The boiler may only be put in operation by a qualified person in accordance with valid regulations and standards, trained by the manufacturer. Wood boilers must be operated in compliance with the instructions stipulated in this manual so that satisfactory and safe functioning is achieved.

Preparing boilers for operation

Before putting boilers into operation, it is necessary to ensure that the system has been filled with water, and air-bled.

Boiler setting and launching when burning pellets

Before burning pellets, several steps must be carried out:

Ensure that all three doors are fully closed. Secure the lower door with an M12 screw to prevent accidental opening. Check that the burner is well drawn towards the door through its gasket and the limit switch position stop (thrust block) is in its place.

Ensure that 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° angle otherwise the boilers might not reach their nominal output.

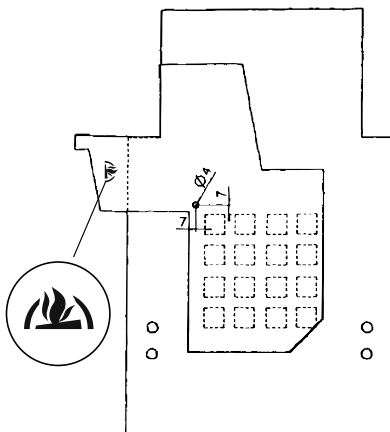
Check and if necessary clean the bottom cleaning lid on the flue-gas duct, that the combustion gases could freely leave in to the chimney!

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.

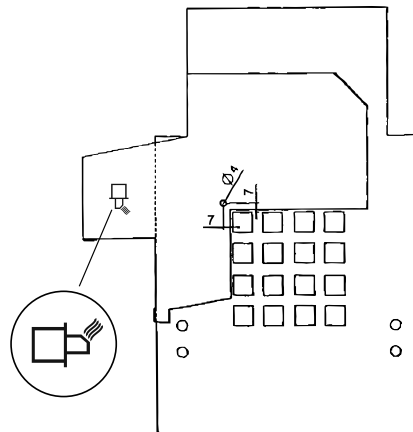
Open the air flap placed on the lower part of the burner cover, in its lower part, see picture.

Setting the closing flap on the pellet burner - view from bottom of the burner

Flap closed
(setting for wood burning)



Flap open
(setting for pellets burning)



Close the ignition valve used when loading firewood in wood-burning mode.

Depress the limit switch button situated to the left or right near the upper door. This button springs up and switches the pellet burner in cases where the upper door has been opened before or during the burner's operation. This is a necessary safety feature stipulated by valid standards.

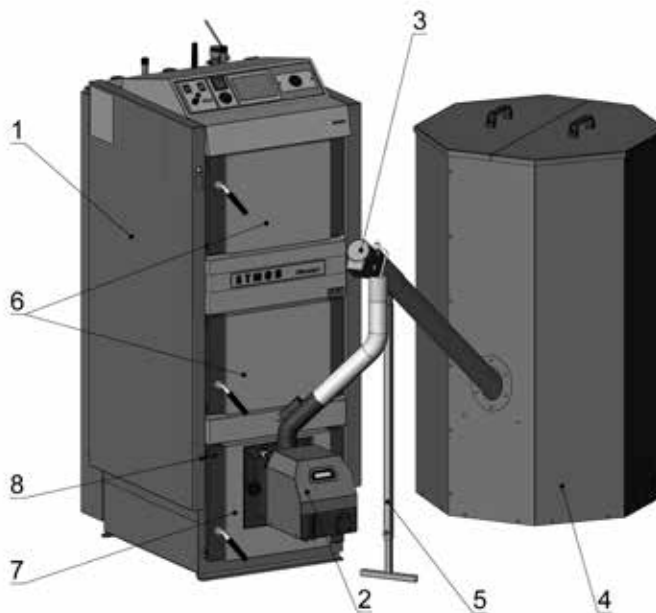
Load pellets into the conveyor by plugging the conveyor's lead into a regular 230V 50Hz electric socket. When the pellets start dropping from the conveyor, slide the cable back into its socket on the burner and proceed with setting up the boiler.

With boiler types DC18SP - DC32SP put the selector switch /6/ in position II. (pellet burner). Set the required temperature (80 - 90 °C) on the control thermostat. **With type DC 15EP, switch the burner on with switch /9/** (this boiler does not have a selector switch).

If we have pump thermostat connected to a series with waste gas thermostat, when burning pellets we must set the thermostat for starting pump in boiler circle on temperature 40 - 75 °C.

Turn on the main switch (green) and put the selector switch in position I. it put the boiler into operation.

