WOOD GASIFYING BOILER

ATTACK® SLX, DPX

USER MANUAL

for correct installation, operation and cleaning

WWW.ATTACK.SK

Important! Read this manual properly before the boiler start-up!

CONTENTS

1. INSTALLATION AND CHIMNEY PARAMETERS

By installation of chimney connection to boiler it is necessary to care about correct outlet of flue gas and eventual condensate, not to let it fall back into the boiler. For this purpose you can use the T-piece, see picture below. Exhaust connection comes into the chimney vent. If it is not possible to connect boiler to chimney vent directly, then the adequate extension of exhaust connection has to be as short as possible, and no longer than 1 m, without additional heating surface and it has to go up in direction to the chimney. Exhaust connections must not go through foreign dwelling or utility units. Internal cross-section of the exhaust connection must not taper in direction to the chimney. Try to minimize usage of elbows by installation. Chimney has to be constructed in conformity with the norms **STN 73 4201** and **STN 73 4210**.

Prescribed values of the correct height and cross-section chimney dimensions:

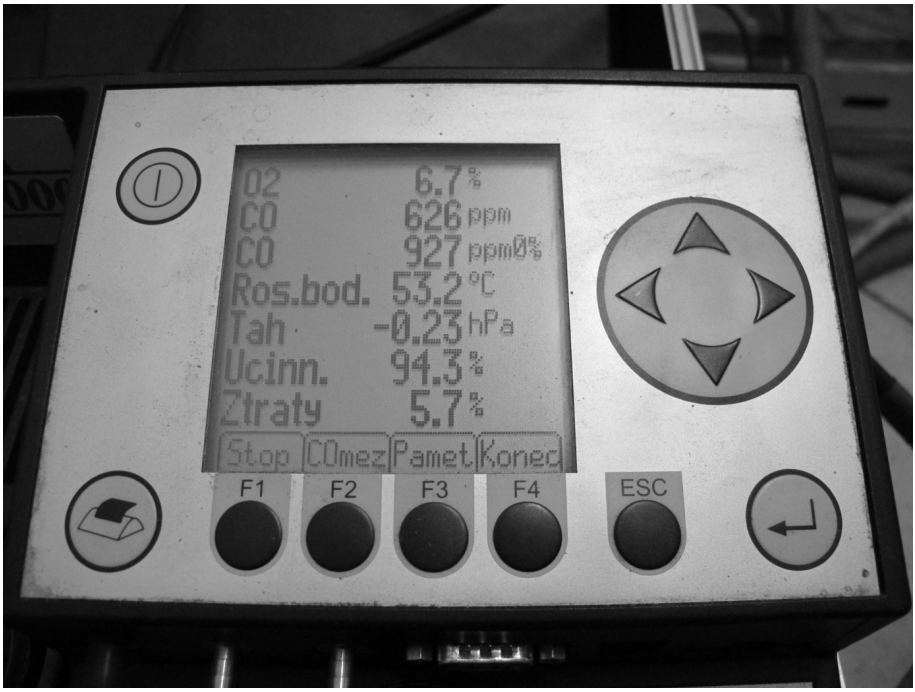
DPX15, DPX25, DPX35, DPX45

20×20 cm	*min height 7 m*
∅ 20 cm	*min. height 8 m*
15×15 cm	*min height 11 m*
∅ 16 cm	*min height 12 m*

2. VERIFICATION OF THE CORRECT CHIMNEY PARAMETERS

Correct boiler function significantly depends on quality chimney with correct parameters. Minimum chimney diameter is 150 mm, however, 200 mm is recommended. Chimney has to be designed or regulated to achieve prescribed draught of 23–30 Pa at nominal boiler flue gas temperature value.

ATTENTION! Chimney which does not fulfil required parameters may cause limited boiler function (Low flue gas temperature, low output, excessive condensation of tubular exchanger, shorter life-time, even total boiler disfunction)! Guarantee does not relate to the boiler installed with the chimney of incorrect parameters.



3. DEVICES FOR CHIMNEY DRAUGHT MEASURING

It is possible to check correct chimney draught by some types of analysers or by exact differential pressure-gauge. On the picture there is draught reducer too, also useful for correct draught setting.

4. OPERATION PRESSURE IN HYDRAULIC CIRCUIT

Operation pressure must not exceed limit of 2,5 bar.
ATTENTION! Expanse vessel and safety valve must be installed in the system.

