WARMTH OF HEARTH & HOME

DEFRO home

operating manual

pellet heating stove

DEFRO HOME AIRPELL 8 □

Cladding version

WOOD □

translation of original operating manual
edition 8
February 2022

DEFRO home

DEKLARACJA ZGODNOŚCI WE
DECLARATION OF CONFORMITY EC

nr DH 12/P2/01/2022

DEFRO R. Dziubeła spółka komandytowa

26-067 Strawczyn, Ruda Strawczyńska 103A

DEKLARUJE / DECLARES

z pełną odpowiedzialnością, że produkt / *with all responsibility, that the product*

Ogrzewacz pomieszczeń opalany pelletami / Pellet heating stove
DEFRO HOME AIRPELL 8 kW
(typ/type DEFRO HOME AIRPELL 8 kW)

został zaprojektowany, wyprodukowany i wprowadzony na rynek zgodnie z następującymi dyrektywami:
has been designed, manufactured and placed on the market in conformity with directives:

Rozporządzenie Parlamentu Europejskiego 305/2011 / Regulation of the European Parliament 305/2011
Dyrektywa ErP 2009/125/WE / Directive ErP 2009/125/WE
Rozporządzenie Delegowane Komisji (UE) 2015/1186 / Commission Delegated Regulations (EU) 2015/1186
Rozporządzenie Komisji (UE) 2015/1185 / Commission Regulation (EU) 2015/1185

i niżej wymienionymi normami zharmonizowanymi:
and that the following relevant Standards:

PN-EN 14785:2009

dokumentacja techniczna / technical documentation

Wyrób oznaczono znakiem:
Product has been marked:

CE

Ta deklaracja zgodności traci swą ważność, jeżeli w piecu kominkowym DEFRO HOME AIRPELL wprowadzono zmiany, został przebudowany bez naszej zgody lub jest użytkowana niezgodnie z instrukcją obsługi. Niniejsza deklaracja musi być przekazana wraz z piecem kominkowym w przypadku odstąpienia własności innej osobie.
This Declaration of Conformity becomes invalid if any changes have been made to the DEFRO HOME AIRPELL Dry Stove, if its construction has been changed without our permission or if the dry stove is used not in accordance with the operating manual. This Declaration shall be handed over to a new owner along with the title of ownership of the dry stove.

Ogrzewacz pomieszczeń opalany pelletami DEFRO HOME AIRPELL jest wykonywany zgodnie z dokumentacją techniczną przechowywaną przez:
DEFRO HOME AIRPELL *Pellet heating stove has been manufactured according to technical documentation kept by:*
DEFRO R. Dziubeła spółka komandytowa, 26-067 Strawczyn, Ruda Strawczyńska 103a.

Imię i nazwisko osoby upoważnionej do przygotowania dokumentacji technicznej: Mariusz Dziubeła
Name of the person authorized to compile the technical documentation: ***Mariusz Dziubeła***

Imię i nazwisko oraz podpis osoby upoważnionej do sporządzenia deklaracji zgodności w imieniu producenta: Robert Dziubeła
Name and signature of the person authorized to compile a declaration of conformity on behalf of the manufacturer: ***Robert Dziubeła***

Dwie ostatnie cyfry roku, w którym oznakowanie zostało naniesione: 19
Two last digits of the year of marking: ***19***

Ruda Strawczyńska, 03.01.2022
miejsce i data wystawienia
place and date of issue.

Robert Dziubeła
prezes zarządu / CEO

Dear Customer,

We would like to inform you that we make every effort to offer the products of quality fulfilling the most restrictive standards and warranting operational safety. All the devices are produced in accordance with the requirements of relevant EU directives and have CE safety mark confirmed by the Declaration of Conformity EC.

CE

We appreciate all your comments and proposals regarding our level of service. We appreciate your comments and proposals regarding our devices and the level of service provided by our Partners and Technical Support/Service.

DEFRO R. Dziubeła sp.k

Dear Customer,

We would like to thank you for choosing the high-quality DEFRO product which will ensure your safety and operational reliability.

As our customers, you can always count on the help of the DEFRO Service Centre, which is ready to ensure the continuous efficiency of your equipment.

Please note that in order to use the equipment safely and efficiently, it is crucial to get familiar with the following directions.

- Read and follow this Operating Manual - useful remarks concerning the proper operation of the equipment can be found there.
- Determine if all parts have been delivered or if the fireplace was not damaged during transport.
- Check data on the rating plate against the warranty card.
- Prior to starting the device, check the flue connection against connection recommendations included in this manual and appropriate national regulations.

Basic usage rules are to be obeyed while using the equipment. Do not open the doors during the operation of the device.

DEFRO Service Centre or Authorized DEFRO Service should be always contacted when any intervention is necessary because only these parties have original spare parts and are properly trained within the scope of installation and operation of DEFRO equipment.

For your safety and equipment use convenience please get acquainted with this operating manual and send back a correctly filled copy of the Warranty Card to the following address:

DEFRO R. Dziubeła sp.k. - Centrum Serwisowe
Ruda Strawczyńska 103a
26-067 Strawczyn

serwis@defro.pl

By sending back your Warranty Card, you will be registered in our DEFRO products users' database and we will be able to provide you with quick and professional technical support.

If you do not send back a correctly filled in Warranty Card and the equipment quality and completeness receipt within the period of up to two weeks after the date of installation but no longer than within six months, after purchasing, the warranty will become invalid. This results in delays with repairs and the necessity of **covering costs** of service and traveling expenses.

Thank you for understanding.
Yours sincerely,

DEFRO R. Dziubeła sp.k.

Table of contents

1. INFORMATION

The operating manual is an integral and essential part of the product and must be forwarded to the user also in case when the property is transmitted. The user should carefully read the manual and save it for the future because all remarks included there are important guidelines concerning safety during installation, usage and maintenance.

Installation of the stove must be carried out in accordance with the mandatory standards in the country of destination, according to guidelines of the manufacturer and by qualified personnel. Improper installation of the device may be a reason for personal injuries and damage to property for which the manufacturer is not liable.

The dry stove can be used only for the purpose it was explicitly intended. Any other use should be treated as inappropriate and in consequence as dangerous.

In the case of error during installation, usage or maintenance works caused by non-observance of the legislation, applicable regulations or instructions contained in this manual (or others, delivered by the manufacturer) the manufacturer rejects any contractual or non-contractual liability for resulting damages and the warranty for the device becomes void.

All illustrations, pictures and photos are only indicative.

Versions of the publication

Due to continuous improvement of the product, DEFRO reserves the right to update this publication without prior notice.

The content of this Operating Manual is a property of DEFRO. Any copying, duplicating, or publishing of content of this User's Manual without prior written consent of DEFRO is forbidden.

Manual storage and browsing its contents

We recommend taking care about this manual and storing it in an easily and quickly available location. If this manual has been lost, damaged or destroyed you should request a copy in the sales outlet or directly from the Manufacturer providing identification data of the product. All the most important information included in the operating manual is marked with "bold" and has symbols pointing out the user's attention to hazards that can be present during the operation of the dry stove. The symbols used in the text are explained below:

Danger!
Direct threat to life and health! Non-compliance with the recommendations marked in this way and misuse may result in death or major injuries.

Danger!
Danger from electrical voltage! Incorrect installation and incorrect electrical connections may cause danger to life by electric shock.

Note!
Warning symbol indicates that you should read carefully and understand the given information, to which it relates. Non-compliance with these recommendations may result in major damage to the equipment and create a hazard for the user or the environment.

Danger!
Direct threat to health! Non-compliance with the recommendations distinguished in this way may cause a fire or burns.

Hint!
Informative symbol. Useful information and hints are marked in this way.

2. BASIC SAFETY RULES

2.1. SAFETY WARNINGS

- The national and local provisions should be met.
- The equipment should be installed in compliance with the legal standards applicable in the given location, region or country.
- The equipment should be used by persons (including children) with impaired physical, sensory, and mental capabilities and by persons without experience and required knowledge provided that such operation is not carried out under their supervision or after proper instruction by a person responsible for their safety.
- You should always observe the guidelines given in the operating manual to ensure the correct use of the equipment and to prevent accidents.
- Operation and adjustment should be carried out by adults. Errors and incorrect settings can cause hazardous situations and/or incorrect operations.
- Prior to any operations the user (or any person operating the equipment) should read and understand the whole contents of this manual.
- Equipment should be used only as intended. Each other use is considered as misuse and hazardous as a consequence.
- The equipment should not be used as a ladder or object to lean against.
- Prior to installation, you should make sure that the substrate will resist the force of the equipment considering its weight.
- In the case of disturbances in operation, the equipment can be restarted only when the occurred problem has been removed and the equipment is brought back to its original condition.
- The user is fully responsible for misuse of the product and relieves DEFRO from any civil and criminal liability.
- All types of modifications or replacement of equipment parts with non-original components or without authorization may present a risk for the operator and relieves DEFRO from any civil and criminal liability.
- Incorrect installation or maintenance (incompatible with the contents of this manual), can cause injuries to people, animals or property damage. Then DEFRO shall be relieved of any civil or criminal liability.

- Part of the equipment surface is very hot (doors, handle, window panel, flue gas discharge pipe, etc.). You should avoid direct contact with such components without suitable protective clothing or protective equipment such as e.g. heat-resistant gloves.
- Do not touch the window panel after heating up of the equipment.
- Keep children away from the equipment when it is operating because each hot surface can cause burns.
- It is forbidden to start up the equipment when the doors are opened or the window panel is cracked.
- Do not place and dry the underwear on the equipment. Possible dryers for hanging underwear or similar should be located at an adequate distance from the equipment - fire hazard.
- It is absolutely forbidden to open the doors if the flue is on fire. Then call the appropriate services.
- It is recommended to keep 400 mm distance between the hot parts of the equipment and medium inflammable materials; otherwise use commercially available insulation materials. Apply this hint also for furniture, curtains etc. Minimum distances are given in point 5.2 of the operating manual.

- It is absolutely forbidden to use flammable liquid for equipment firing up.
- If the substrate, on which the equipment is located, is made of inflammable materials, such as parquet or floor lining then you should place a protective plate under it (the plate should protrude 250-300 mm from front of the equipment).

2.2. WARNINGS RELATED TO OPERATION

- Equipment should be shutdown in case of failure or incorrect operation.
- Fuel used in the equipment should meet the conditions described in this manual.
- Internal parts of the equipment should not be washed with water.
- Avoid contact with water; above all do not wash any painted surfaces until they are fully cured. The coating on new devices is not an anti-corrosion coating; heat-resistant paint achieves its protective properties only after curing under the influence of heat (after several ignitions).
- Do not expose the body to the action of hot air for a long period of time. Do not heat excessively the room where you are staying and where the equipment is installed. It may have an adverse impact on physical condition and be a reason of health problems.
- Equipment should be installed in rooms with fire protection and equipped with all required components such as supply (with air) and flue gas discharge.
- Equipment and cladding made of ceramics should be stored in rooms free from moisture and they cannot be exposed to adverse effects of the weather.
- It is not recommended to place body of the equipment directly on the floor and if such floor is made of inflammable materials it should be properly insulated.
- To facilitate possible interventions by the technical personnel you should not place the equipment inside the closed rooms and just by the walls which can also disturb air intake.
- Always make sure and check whether doors of the combustion chamber are tightly closed when the equipment is operating.
- Equipment consumes the exact amount of air which is required for the combustion process; it is recommended to connect the equipment for air intake from outside using a suitable pipe and through a special outlet located at the back of the equipment.