Boiler system with an external storage container and conveyor



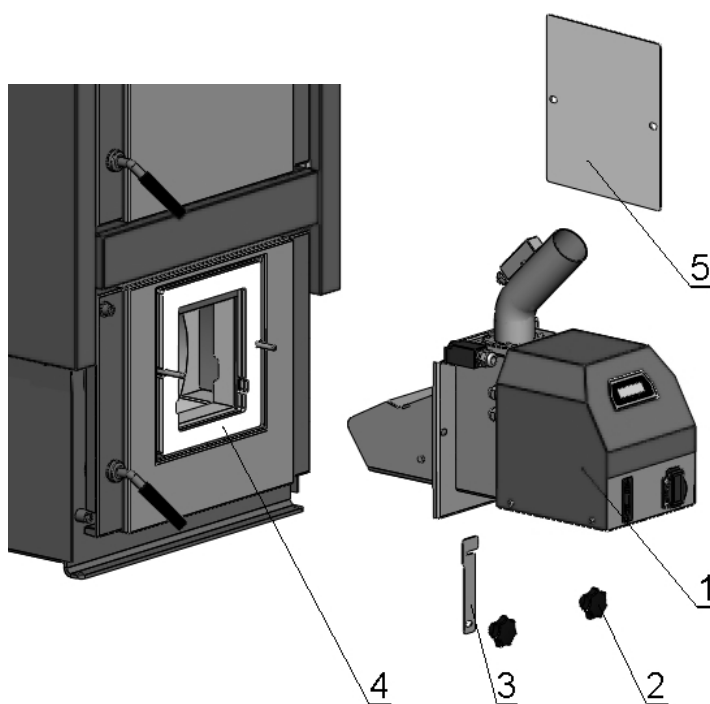
- 1 - boiler ATMOS DCxxSP(EP)
- 2 - pellet burner ATMOS A25
- 3 - conveyor

- 4 - pellets silo (250, 500 a 1000 l)
- 5 - conveyor leg
- 6 - doors for burning wood
- 7 - door with inbuilt burner



INFO - We recommend you to clean the fuel container from dust and dirt that have accumulated in the bottom part of the container during the heating season once a year, best after the heating season.

Connecting the burner ATMOS A25



- 1 - pellet burner ATMOS A25
- 2 - two M8 decorative nuts
- 5 - lid for closing burning chamber without burner

- 3 - end switch stop
- 4 - sealing



CAUTION – the burner must be well drawn towards the door.



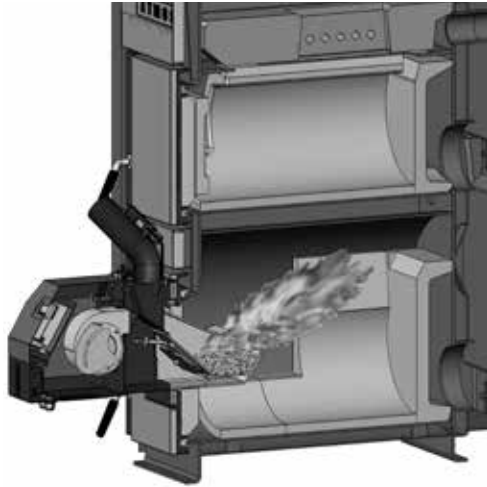
When the boiler is put in operation for the first time, an installer or qualified technician should adjust combustion of the burner with the use of a flue gas analyzer the sensor of which is to be inserted into the measurement place (opening) in the flue gas duct at the back of the boiler (position 40 on the page 10). At this place we do not measure waste gas temperature because there is exchanger along in waste gas duct. Waste gas temperature and chimney draught is measured 0,5 m away from the boiler in flue duct. Always adjust the burner in a stabilized condition, approx. 30 - 60 minutes after fuel ignition.

If there is no flue gas analyzer available for the boiler adjustment at the moment, you can adjust the pellet burner „roughly by guesswork“. Set the quantity of fuel and combustion air in such a way to stop the flame just before the opposite wall (the flame should not touch the wall). The flames must not turn at the opposite wall in any case. In such a case add combustion air by opening the flap of the burner fan or reduce the fuel supply.

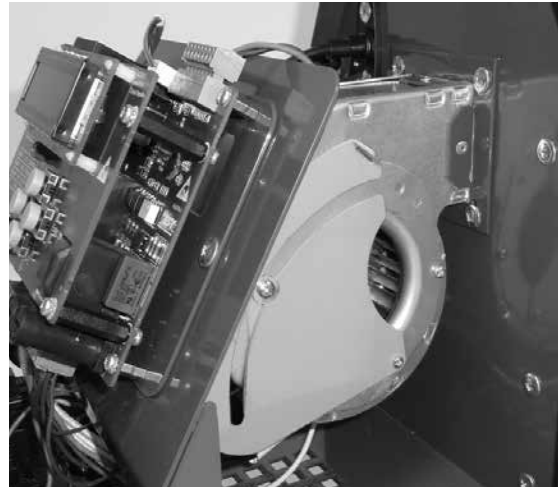
After the adjustment of the burner the operation of the boiler is completely automatic, the customer only replenishes fuel and removes ash in regular intervals.



CAUTION - The adjustment by the flame length does not replace adjustment made with the use of a flue gas analyzer by a qualified person. Changes of settings of the boiler and burner may only be performed by a person that is qualified in accordance with all the valid regulations and ČSN EN standards. Before the adjustment of the burner the combustion chamber of the burner and boiler and the chimney with the flue must be completely cleaned.