5. BOILER PROTECTION AGAINST EXCESSIVE CONDENSATION – ATTACK-OVENTROP

For correct boiler function and its long life-time it is necessary to keep return water temperature always higher than 65 °C. Set boiler thermostat to 80-85 °C, which is ideal boiler operation temperature. Boiler guarantee is valid only in case that the ATTACK-OVENTROP device was installed into the hydraulic system.

ATTENTION! If the ATTACK OVENTROP device is not installed, it may cause shorter boiler life-time.

6. CORRECT ASHTRAYS POSITION

Ashtray position is important for correct boiler operation. It is not necessary to take out the ashtray while cleaning, but it is important to check its correct position sometimes. Ashtray has to be completely shifted rearwards.

7. FUEL

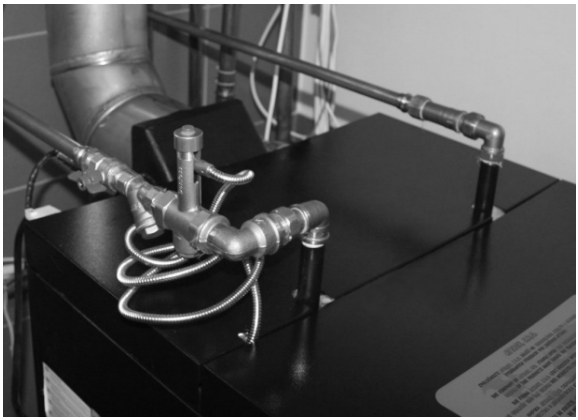
Use suitable fuel for wood gasifying boiler operation – soft or hard wood logs. Wood moisture has to be in range of 12–20 % (related to time of min. 15 month of free storing at the fresh air). Alternatively it is possible to use wood briquets of cylindrical shape with opening in the middle.

ATTENTION! Wood with moisture exceeding 20 % shortens boiler life-time, causes lower output, excessive condensation in tubular boiler exchanger, which may require additional out-of-warranty service!

8. AFTERCOOLING CIRCUIT INSTALLATION

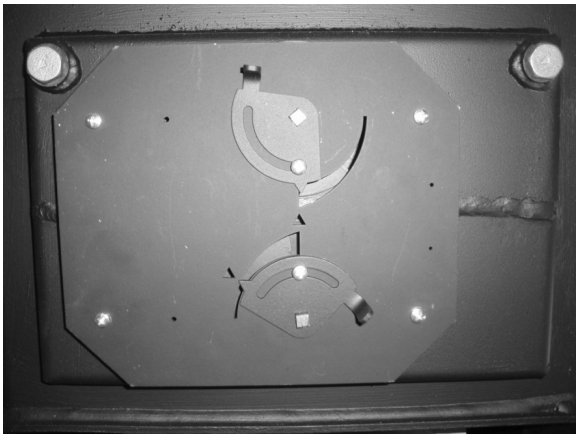
Boiler warranty is valid only in case, that functional thermostatic valve, connected to the cold water source, is installed in the boiler aftercooling circuit. If the cold water source depends on electricity (home water plant), whole device can be out of order in case of power failure. In this cases, use water tanks placed higher than boiler, connected to thermostatic valve. Tank volume has to be appropriate to the boiler outuput.

ATTENTION! If there is no aftercooling circuit on the boiler and it comes to boiler overheating, serious and non-recurring damage or even fire may occure.



9. CORRECT ADJUSTMENT OF AIR INLETS

Correct adjustment of primary and secondary air by STANDARD and PROFI boilers is marked on tin-plate and it is not necessary to manipulate with that. Correct setting of primary air (upper butterfly) is 100 %, secondary air (bottom butterfly) is set to 35 %. This relates to all outputs of DPX boilers (15, 25, 35, 45).