ADDITIONAL INFORMATION

- You should contact the sales outlet or qualified personnel authorized by DEFRO in the case of any problems. Request original spare parts if the repair is necessary.
- Use only fuel with properties compatible with the recommendations of this operating manual.
- Check and clean flue gas discharge ducts (connecting piece to flue) periodically.
- Store this manual carefully because it should be available for a whole period of equipment operation. In the case of selling or giving the equipment to the other user you should always make sure whether the product has the manual enclosed.
- Request a new copy from authorized sales outlet in the DEFRO company if it has been lost.

3. INTENDED USE

The DEFRO HOME AIRPELL stoves are intended for the combustion of pellet. They are intended for heating of houses and spaces where they are installed. They can be also used as an additional source of thermal power.

The dry stove can be connected multiple times.

4. TECHNICAL SPECIFICATION

4.1. DESIGN

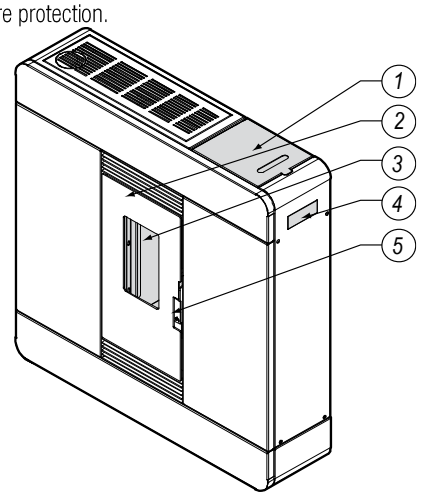
Dry stove fired with a pellet operates as a heater for the room in which it is installed. Ambient air is heated directly by the furnace through the window panel and through the radiators located in the upper part of the stove body. Air heated by the radiators gets out through the openings located in the upper wall of the furnace.

Stove body - walls in contact with fire - is made of heat-resistant steel sheet and sides of the combustion chamber are lined with cladding made of vermiculite. Body is lined with panels made of steel sheet covered with high-temperature powder paint. The stove is equipped with a so-called combustion chamber.

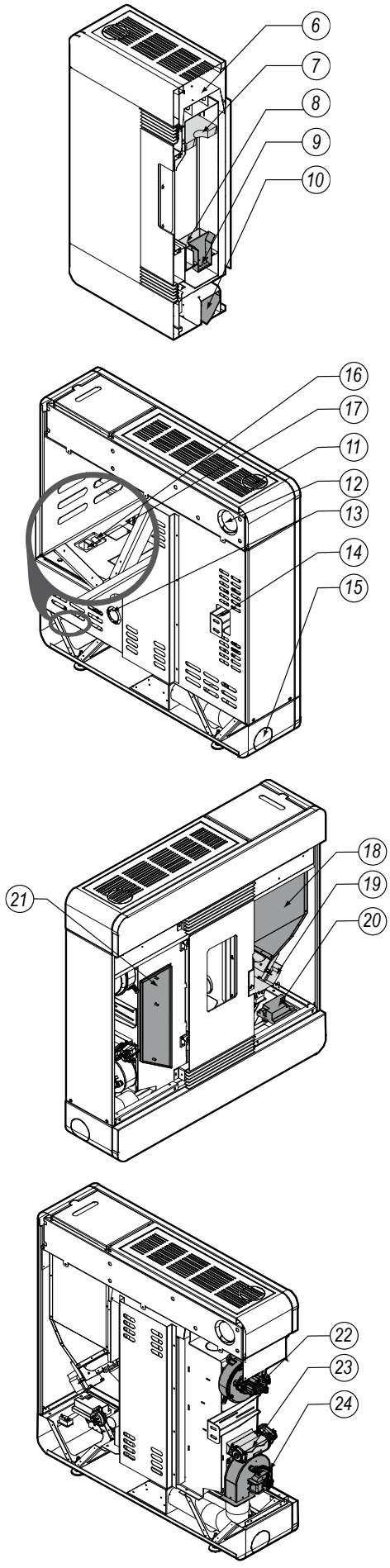
The furnace chamber is equipped with a discharge pellet (9) burner adapted for the combustion of biomass. Fuel required for combustion process is transported using an automatic feeder (19), which takes the pellet from the container (18) located behind the combustion chamber. The igniter located in the burner, in form of an electric heater, initiates an ignition of fuel supplied during the start-up of the stove. Fuel required for combustion is taken from air intake (13) and then supplied to the burner. Hot flue gas flows around the deflector (7). Radiators on the top wall of the combustion chamber, heated by flue gas, transfers heat to the air, which is ejected through a perforation over the doors, and heats surroundings of the stove. Flue gases are discharged to the chimney through a flue (12). The discharge process is supported by a flue gas fan unit (22).

Air fan (23) forces air flow from bottom. Air flows around walls of the combustion chamber (side and rear), receives the heat and evacuates to outside through openings over and below the doors of the stove. When the fan (24) is switched on a majority of heated air will be directed to the DGP system, which supply outlet may be located on the bottom wall of the stove or on its side (depending on the connection of air duct on the outlet from the fan).

The stove may be also equipped with alternative decorative components made of wood, such as top wooden panels above the doors. These components are properly prepared for operation in the temperatures present on the furnace housing, they are safe in use and meet the requirements of fire protection.



Picture 1. View of the DEFRO HOME AIRPELL heating stove.



Picture 2. Design of the DEFRO HOME AIRPELL heating stove.

1 - pellet container handle, 2 - doors, 3 - window panel, 4- control panel with display, 5 - door handle, 6 - body of stove, 7 - deflectors made of vermiculite, 8 - ash-pan, 9 - burner, 10 - DGP, 11 - plug of alternative outlet of flue, 12 - flue, 13 - air inlet socket, 14 - air intake, 15 - plug of alternative outlet of DGP, 16 - power switch, 17 - supply socket 230V, 18 - pellet container, 19 - feeder mechanism, 20 - electronic controller of stove, 21 - cover of cleaning hole, 22 - flue gas fan, 23 - air fan, 24 - DGP system fan.

4.2. TECHNICAL DATA

Table 1. Technical data of the DEFRO HOME AIRPELL stove.

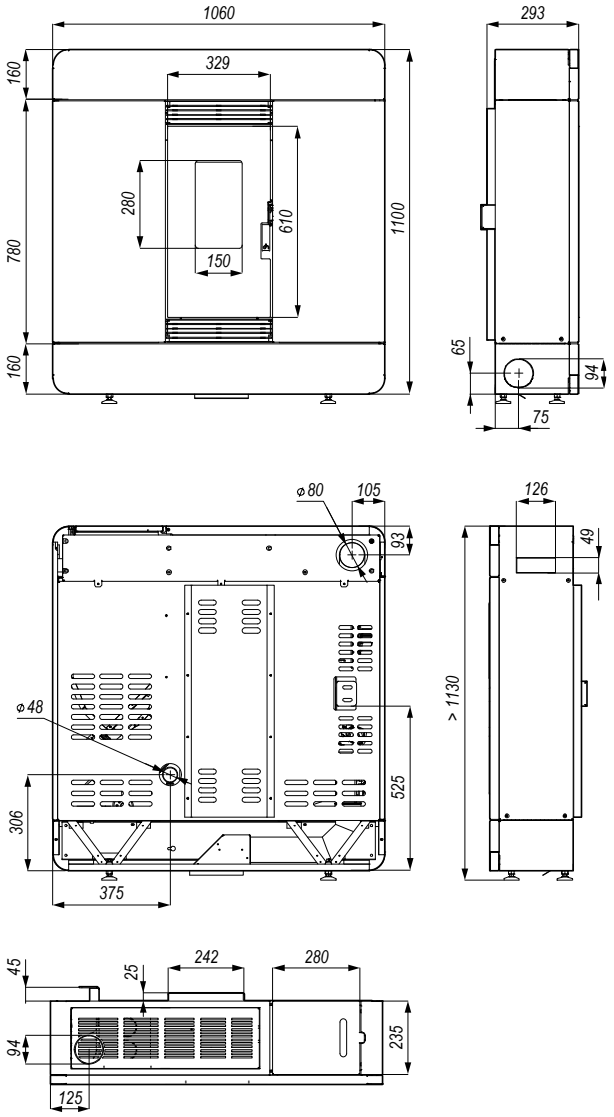
Parameter	Unit	value
Nominal power	kW	8.0
Heating power range	kW	3.5-8.0
Nominal efficiency[1]	%	93.3 (94.3)
Seasonal energy efficiency	%	88.7
CO emission for 13% O_2 [1]	%	0.010 (0.017)
Flue gas temperature[1]	°C	82.1 (50.7)
Weight[2]	kg	146
Flue gas stream for nominal power[1]	g/s	8.2 (6.2)
Minimum draught at rated power	Pa	12
Flue size	mm	80
Supply voltage	V	230
Maximum power consumption	W	400
Power consumption for nominal power[1]	kWh	0.175 (0.065)
Fuel consumption[1]	kg/h	1.9 (0.8)
Fuel tank capacity	kg	16
Type of heater	of periodic combustion	
Fuel [3]	pellet with a diameter of 6 mm	

[1] Values for nominal power 3.5 kW are given in brackets.
[2] Device weight depends on the selected design version and its equipment.

The combustion process in stove fired with pellet is adjusted by an electronic controller (4) controlling the operation of the igniter, feeder and fans based on setpoints and measured temperature.

A detailed description of the construction, operation and work of the electronic controller and fan is included in the operating manuals enclosed to this documentation.

Recommendations of operating manual of controller and fan should be unconditionally observed.



Picture 3. Dimensions of the DEFRO HOME AIRPELL heating stove.

4.3. EQUIPMENT

The dry stove is delivered on a pallet, foil-wrapped and is fully assembled. Scope of delivery can include additional components and subassemblies, according to the order. Components that are standard equipment are specified in table 2.

Table 2. Equipment of the DEFRO HOME AIRPELL stove.

Standard equipment of dry stove	Unit	Quantity
Stove operating manual	pcs.	1
Operating manual and warranty card for electronic controller	pcs.	1
Electronic controller	pcs.	1
Ceramic lining of furnace chamber	set	1

4.4. FUEL PARAMETERS

Sawdust granulate, called pellet, is a primary fuel for the DEFRO HOME AIRPELL heating stove. It is recommended to use the A1 class pellet in accordance with PN-EN ISO 17225-2:2014-07, with the following parameters:

- granulated product diameter: 6 mm,
- length of granulated product: from 3.15 mm to 40.00 mm,
- calorific value: > 16.5 MJ/kg
- sulphur content: max. 0.03 %
- moisture: ≤ 10 %
- ash content: ≤ 0.7 %
- bulk density: > 600 kg/m^3

During the selection of the pellet, the user should pay special attention to fuel from unreliable sources, to the possible content of contaminations in fuel in form of stones or other inflammable inclusions deteriorating the quality of combustion and increasing the failure frequency of the feeder.
Correct pellet type and assortment ensure:

- fault-free operation of stove,
- fuel saving in comparison to lower-quality types,
- reduced emission of harmful chemical substances.