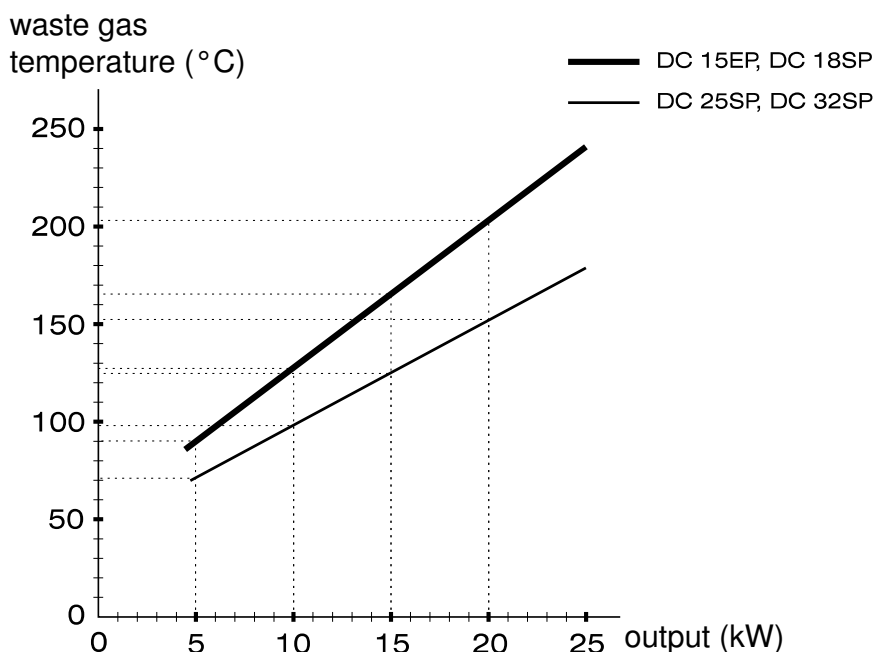


Burner flame ending 1 - 3 cm before the opposite wall



Fan of the burner with an air flap. By opening the air flap you will reduce the length of the flame

Relation of waste gas temperature to boiler (burner) output when burning pellets



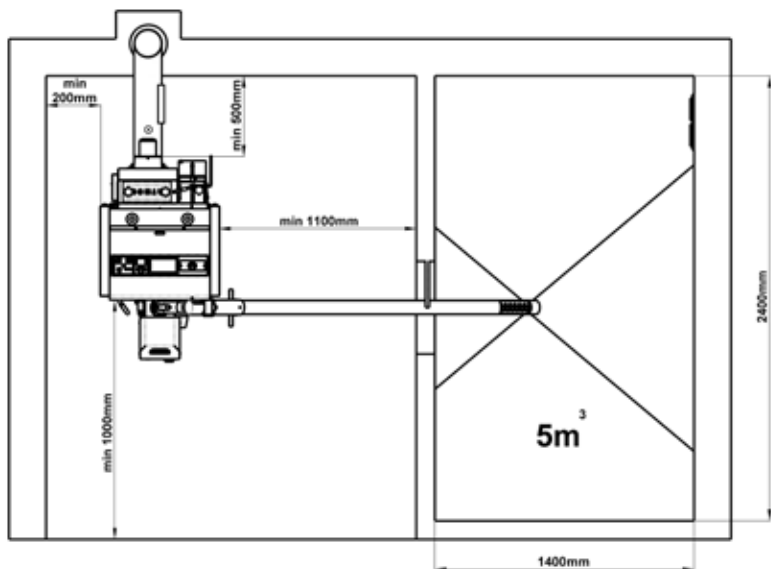
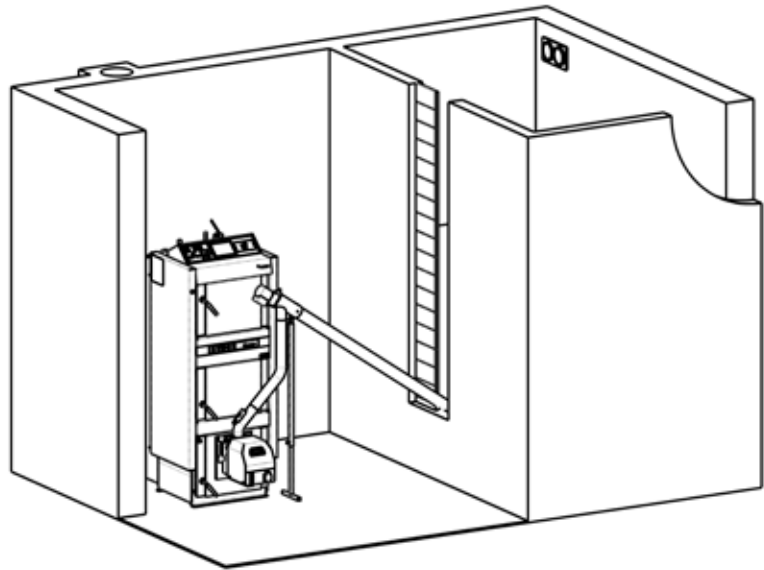
According to the relation of waste gas temperature to output we can easily estimate the actual output of the burner. The displayed curves correspond to a stabil state after 2 hours from pellet burner start in the cleaned boiler.

Boiler room with a built-in pellet storage

A boiler plant with a built-in pellet storage with the volume of e.g. 5 m³ in which you can store 3250 kg of pellets. (1m³ pellet = cca 650 kg) For this purpose a 2 m (2.5 m) conveyor is used.

For easy access to the storage a segmented opening is produced that can be adapted to the pellet level in the storage and enables cleaning of the storage from dust and dirt once a year. In the top part of the storage there are two openings for replenishment of pellets from a cistern that have different sizes with regard to pellet suppliers.

For optimum collapsing of the pellet heap the optimum angle of the inner walls in the storage must be at least 45°. All the walls are inclined to the lowest point of the storage from which the worm conveyor draws pellets.