10. ASHTRAY CLEANING

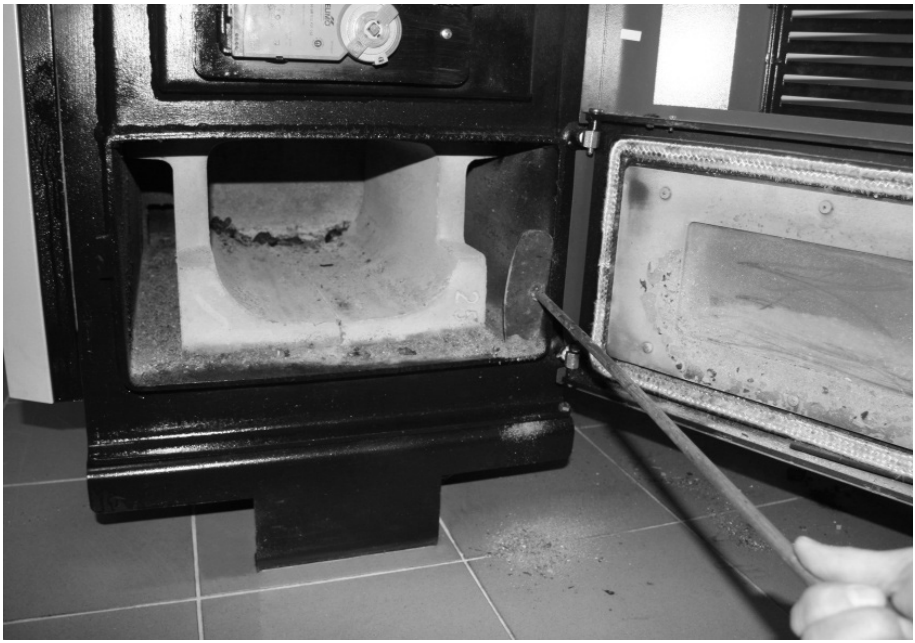
Internal space of ashtray has to be cleaned from accumulated ash at least 1× a day. Cleaning with scoop is very effective and easy. Cleaning can be done very easily and fast also by full boiler operation.

ATTENTION! Hot ash from ashtray can still smoulder, therefore it is not supposed to be put into trash bin, however into appropriate tin-plate bin, not to cause the fire.

11. HOW TO CLEAN SPACE AROUND THE ASHTRAY

Space around the ashtray has to be cleaned regularly, at least 1× a week. Use suitable tool, fire hook delivered with boiler is ideal for this purpose. It is not necessary to take out the refractory pieces from the boiler´s ashtray.

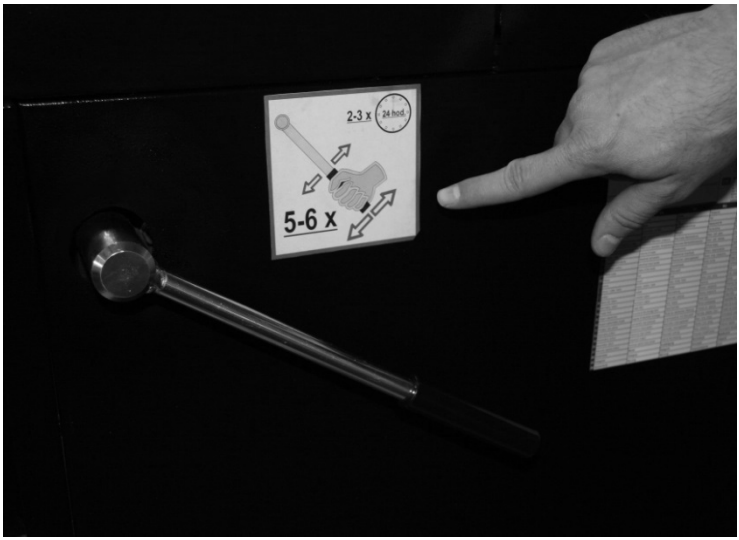
ATTENTION! Unsufficiently cleaned space around ashtray may cause limited boiler function.

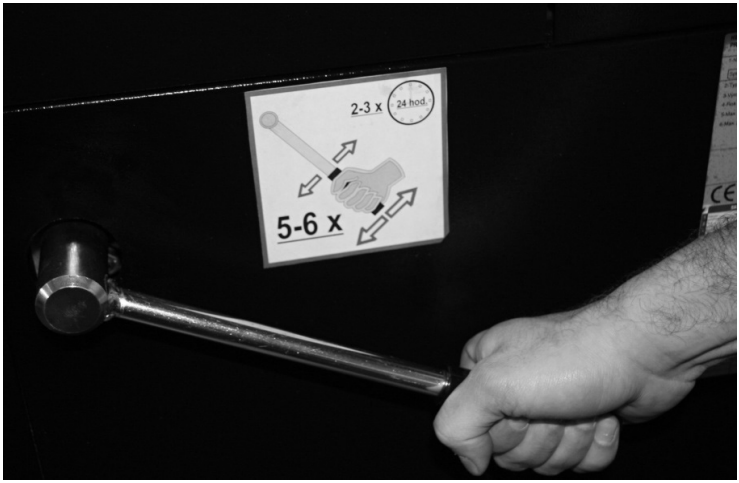


12. EXCHANGER PIPES CLEANING BY LEVER OF TURBULATORS

It is necessary to move lever of turbulators cleaning regularly, preferably by every boiler loading, at least 3 times a day. It is necessary to move it by full lever uplift, 5–6 times upwards and downwards.