It is forbidden to burn any other objects on the grate of the automatic furnace.

Use of bad quality fuel or incompatible with the above-mentioned recommendations would cause irregularities in the operation of the equipment and can lead to loss of warranty and decline of the liability for the product.

Dry stove is not a furnace intended for the combustion of wastes and forbidden fuels cannot be combusted in it.

Completely emptying of the fuel tank should be avoided. The minimum level of fuel container's fill - 25% of its capacity.

DEFRO R. Dziubeła sp.k. does not accept liability for the damages caused or improper burning of fuel if the fuel used is prohibited.

STOP

The condition of fuel container's cover gasket should be checked periodically. After closing of the container, the gasket should precisely adhere to the surface.

Clearances and gaps between the cover and fuel container are forbidden.

4.5. SPARE PARTS

To obtain information on the availability of spare parts for dry stoves or inquiries about equipment servicing please contact with DEFRO Service Center or Authorized DEFRO Service.

	DEFRO R. Dziubeła sp.k. Service Centre Ruda Strawczyńska 103a 26-067 Strawczyn		serwis@defro.pl

5. TRANSPORT AND INSTALLATION

5.1. TRANSPORT AND STORAGE

The dry stove is delivered on a pallet, foil-wrapped and are fully assembled. It is recommended to transport the dry stove, in such packing condition, as close as the possible target location for installation, what will minimize the possibility of damage to the device housing.

All remaining parts of the packing should be removed in such a way that it will not pose any hazard to people and animals.

Appropriate lifts are to be used for lifting and lowering the dry stove. For transport, the dry stove is to be secured against moving and tilting on a vehicle's platform by means of belts, wedges and wooden blocks.

The dry stove is to be transported in a vertical position!

The stove is to be stored in a non-heated room, under a roof and with efficient ventilation.

Prior to installation, it should be determined if all parts have been delivered and if they are in good technical condition.

5.2. WORKING ENVIRONMENT

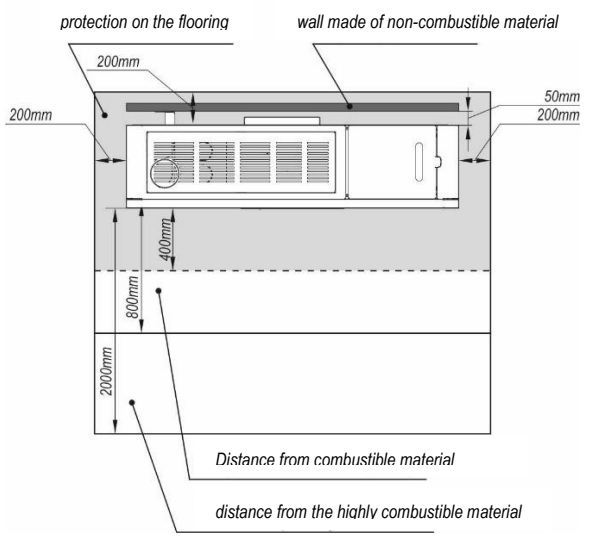
The dry stove should be installed in compliance with the requirements of the currently applicable standards and legal regulations and detailed regulations of the target country. In Poland, these conditions are regulated by the Regulation of the Minister of Infrastructure of 12 April 2002 on technical conditions which should be fulfilled by buildings and its location. (Journal of Laws no. 75 of 2002 item 690 as amended) and Polish Standard PN-EN 14785:2009 Residential space heating appliances fired by wood pellets. Requirements and test methods.

The manufacturer shall not be liable for the incorrect execution of the equipment installation, including chimney, ventilation and electric system.

Dry stove should be installed in a suitable location allowing opening of the doors and carrying out regular maintenance works like cleaning of stove, connector and chimney. The environment should be:

- adapted to operating conditions,
- equipped with power supply 230 V/50Hz,
- equipped with suitable flue gas exhaust system,
- equipped with external ventilation system,
- equipped with earthing system.

Correct setting of the stove is necessary to obtain satisfactory heating level of the residential unit. Prior to assembly it is necessary to select suitable position for stove installation. Check minimum safe distances from materials susceptible to heat or inflammable materials such as load-bearing walls and other walls or wooden components, furniture etc.



Picture 4.4 Minimum safe distances during the setting of the dry stove.

Installation of the dry stove should observe the following safety rules:

- minimum distance 200 mm from the side and rear of the medium inflammable materials,
- minimum distance 800 mm from front wall, where the medium inflammable materials cannot be located.
- objects made of highly inflammable materials should be located in a distance minimum of 2000 mm from the furnace

Due to its design, the furnace should be fixed to the wall using a bracket. A bracket with adjustable length or two brackets of 50 mm and 200 mm in length may be supplied for the stove. It is possible to use a bracket of 50 mm in length if the stove is fixed to the non-combustible wall. When the stove is fixed to the wall made of combustible materials then it is required to use a bracket ensuring that a distance of 200 mm will be maintained.

If it is not possible to maintain the above-indicated distances then you should apply process and building measures to avoid fire hazards. In the case of contact with a wooden wall or wall made of other inflammable material, it is appropriate to insulate flue gas discharge pipe.

In the case of the floor made of inflammable materials, it is appropriate to prepare a plane protecting the floor and execute protection in accordance with the standards applicable in the given country.

Dry stove should be located on a substrate with a suitable load-bearing capacity. In accordance with the Polish Standards each square meter of the floor slab in the single-family building should transfer the load of 150 kg. If this condition is fulfilled the dry stove manufactured by DEFRO can be installed without needing to reinforce the floor slab.

Nonetheless, if you are not sure about the design of floor slab, where the stove is to be installed, you should absolutely contact with the building designer to reinforce the floor slab or execute special structure distributing the weight on a larger area.

Flooring in the room, where the dry stove is to be installed, should be properly dimensioned, to maintain the load.

To ensure the correct operation of dry stove you should ensure the suitable inflow of air required for combustion (it is appropriate to ensure approx. 40 m^3/h) in accordance with the installation standards and standards applicable in the given country. The volume of the surrounding environment should not be less than 30 m^3. You should assume that the combustion of 1 kg of pellet requires ~8 m^3 of air.

Air should be supplied through fixed openings of a minimum 100 cm^2 cross-section made in the walls (near the stove) and directed to the outside. These openings should be made in a way ensuring that they cannot be plugged.

Air can be supplied from adjacent rooms, provided that they are equipped with external air supply and they are not intended for a bedroom and bathroom, and where fire hazard is not present, for example: garages, woodsheds, inflammable materials storage. You should absolutely observe the recommendations of the applicable standards.

STOP

It is forbidden to install the dry stove in bedrooms, bathrooms and other rooms where other heating equipment without independent air inflow is installed (fireplace, stove, etc.).

It is also forbidden to set the dry stove in explosive atmospheres.

It is forbidden to cover circulation openings in the housing of the dry stove.

5.3. AIR INTAKE

The DEFRO HOME AIRPELL stove intakes the air through the connector (air intake) located at the rear of the equipment. Air for combustion may be taken:

- From the same room, where the equipment is located,
- Using a duct connected to air intake that supplies the air from outside.

5.3.1. AIR INTAKE FROM THE ROOM

Room, where the dry stove is installed, should be equipped with the inflow of air in the minimum amount required for the correct combustion process and for room ventilation. This can be done by executing fixed vents in wall directed to the outside or through independent or common ventilation ducts.

In the case of the absence of the ventilation ducts in the room where the furnace is installed - it is required to execute near the furnace a through the opening with a free cross-section 100 cm^2 (opening with 12 cm in diameter or square 10 × 10 cm), protected with grille on the

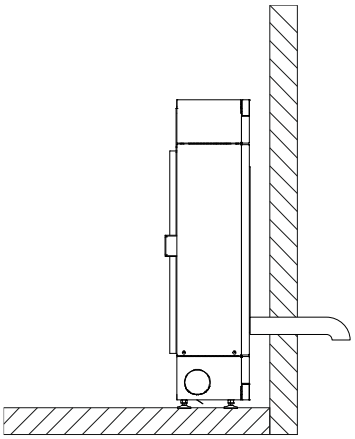
internal and external side, for this purpose. Furthermore, the air intake should be:

- directly connected with the room, where the stove is to be installed,
- protected with grille, metal net or suitable cover not restricting minimum cross-section,
- located in a way preventing plugging it,
- located with consideration of proper distances preventing swirling of air (e.g. with respect to the windows).

It is possible to supply using the air intake from the adjacent room if:

- the adjacent room has a suitable air inlet from the outside,
- adjacent room is not a garage, flammable materials storage location and operations related to explosion risk are not performed inside,
- the adjacent room should not be a bathroom, bedroom or a common space of the building.

5.3.2. AIR INTAKE FROM OUTSIDE



Picture 5 Connection of the DEFRO HOME AIRPELL stove to the external air intake.

A closed combustion chamber allows the installation of the DEFRO HOME AIRPELL stove in the rooms equipped with heat recovery. In such a case, the stove should be supplied only with the air supplied directly from outside (picture 5). Inlet pipe should have an elbow at its end directed downwards or protected against the wind. Grilles with small mesh should not be installed in such case.

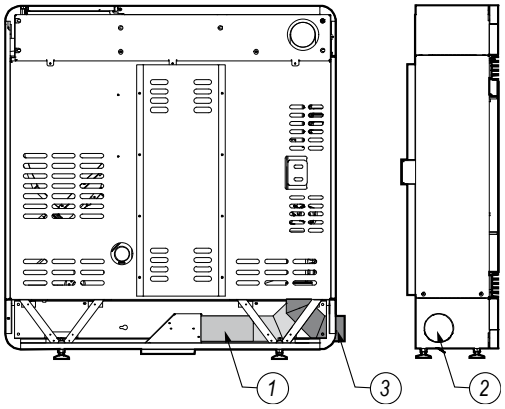
The suitable diameter of the duct supplying the air from outside should be selected depending on its length:

- Supplying with a straight section of length not exceeding 1 m can be implemented using a duct of 50 mm in diameter.
- The supply duct cannot have a diameter smaller than 100 mm in the other cases and the reducer of the duct diameter should be located on the air intake.

For connection to the external inlet of air and longer break in operation (over 2 weeks), it is necessary to empty the bin and pellet feeder.

5.4. FORCED SYSTEM FOR HOT AIR DISTRIBUTION IN DEFRO HOME AIRPELL DGP

The DEFRO HOME AIRPELL stove allows supplying the hot air distribution system. The socket for DGP is factory connected with a box located inside the stove. Hot air evacuated from this box is used to heat up the room where the stove is installed. Socket should be led outside the stove acc. to guidelines in the below picture prior to connecting to the DGP.



Picture 6 Change of position of DGP supply socket's outlet.

1. Remove the pipe connecting DGP elbow with a box. 2. Break off plug in masking frame of the stove, 3. Remove elbow, rotate by 180 degrees and install in such position.