CAUTION - If pellets are drawn to the storage in the boiler plant directly from the cistern, several principles must be observed that prevent their crushing during pneumatic transport. First of all you must make sure that they do not hit the hard wall of the storage, but a screen that is suspended in the centre of the storage from the ceiling. This way you will ensure even filling of the storage and prevent crushing into small pellets and dust. Ask the pellet suppliers about further possibilities and conditions of pellet drawing.



RECOMMENDATION - We recommend you to select the container size of 500 l to 1000 l, which will be sufficient for 3 to 14 days, depending on the consumed power. The larger the volume of the container, the better. The length of the conveyor may be 1.5 m, 2 m, 2.5 m, 4 m or 5 m. As the pellet storage you can also use a clearly delimited part of the room complying with fire regulations from which pellets may be drawn to an intermediate storage container at the boiler, or directly to the boiler.

Boiler setting and launching when burning wood

Before burning wood, several steps must be carried out:

Set required temperature of water exiting the boiler (80 - 90 °C) on the FR 124 draught regulator so that it effectively regulates the air intake on control valve in to the boiler.

Close the air flap placed on the lower part of the burner cover, in its lower part, see picture on the page 32. This prevents access of “false air” which would limit the boiler’s performance.

If we have pump thermostat connected to a series with waste gas thermostat, when burning wood we must set the thermostat for starting pump in the boiler circle on minimum (placed on control panel). Pump in the boiler circle is operated by waste gas thermostat to prevent discharging of accumulation tank after burn-out of the fuel.

Switch the main switch on, put the selector switch into position II. and ignite.



CAUTION – if the boiler is in wood burning mode and the operator does not close the control valve for air intake placed on the burner, or - when in pellets burning mode- the valve for air intake controlled by the FR 124 draught regulator, suction of “false air” into the combustion process will occur which will result in the boiler’s effectiveness reducing (2 –5 %). The boiler will however function. This type of operation is discouraged.

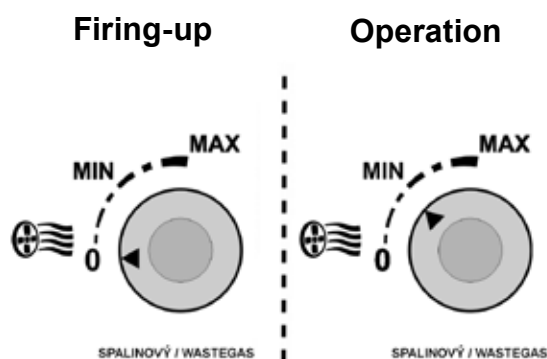


CAUTION – when switching the boiler operating mode from wood burning to pellets or the other way round, clean the boiler thoroughly from ash, pay particular attention to the rear flue-gas duct (remove ash from the lower lid), so that blockage of waste gas may not occur.

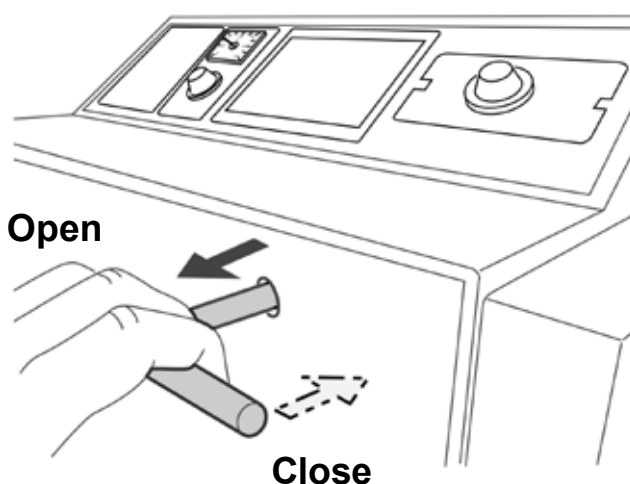
Ignition and operation in wood-burning mode

Put the selector switch into position 1 (or, in case of the DC15EP type, switch the burner off by its switch). Before fuel ignition, open the ignition valve /13/ by pulling the ignition valve pulling rod /17/ and reduce the waste gas thermostat for the ignition (to minimum - 0 °C). Through the top door /2/ insert dry wood kindling on the heatproof shaped piece /5/. Place the kindling perpendicularly to the channel recess in the shaped piece so that a 2 – 4 cm gap between the recess and fuel is created; which allows the waste gas passage. Place paper or wood wool on top of the kindling, then another layer of kindling and larger amount of dry wood. After ignition close the top door and open the lower door. For faster flaring up the extraction fan may be switched on. When the fuel has caught sufficient fire, close the lower door, fill the storage tank completely with fuel and close the ignition valve with its pulling rod /17/. Set the waste gas thermostat into the operating position which it is necessary to determine for ideal operation. On the FR 124 draught (output) regulator /22/ set the required outgoing water temperature 80 - 90 °C. If the boiler should work as a gasification appliance, then a layer of glowing charcoal must be kept (known as reduction zone) above the gasifying nozzle. This can be achieved by burning dry firewood of suitable size. When burning moist wood, the burner does not operate as a gasification appliance, the fuel consumption increases dramatically, the boiler does not reach the required output and the service life of both - the boiler and the chimney - decreases. **If the specified chimney draught is adhered to, the boiler operates up to 70 % output without the ventilator.**

Waste gas thermostat setting



Ignition valve operating



CAUTION – when operating the boiler, all doors must be fully closed and the ignition valve pulling rod must be pushed in - otherwise the ventilator (S) may sustain damage – except for DC15EP.



