

Instruction manual

Contents

1. Intended use	5
2. Technical description	5
Control panel appearance	6
Advantages of the boilers	6
3. Technical data	7
Boiler drawing key	8
Technical data	8
Drawing of the boiler	9
Extraction ventilator schematics	10
4. Type and seating of shaped pieces into combustion area	10
5. Boiler supplied accessories	10
6. Fuel	11
Basic wood burning data	11
Fuel heating capacity	11
7. Boiler base	12
8. Environment type and boiler placement in a boiler room	12
9. Chimney	12
10. Flue-gas duct	13
11. Fire prevention during installation and use of heating appliances	14
12. Connecting boilers to the electric network	15
13. Wiring diagram of boiler DC105S, DC150S with a flue gas thermostat and two exhaust fans	16
14. Obligatory ČSN EN standards related to boiler designing and installation	17
15. Choice and connection method of control and heating elements	17
16. Boiler corrosion protection	18
17. Specified boiler connection with thermoregulatory valve and with an buffer tank	18
18. Prescribed boiler connection with controlled return water in to the boiler and an buffer tank	19
19. Recommended boiler connection with accumulations tanks	19
20. Thermoregulatory valve	20
21. Operating a system with accumulation tanks	20
Tanks insulation	20
Advantages	20
22. 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)	21
23. Operating instructions	21
Preparing boilers for operation	21
Ignition and operation	21
Waste gas thermostat setting	22
Output regulation	22
24. Setting the boiler output and combustion	23
Setting of primary and secondary air for DC105S and DC150S	23
25. Fuel Refill	24
26. Slow-burning mode	25
27. Boiler cleaning	25
28. Heating system maintenance - including boilers	27
29. Use and inspections	27
30. Possible failures and troubleshooting	28
31. Spares	29
Heatproof shaped piece (nozzle) replacement	29
Door sealing cord replacement	30
Adjusting the door hinges and locks	30
32. Environmental protection	30
Disposal of the boiler after expiration of its service life	30
GUARANTEE CONDITIONS	31
BOILER INSTALLATION REPORT	32
ANNUAL INSPECTION RECORDS	33
RECORDS ABOUT GUARANTEE PERIOD AND AFTER-GUARANTEE PERIOD REPAIRS	34

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.32).
2. During the **gasification process, wood tar and condensates (acids)** form in the fuel storage tank. Therefore, there must be a thermoregulatory valve installed behind the boiler or an electronically controlled three-way valve on the return piping 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.
3. The boiler **must not be permanently** operated in an output **lower than 50 %**.
4. Operation of 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**. The boiler-circuit pump shall be switched on and off by means of a thermostat built in the boiler (set to 70 °C).
5. The boiler operates environmentally friendly if working at the nominal output level.
6. We therefore recommend installing the boiler with **accumulating storage tanks, which provides 20 - 30 % fuel consumption decrease, longer service life of both – the boiler and the chimney, and user-friendlier operation**.
7. If you cannot install the boiler with accumulation tanks of required volume, then we require that you install at least **one equalising tank**; the volume of which should be 1000 l.
8. When operating the boiler in a **lower-output mode** (summer operation or heating up hot potable water), it is **necessary to fire-up daily**.
9. Use only **dry fuel with 12 - 20 % moisture content – 2 years old**.



CAUTION - If the boiler is installed with a TV 60 (65/70/75) °C thermoregulatory valve or with an electronically controlled three-way valve for keeping the min. temperature of water returning to boiler at 65-70°C in combination with accumulation storage tanks (see the schematics), the guarantee period for the boiler drum is extended from 24 to 36 months. The guarantee period for other parts remains 2-year long. 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 environmentally friendly boilers ATMOS DC105S and DC150S are intended for heating in gardening centres, large houses, various workshops, business premises and similar buildings. The boilers are suitable for outputs ranging between 70 - 150 kW.

The boilers are designed for burning wood pieces only. Any dry wood may be used for heating. Wood logs and wood splits of 550 - 750 mm maximum length (depending on boiler type) in particular. Larger diameter logs may be used as well; then the boiler's nominal output decreases and the combustion time increases. The boilers are not intended for burning saw dust or small-particle wood waste.

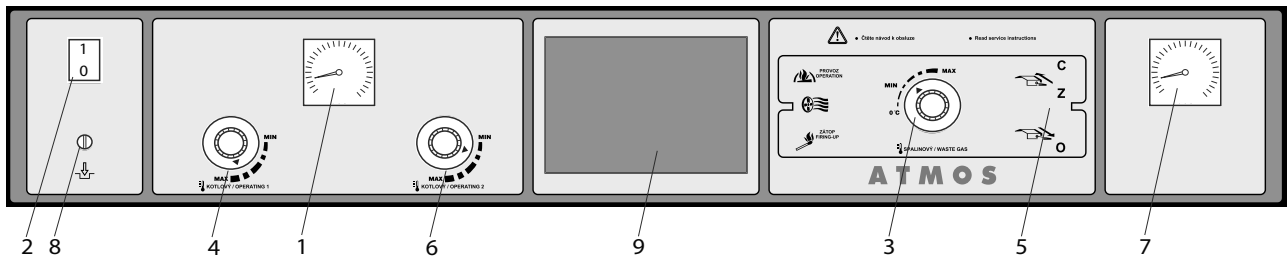
Due to their huge feeding hopper, it saves the user a lot of laborious wood splitting and treating operations. It saves both - the physical effort and also the time dedicated to these operations.

2. Technical description

The boilers are designed for burning wood based on generator gasification principle utilising two extraction fans (ventilators), which extracts the flue gas from the boiler. The boiler drum is manufactured as a welded structure of 3 - 10 mm thick steel sheets. The boiler consists of a fuel-feeding hopper which is in the lower section fitted with a heatproof (nozzle) shaped piece with a longitudinal opening allowing the waste gasses and fumes to escape. The burn-off chamber situated underneath is fitted with other heatproof (fireclay) shaped pieces. There is a vertical flue-gas duct in the back of the boiler body which is in the upper section equipped with an ignition valve. A gas outlet pipe for a chimney connection is situated in the upper part of the flue-gas duct. The boiler's front wall is fitted with a loading door (in its upper section) and an ash-pan door (in the lower section). Lids are placed on both sides of the ash-pan door. A tube heat exchanger with flue gas brakes are situated behind these lids. In the front section of the upper hood there is an ignition valve pulling rod. The boilers' drum is externally heat insulated by mineral wool placed beneath the sheet metal covers of the boilers' external housing. A control panel for electromechanical regulation is situated in the upper part of the boiler.

Primary air for ideal burning of the boiler enter on the sides of the boiler through a special valves controlled by actuators. Secondary air is supplied from the front and rear sides of the boiler. The primary and secondary air is pre-heated to a high temperature.

Control panel appearance



- | | |
|-------------------------------------------------|---------------------------------------------------------------------|
| 1. Outgoing water thermometer | 6. Operating thermostat of the ventilator No. 2 |
| 2. Main switch | 7. Pressure gauge |
| 3. Waste gas thermostat | 8. Safety thermostat |
| 4. Operating thermostat of the ventilator no. 1 | 9. Area for electronic regulation of the heating system (92x138 mm) |
| 5. Ignition valve control | |

Description:

- Thermometer** – indicates the temperature of water exiting the boiler
- Main switch** – used to completely shut down the boiler
- Waste gas thermostat** – is used to switch off the ventilators when the waste gas temperature drops – after the fuel has burnt out. The boiler-circuit pump stops operating simultaneously with the ventilators.



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“ position. The user needs to determine the optimal operating position for particular conditions. Should the waste gas temperature fall below the preset value, the thermostat switches the ventilator off. If you want the ventilator to start operating again, set a lower temperature on the waste gas thermostat (e.g. set it to „0 °C“ - firing-up).

- Control thermostat no. 1 (boiler thermostat)** – controls the first ventilator operation depending on the temperature of water exiting the boiler. Set it to temperature of 85 - 90 °C.
- Ignition valve pulling-rod** – is used for opening up the ignition valve during ignition or fuel-loading stage.
- Control thermostat no. 2 (boiler thermostat)** – controls the second ventilator operation depending on the temperature of water exiting the boiler. Set it to temperature of 80 - 85 °C.
- Pressure gauge** – indicates the current pressure of water in boiler.
- 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.
- Area for electronic regulation** of the heating system can be used to house any type of regulation system that fits into an aperture of 92x138 mm. The electric harness is prefabricated and ready to be used for the regulation's power supply.