ATTENTION! If it is not moved with the lever regularly, exchanger pipes may clog and therefore cause turbulators blockage, lower efficiency, decreased output and incorrect boiler function. In this case is boiler warranty not valid. If you cannot move the lever of turbulators, stop the boiler and call specialized service.

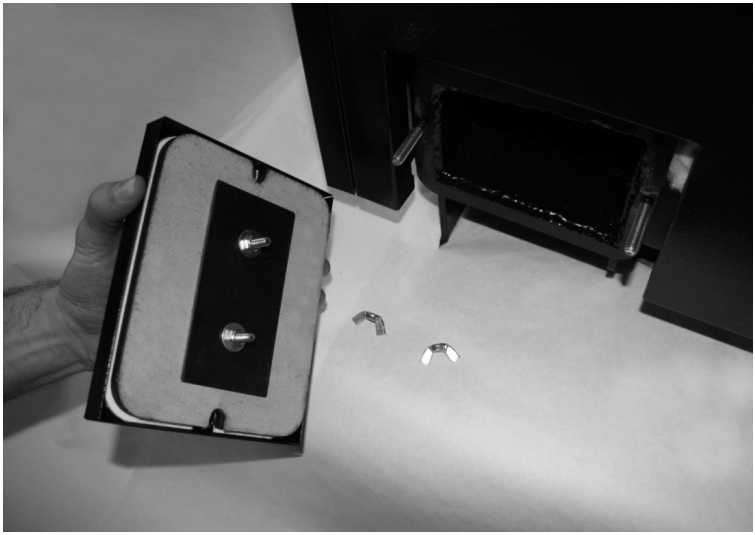




13. HOW TO CLEAN SPACE UNDER EXCHANGER

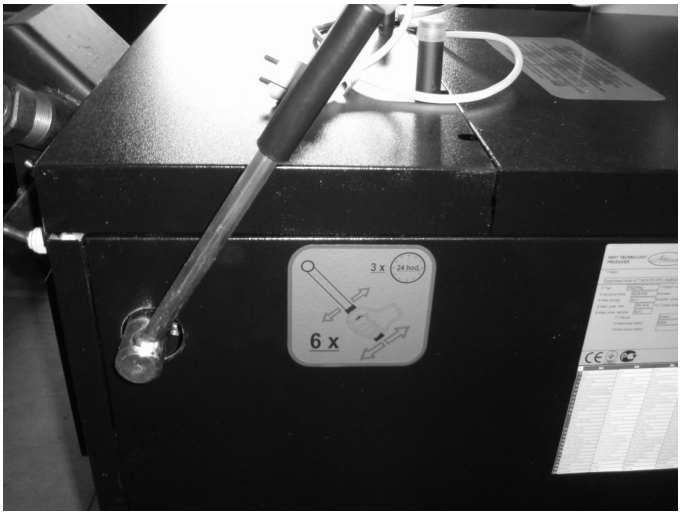
It is necessary to clean space under exchanger pipes in regular intervals. This interval depends on boiler operation time, but it has to be done at least 1× a week. Remove cover of the opening for cleaning carefully, not to damage the sealing. After cleaning of space under exchanger, install the cover – it has to be sufficiently screwed and air-proof.