NOTE – when burning wood for the first time, condensation occurs and condensed fluid leakage occurs – this is not a defect. Condensation will disappear later. When burning small wood waste particles, it is necessary to monitor the waste gas temperature which must not exceed 320 °C. Otherwise, the ventilator (S) may sustain damage. **Wood-tar and condensate formation in the hopper is a side effect of wood gasification.**

Output regulation in wood burning mode - electromechanical

Output regulation is achieved by means of a control flap valve /8/ operated by the FR 124 draught regulator /22/ which automatically opens up or shuts down the valve /8/; depending on the pre-set outgoing water temperature (80 - 90 °C). The output (draught) regulator adjustment should be done carefully because it not only regulates the output; but also protects the boiler against overheating. The setting should be in compliance with the enclosed ‘Assembly and Setting Instructions’ for the HONEYWELL Braukmann FR 124 type regulator. The overheat protection function can be monitored by checking the regulator’s functionality at temperature of 90 °C. At this temperature, the control valve /8/ must be almost closed. It is necessary to seek and discover the best setting. You can visually inspect the control valve’s /8/ position by looking from the rear side of the ventilator. The ventilator is controlled by a control thermostat situated on the boiler’s panel. The regulation is based on the pre-set outgoing temperature value. The temperature set on the thermostat should be 5 °C lower than the temperature set on the FR 124 draught regulator. (Indicated by dots on the thermostat scale). The control panel also comprises of a waste gas thermostat which is used to switch the ventilator off when the fuel has been combusted (except for the DC15EP type). When igniting, position to the “firing-up” position

(minimum value). When the fuel has sufficiently flared up, set it to the operating position in which the ventilator runs until the fuel has completely burnt out. It is necessary to seek and discover an optimal position of the thermostat; which depends on type of fuel, chimney draught and other conditions. The outgoing water temperature should be monitored on the thermometer /18/ situated on the control panel. There is also an irreversible safety thermostat on the panel.

Draught regulator - HONEYWELL Braukmann FR 124 – Assembly instructions



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. The valve minimum gap is set by a setscrew to 3 – 8 mm; boiler service-life prolonging feature. - Do not decrease. Otherwise, the boiler and ventilator may get covered in tar and their service life would be reduced. In cases where there are insufficient general draught conditions, slightly increase the permissible minimum gap.



Draught regulator functional check when burning wood

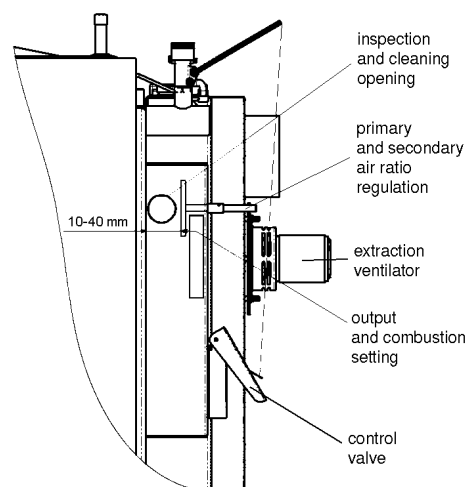
Set the setting handle to the required temperature of water exiting the boiler (80 - 90 °C). When the water temperature reaches its maximum of 95 °C, the control flap valve must be fully closed (only providing the setscrew gap). It is always necessary to fine-tune the specified operating temperature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

32. Setting the boiler output and combustion when burning wood

Basic setting of primary-secondary air ratio (DC15EP, DC18SP, DC25SP, DC32SP)

Optimum setting:
fully closed (5 mm) + 5÷10 mm

Maximum setting:
fully closed (5 mm) +10÷20 mm





Adjustments to settings should be done on the basis of the waste gas analyzer and maximum temperature; which must not exceed 320 °C at the outlet to chimney, at stabilised nominal output /with closed ignition valve/. The boiler is set to optimal operating parameters by the manufacturer. Therefore, make adjustments to settings only in cases where the operation conditions are non-standard (for example - if insufficient chimney draught, pull the regulator pulling rod to its maximum).

33. Fuel refill when burning wood

Before fuelling, open the ignition valve /13/ with the pulling rod /17/. Do not switch the extraction ventilator off. Wait for approximately 10 seconds and slowly open the loading door /2/ so that any accumulated gases are first vented off into the flue-gas duct. For the duration of heating, always top the hopper up completely. In order to prevent excessive smoke formation, load new batch of fuel only after the previous fuel has combusted to at least one third of the loading volume. Then cover the glowing charcoals with a broad log and add the rest of the firewood. Do not pack the fuel down tightly on the nozzle. Otherwise, you may put the flame out.



CAUTION – during operation, the ignition flap pulling rod must be retracted, otherwise damage to the ventilator (S) will occur.

34. Slow-burning operation when burning wood

It is possible to use boilers for slow-burning operation, i.e. keeping the fire up overnight without the necessity to heat-up during the day. This is only permitted during wintertime. This operating method however decreases the boiler service life. Prepare the boiler for slow-burning operation in the following way:

- place several (4 – 6) larger logs on a glowing layer of partially combusted fuel
- turn the mixing valve down

After the valve has been turned down, the boiler water temperature increases to 80 - 90 °C.