Advantages of the boilers

The burning happens at very high temperatures with a generator-gasification function. This feature means fuel savings and environmentally friendly operation. The boilers have the primary and secondary air pre-heated to a high temperature. Therefore, they are characterised by a warm and stable flame with consistent combusting quality. The large feeding hopper allows burning of large wood logs and splits up to 550 / 750 mm max. length. The boilers are fitted with a cooling loop protecting it against overheating and with two thermostats for switching the boiler-circuit pump.

3. Technical data

ATMOS boiler type		DC105S	DC150S
Boiler output	kW	105	150
Heating surface	m ²	7,6	8,8
Fuel shaft volume	dm ³	300	400
Feeding hole dimensions	mm	450 x 315	450 x 315
Specified chimney draught	Pa	25	25
Max. operating water-pressure	kPa	250	250
Boiler weight	kg	901	1030
Gas-outlet pipe diameter	mm	200	200
Boiler height	mm	1813	1813
Boiler width	mm	1010	1010
Boiler depth	mm	1095	1295
Electric parts ingress protection	IP	20	20
Electric input	W	185	185
Boiler efficiency	%	90,8	90,3
Boiler class		5	5
Waste gas temperature at nominal output	°C	172	180
Waste gas combustion products flow weight at nominal output	kg/s	0,053	0,075
Specified fuel		dry wood of 15 - 17 MJ.kg ⁻¹ caloric power, min. 12 % - 20 % max. water content and 80 - 150 mm diameter.	
Average fuel consumption	kg.h ⁻¹	28	38
Fuel consumption per heating season		1 kW = 1 stacked cubic meter	
Maximum wood length	mm	550	750
Combustion time at nominal output	hod.	2	4
Boiler water volume	l	265	306
Hydraulic pressure drop	mbar	0,27	0,29
Equalising tank minimum volume	l	1000	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 drawing key

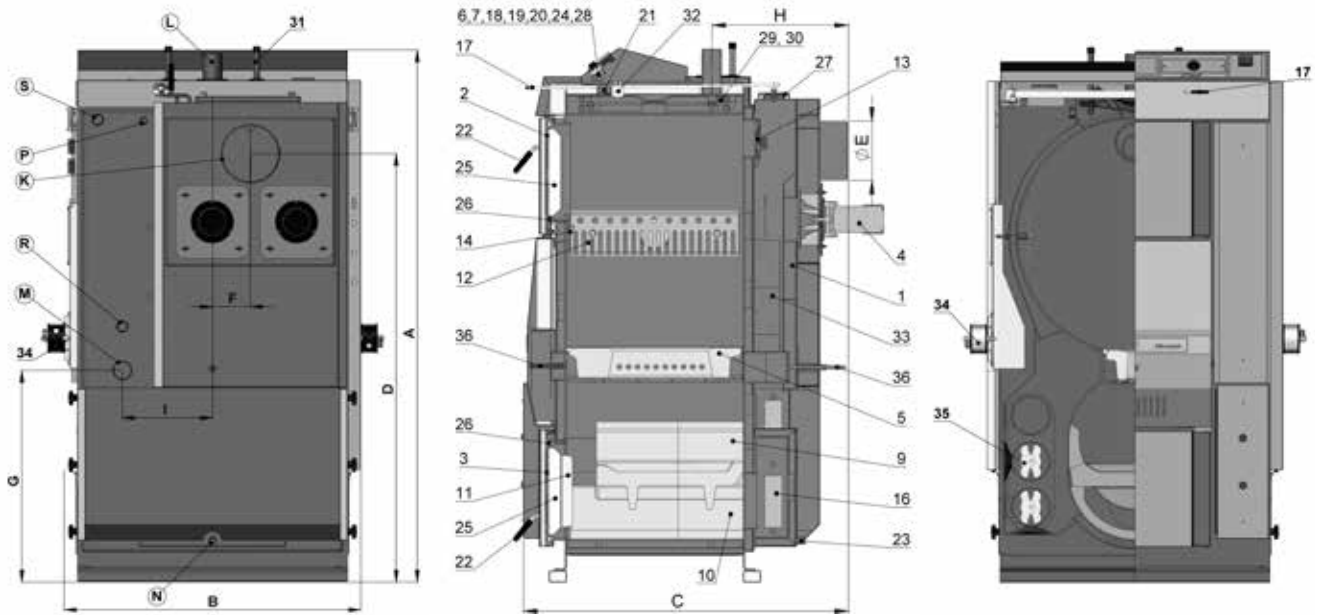
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Boiler drum 2. Loading door 3. Ash-pan door 4. Exhaust fan - ventilator (J22RR552) - 2x 5. Heatproof shaped piece – nozzle 6. Control panel 7. Safety thermostat 8. nozzle cube - prolongation 9. Heatproof shaped piece
- spherical space - upper part 10. Heatproof shaped piece
- spherical space - bottom part 11. Heatproof shaped piece - half moon 12. Primary air screen - 2x 13. Ignition valve 14. Frame shield 15. Tube heat exchanger lid 16. Cleaning lid - bottom 17. Ignition valve pulling rod 18. Thermometer 19. Ventilator no. 1 thermostat (operating) 20. Switch 21. Module AD03 - 2x 22. Door closing 23. Filling-in valve | <ol style="list-style-type: none"> 24. Ventilator no. 2 thermostat (operating) 25. Door filling – Sibral - large 26. Door sealing – cord 18 x 18 27. Cleaning lid - upper 28. Flue gas thermostat 29. Pump thermostat - 70 °C 30. Pump thermostat - safety - 95 °C 31. Cooling loop protecting against overheating 32. Capacitor - 2x 33. Flue gas brake - in flue gas duct - 2x 34. Belimo actuator 35. Flue gas brake - in tube heat exchanger - 4x 36. Secondary air regulation <p style="margin-top: 20px;"> 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 regulates the cooling loop (TS 131, STS 20)
 S – spare output (such as for an expansion tank or a water heater)
 R – spare output (such as for an expansion tank or a water heater) </p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Technical data

Dimensions	DC105S	DC150S
A	1813	1813
B	1010	1010
C	1095	1295
D	1459	1459
E	200	200
F	129	129
G	721	721
H	492	492
I	307	307
J	2"	2"

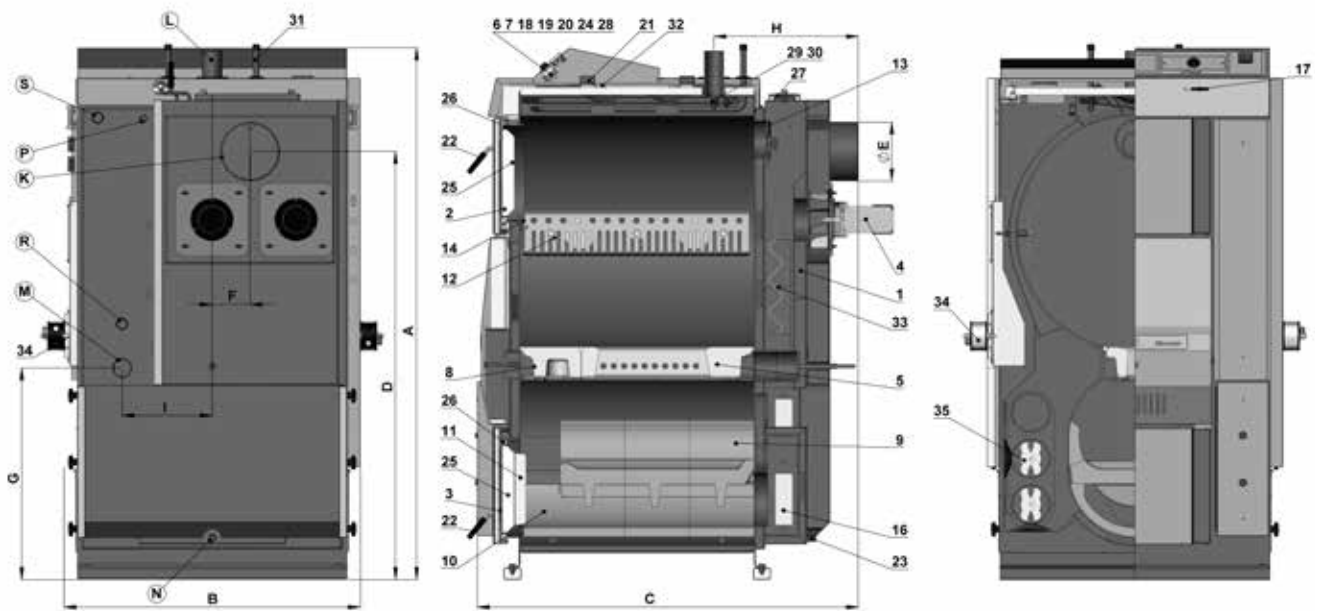
Drawing of the boiler

DC105S



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DC150S

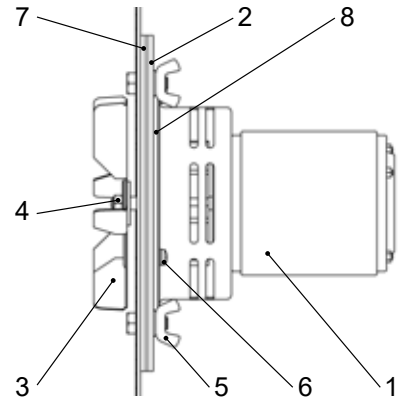


Extraction ventilator schematics



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.