The stove is equipped with a fan forcing circulation of air and sucking part of hot air inside the stove and delivering it to the DGP socket. Use a pipe with the biggest possible cross-section and the smallest possible length. The total length of the duct supplying hot air should not exceed 5 m. If the hot air is supplied over longer distances, then it is required to use additional DGP equipment.

Installation of the DGP system should be entrusted to a specialized company, which will check heat demand for the given area and will correctly design the connection system and arrangement of the individual parts.

5.5. INSTALLATION TO THE FLUE

Flue gas removal system from the DH AIRPELL stove should be checked acc. to PN-EN 13384-1+A1:2019-07 – Chimneys - Thermal and fluid dynamic calculation methods - Part 1: Chimneys serving one heating appliance", that specifies in detail the methodology for dynamic calculations of thermal and flow properties for the chimneys serving one combustion appliance.

Each system should be considered on a case-by-case basis, and the below information is not exhaustive and they contain only guidelines for the execution of the most typical solution.

The dry stove should be connected to an individual flue. Chimney draught should be 12 ± 2 Pa.

During the execution of opening for flue gas discharge pipe, you should consider the possible occurrence of inflammable materials. If the opening will pass through the wooden wall or wall made of material sensitive to heat then you should obligatorily maintain a minimum distance from flammable material (value given on the certification label of the pipe), with possible additional insulation using proper materials (thickness 1.3 - 5 cm, heat conductivity min. 0.07 W/m °K).

As an alternative it is recommended to use insulated industrial pipe, which can be also used outdoors, to avoid the occurrence of condensate.

The correctly executed connector between the DEFRO HOME AIRPELL stove and the flue or smoke duct should meet the following conditions:

- horizontal sections should have a minimum slope of 3%,
- length of the horizontal section should be minimum and should not exceed 3 metres,
- a number of changes of directions, inclusive of the use of the "T" component, should not exceed 4.

A chimney or individual smoke duct should meet the following requirements:

- be resistant to combustion products, water-proof and suitably insulated, in compliance with conditions of use,
- be made of materials resistant to normal mechanical stresses, heat, the action of combustion products and possible condensate,
- be vertical with the change of axis direction not exceeding 45°,
- be adequately separated with void space or suitable insulation from combusted and inflammable materials,
- have preferably circular internal cross-section: square or rectangular cross-section should have rounded corners with a radius no smaller than 20 mm,
- internal cross-section should be constant, free and independent,
- have a rectangular cross-section with the maximum ratio between two sides equal to 1.5,
- have a chimney cap with a suitable cross-section (not smaller than the doubled cross-section of the chimney or flue duct), which protects against the ingress of rain and snow to the chimney system and ensure discharge of flue gas also in the case of wind presence.

The DEFRO HOME AIRPELL stove characterizes with a relatively low temperature of flue gas in comparison to the fireplaces fired with wood. It results in high efficiency but also the possibility of condensation from flue gas. Therefore, it is recommended to connect the stove to flue with the discharge of condensate to the sewage system or install condensate discharge system e.g. in the form of T-pipe with a condensate collector (example on picture 8).

Due to the emission of condensate also flue should be resistant to its action, therefore it is recommended to use ceramic system chimneys or chimney with acid-resisting insert.

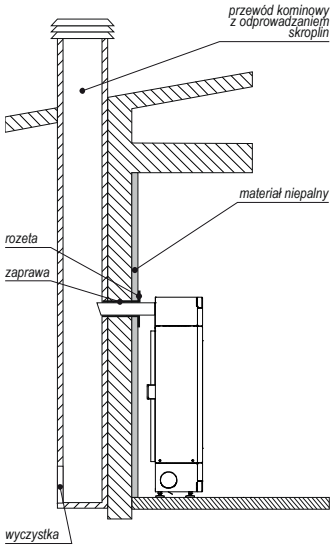
Flue gas discharge system from DEFRO HOME AIRPELL stove should be tighter than in case of typical systems in stoves without active flue gas removal. Lack of proper tightness will result in penetration of flue gases into the room where the stove is located.

Despite the flue gas discharge being supported by a fan unit, the dry stove fired with pellet should be connected to the chimney of the medium, recommended draught.

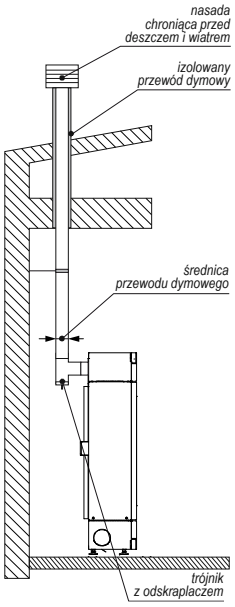
Using the most typical connection consisting of a tee and vertical flue duct with a cap (picture 8) you should follow the information given in the below table.

Table 3 List of a minimum height of the chimney depending on its diameter.

Minimum chimney height	Chimney diameter
13.5 m	Ø100 mm
9.9 m	Ø120 mm
8.1 m	Ø150 mm
5.8 m	Ø180 mm



Picture 7. Example of connection of DEFRO HOME AIRPELL stove to flue with condensate discharge.



Picture 8. Example of connection of DEFRO HOME AIRPELL stove to flue with condensate discharge.

5.6. CONNECTION TO ELECTRICAL WIRING SYSTEM

Electrical installation of the DEFRO HOME AIRPELL dry stove is intended for supply from mains with 230 V/50 Hz. Room, where the stove is installed, should be equipped with an electrical system 230V/50Hz executed as TN-C or TN-S systems (with the protective conductor or protective-neutral conductor) according to the regulations in force. The electric system (without regard for type of installation made) should be ended with plug-in socket equipped with protective conductor contact. The Plug-in socket should be located at a safe distance from heat emission source.

Use of the socket without a connected protective terminal may cause electrocution.

All connections to the electrical system should be made only by an electrician holding appropriate licenses.

User is forbidden to take off covers of the electronic controller or fan and to make any interventions or modifications to electrical connections.

5.7. SENSORS

Two sensors for measurement of temperature are located at the back of stove: the ambient sensor and DGP sensor. A probe measuring the ambient temperature should be located in the room where the furnace is installed. The DGP sensor may be installed in the room, which is heated by the stove's DGP or in the same DGP system (when DGP heats two or more rooms). The installation location should be chosen by the fitter.

Location of the temperature sensors has an impact on the operation of the furnace and it should be selected in a way ensuring the thermal comfort in the room. Avoid the locations where the temperature is usually different than the temperature in the other part of the room, such as e.g. windows, locations exposed to strong sunlight. It is also forbidden to locate the sensor near the local sources of heat such as e.g. light bulbs. Incorrect location of the sensor will result in overheating of the room (sensor located on the window) or inadequately heating (sensor near the light bulb).

6. USAGE AND OPERATION

Combustion chamber should be closed during operation of the stove. So, it is forbidden to open the doors when flame is burning in the burner.

6.1. INTRODUCTORY REMARKS

Do not touch stove during first firing-up, because the paint is hardening during this stage.

Touching the paint could result in uncovering of the steel surface.

It is possible to refresh it using spray paint of the same colour if necessary.

It is a good practice to ensure efficient ventilation during the first firing-up because a small amount of smoke and paint odour will be emitted from the stove.

Do not stay near the stove. It is required to vent the room. Smoke and paint odor will disappear after approx. one hour of operation. However, we remind that they are not harmful to health.

The stove is subject to expansion and shrinkage during warming and cooling down stage what may cause slight squeaks. This is an absolutely normal phenomenon because a structure of the equipment is made rolled steel and this phenomenon shall not be considered as a defect.

It is very important to avoid excessive overheating of the stove at the beginning but to reach the required temperature gradually. Use low heating powers. During the next firing-up of the stove it will be possible to use the whole available thermal power. This will avoid damage to ceramic tiles, welds and steel structures.

Do not expect immediate effects of heating!

6.2. FIRST START-UP AND OPERATION

Start-up preparation

- check whether the regulations related to OHS and fire safety as well as the requirements included in this Operating Manual are met;
- perform internal inspection of the heater;
- perform an inspection of the electric and electronic devices /stove controller, fan, motor reducer, etc./;
- check the tightness of the pellet furnace
- check the condition and quality of fuel in the container, refill if necessary;
- check the flow capacity of air intake and openings supplying the air to the stove
- perform an inspection of system equipment;
- check the condition of the chimney system and the correctness of heater connection to the chimney;
- check the condition and flow capacity of the ventilation system;
- check the type of connection to the electric network.

6.2.1. STOVE START-UP

Absolutely, before each starting of ignition function in the controller the burner should be empty (no pellet may be located inside).

1. Turn on power supply.
2. For start-up with an empty feeder (first start-up or start-up when whole fuel from the container has been used up) you should start-up pellet feeder (endless screw):
   a. press the button SET,
   b. using ^ v buttons select *Settings menu → Zaladuj Slimak/Load the Endless Screw,*
   c. press again SET,
   d. using ^ v *buttons select* ***ON*** option and confirm pressing SET.
3. Shutdown the endless screw using *OFF* option when you hear pellet falling into the burner.
4. Return to the main menu with a button ESC.
5. Switch on ***Rozpalanie/Firing up*** with ON-OFF button. Successive stages of combustion cycle will be carried out automatically.
6. Please inspect the size and brightness of the flame for 15-20 minutes during combustion process, when stove is in "operation" mode. It should have length approx. 20-40 cm during operation with 100% rated power - depending of size of the stove (burner).

More information concerning servicing the controller are included in the *NG01 AIR controller's operating manual.*

Housing components will be very hot during operation. You must exercise caution.

6.2.2. REFUELLING

Fuel should be refilled on regular basis to ensure that is level does not fall below 10-25% of maximum loading. Use caution during refueling, in particular when the stove is hot. After opening cover of the container, the pellet should be added vigorously, with short breaks allowing proper setting of the fuel. Close the cover tightly as soon as the refueling is completed, in particular when the stove is in operation.

Avoid contact of pellet packaging (e.g. bags) with hot components of the stove. Take care to avoid getting other materials than pellet into the container. Pieces of fuel larger than allowable size of the pellet may result in jamming or damage of the mechanism of the feeder.

It is forbidden to use other type of fuel than pellet. Fuel should be stored in a safe distance from the stove (minimum 2 m from the stove).

6.2.3. DAMPING

Routine damping of the stove is based on the selection of the ***Damping*** function from controller menu. The controller will lock fuel feeding and the stove will be damped after combustion of the current dose of the fuel in the burner. Power shutdown will also result in damping a stove after a fuel in the burner will be burnt.

If it is necessary to quickly damp a flame you should charge the furnace chamber with dry sand or ash after power supply shutdown. It is not allowed to dampen a flame by pouring it with water because it may damage components of the equipment.

After a longer break in equipment's operation you should check flow capacity of the flue.

6.2.4. POWER FAILURE DURING OPERATION

Fans and feeder will stop operation in the case of power failure during stove operation. Fuel dose in the burner should be burnt-out and flue gas removed by a chimney draught. This will ensure a safe shutdown of the stove. Apply damping (chapter 6.2.3) if necessary (lack of suitable draught).

7. CLEANING AND MAINTENANCE

All operations related to the cleaning of all components should be carried out when the stove is completely cold. It is required to use protective gloves.

It is a good practice to ensure good ventilation of the room during the cleaning of the fireplace.