- the control flap valve /8/ operated by the FR 124 Honeywell draught regulator automatically shuts down and the ventilator switches off – the boiler operates in minimum output mode

In boilers prepared as previous, the wood burns for 8 – 12 hours. The actual slow-burn combustion time depends on the amount of fuel placed in the boiler and on the actual quantity of consumed heat. Even if the boiler operates in the slow-burn mode, it has to keep the output water temperature ranging between 80 - 90 °C and returning water minimum temperature 65 °C.

35. Boiler cleaning

It is necessary to clean the boilers regularly and thoroughly every 3 to 7 days when burning wood because the flue cinder accumulated in the fuel storage tank together with tars and acids significantly decreases the boiler's service life and output, and insulates the heat transfer surface. If excessive amounts of cinder are left to form, the burn-off area will be rendered insufficient and damage to the ceramic nozzle handle or the boiler may occur. Carry out the cleaning procedure by first switching the extraction ventilator on (except for DC15EP). Then open the upper loading door /2/ and sweep the cinder down through the slot into the lower chamber. The selector switch is in position I. so the extract ventilator is in operation (except for DC 15EPL where switch /9/ is switched off instead). Leave long

pieces of wood which have not fully combusted (charcoals) in the hopper for the next time the boiler is used. Open the cleaning lid /15/ and clean the duct with a brush. Remove all soot and cinder after opening the lower lid. Open the middle and lower door /3/ and clean the lower chamber from cinder and soot. The cleaning interval depends on the fuel quality (wood moisture content), heating intensity, chimney draught and other factors. Do not pull out the fireclay shaped section /10/ when cleaning. At least once a year, clean the extraction ventilator rotating wheel and via the cleaning hole, inspect the state of the primary to secondary air ratio regulation. If it is necessary, clean using a screwdriver. This influences the combustion quality (p. 36).

When burning pellets in the lower combustion chamber a certain amount of ash forms. This ash needs to be removed once in 3 – 10 days. When cleaning the middle chamber, it is necessary to open the middle door together with the lower door. Remove the ash from the whole combustion chamber. At the same time clean (remove and shake out) the pellet burner chamber. As the last step, always clean the rear flue-gas duct and remove cinder from the lower lid. The actual cleaning interval depends on the fuel quality, chimney draught and consumption. It is necessary for oneself to determine this interval. It may be longer than the recommended interval.



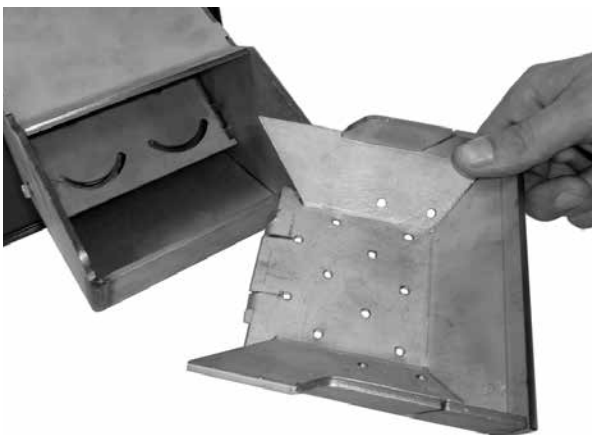
NOTE –regular and thorough cleaning is important for permanent stabilised output and a long service life of your boiler. If not cleaned properly, damage to the boiler may occur –the manufacturer’s guarantee is rendered invalid



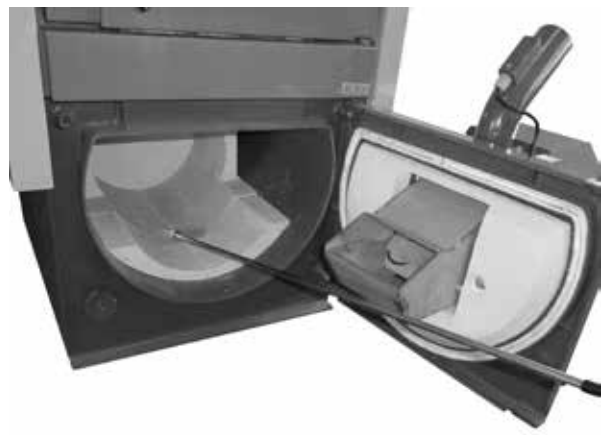
Pellet burner ATMOS A25 in bottom combustion chamber of the boiler



Open bottom door of the boiler during cleaning of the combustion chamber of the burner ATMOS A25



Removable combustion chamber - must be regularly cleaned



Open bottom door of the boiler during cleaning of the combustion chamber of the boiler when burning pellet.