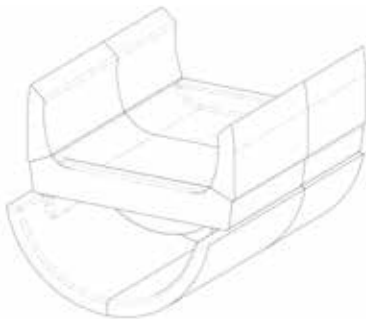
- 1 - Motor
- 2 - Plate
- 3 - Rotating wheel (stainless steel)
- 4 - **Nut with left-handed thread** and washer
- 5 - Wing nut
- 6 - Bolt
- 7 - Large gasket (2 pcs)
- 8 - Small gasket



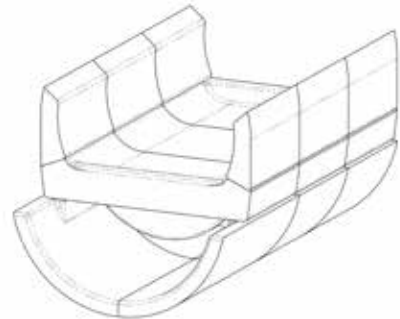
4. Type and seating of shaped pieces into combustion area

For type:

DC105S



DC150S



CAUTION – The spherical space must be fully insert on the back wall of the combustion chamber.

5. Boiler supplied accessories

Steel brush with accessories	1 pc
Pokers	2 pc
Filling-in valve	1 pc
Operating and maintenance instructions manual	1 pc
Ash-pan	1 pc
Flue-gas duct	1 pc

6. Fuel

The specified fuel is dry split logwood of 150 - 250 mm diameter, at least 2 years old, with moisture content of 12 % to 20 %, 15 - 17 MJ.kg⁻¹ caloric power and maximum length 550 - 750 mm (based on the boiler type).



The boiler is intended for combustion of soft or hard wood logs.
Do not use a small fuel and wood waste for heating.

Basic wood burning data

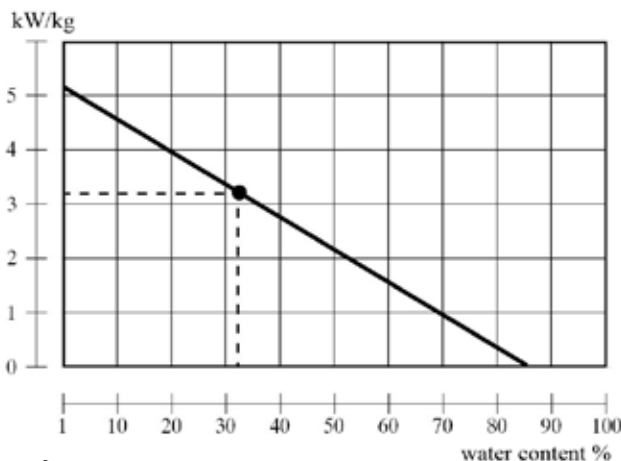
You can ensure maximum output and a long service life if you burn wood which has been left for at least 2 years to dry. The following graph illustrates the relationship of moisture content to heating capacity of the fuel. The energy content declines dramatically with increased water contents.

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 graph illustrates the boilers maximum output with wet fuel.

	kW
DC105S	- 84
DC150S	- 120



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

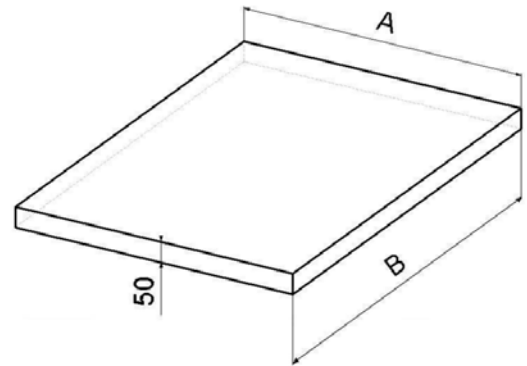


Raw wood does not burn easily, produces a lot of smoke and substantially decreases the service life of your boiler and chimney. Boiler output drops as low as 50 % and fuel consumption doubles.

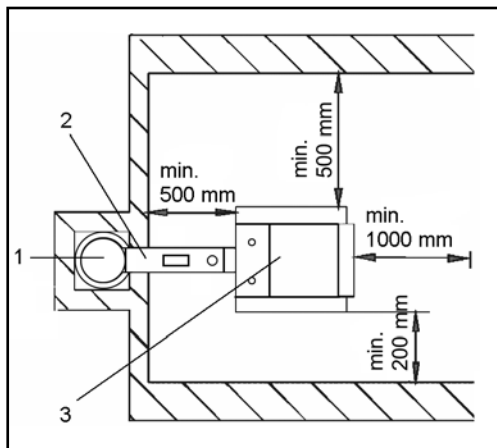
7. Boiler base

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

Boiler type [mm]	A	B
DC105S	1000	800
DC150S	1000	1000



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/corridors) is not permitted. The combustion air inlet aperture in the boiler room must be of minimum 450 cm².

- 1 – Chimney
- 2 – Flue-gas duct
- 3 - Boiler

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. 200 mm).** The chimney draught must comply with the specified values. It must however 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 cm diameter

height 11 m

25 cm diameter

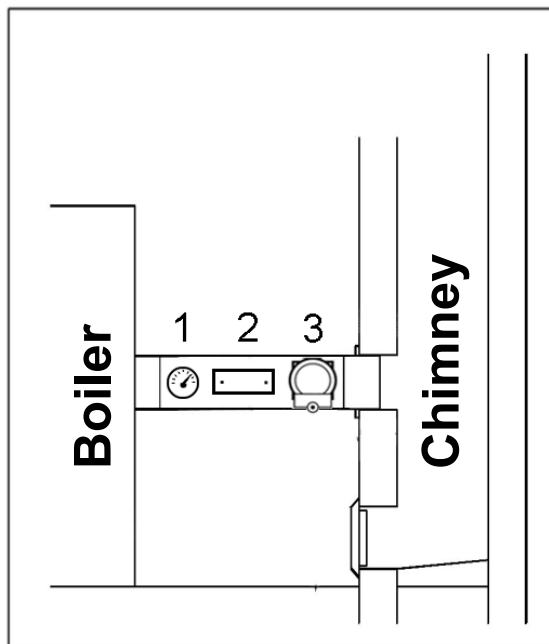
height 9 m

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 combustion 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. The flue-gas duct shall always be fitted with a waste gas thermometer.



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



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

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 (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 the „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, fibre-glass 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 in a distance lower than the specified safe distance (more ČSN EN 13501-1).**

12. Connecting boilers to the electric network

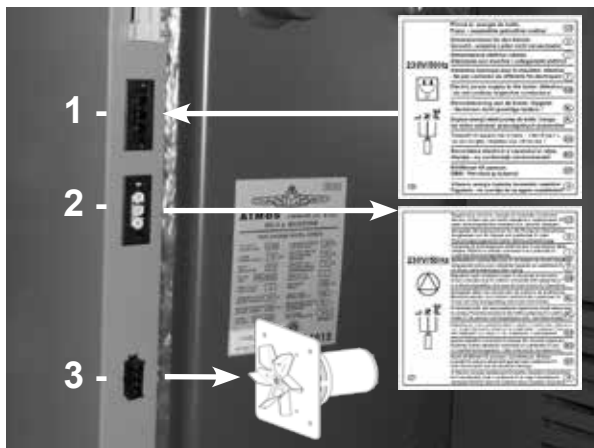
The boilers are connected to 230 V, 50 Hz mains with a mains cable without a plug. The mains supply cable in case of repair it must be replaced with the same type by the servicing organization. Connection, maintenance and reparation can be made only by a qualified person in accordance with valid regulations of the particular country.