7.1. BASIC OPERATIONS AND CLEANING BY THE USER.

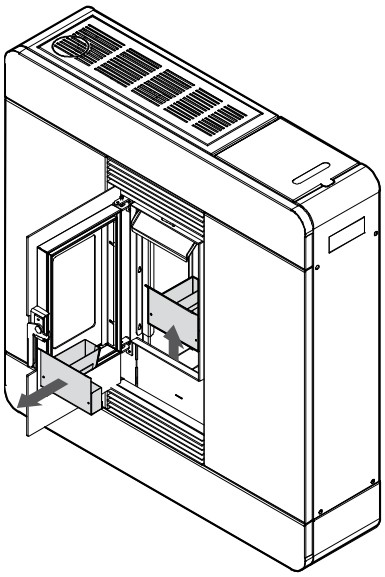
Any service and maintenance works are to be carried out with meticulous care and only by adults familiarized with this manual. The dry stove should not be cleaned in the presence of children.

STOP

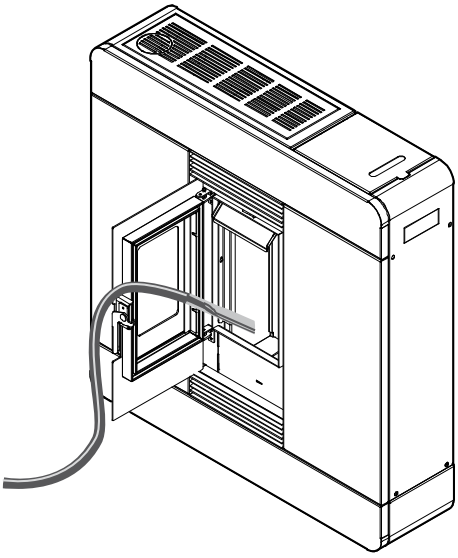
Any service and maintenance works are to be carried out with meticulous care and only by adults familiarized with this manual. The dry stove should not be cleaned in the presence of children.

7.1.1. CLEANING BEFORE EACH STARTING

Prior to every successive start-up of the equipment, the ash container should be cleaned and emptied, handling the ash with due care. Remove ash-pan for this purpose and remove the remaining dust. Dust can be removed using a vacuum cleaner only if it is completely cold. Use a vacuum cleaner adapted to remove the particles of specified size for this purpose.



1. Remove the ash-pan to the outside. Empty the ash-pan

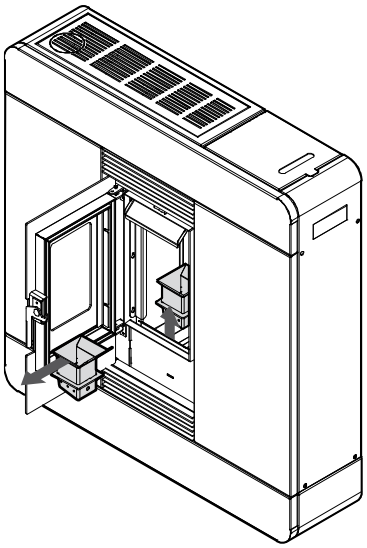


2. Remove the dust from ash-pan recess.

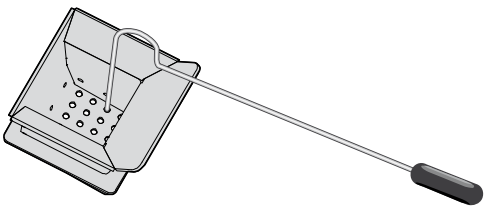
Re-install the ash container below the grate after the cleaning, making sure that its position is correct.

7.1.2. EVERY DAY SERVICE

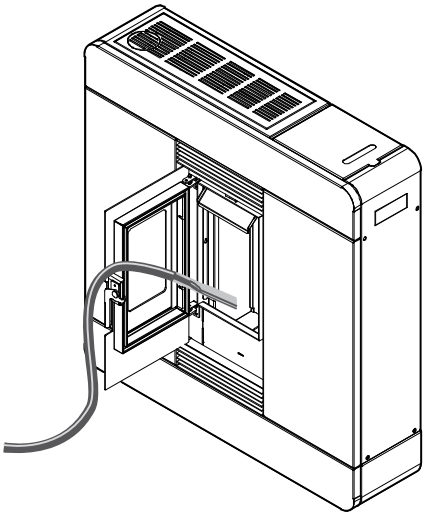
- Burner inspection - check whether the openings in burner bottom have proper flow capacity. If they are blocked then you should remove the burner from the recess and clean the openings using a poker, then remove ash using a vacuum cleaner;



1. Lift the burner, then take out the burner.



2. Clean opening on the bottom and sides of the burner.



3. Remove ash from recess of the burner using a vacuum cleaner.

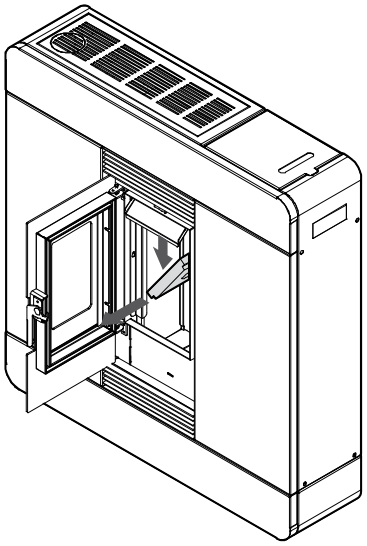
- Inspection of fuel level - check whether pellet level in the container is not lower than the minimum level 25% of container capacity and refill if it is lower. Close the container flap tightly when after fuel refiling.

7.1.3. EVERY WEEK SERVICE

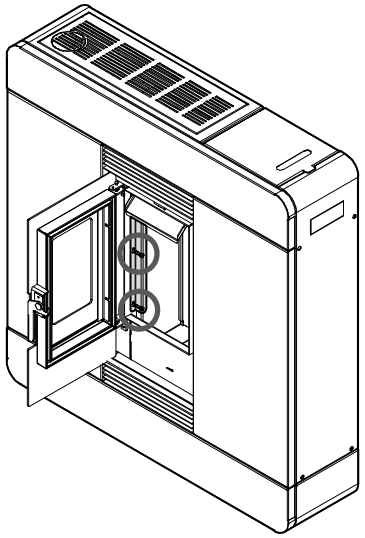
1. Ash-pan cleaning (chapter 7.1.1) - remove ash using e.g. proper vacuum cleaner if necessary.
2. Removal of dust from heat exchanger chamber - if ash has been accumulated in the chamber it should be removed.

7.1.4. EVERY MONTH SERVICE

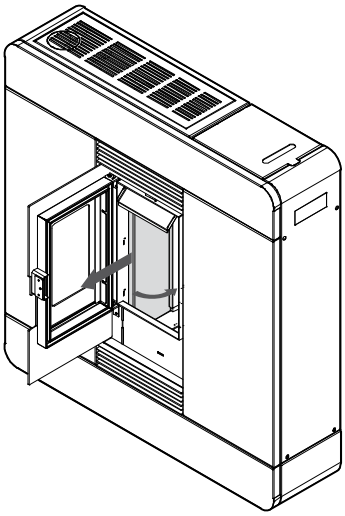
If the stove is used extensively then you should remove the soot from the chamber with heat exchangers at least once a month. Soot removal improves flow of smoke and quality of stove performance. A description of disassembly process for deflectors and claddings of the heat exchanger is available below.



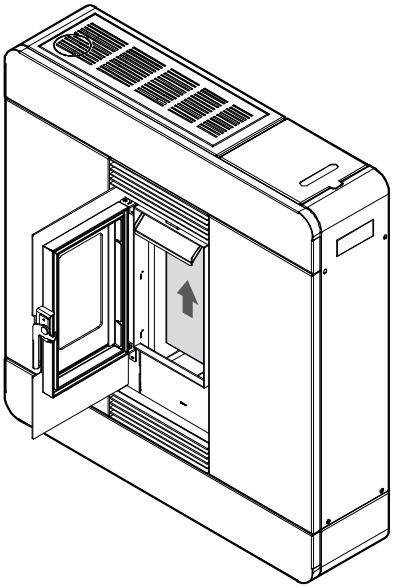
The deflector is supported on two sides panels of the combustion chamber. To remove it you should lift one of its sides, rotate and lower it as presented in the picture and then take it out through the doors opening. Clean removed deflector.



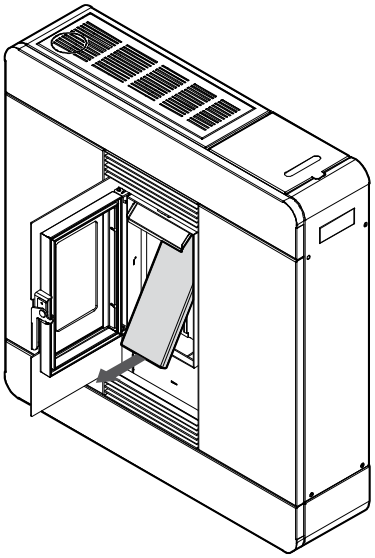
Disassemble a strip locking the left panel of the combustion chamber by removing the screws.



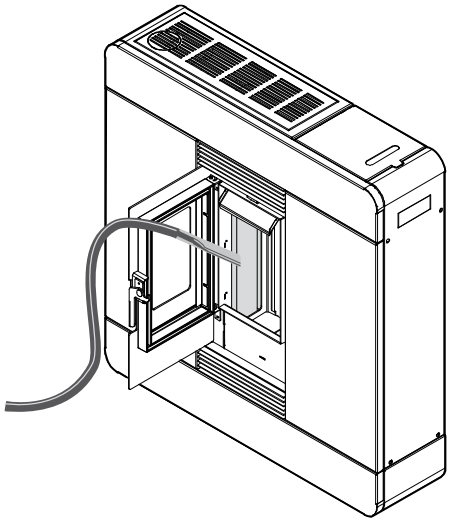
Slide the panel towards the doors of the stove, then rotate by 90 degrees.



Move the panel upwards to the maximum position inside the stove. The bottom edge should be located above bottom frame of the doors opening.



First remove bottom edge, then lower the panel in this position and take it out completely.



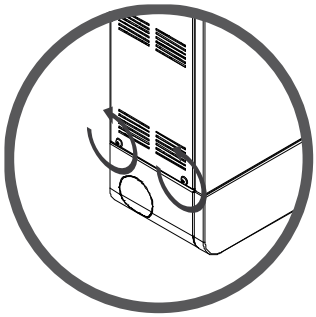
Remove soot from the available space of the combustion chamber, both on the left and above the disassembled deflector.

The panel located on the right may be disassembled similarly. Dirt on this side of the chamber is considerably smaller, so dismantling of this side may not be necessary.

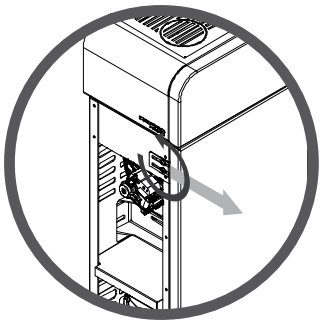
7.1.5. EVERY YEAR SERVICE

It is recommended to clean the whole combustion chamber and flue gas ducts once a year.