Open middle space of the boiler with a roof and example of ash removal with a poker



Sample cleaning of the flue way with a wire brush - upper lid



Sample cleaning middle part of the flue way - middle lid



Sample cleaning of the flue way - bottom lid



Sample cleaning of impeller and checking uprightness of vane on extract ventilator



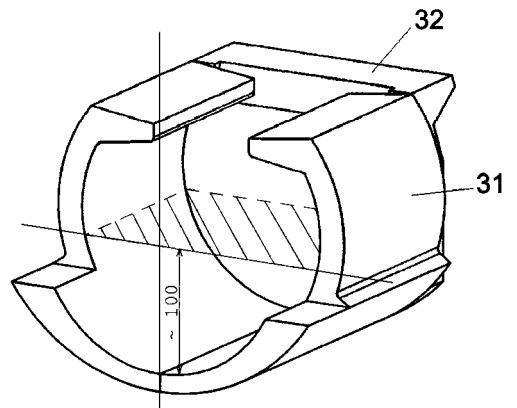
Checking and cleaning regulation of primary-secondary air ratio via cleaning lid

Maximum ash quantity – in the middle and lower combustion chambers

GB

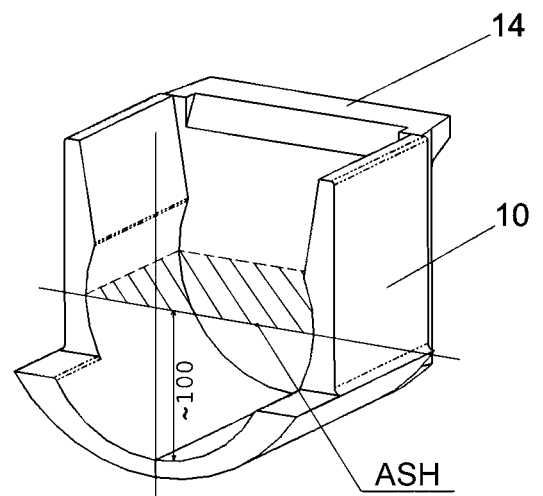
**For DC18SP
DC25SP
DC32SP**

- middle combustion chamber
- for wood



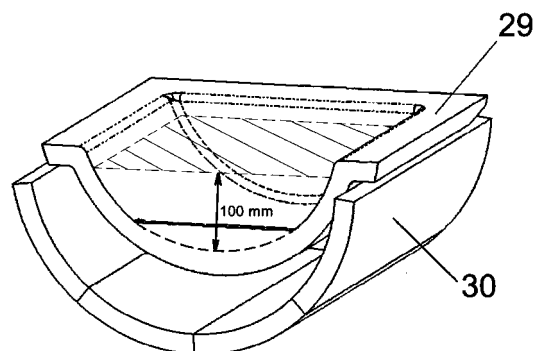
**For DC 15EP
DC 18SP
DC 25SP
DC 32SP**

- lower combustion chamber
- for pellets



For DC 15EP

- middle combustion chamber
- for wood



Maximum ash quantity – up to half of the spherical space!

36. 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 fill it with an anti-freeze. In other situations, only let water out if 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 Spring.**

37. Use and inspections

Boiler operators must always follow the operation and maintenance instructions. Interventions into boilers that could endanger the health of the operators or other persons in the vicinity are prohibited. Boilers may only be operated by a person that is more than 18 years old, that has been acquainted with the instructions and operation of the equipment and that complies with the requirements of § 14 of the Directive no. 24/1984 Coll. The boiler operation needed increased attention to safety in terms of potential burns from hot boiler parts and systems. You must never leave unattended children near boiler that is in operation. During the operation of solid fuel boilers it is prohibited to use any flammable liquids for lighting the fire and it is also prohibited to increase the nominal output of the boiler during operation (overheating). **You must not put flammable objects on the boiler and near the fuel feeding and ash pan openings and ash must be stored in non-flammable containers with a lid.** When handling fuel and ash, wear protective equipment (gloves, dust mask). Boilers in operation must be under occasional supervision of the operator. The user may only carry out repair consisting in simple replacement of a spare part (e.g. a sealing cord, etc.). During the operation check the doors and cleaning openings for tightness and always tighten them properly. The user must not alter the structure and electric installation of boilers. The boiler must always be cleaned properly and in time so that free passage of all the ways can be guaranteed. Cleaning doors must always be properly closed.



CAUTION - Follow valid fire regulations and have in reach portable fire extinguisher. If any non-standard behavior of the boiler shut down the boiler from operation and call the service.

38. Possible failures and troubleshooting

Failure	Reason	Solution
The “mains” indicator not lit up	<ul style="list-style-type: none"> - no voltage in network - plug incorrectly inserted to el. socket - defective power supply switch - defective electric cord 	<ul style="list-style-type: none"> - check - check - replace - replace
Boilers do not reach their required outputs and the pre-set water temperatures	<ul style="list-style-type: none"> - not enough water in the system - excessive pump output - the boiler output is not sufficiently rated for the particular heating system - low quality fuel (high moisture content, over sized logs)- ignition valve leaking - insufficient chimney draught - excessive chimney draught - extraction ventilator blades are bent - ignition too long or boiler operated with the ignition flap open - insufficiently cleaned boiler - combustion-air inlet to loading chamber is clogged 	<ul style="list-style-type: none"> - refill - adjust the pump’s switching and flow rate - design issue - use dry firewood and split logs into halves - repair - new chimney; unsuitable connection - pull the draught regulator pulling rod out - place a throttle valve (draught limiter) in the flue-gas duct - straighten blades (to a 90° angle) - replace - clean - clean
Doors leaking	<ul style="list-style-type: none"> - defective fibreglass cord - the nozzle becomes clogged - insufficient chimney draught 	<ul style="list-style-type: none"> - replace - adjust the door hinges - do not burn small-particle wood, sawdust, bark - chimney defect
Ventilator does not turn	<ul style="list-style-type: none"> - boiler overheated – safety thermostat fuse out - rotating wheel clogged - defective capacitor - defective motor - bad contact in plug of motor cable lead 	<ul style="list-style-type: none"> - press the thermostat push-button (using a pencil) - clean the ventilator including the ducting from tar and sediments - replace - replace - check - measure