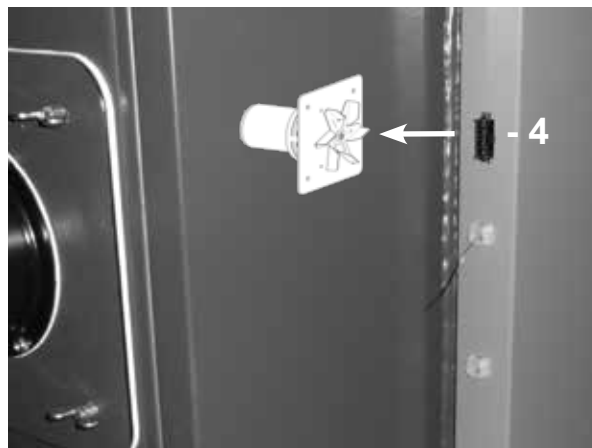
CAUTION - The mains cable must not be equipped with a plug (designed to be connected to a socket). It must be connected in a fixed way to a switch board or junction box to avoid confusion of the conductors.

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.

Connectors in the right side hood:



Connectors in the right side hood

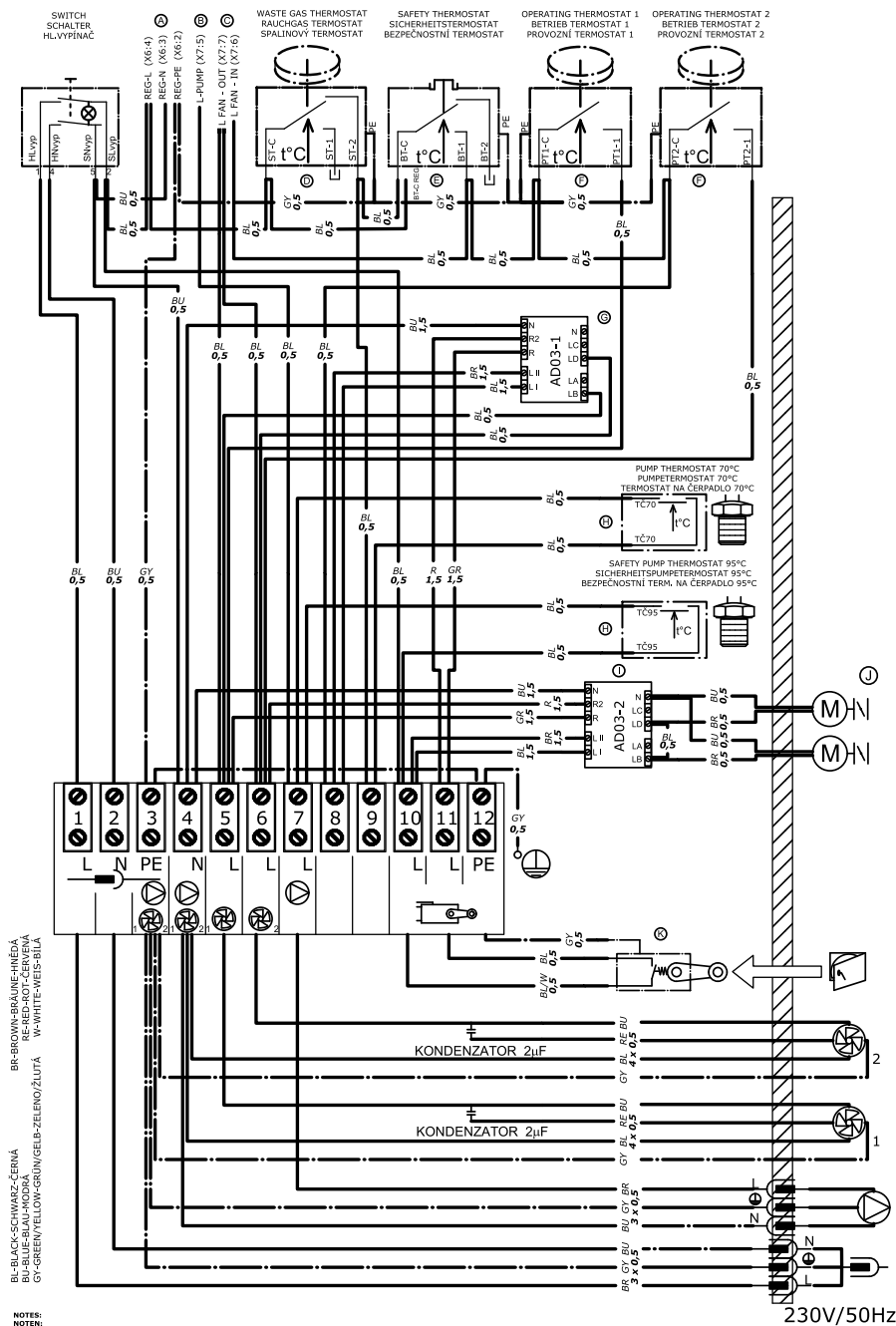


Connectors in the left side hood

- 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 exhaust fan 2
- 4 - connector for exhaust fan 1

13. Wiring diagram of boiler DC105S, DC150S with a flue gas thermostat and two exhaust fans

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NOTES:
POZNÁMKY:

- (A) VARIANTS OF RESERVOIR POINTS "REG L,N,PE" (FERRULE/FASTON 6,3) FOR ELECTRONIC REGULATION
VARIANTY NAPÁJECÍCH SVOREK "REG L,N,PE" (DUTINKA/FASTON 6,3) PRO ELEKTRONICKOU REGULACI
- (B) RESERVOIR POINT "L, PUMP" OF BOILERPUMP TO THE ELECTRONIC REGULATION
SPEJSEKLEMME "L, PUMP" DER KESSELpumPE FÜR DIE ELEKTRONISCHE REGELUNG
PŘIPOJOVACÍ SVORKA "L, PUMP" KOTLOVÉHO ČERPADLA DO ELEKTRONICKÉ REGULACE
- (C) RESERVOIR POINTS "L FAN - IN" AND "L FAN - OUT" OF BOILER FAN TO THE ELECTRONIC REGULATION
SPEJSEKLEMME "L FAN - IN" UND "L FAN - OUT" DER KESSELGABLASE FÜR DIE ELEKTRONISCHE REGELUNG
PŘIPOJOVACÍ SVORKY "L FAN - IN" A "L FAN - OUT" KOTLOVÉHO VENTILÁTORU DO ELEKTRONICKÉ REGULACE
- (D) WHEN ELECTRONIC REGULATION CONTROL BOILER FAN AND PUMP - CONNECTORS "ST-C" AND "ST-2" MUST BE UNCONNECT
DEN KONEKTOREN "ST-C" UND "ST-2" ABKLEMMEN BEI DER KESSELGABLASE UND PUMPE BEDIENUNG DER ELEKTRONISCHE REGELUNG
KONEKTORY "ST-C" A "ST-2" ODPOJIT PŘI OVLÁDÁNÍ KOTLOVÉHO VENTILÁTORU A ČERPADLA ELEKTRONICKOU REGULACI
- (E) WHEN ELECTRONIC REGULATION CONTROL BOILER FAN - CHANGE CONNECTOR "BT-1" FOR CONNECTOR "BT-1 REG"
DEN AUSWECHSELN KONEKTOR "BT-1" FÜR KONEKTOR "BT-1 REG" BEI DER KESSELGABLASEBEDIENUNG DER ELEKTRONISCHE REGELUNG
PŘEJÍT SVORKY "BT-1" ZA "BT-1 REG" PŘI OVLÁDÁNÍ KOTLOVÉHO VENTILÁTORU ELEKTRONICKOU REGULACI
- (F) WHEN ELECTRONIC REGULATION CONTROL BOILER FAN - CONNECTORS "PT1-C", "PT1-1", "PT2-C" AND "PT2-1" MUST BE UNCONNECT
DEN KONEKTOREN "PT1-C", "PT1-1", "PT2-C" A "PT2-1" ABKLEMMEN BEI DER KESSELGABLASE BEDIENUNG DER ELEKTRONISCHE REGELUNG
KONEKTORY "PT1-C", "PT1-1", "PT2-C" A "PT2-1" ODPOJIT PŘI OVLÁDÁNÍ KOTLOVÉHO VENTILÁTORU ELEKTRONICKOU REGULACI
- (G) MODULE AD03 FOR SWITCH-ON EXHAUST FAN WHEN THE UPPER DOOR OPEN
MODUL AD03 ZUM ZAVŘENÍ ABGASVENTILÁTOR, WENN DIE OBERE TÜR AUF
MODUL AD03 PRO SEPĚNUTÍ ODTAHOVÝCH VENTILÁTORŮ PŘI OTEVŘENÍ HORNÍCH DVÍŘEK
- (H) WHEN ELECTRONIC REGULATION CONTROL BOILERPUMP - CONNECTORS "TC70" AND "TC95" MUST BE UNCONNECT
DEN KONEKTOREN "TC70" UND "TC95" ABKLEMMEN BEI DER KESSELpumPE BEDIENUNG DER ELEKTRONISCHE REGELUNG
KONEKTORY "TC70" A "TC95" ODPOJIT PŘI OVLÁDÁNÍ KOTLOVÉHO ČERPADLA ELEKTRONICKOU REGULACI
- (I) MODULE AD03 ZUM VERSCHLIEßEN SERVO KLAPPEN WÄHREND DES ABGASVENTILÁTOR FAN OFF
MODUL AD03 PRO ZAVŘENÍ SERVOKLAPPEK PŘI VYPNUTÍ ODTAHOVÉHO VENTILÁTORU
- (J) SERVO FLAPS
SERVO KLAPPEN
SERVOKLAPKY VZDUCHU
- (K) END LIMIT SWITCH IN BOILER UPPER DOOR
ENDLAGENSCHALTER IN OBERN KESSELTUR
KONČOVÝ SPÍNÁK NA HORNÍCH DVÍŘECH KOTLE