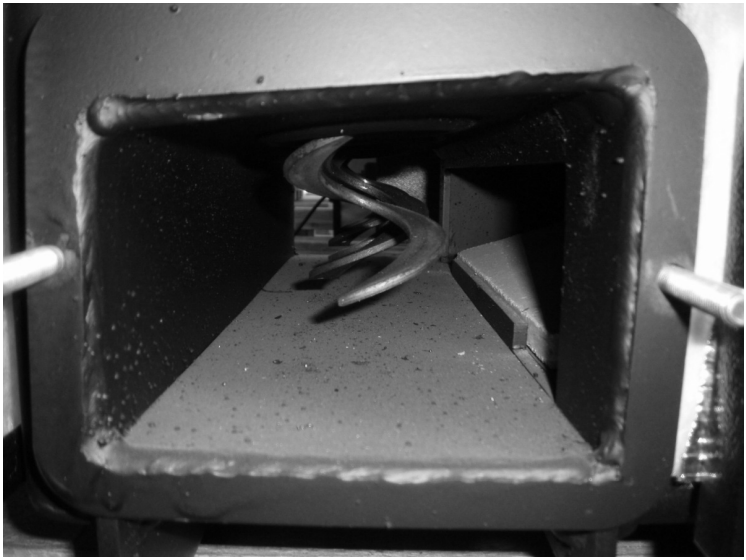
ATTENTION! Otherwise there may come to insufficient air circulation in the boiler and thereby to incorrect boiler function (ineffective combustion, decreased output, low flue gas temperature, etc.).

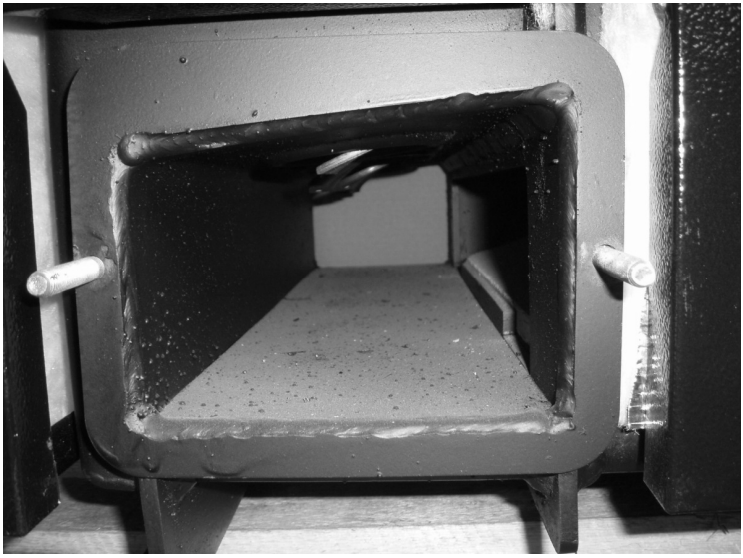


14. POSITION OF LEVER OF TURBULATORS BY CLEANING

To clean space under exchanger of the DPX 15, 25, 35 boilers, it is necessary to lift lever of turbulators fully up, turbulators go into the pipes and thereby there is free space for cleaning. By the DPX 45 boiler it is ideal to lift the lever into middle position.