Defects and shortcomings of the burner, conveyor	<ul style="list-style-type: none"> - no more fuel 	<ul style="list-style-type: none"> - replace and before the new star draw pellets to the conveyor
	<ul style="list-style-type: none"> - the fuel is cindered and blocks the chamber on the burner - the hose between the conveyor and the burner gets clogged - the burner does not provide the required output - the worm conveyor does not run (stops) 	<ul style="list-style-type: none"> - clean the combustion chamber and hose replace pellets - clean the combustion chamber of the burner once a day until you burn all the poor-quality pellets - low calorific value of the pellets, change the setting - check and if necessary, replace the gearbox of the conveyor - defect - check the quality of pellets, high resistance = hard pellets, large diameter of pellets, long pellets
	<ul style="list-style-type: none"> - other defects of the burner 	<ul style="list-style-type: none"> - follow the operation instructions of the burner

39. Spares parts

Heatproof shaped piece - nozzle	/5/
Heatproof shaped piece	/9/, /10/, /14/, /27/, /29/, /30/, /31/, /32
Ventilator (code: S0131)	/4/
Main switch with an indicator light - green (code: S0091)	/20/
Selector switch (code: S0096)	/36/
Thermometer (code: S0041)	/18/
Control thermostat (code: S0021)	/24/
Safety thermostat (code: S0068)	/7/
Waste gas thermostat - single-circuit (code: S0020)	
boiler with 5-pin connector	/35/
Waste gas thermostat - dual-circuit (code: S0078)	
boiler with 6-pin connector - model 2012	/35/
Door sealing cord 18 x 18 - two upper doors - small doors (code: S0241)	/26/
Door sealing cord 18 x 18 - bottom chamber for burner	
ATMOS A25 - big door (code: S0240)	/26/
Limit switch with a push-button (code: S0094)	/37/
Pump thermostat (kód: S0065)	/33/
Fuse (6,3A) 5x20/T6,3A/1500 - type H (code: S0200)	/34/
Impeller for extract ventilator Ø150 - small (code: S0141)	
Impeller for extract ventilator Ø175 - big (code: S0151)	

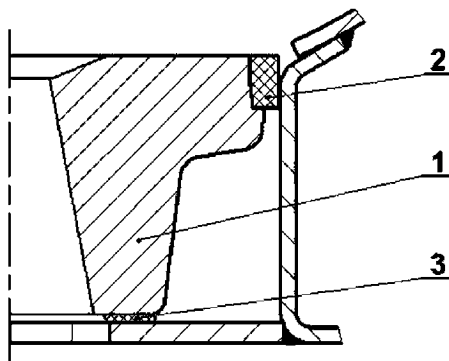


CAUTION – type UCJ4C52 of the extraction ventilator with 150 mm diameter rotating wheel (impeller) is used for boilers DC18SP and DC25SP. Extraction ventilator for type UCJ4C52 with a 175 mm diameter open rotating wheel (impeller) is used for boiler DC32SP.

Heatproof shaped piece (nozzle) replacement

- Material list
1. heatproof shaped piece
 2. sealing cord (3 pcs)
 3. boiler sealant (white)

Procedure: Remove or break up the old heatproof nozzle (further referred to as „nozzle“). Thoroughly clean the nozzle holder, which the nozzle was seated on, from tar and old sealant. Roll slim strands of boiler sealant. Place these continuously round the nozzle holder aperture in such a way which would prevent any penetration of secondary air underneath the nozzle later on. Take the new nozzle in your hand, stand in front of the boiler and position the nozzle in such a way that its recess (cut-out) is positioned in a direction away from you and downwards (the recess is positioned inside the boiler; a mark on the nozzle - if present – is positioned backwards). The secondary air is brought to the nozzle from the rear section of the boiler. Place the nozzle on its holder and fully push towards the rear of boiler. Position it in such a way that free play between nozzle and holder is the same on both - the left and right side. Shape the sealing cords with a hammer so that their cross-section changes from square to trapezoid shape. Then spread them along the sides and front of the nozzle and by gently tapping calk them evenly round its circumference so that they are level with the nozzle. Cover the sealing cord connections with a small amount of the boiler sealant.



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. 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 smoothly. 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 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 pushed out from the door 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.

40. 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, 4.

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

GB

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 21/22 in combination with the accumulation storage 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 °C 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 a syn 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:	Flue-gas duct:
Dimensions:	Diameter:
Height:	Length:
Chimney draught:*	Number of elbow pieces:
Date of last inspection:	Waste gas temperature:*

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

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Fuel:	Measured data:
Type:	Waste gas temperature: °C
Size:	Emissions in stabilised state : CO
Moisture content:*	CO ₂
	O ₂

Person responsible for the inspection: Date:

Stamp : Customer's signature:

(Responsible person's signature)

* measured values

ANNUAL INSPECTIONS RECORDS

GB

Date stamp and signature	Date stamp and signature	Date stamp and signature	Date stamp and signature
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RECORDS OF GUARANTEE PERIOD AND POST-GUARANTEE PERIOD REPAIRS

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