230V/50Hz

15-06-01_DC150S.sch

14. Obligatory ČSN EN standards related to 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 evaluation of conformity 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.

15. 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. The boiler is equipped with two thermostats (70 °C and 95 °C) for switching the boiler-circuit pump. The 70 °C thermostat switches the boiler-circuit pump on as soon as the temperature exceeds this value. The 95 °C thermostat is a safety component. It protects the boiler against overheating in case of incorrectly set waste-gas thermostat (it switches the boiler-circuit pump on always when the boiler water temperature exceeds 95 °C). Connection of these elements is illustrated in the wiring diagram. General rule is that every pump in the system must always be controlled by a separate thermostat to avoid a temperature drop of water returning to the boiler under 65 °C. After the boiler has been installed, the pump situated in the heated-building circuit must be switched by means of a separate thermostat or electronic regulation. 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 these additional elements is always 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 an opened expansion tank. However, a closed 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. Boiler should always be connected with accumulation (buffer) tank with minimal volume 1000 l.



There are several ways of protecting the boiler against overheating. Connecting an over-heat prevention cooling loop with a TS 131 3/4 A (95 °C) or WATTS STS 20 (97 °C) valve to the public water system. In cases when the user has his/her own well, 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 in order to facilitate circulating and air-bleeding.



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

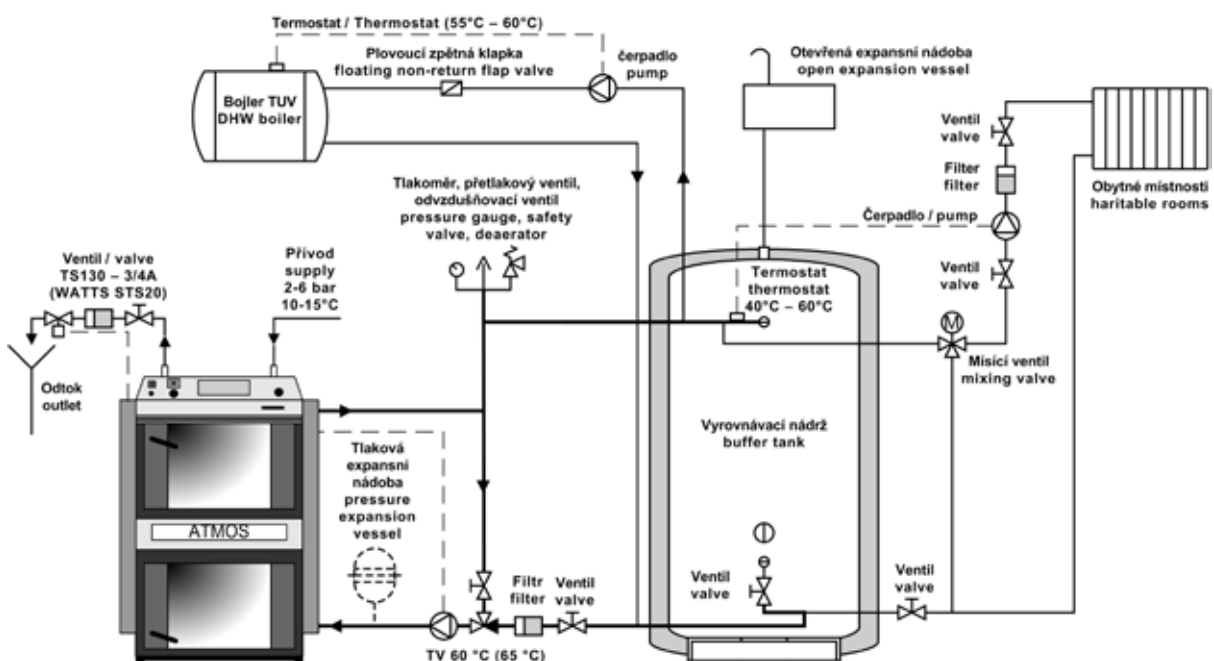
For the control of the heating system we recommend the following controllers:

- a) ATMOS ACD 01 - equithermal control set for solid fuel boilers
- 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

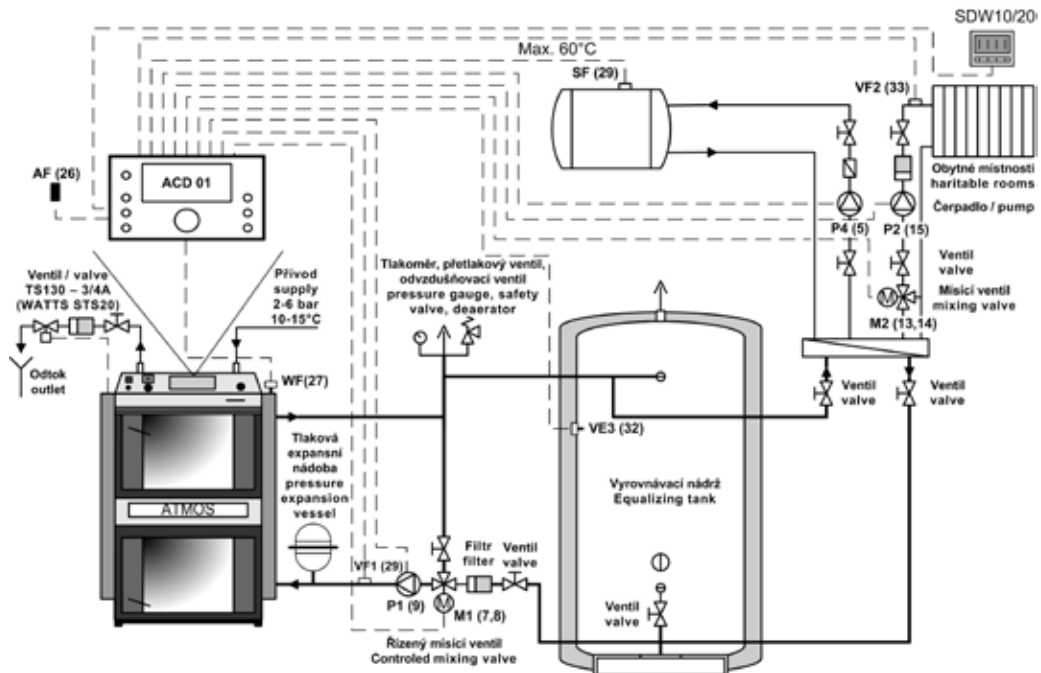
16. Boiler corrosion protection

The specified solution is connecting the boiler with a thermoregulatory valve or a three-way mixing valve operated by a servo-drive, controlled by electronic regulation, which can separate the boiler circuit from the heating circuit (primary and secondary circuits), and provide **minimum temperature of 65 - 75 °C for water returning to boiler**. The higher the temperature of water returning to the boiler, the fewer tars and acids condensing. The tars and acids 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. These conditions may occur when using the boiler to heat hot potable water (HPW) in summer, or when heating only a section of the building. In this case we recommend connecting the boiler with accumulation tanks, or daily firing-up.