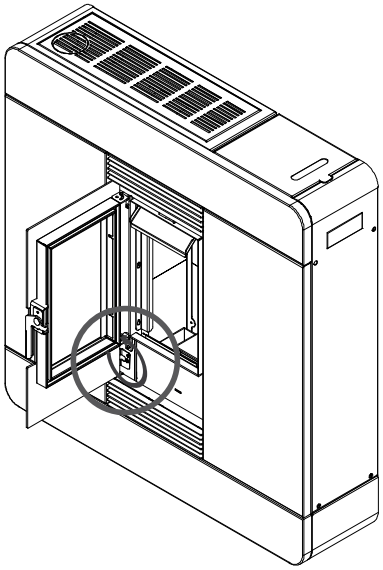
Cleaning of flue gas ducts:



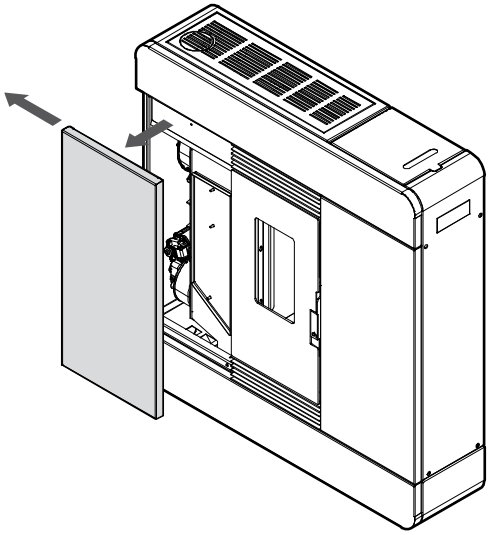
1. Remove two screws fixing the left side cover of the stove. Remove the cover.



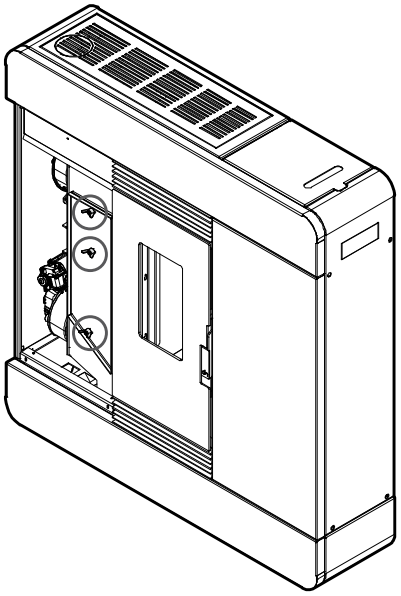
2. Loosen the fixing screws and shift the protections towards the front of the furnace.



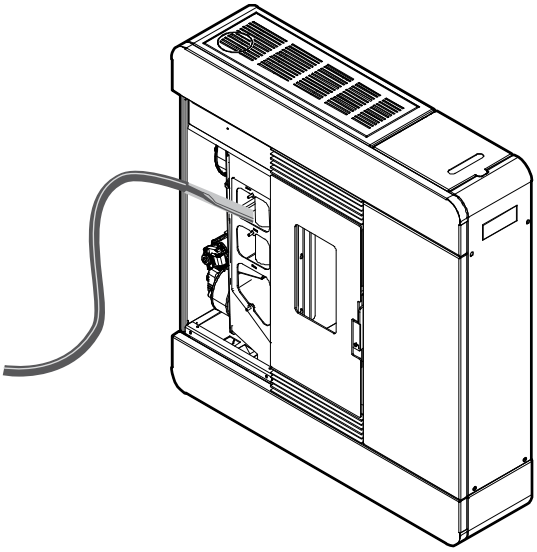
3. Open the doors and remove the fixing screws of the front cover.



4. Remove the front cover shifting it slightly to the front and then move it to the left.



5. Remove the nuts from cover of the cleaning hole.



6. Clean available flue gas ducts and cleaning hole.

7.1.6. WINDOW PANEL CLEANING

The window panel may be cleaned only and exclusively when the fireplace does not operate and is at room temperature.

Window panel may be cleaned only using moist paper or cloth (each time it is required to protect the painted components and surfaces, and gaskets against flooding, because it has an impact of quicker wear and tear of the components).

It is forbidden to use abrasive agents or materials, because they may scratch the glass surface.

It is forbidden to use chemical cleaning agents, because, in the case of contact with such agents they may cause damage to the components of the fireplace insert, that is print on the glass pane, glass pane, gaskets, and painted surfaces.

STOP *Do not open doors to clean the window panel during the operation of the fireplace. Cleaning of window panel is possible only when the equipment is cold.*

7.1.7. DOORS/GASKETS

Abrasive surfaces of doors and closing mechanisms should be occasionally lubricated with graphite grease. Carry out inspection and cleaning of the whole stove prior to each heating season. Pay special attention to the condition of gaskets, replace them if necessary.

7.1.8. FURNACE CHAMBER

Clean the furnace chamber of the stove periodically, depending on moisture content and type of pellet used.

7.1.9. FLUE

In compliance with applicable regulations, you should clean the flue twice (2) a year. Flue should be cleaned by a chimneysweep company and this fact should be documented in this manual.

STOP *Flue gases coming out of the blocked chimney are dangerous. Chimney and connector should be kept clean. They should be cleaned before each heating season.*

After a longer break in equipment's operation you should check flow capacity of the flue.

7.2. PERIODIC INSPECTION BY AUTHORIZED SERVICE

After the heating season, it is necessary to clean several components of the stove (combustion chamber, fan, container), including the components where the flue gas flows through. This cleaning is obligatory and is intended to remove all combustion residues. Because the inspection requires disassembly of the stove parts it should be carried out only by qualified service.

The annual inspection (before or after each heating season) performed by the authorized company's service is obligatory within the warranty period.

Periodic inspection of the equipment should be carried out only by a qualified manufacturer's service.

7.3. SHUTTING THE STOVE DOWN

It is recommended completely shutdown the stove and clean the equipment when each heating season is finished.

8. TROUBLESHOOTING

Some anomalies indicating irregularities in operation can occur during the operation of the equipment. It can be caused by incorrect installation of the equipment without observation of the applicable building regulations or provisions of this manual or by external causes e.g. natural environment.

Below you will find the most frequent causes of incorrect of equipment with their solutions.

No ignition in operating igniter:

- Too much pellet in the burner,
- No pellet in container.

Stove does not start:

- Igniter does not heat up as due to power failure or damage,
- No pellet in container,
- Lack of doors tightness.

Stove blockade:

- Too high contamination, you should clean the burner, ashpan, combustion chamber,
- No pellet in a container,
- Controller blockade.

Correct operation can be disturbed by an atmospheric condition (air moisture content, fog, wind, atmospheric pressure) and sometimes by closely located high facilities.

In case of repeated problems, you should turn to chimneysweep company to confirm reason for such condition and to indicate the best solution for the problem.

9. MEASURES IN CASE OF FIRE IN THE FLUE /SOOT IGNITION/.

Systematic cleaning of smoke ducts should be performed to prevent soot ignition in the chimney.

Soot ignition in the chimney is the burning of particles deposited inside chimney (flue) channels; the deposits are formed in the course of heating equipment's operation and were not cleaned by chimney sweeps. In a case of soot fire in a chimney the following recommendations should be observed:

- call Fire Brigade at 998 or 112, give information about what is happening and give detailed directions what is happening and how to get to the given building;
- disconnect the stove from the electrical supply;
- damp a fire in chimney by closing inflow of cold air to the furnace chamber;
- close stove's door and cleaning holes tightly to cut off air supply (due to lack of air the fire will eventually stop);
- check the whole chimney channel for any cracks which might result in fire spread to the rooms;
- prepare fire quenching means, e.g. a fire extinguisher, a fire blanket, a hose connected to the water system, water in a container;
- make rooms and necessary information available to the Fire Brigade.

It is strictly forbidden to pour water into the chimney - risk of blowout.

Untight chimney channels can be a source of burning sparks or very hot flue gas, including insensible carbon monoxide.

Chimneysweep should be called after soot fire in the chimney to perform cleaning of ducts and to inspect their technical condition.

10. REMOVAL DUE TO WEAR-OUT

Before scrapping of stove you should disconnect all components that are subject to selective collection of waste electrical and electronic equipment for disposal purposes. These components include an electronic controller, feeder drive, fan motors and other electrical and electronic components with conductors. Collection place should be specified by the municipal or commune services.

The other elements of a stove have been made of materials neutral for the environment and are subject to standard waste disposal, mostly as steel scrap. After worn out of the stove parts connected with screws should be disassembled by unscrewing and welded parts must be cut. Take safety precautions during disassembly of the equipment by using appropriate hand-held and mechanical devices as well as personal protective equipment (gloves, clothes, apron, glasses, etc.).

11. REMARKS ON DRY STOVE USAGE.

The following rules for safe operation of the dry stoves should be strictly observed and introduced.

1) The dry stove can be used only by adults, who have familiarised themselves with this operating manual and have been trained in the scope of usage.
2) It is forbidden for children to be in the neighbourhood of the stove without adults.
3) Flammable liquids must not be used for torching the fuel; only solid fuel (e.g. tourist), paper can be used etc.
4) Flammable materials must not be placed on the stove and in its vicinity.
5) Power conductor should be led far from heat sources (doors, flue).
6) It is forbidden to damp a fire in a furnace with water.
7) It is forbidden to use stove with a cracked window panel.
8) You should use the fuel recommended by the manufacturer.
9) Never stand in front of the stove door while opening. Burn risk.
10) While removing ash from the stove, flammable materials cannot be located closer than 1500 mm from the stove. Ash is to be put into heat-resistant containers with a lid.
11) After the heating season has finished, the stove and smoke channel are to be precisely cleaned.
12) For connection to the external inlet of air and longer break in operation (over 2 weeks) it is necessary to empty the bin and pellet feeder.
13) Point corrosion spots are allowed because they do not impact the correct operation of the equipment and do not reduce its performance. They may occur as a result of incorrect storage of equipment (e.g. in rooms of high moisture content).
14) A phenomenon of condensation of water steam - condensate, may occur during operation.