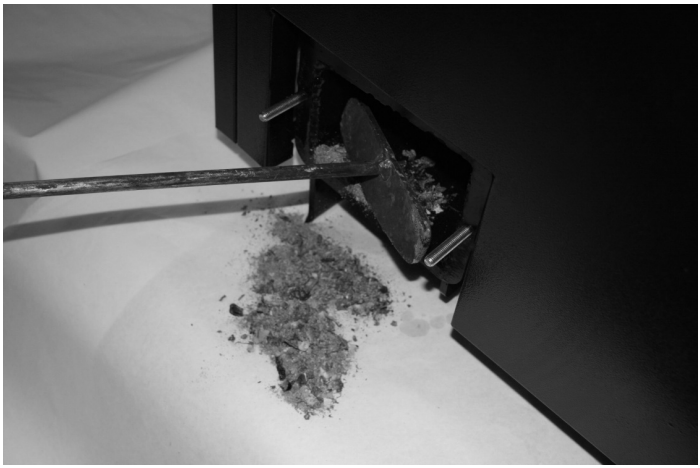






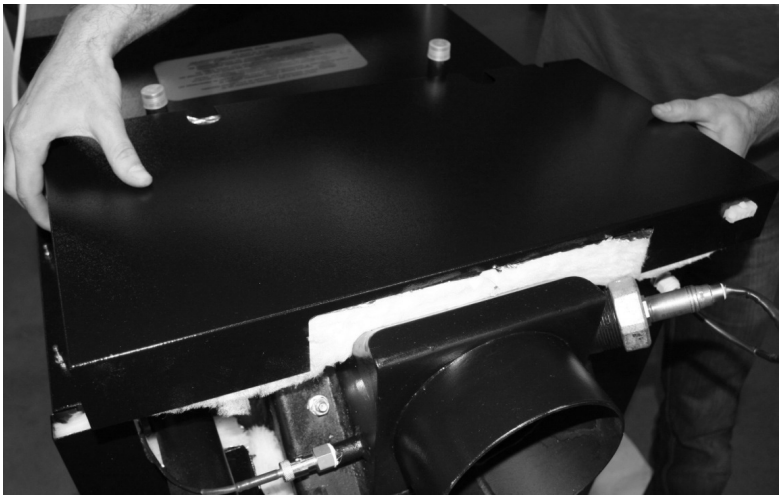
15. TOOLS FOR CLEANING OF SPACE UNDER EXCHANGER

To clean space under exchanger it is possible to use fire hook delivered with the boiler.



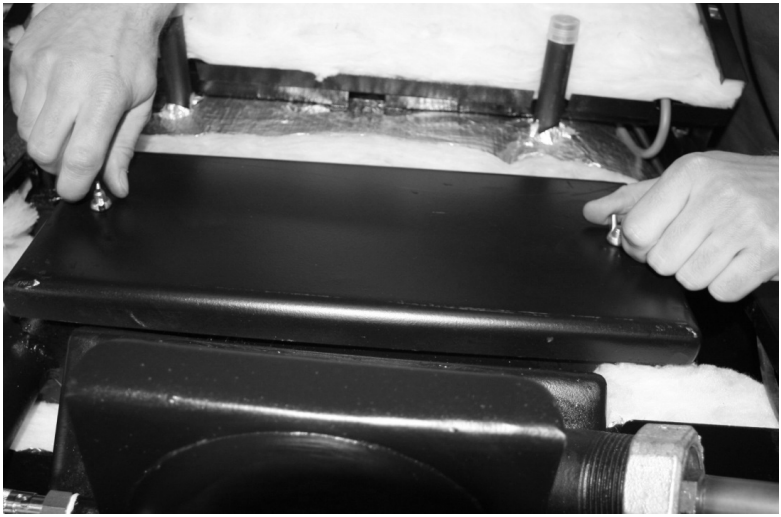
16. CONTROL OF TUBULAR EXCHANGER´S FUNCTIONALITY

Check regularly correct functionality of tubular exchanger – at least 1× a month. Firstly, remove rear upper cover.



17. ACCESS TO TUBULAR EXCHANGER

Release wing matrices.



18. EXCHANGER´S COVER REMOVAL

Check correct functionality fo turbulators, while the boiler is out of order. Remove the cover to get to the tubular exchanger.

ATTENTION! Cover must be sufficiently tighten and air-proof. Otherwise it may cause incorrect boiler function

19. CONTROL OF CORRECT FUNCTION OF THE HEAT-UP FLAP

For correct function of the heat-up flap it is necessary to check and clean bearing surfaces regularly.