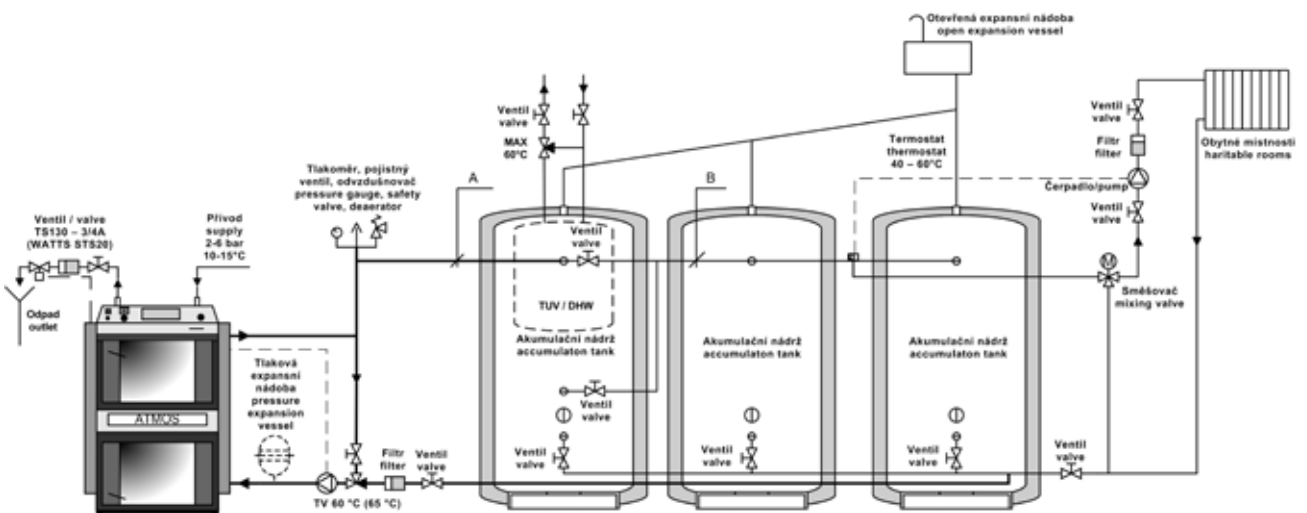
17. Specified boiler connection with thermoregulatory valve and with an buffer tank



18. Prescribed boiler connection with controlled return water in to the boiler and an buffer tank



19. Recommended boiler connection with accumulations tanks

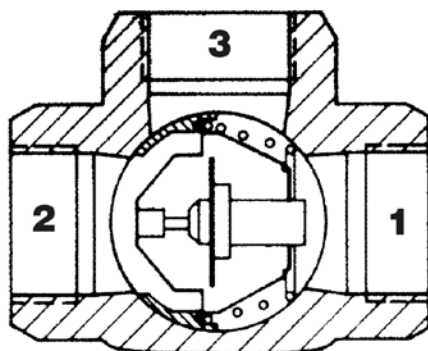


Pipeline diameters if connected with accumulation tanks

Boiler type and output	section A		section B	
	in copper	in steel	in copper	in steel
DC105S, DC150S	54x2	50 (2")	42x1,5	40 (6/4")

In case that a cooling loop preventing overheating is connected, it is possible to omit the floating non-return flap valve on bypass of the pump, thermal valve or of the three-way mixing valve.

20. Thermoregulatory valve



Thermoregulatory valve type, TV 60 (65/70/75) °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.



The recommended size of the TV 60 (65/70/75) °C thermoregulatory valve is DN50

21. Operating a system with accumulation tanks

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. Afterwards keep withdrawing heat from the storage utilising the 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 adhered to specified min. accumulation tanks volumes – see chart) this could take 1 – 3 days. If the accumulation method (5000 - 6000 litres for DC105S), (8000 - 9000 litres for DC150S) cannot be used, then the boiler must be connected with at least one tank of 1000 litre volume for equalising the boiler start-ups and run-outs.

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*

* typ DH

Tanks insulation

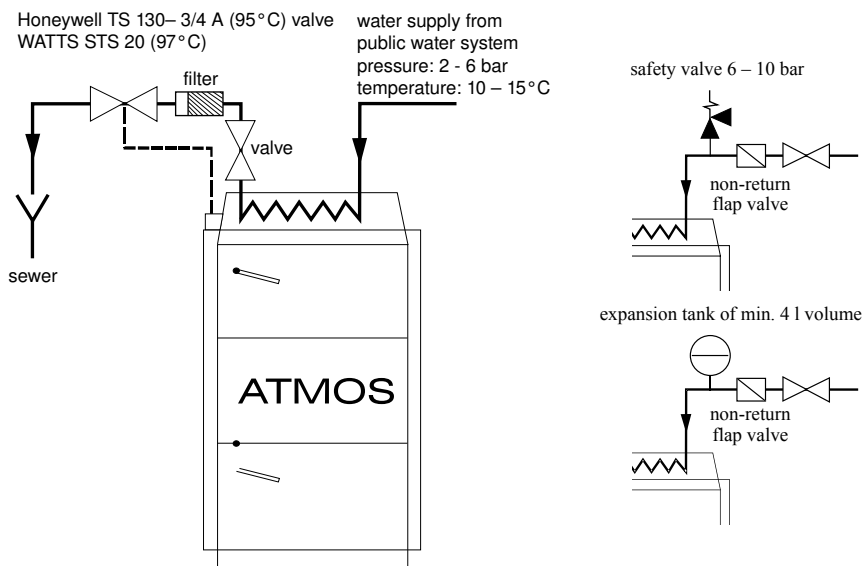
A suitable solution is joint mineral wool insulation of the particular number of tanks (of required volume) placed together into a plasterboard structure, or additional filling with granular insulation. When using the mineral wool, the specified minimum insulation thickness is 120 mm. Another option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

Advantages

Installing the boiler with accumulation tanks provides several advantages:

- lower fuel consumption (by 20 – 30 %), the boiler operates in full output and at optimal effectiveness of 89 - 91 % 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

22. 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 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 must be fitted with a 6 – 10 bars safety valve or with an expansion vessel of minimum 4 l volume.

23. Operating instructions

Preparing boilers for operation

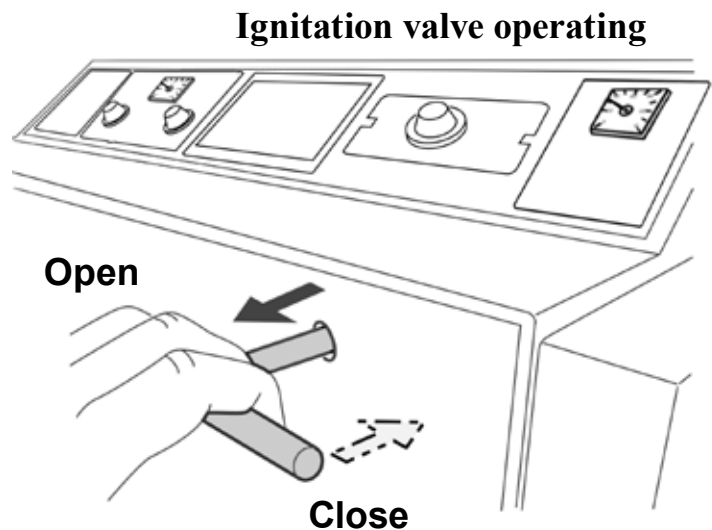
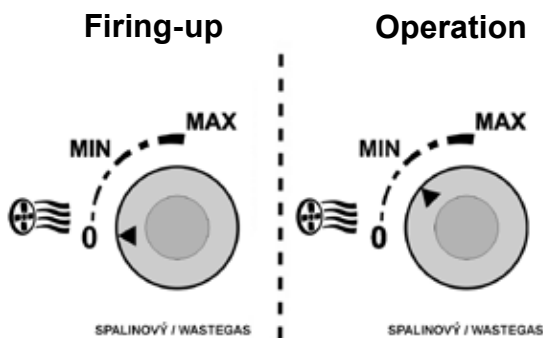
Before putting boilers into operation, it is necessary to ensure that the system has been filled with water, and air-bled. Wood boilers must be operated in compliance with the instructions stipulated in this manual so that satisfactory and safe functioning is achieved. They should only be operated by adult persons who have suitable qualifications and permissions in compliance with effective regulations of the particular country.