12. PRODUCT WARRANTY TERMS AND CONDITIONS

1) Placing warranty statement, which contents correspond to the provisions of this document, the Guarantor - manufacturer of the product - DEFRO R. Dziubeła spółka komandytowa, Ruda Strawczyńska 103 A, 26-067 Strawczyn, entered in the Register of Entrepreneurs of the National Court Register by the District Court for the capital city of Warsaw XII Commercial Division of the National Court Register, under the number KRS 0000620901, NIP: 9591968493, National Business Registry Number [REGON]: 363378898, gives the Purchaser a warranty for the sold product on the terms and conditions specified below.
2) The guarantee refers to a dry stove type ..... with serial number ..... (subject of agreement - dry stove) under the condition that the product has been fully paid. Due to suitable, proven and unified standards of sales the warranty covers only products purchased in authorized points of sales of the Guarantor or from authorized distributors. A full list of authorized companies is available on the website www.defro.pl.
3) When the whole price will be paid and the product will be issued to the user also the warranty card will be issued. In the warranty card is missing the Purchaser should immediately contact the Seller to obtain this document, while its lack has no influence on the validity and period of the warranty given based on this statement, but it can have an influence on correct, timely processing of obligations resulting from this warranty by the Guarantor.
4) To allow Guarantor efficient operation the Purchaser should immediately after issuance of the product, send back a copy of the correctly completed Warranty Card to the address of the Guarantor (Ruda Strawczyńska 103a, 26-067 Strawczyn). The correctly filled Warranty Card has date, stamp and signatures in designated locations.
5) The Purchaser receives Warranty Terms and Conditions, Warranty Card as well as Operating Manual containing conditions for boiler's usage, installation guide and parameters regarding the chimney, fuel and boiler water.
6) The Guarantor guarantees that the equipment works correctly provided that all conditions specified in the Operating Manual have been met, especially with respect to parameters applying to fuel, and connection to the chimney system. The warranty covers the product used in compliance with its intended use and information provided in the service manual. Guarantor is not responsible for the effect of normal wear and tear of the product which is connected with operation.

7) The warranty authorizations period commences on the date of issuance of the product to the Purchaser and equals:
   a) 2 years for the correct operation of the equipment,
   b) 2 years for claddings made of heat-resisting concrete - Ceramiton, while the warranty does not cover discolorations, change of cladding colour, or degradation of the top layer of the coating.
   c) 1 year for the grate, deflector and gaskets of the fireplace,
   d) elements subject to wear-out are not covered by the Warranty; these include: ceramic hardened glass, screws, nuts, handles etc.
8) The Warranty is valid in the Republic of Poland.
9) During the warranty period, the Guarantor ensures free-of-charge repairs of any physical defects of the product within the period of:
   a) 14 days after the fault report, unless the repair requires replacement of constructions elements of the product;
   b) 30 days after the fault report, if the repair requires replacement of constructions elements of the product;
   c) subject to point 3 and 4 of these warranty conditions.

   If, as a result of considering the warranty claim the defective product has been replaced with a new one or the significant repairs have been made, then a new warranty period is applied counting from the date of delivery of the replaced or repaired product. In case when only part, belonging to the claimed product, is replaced then a new warranty period is applied only for this part. In the other cases, the warranty period is prolonged by a period when the operation of the product was impossible due to filed claim.
10) Registration of any physical fault to be repaired during the warranty period (fault registration) should be made by the Purchaser immediately after a fault has been found and no later than after 14 days.
11) Any fault is to be registered with the Guarantor (Ruda Strawczyńska 103a, 26-067 Strawczyn) by sending a complaint sheet contained in this operating manual, filled in and stamped by an authorized point of sale or authorized distributor. The fault registration should contain:
   a) type, capacity, serial number, manufacturer number (the information is located on the rating plate),
   b) date and place of purchase,
   c) brief description of the fault,
   d) detailed address and phone number of the Purchaser.
12) If the following cases are complained about: incorrect combustion in the device, tar deposits, smoking through the door; the fault registration should be supplemented with a copy of a chimney sweep expertise certifying that the flue meets all requirements specified in the operating manual for a given boiler's capacity.
13) The Guarantor shall not be responsible for exceeding of the periods mentioned in point 9 above or the Guarantor or its representatives will be ready to remove the defect within the date agreed with the Purchaser and will not be able to carry it out due to a reason not attributable to the Guarantor (e.g. lack of proper access to devices, lack of energy or water, force majeure, Purchaser is not present etc.).
14) If the Guarantor, despite being ready to carry out the repair, will not be able to carry out the warranty repair twice because of the reasons attributable to the Purchaser then it is assumed that Purchaser had resigned from the claim included in the guarantee claim. Notification about the same defect in this mode is not possible.
15) The product can be replaced if the Guarantor decides it cannot be repaired.
16) The Guarantor does not accept liability for inappropriate choice of product with respect to the heated area (e.g. device of too low or too high power with respect to requirements). It is recommended to choose a device with cooperation with a design office or the Guarantor. The Guarantor is not liable for the loss of data saved in the equipment and for economic losses and lost profits.
17) The Guarantor will refuse realization of Purchaser's claims resulting from this document in the case when:
   a) will state damage or ripping of leaden seals,
   b) identification of product will be impossible (that is conformity of the presented product with a document describing the equipment, replaced or illegible documents),
   c) damages resulting from incorrect transport carried out or ordered by Purchaser,
   d) particular components of the equipment were willfully replaced with non-genuine, used etc., repairs outside the authorized service of the Guarantor etc.
   e) damages are mechanical, chemical, thermal and they are not resulting from causes in the sold product.
   f) damages concerns wearing parts, especially: screws, nuts, handles, ceramic and sealing elements,
   g) damages resulting from product usage inconsistently with the operating manual, that is especially when incorrect equipment operation resulting from lack of chimney draught or inappropriate power of the equipment,
   h) Faults are not significant and do not have an impact on the use-value of the product.
18) This warranty does not cover:
   a) products used for business purposes or industrial uses;
   b) components of electrical equipment;
   c) damages caused by the other connected equipment, devices or accessories other than those recommended by the Guarantor.
   d) damages occurred as a result action of external impacts, among other: by the action of force majeure;
   e) damages caused by the animals,
   f) damages resulting from overheating of the equipment that is: discoloration of glass pane, "milky discolorations", discoloration of metal components, "rainbow steel", blue discolorations, chipping of paint, gasket discolorations, deformation of steel components.
19) Warranty repairs accepted by the Guarantor are carried out free of charge. The guarantor can charge the costs connected with the warranty claim only in the case when the claim is not accepted as a result of stating circumstances which are listed in points 17 and 18 mentioned above.
20) Notification of complaint can be considered positively only in case of:
   a) keeping the time-limits mentioned in this document;
   b) fulfilling the other terms and conditions of the warranty;
   c) presentation of product proof of purchase - that is invoice or fiscal receipt, the other proof of purchase, in compliance with the regulations;
21) Device installation can be carried out by a person holding general installation qualifications but an entry and stamp in the Warranty Card is required.
22) Device's first start-up, any repairs and other activities, which are not supposed to be carried out by the User according to the operating manual, can be carried out only by an authorized service trained by the Guarantor. The device's first start-up is payable by the Purchaser.
23) Warranty repair is made in the location when the product is operated. If the claim applies to part of the product, including electronic equipment /electronic controller, fan etc. than the given part should be sent to the Guarantor at his expense. Returning faulty equipment is a condition to accept the claim and replace this equipment for free. Not returning the above-mentioned part within seven (7) working days will be subject to not accepting the claim and charging its costs to the purchaser.
24) Provisions of this document do not limit in any way authorizations resulting from the claim submitted on the basis of statutory warranty. The warranty also had no influence on the other clamps of the Purchaser, according to the provisions of law - including this concerning nonconformity of goods with the contract. Purchasers can exercise powers from the statutory warranty regardless of powers resulting from the guarantee. If the purchaser exercises his powers resulting from the warranty, the period for execution of powers resulting from the warranty will be suspended from the date of notice about the defect. This period will be continued from the date of refusal by the Guarantor about the execution of obligations

resulting from the warranty or ineffective lapse of time for their execution.

25) To all matters not settled in this Warranty Card and document the provisions of the Civil Code Art. 577 - 581 shall apply.

12.1. WARRANTY CONDITIONS "48H SERVICE"

1) The "48h Service" program covers the heating equipment manufactured by DEFRO R. Dziubeła sp. k.
2) Any complaints are to be made at a retail outlet, directly at the Company's e-mail: serwis@defro.pl, or by a letter to the company's address.
3) Fault registration can be completed if the Purchaser has a purchase confirmation and has filled in the Warranty Card correctly including a complaint sheet.
4) The "48h service" ensures that DEFRO R. Dziubeła sp. k. does its best to remove any faults which make it impossible/difficult for the equipment to operate within the period of two business days from the day of fault registration.
5) Fault removal time may be prolonged for reasons not dependent on DEFRO R. Dziubeła sp. k., such as the necessity of replacement of construction elements, lack of spare parts at the supplier, adverse weather conditions /force majeure/.
6) Failure to carry out repairs within this period cannot constitute a ground for any claims against DEFRO R. Dziubeła sp. k. and Authorized Service Partner.
7) To facilitate contact with service, service hotline for Customers has been set up: 509 702 720 and 509 577 900. If you call on these numbers, you will receive the necessary information and help with any service issue.

We kindly inform that the possible replacement of equipment component, with the working one, claimed by the user is not unambiguous with the admission of the equipment user's warranty claims and does not end the complaint processing procedure. DEFRO reserves the right to charge the equipment's user with component replacement/repair costs, which after expertise/repair was stated as damaged by the factors independent of the boiler's manufacturer (e.g. short-circuit in the electric system, overvoltage, flooding, mechanical damages not visible to the naked eye etc.) and which damages were not able to stated during repairing in the location of equipment operation by the service, within 60 days from date of carrying out the repair. DEFRO will issue an appropriate invoice for the replacement/repair of the subject component with the enclosed expertise protocol. At the same time, we inform, you that lack of payment for the invoice including the above-mentioned costs within 14 days from its issuance results in irrevocable loss of warranty for the used equipment and this information will be entered into our computer supervision system for equipment within the warranty period. The date when the due amount is credited to the bank account given in the mentioned invoice is treated as the payment date.

WARRANTY CARD

Confirmation of equipment's quality and completeness

In accordance with the conditions stated herein, a warranty for a heating stove of DEFRO HOME AIRPELL series type ..... operated in compliance with the operating manual has been issued.

Equipment manufacturing number* .....

Equipment power* ..... kW

User /name and surname/** .....

Address /street, city, postal code/** .....

.....

tel./fax** ..... e-mail** .....

Sale date	Installation date	Start-up date
.....	.....	.....
(stamp and signature of salesperson)	(stamp and signature of salesperson)	(stamp and signature of company starting up the stove)

The user confirms that:

- the equipment has been delivered as complete;
- the device showed no failure during the first start-up carried out by a service company,
- has received the Operating Manual and equipment's installation manual with this Warranty Card filled in;
- has been familiarised with equipment's operation and maintenance.

....

city and data user signature

* filled by the manufacturer

** filled by the user

The Customer and the installation and service company confirm by their own signature that their personal data can be processed for service register purposes according to the art. 6 section 1, letter a of the General Data Protection Regulation of 27 April 2016 (OJ EU L 119, 04.05.2016).

DEFRO R. Dziubeła spółka komandytowa
• 26-067 Strawczyn, Ruda Strawczyńska 103A • tel. 041 303 80 85 • biuro@defro.pl • www.defro.pl •

14. CARRIED OUT WARRANTY REPAIRS AND MAINTENANCE.

No.	date	fault description, repaired element, description of repairs	comments	Stamp and signature of Service
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

copy to send back

DEFRO home

WARRANTY CARD

Confirmation of equipment's quality and completeness

In accordance with the conditions stated herein, a warranty for a heating stove of DEFRO HOME AIRPELL type ..... operated in compliance with the operating manual has been issued.

Equipment manufacturing number* .....

Equipment power* ..... kW

User /name and surname/** .....

Address /street, city, postal code/** .....

.....

tel./fax** ..... e-mail** .....