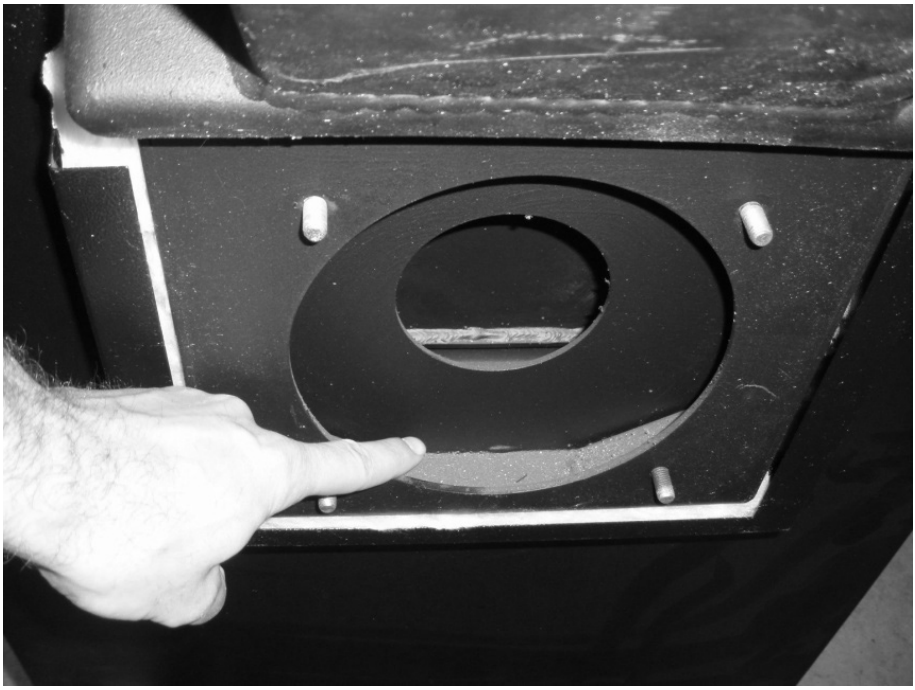
20. TURBULATOR THREADS CLEANING

If the boiler was from any reason operated in incorrect way, it is possible, that the turbulators were clogged and thereby the flue gas transition was decreased. In this case it is necessary to demount turbulators and to clean the space between particular threads, for example by wire brush. Put the turbulators back into the pipes, not to decrease efficiency of the boiler. (This is not related to the 15 DPX model).

21. CLEANING OF THE VENTILATOR´S OPERATION AREA

Operation space of the ventilator´s radial impeller has to be cleaned at least 1× a year. To do so, release matrices of the ventilator´s flange and demount ventilator. Clean the operation area from soot and mud. By demounting, take care to tighten matriaces of the ventilator´s flange sufficiently.

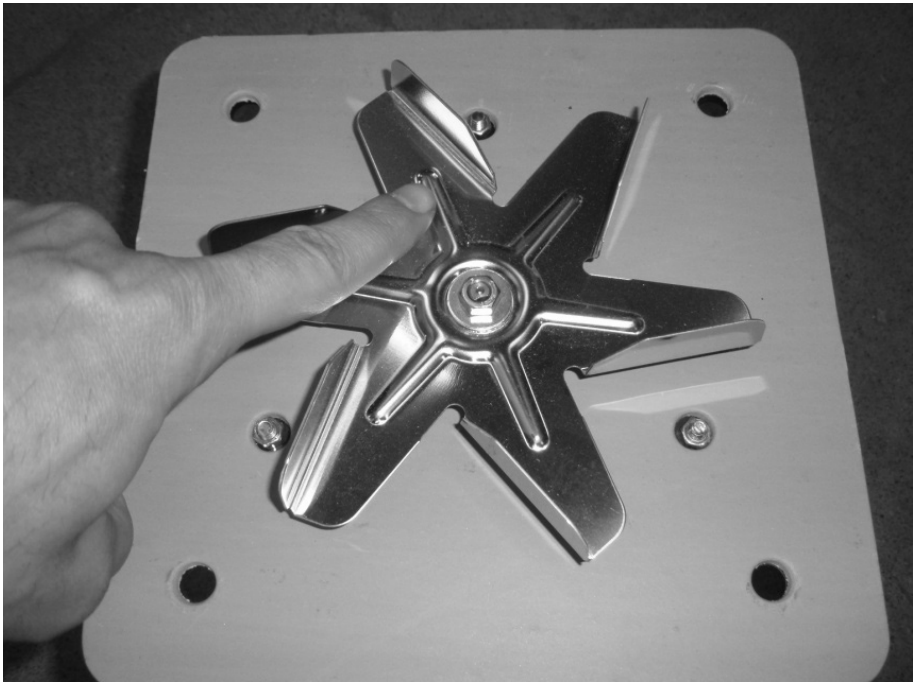
ATTENTION! Demount ventilator, while boiler is out of order. Insufficiently cleaned ventilator´s operation area may cause its limited function.



22. CLEANING OF RADIAL IMPELLER'S VANES

Vanes of ventilator have to be cleaned from dirt at least 1× a year by suitable tool (wire brush).

ATTENTION! Too dirty vanes of ventilator decrease its efficiency and thereby cause limited boiler function.



23 SUMMARY OVERVIEW OF REGULAR CLEANING OF PARTICULAR BOILER PARTS

Cleaning*	Point	Daily	Weekly	Annually
Ash removing	10	1×		
Space around ash tray	11		1×	
Space under exchanger	15		1×	
Lever of turbulators	12	5–6×		
Flap	19		1×	
Space of ventilator	21			1×
Radial impeller of ventilator	22			1×

* Minimal recommended cleaning intervals. According to intensity of heating they can be also shorter.