Ignition and operation

Before fuel ignition, open the ignition valve /13/ by pulling the ignition valve pulling rod /17/ and reduce the waste gas thermostat to the “ignition” value (to minimum - 0 °C). This will switch on the exhaust fans of the boiler and open the primary air inlet. 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. 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. The waste gas thermostat then switches off both the ventilators when the fuel has burnt out. 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 suitably sized dry firewood. 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.

Waste gas thermostat setting



NOTE – when igniting for the first time, condensation and condensed fluid leakage occurs – this is not a defect. Condensation will disappear later. The flue gas temperature must not exceed 320 °C during the operation. **Wood-tar and condensate formation in the hopper is a side effect of wood gasification.**



ATTENTION - during operation, all doors must be shut and the ignition valve pulling rod must be inserted.

Output regulation

The output regulated by setting required temperature of outgoing water on the operating thermostats (1, 2). Each operating thermostat controls independently one ventilator and jointly controlled actuators on regulating flaps of primary air by the special logic. We recommend to keep a 5 - 10 °C step between the thermostat settings (85/90 °C). When operating the boiler in an lower output mode, it is possible to use just one ventilator. Operating temperature of water in the boiler must be in the 80 - 90 °C range.

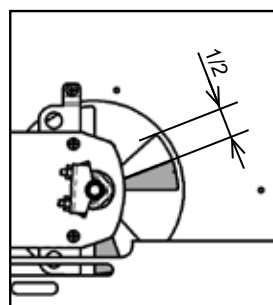
24. Setting the boiler output and combustion

Setting of primary and secondary air for DC105S and DC150S

**Factory setting of primary air
(for standard fuel quality)**

Primary air flaps opened at 1/2 (50 %)

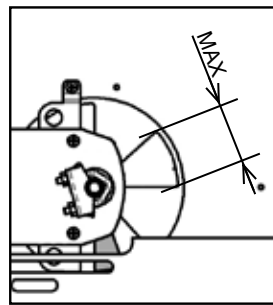
- actuator stop at position 6



**Alternative setting of primary air
(for low fuel quality)**

Primary air flaps opened at MAX (100 %)

- actuator stop at position 4

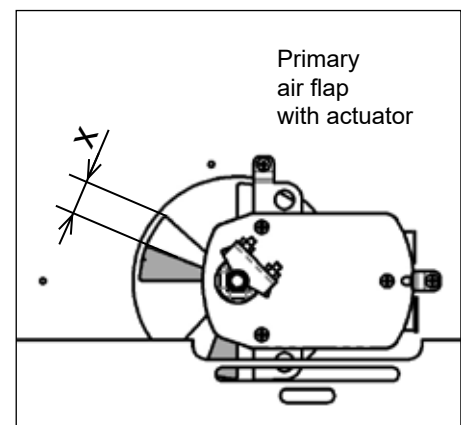


Opening of the primary air flap in particular states

**both thermostats on (closed) (1, 2 - both fans running)
primary air flap open at X = 1/2 (50 %)**

**one thermostat off (unfastened) (one fan)
primary air flaps opened at X = 1/2 (50 %)**

**both thermostats off (unfastened) (fans - 1, 2)
primary air flaps opened at X = 10 mm
- actuators without power**



The flaps opening at X = 1/2 (50 %) corresponds to the standard setting for the rated boiler output with specified fuel.

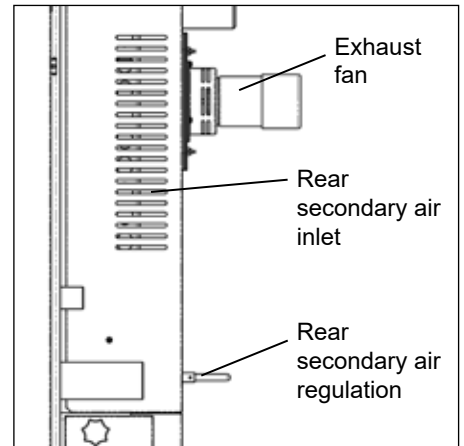


INFO - When running one fan boilers DC105S and DC150S achieves output of 70 - 80 kW.

Basic setting of secondary air

Setting of the **rear** secondary air: DC105S
fully closed (0 mm) + 8 mm

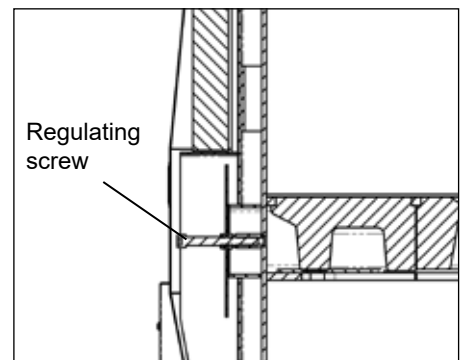
Setting of the **rear** secondary air: DC150S
fully closed (0 mm) + 15 mm



Setting of the **front additional** secondary air:
(DC105S and DC150S)

We regulate by turning the regulating (adjusting) screw. By turning the screw by 1 revolution anticlockwise we open the secondary air by 1,75 mm (1 revolution = 1,75 mm).

The manufacturer set the regulation to approx. 2 mm opening (up to the stop + 1 turn anticlockwise).



INFO - 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.

25. Fuel Refill

Before fuelling, open the ignition valve /13/ with the pulling rod /17/. Wait for approximately 10 seconds and slowly open the loading door /2/ so that any accumulated gases are first draw off the loading (upper) chamber into the flue-gas duct by exhaust fans instead of escaping into the boiler room. Place a broad log over glowing charcoals. Be careful not to pack the fuel down too much above the gasification nozzle. This may extinguish the flame. When loading fuel fill 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.



ATTENTION - during operation the ignition valve pulling rod /17/ must be inserted.



INFO - In case of loading fuel and not running exhaust fans the fans automatically starts by opening the door.

26. Slow-burning mode

It is possible to use boilers for slow-burning operation, i.e. keeping the fire up overnight without the necessity to fire-up every 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 larger logs on a glowing layer of partially combusted fuel
- reduce the mixing valves

After the valves have been reduced, the boiler water temperature increases to 80 - 90 °C and the control thermostats switch off

- the boiler will operate in an lower output mode

In boilers prepared as previous, the fuel 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.

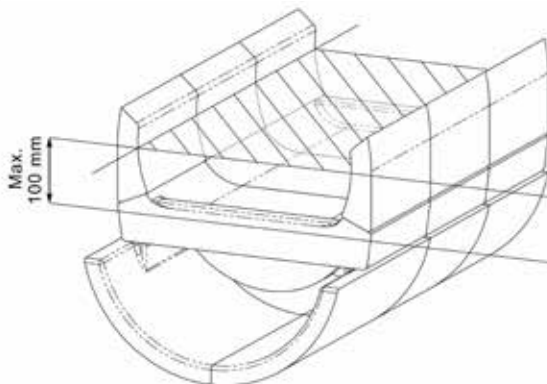
Even if the boiler operates in the slow-burn mode, it has to keep the output water temperature ranging between 80 - 90°C and returning water minimum temperature 65 °C.

27. Boiler cleaning

It is necessary to clean the boilers regularly and thoroughly every 3 to 5 days 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 service life and performance. If excessive amount of cinder is left to form in the lower chamber, then the burn-off area is insufficient and damage to the fireclay nozzle holder or the whole boiler may occur. Carry out the cleaning procedure by first open the loading door /2/ and sweep the cinder down through the slot into the lower chamber. 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 /27/ and clean the rear flue gas duct with a brush. In case that there is a decelerator (flue gas brake) placed in the flue gas duct (corrugated sheet metal) it is necessary to remove it before the cleaning procedure. Remove all soot and cinder after opening the lower lids /16/. Open the lower door /3/ and clean the fireclay chamber from cinder and soot. Use also a poker or a brush to remove dust sediments from the lower combustion chamber walls. Remove also the two side lids placed on both sides of the combustion chamber lower door and thoroughly clean the tube heat exchanger (before cleaning remove flue gas brakes /36/). The actual cleaning interval depends on the fuel quality (wood moisture), intensity of heating, chimney draught and other circumstances and needs to be determined by the user. We recommend cleaning the boilers once a week. Do not pull out the fireclay shaped piece /9/, /10/ when cleaning. At least once a year check and if necessary clean both the ventilators.