Sale date	Installation date	Start-up date
.....	.....	.....
(stamp and signature of salesperson)	(stamp and signature of salesperson)	(stamp and signature of company starting up the stove)

The user confirms that:

- the equipment has been delivered as complete;
- the device showed no failure during the first start-up carried out by a service company,
- has received the Operating Manual and equipment's installation manual with this Warranty Card filled in;
- has been familiarised with equipment's operation and maintenance.

.....	.....
city and data	user signature

* filled by the manufacturer
** filled by the user

The Customer and the installation and service company confirm by their own signature that their personal data can be processed for service register purposes according to the art. 6 section 1, letter a of the General Data Protection Regulation of 27 April 2016 (EU L 119, 04.05.2016).

DEFRO R. Dziubeła spółka komandytowa
• 26-067 Strawczyn, Ruda Strawczyńska 103A • tel. 041 303 80 85 • biuro@defro.pl • www.defro.pl •

COMPLAINT FORM

made on ..... in connection with complaint no.....

SUBJECT OF COMPLAINT

EQUIPMENT TYPE: ..... Equipment manufacturing date: .....

Equipment serial no.: ..... Equipment purchase date: .....

CLAIMANT

Name and surname: .....

Detailed address: .....

.....

Phone number .....

DETAILED DESCRIPTION OF QUALITY FAULTS OR FAULTS RESULTING FROM THE MANUFACTURER'S FAULT

.....

.....

.....

OTHER FAULTS .....

.....

CLAIMANT LODGES WARRANTY CLAIM FOR (SELECT APPROPRIATE):

Warranty repair Paid repair Post-warranty paid repair

CLAIMANT REQUESTS.....

In the case when claim is not taken into consideration because circumstances, mentioned in p. 17 and 18 of the Warranty Terms are discovered, the CLAIMANT agrees to cover the costs incurred by the manufacturer's service.

....

(city and data) (sign of claimant) (signature of serviceman)

FAULT REMOVAL - to be filled by service

Date of informing the service technician about fault .....hour .....

Name and surname of service technician .....

Way of fault removal .....

.....

Advice (DESCRIPTION) .....

.....

END OF COMPLAINT

Name and surname of service technician: ..... Fault removal date:.....

Justness of complaint: ..... Duration of repair: .....

Fault (defect) has been removed, the equipment operates correctly. I hereby confirm removal of the fault. I declare that I have familiarised myself with conditions of warranty on the basis of which I wish to register my complaint.
The Customer and the installation and service company confirm by their own signature that their personal data can be processed for service register purposes according to the art. 6 section 1, letter a of the General Data Protection Regulation of 27 April 2016 (OJ EU L 119, 04.05.2016).

....

(city and data) (sign of claimant) (signature of serviceman)

ATTENTION! In case when claim is not taken into consideration because circumstances, mentioned in p. 17 and 18 of the Warranty Terms are discovered, the CLAIMANT agrees to cover the costs incurred by the manufacturer's service.*

*cost per man-hour and travelling expenses are calculated according to the current price list available at www.defro.pl.

COMPLAINT FORM

made on..... in connection with complaint no. .....

SUBJECT OF COMPLAINT

EQUIPMENT TYPE: ..... Equipment manufacturing date: .....

Equipment serial no.: ..... Equipment purchase date: .....

CLAIMANT

Name and surname: .....

Detailed address: .....

.....

Phone number .....

DETAILED DESCRIPTION OF QUALITY FAULTS OR FAULTS RESULTING FROM THE MANUFACTURER'S FAULT

.....

.....

.....

.....

OTHER FAULTS .....

.....

CLAIMANT LODGES WARRANTY CLAIM FOR (SELECT APPROPRIATE):

Warranty repair Paid repair Post-warranty paid repair

CLAIMANT REQUESTS.....

In the case when claim is not taken into consideration because circumstances, mentioned in p. 17 and 18 of the Warranty Terms are discovered, the CLAIMANT agrees to cover the costs incurred by the manufacturer's service.

....

(city and data) (sign of claimant) (signature of serviceman)

FAULT REMOVAL - to be filled by service

Date of informing the service technician about fault .....hour .....

Name and surname of service technician .....

Way of fault removal .....

.....

Advice (DESCRIPTION) .....

.....

END OF COMPLAINT

Name and surname of service technician: ..... Fault removal date:.....

Justness of complaint: ..... Duration of repair: .....

Fault (defect) has been removed, the equipment operates correctly. I hereby confirm the removal of the fault. I declare that I have familiarised myself with the conditions of the warranty on the basis of which I wish to register my complaint.
The Customer and the installation and service company confirm by their own signature that their personal data can be processed for service register purposes according to the art. 6 section 1, letter a of the General Data Protection Regulation of 27 April 2016 (OJ EU L 119, 04.05.2016).

....

(city and data) (sign of claimant) (signature of serviceman)

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*cost per man-hour and travelling expenses are calculated according to the current price list available at www.defro.pl.

COMPLAINT FORM

made on ..... in connection with complaint no.....

SUBJECT OF COMPLAINT

EQUIPMENT TYPE: ..... Equipment manufacturing date: .....

Equipment serial no.: ..... Equipment purchase date: .....

CLAIMANT

Name and surname: .....

Detailed address: .....

.....

Phone number .....

DETAILED DESCRIPTION OF QUALITY FAULTS OR FAULTS RESULTING FROM THE MANUFACTURER'S FAULT

.....

.....

.....

.....

OTHER FAULTS .....

.....

CLAIMANT LODGES WARRANTY CLAIM FOR (SELECT APPROPRIATE):

Warranty repair Paid repair Post-warranty paid repair

CLAIMANT REQUESTS.....

In the case when a claim is not taken into consideration because circumstances, mentioned in p. 17 and 18 of the Warranty Terms are discovered, the CLAIMANT agrees to cover the costs incurred by the manufacturer's service.

....

(city and data) (sign of claimant) (signature of serviceman)

FAULT REMOVAL - to be filled by service

Date of informing the service technician about fault .....hour .....

Name and surname of service technician .....

Way of fault removal .....

.....

Advice (DESCRIPTION) .....

.....

END OF COMPLAINT

Name and surname of service technician: ..... Fault removal date:.....

Justness of complaint: ..... Duration of repair: .....

Fault (defect) has been removed, the equipment operates correctly. I hereby confirm the removal of the fault. I declare that I have familiarised myself with the conditions of the warranty on the basis of which I wish to register my complaint.
The Customer and the installation and service company confirm by their own signature that their personal data can be processed for service register purposes according to the art. 6 section 1, letter a of the General Data Protection Regulation of 27 April 2016 (OJ EU L 119, 04.05.2016).

....

(city and data) (sign of claimant) (signature of serviceman)

ATTENTION! In case when a claim is not taken into consideration because circumstances, mentioned in p. 17 and 18 of the Warranty Terms are discovered, the CLAIMANT agrees to cover the costs incurred by the manufacturer's service.*
*cost per man-hour and travelling expenses are calculated according to the current price list available at www.defro.pl.

18. REGISTER OF INSPECTIONS OF SMOKE DUCT

date	stamp and signature of chimneysweep	date	stamp and signature of chimneysweep

DEFRO home	PRODUCT SHEET IN ACCORDANCE WITH THE EU REGULATION 2015/1186 SUPPLEMENTING THE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL 2010/30 EU
Name and address of the equipment supplier	DEFRO R. Dziubeła spółka komandytowa 26-067 Strawczyn Ruda Strawczyńska 103A

PARAMETERS OF THE EQUIPMENT	UNIT	MODEL IDENTIFICATION
		DEFRO HOME AIRPELL
Energy efficiency class	-	A++
Direct thermal output	kW	8.0
Indirect thermal output	kW	N/A
Energy Efficiency Index EEI	-	131
Efficiency at the rated heat output	%	93.3
Efficiency at minimal thermal output	%	94.3
Special precautions during assembly, installation or maintenance of the equipment	-	Consider guidelines included in the Service Manual delivered by the manufacturer each time before assembly, start-up or maintenance of the equipment.

PRODUCT SHEET

in accordance with the Commission Regulation 2015/1185

on the execution of the Directive of the European Parliament and the Council 2009/125/EC

Equipment parameters

Model identifier(s): **DEFRO HOME AIRPELL 8**

Indirect heating function: [~~yes~~/no]

Direct thermal output: 8.03(kW)

Indirect thermal output: N/A (kW)

Fuel	Recommended fuel (only one):	Other suitable fuel(s):	η_s [%]:	Emission from local space heater at rated heat output				Emission from local space heaters at rated heat output			
				PM	OGC	CO	NO_x	PM	OGC	CO	NO_x
				mg/Nm^3 (13 % O_2)				mg/Nm^3 (13 % O_2)			
Chunks of wood of moisture content ≤ 25 %	no	no									
Pressed wood of moisture content ≤ 12 %	yes	no	88.7	20	60	300	200	20	60	300	200
Other wooden biomass	no	no									
Non-wooden biomass	no	no									
Hard coal and lean coal	no	no									
Metallurgic coke	no	no									
Semi-coke	no	no									
Hard coal	no	no									
Brown coal briquettes	no	no									
Peat briquettes	no	no									
Briquettes made of mixed fossil fuel	no	no									
Other fossil fuel	no	no									
Briquettes made of mix of biomass and fossil fuel	no	no									
Other mixture of biomass and solid fuel	no	no									

Properties in the case of operation only with recommended fuel

Parameter	Designation	Value	Unit
Thermal output			
Rated heat output	P_{nom}	8.03	kW
Minimum heat output (indicative)	P_{min}	3.55	kW
Auxiliary power consumption			
For rated heat output	el_{max}	0.125	kW
For minimum heat output	el_{min}	0.065	kW
In standby mode	el_{SB}	0.005	kW
Energy demand of the fixed ignition flame			
Energy demand of the ignition flame (if applicable)	P_{pilot}	-	kW

Parameter	Designation	Value	Unit
Performance (calorific value in operating condition)			
Performance at rated thermal power	$\eta_{th,nom}$	93.3	%
Performance at minimal thermal power (indicative)	$\eta_{th,min}$	94.3	%

Type of heat output/control of temperature in the room (choose one option)	
single-stage thermal power without temperature control in the room	~~yes~~/no
at least two manual stages without temperature control in the room	~~yes~~/no
mechanical control of temperature in the room using a thermostat	~~yes~~/no
electronic control of temperature in the room	~~yes~~/no
electronic control of temperature in the room and daily controller	~~yes~~/no
electronic control of temperature in the room and weekly controller	yes~~/no~~

Other control options (you may choose several options)	
temperature control in the room with presence detection	~~yes~~/no
temperature control in the room with open window detection	~~yes~~/no
remote control option	yes~~/no~~

Name/name and surname and address of the manufacturer or his/her authorized representative:

DEFRO R. Dziubeła spółka komandytowa
26-067 Strawczyn
Ruda Strawczyńska 103A

Robert Dziubeła – CEO

DEFRO
home

DEFRO R. Dziubeła spółka komandytowa

26-067 Strawczyn
Ruda Strawczyńska 103A
tel.: 41 303 80 85
biuro@defro.pl
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Infolinia serwisowa
509 702 720
509 577 900