Maximum ash quantity

– ash-pan spherical space



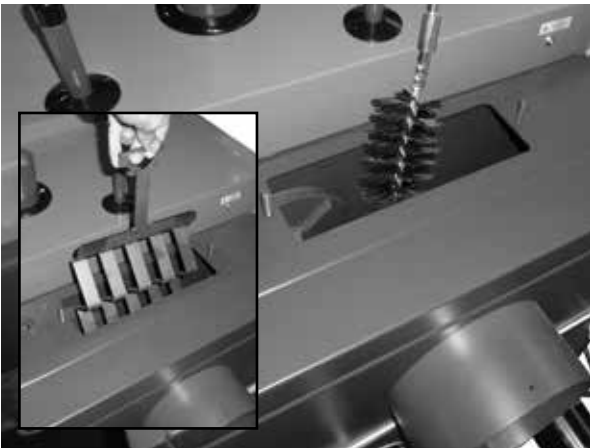
NOTE –regular and thorough cleaning is important for permanent effectiveness and a long service life of your boiler. If not cleaned properly, damage to the boiler may occur – the manufacturer's guarantee is rendered invalid.



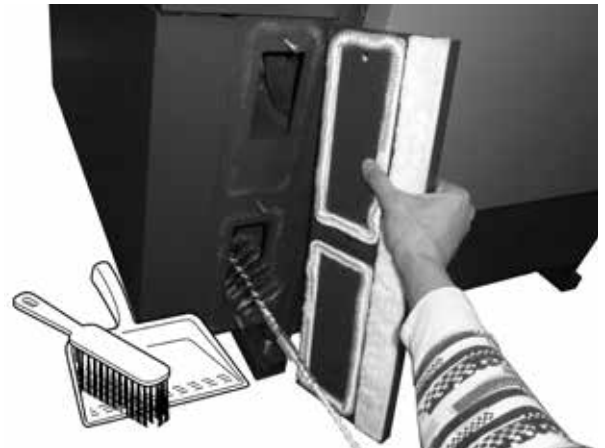
Cleaning the upper stoking chamber with the scraper (poker)



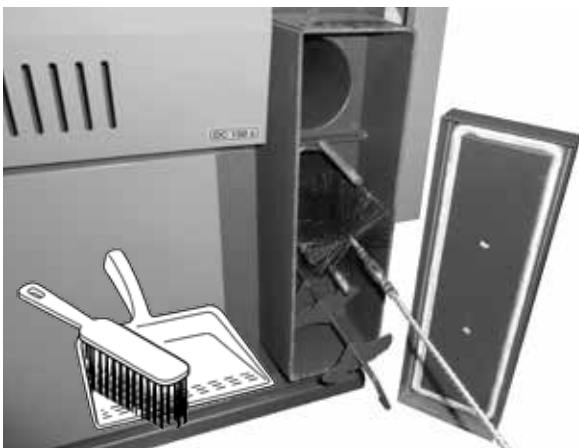
Open bottom space of the boiler with a **spherical chamber** and example of ash removing with a poker and an ash pan



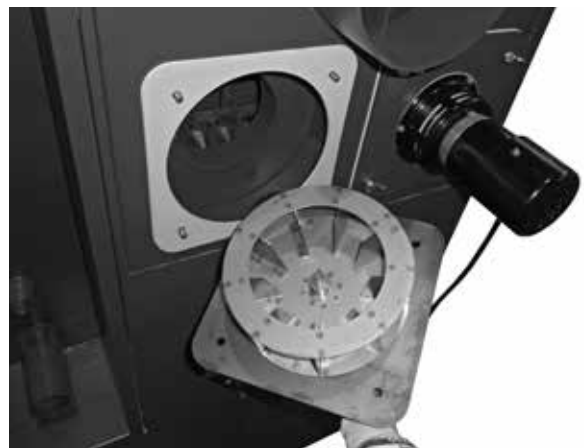
Sample cleaning of the flue way with a wire brush - upper lid
Remove flue gas brake before cleaning.



Sample cleaning of the flue way - bottom lid (on the both side)



Sample cleaning of the tube exchanger with a wire brush - front lid



Checking the exhaust fans of the boiler

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 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. When 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

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.

30. Possible failures and troubleshooting

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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 temperature	<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 level of moisture, large pieces) - ignition valve leaking - insufficient chimney draught - excessive chimney draught - 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 - burn good quality coal and dry wood; split logs in half - repair - new chimney; unsuitable connection - change the primar air setting - place a throttle valve (draught limiter) in the flue-gas duct - clean - clean
Door leaking	<ul style="list-style-type: none"> - defective fibreglass cord - the nozzle becomes clogged - insufficient chimney 	<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 interrupted - rotating wheel clogged - defective capacitor - defective motor 	<ul style="list-style-type: none"> - press the thermostat push-button (using a pen) - clean the ventilator including the ducting from tar and sediments - replace - replace - check - measure

31. Spares

Heatproof shaped piece - nozzle	/5/
Heatproof shaped piece	/9/,/10/, /11/
Exhaust fan (ventilator) - J22RR552 (cede: S0153)	/4/
Switch with an indicator light (cede: S0091)	/20/
Thermometer (cede: S0041)	/18/
Operation thermostat (cede: S0021)	/19/, /24/
Safety thermostat (cede: S0068)	/7/
Waste gas thermostat (cede: S0031)	/28/
Door sealing cord 18 x 18 (cede: S0240)	/26/
Door filling – Sibral – large (thick) (cede: S0264)	/25/
Capacitor for the exhaust fan - 2μF (cede: S0173)	/32/
Safety thermostat for pump 95 °C (cede: S0053)	/30/
Safety thermostat for pump 70 °C (cede: S0052)	/29/
Belimo actuator with spring (cede: P0083)	/34/
Module AD03 (cede: P0436)	/21/

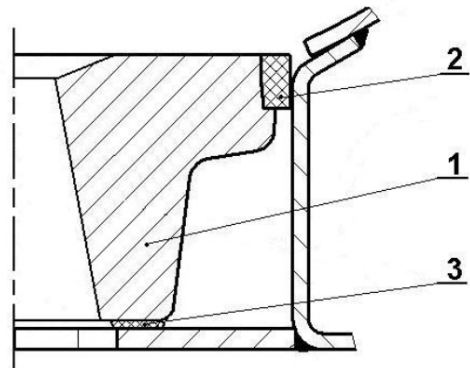


CAUTION – the J22RR552 (2x) exhaust fan with rotating wheel of 200 mm diameter and 65 mm high is intended for boiler types DC105S and DC150S.

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 shaped piece (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 first 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. Take the second nozzle and place it in front of the first one. Take the sealing cords and place them along its sides and front, between the boiler drum and the second front nozzle. By gently tapping calk them evenly round its circumference so that they are level with the nozzle. Cover the sealing cord connections and connections of both the nozzles with a small amount of 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. 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 5.

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 and insulation to an approved refuse site.



CAUTION - 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 shall 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; maximum 32 months after the manufacturer has sold it. If the boiler is installed with a TV 60 °C thermoregulatory valve or with an electronically controlled three-way valve for keeping the min. temperature of water returning to boiler at 65 - 75 °C in all boiler operation modes and in combination with an accumulation tank (see the 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 the product was 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 (gas exhaust) system by an expert company at least once a year – confirmed in a warranty card.

For boiler types 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

GB

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):

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Fuel:

Type:

Size:

Moisture content:*

At the start up stage, the functional check of the boiler and all its control and safety elements was carried out.

Person responsible for the inspection: Date:

Stamp :

(Responsible person's signature)

Customer's signature:

* measured values

ANNUAL INSPECTION RECORDS

GB

Date	Date	Date	Date
Stamp and signature	Stamp and signature	Stamp and signature	Stamp and signature
Date	Date	Date	Date
Stamp and signature	Stamp and signature	Stamp and signature	Stamp and signature
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RECORDS ABOUT GUARANTEE PERIOD AND AFTER-GUARANTEE PERIOD REPAIRS

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