

The logo for DEFRO HOME is displayed in a white, bold, sans-serif font. The word "DEFRO" is on the top line and "HOME" is on the bottom line, both centered horizontally. The background of the logo area is a dark grey band with a geometric, low-poly pattern of various shades of grey.

operating manual

fireplace

DEFRO HOME IMPULS series

model

SM  ME

version

BL  BP

**DEKLARACJA ZGODNOŚCI WE  
DECLARATION OF CONFORMITY EC**

**nr 83/R-2/01/2017**

**DEFRO Spółka z ograniczoną odpowiedzialnością Spółka komandytowa**

00-403 Warszawa, ul. Solec 24/253  
Zakład produkcyjny:  
26-067 Strawczyn, Ruda Strawczyńska 103A

**DEKLARUJE / DECLEARNS**

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

**Wkład kominkowy powietrzny / Fireplace  
DEFRO HOME IMPULS**

(typ/type DEFRO HOME IMPULS)

**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 / Regulation of the European Parliament 305/2011**

**i niżej wymienionymi normami zharmonizowanymi:**

*and that the following relevant Standards:*

PN-EN 13229:2002

dokumentacja techniczna / technical documentation

Wyrób oznaczono znakiem:

*Product has been marked:*



Ta deklaracja zgodności traci swą ważność, jeżeli we wkładzie kominkowym DEFRO HOME IMPULS wprowadzono zmiany, została przebudowana bez naszej zgody lub jest użytkowana niezgodnie z instrukcją obsługi. Niniejsza deklaracja musi być przekazana wraz z wkładem kominkowym w przypadku odstąpienia własności innej osobie.

*This Declaration of Conformity becomes invalid if any changes have been made to the DEFRO HOME IMPULS Fireplace, if its construction has been changed without our permission or if the fireplace 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 fireplace.*

**Wkład kominkowy DEFRO HOME IMPULS jest wykonywany zgodnie z dokumentacją techniczną przechowywaną przez:  
DEFRO HOME IMPULS Fireplace has been manufactured according to technical documentation kept by:  
DEFRO Spółka z ograniczoną odpowiedzialnością Sp. k., Zakład produkcyjny: 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*

**Warszawa, dn. 06.05.2019**

*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 efforts to offer products of quality fulfilling the most restrictive standards and warranting operational safety. All devices are produced in accordance with the requirements of relevant EU directives and have CE safety mark confirmed by the Declaration of Conformity EC.



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 Sp. z o.o. 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 continuous efficiency of your fireplace.


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


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


Basic fireplace usage rules are to be obeyed while using the dry stove. Do not open the doors during 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 boilers.

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

 DEFRO Sp. z o.o. Sp. k. - Centrum Serwisowe  
Ruda Strawczyńska 103a  
26-067 Strawczyn

 fax 0048 41 303 91 31

 serwis@defro.pl

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

If you do not send back a correctly filled in Warranty Card and the fireplace 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 travelling expenses.

Thank you for understanding.  
Yours sincerely.

**DEFRO Sp. z o.o. Sp. k.**

Table of Contents

1.	INFORMATION .....	5
2.	BASIC SAFETY RULES .....	5
2.1.	SAFETY WARNINGS .....	5
2.2.	WARNINGS RELATED TO OPERATION .....	6
3.	INTENDED USE .....	6
4.	TECHNICAL SPECIFICATION .....	6
4.1.	DESIGN .....	6
4.2.	TECHNICAL DATA .....	6
4.3.	EQUIPMENT .....	7
4.4.	FUEL PARAMETERS .....	8
4.5.	SPARE PARTS .....	8
5.	TRANSPORT AND INSTALLATION .....	8
5.1.	TRANSPORT AND STORAGE .....	8
5.2.	WORKING ENVIRONMENT .....	8
5.3.	HOT AIR DISTRIBUTION SYSTEM .....	9
5.3.1.	GRAVITY SYSTEM FOR HOT AIR DISTRIBUTION .....	9
5.3.2.	FORCED SYSTEM FOR HOT AIR DISTRIBUTION .....	9
5.4.	CONNECTION TO EXTERNAL AIR INTAKE .....	10
5.5.	INSTALLATION TO FLUE .....	10
6.	USAGE AND OPERATION .....	10
6.1.	INTRODUCTORY REMARKS .....	10
6.2.	FIRST START-UP AND OPERATION .....	11
6.3.	DAMPING .....	11
7.	CLEANING AND MAINTENANCE .....	11
7.1.	BASIC OPERATIONS AND CLEANING BY THE USER .....	11
7.1.1.	CLEANING BEFORE EACH STARTING .....	11
7.1.2.	WINDOW PANEL CLEANING .....	12
7.1.3.	DOORS/GASKETS .....	12
7.1.4.	FURNACE CHAMBER .....	12
7.1.5.	FLUE .....	12
7.2.	PERIODIC INSPECTION BY AUTHORIZED SERVICE .....	12
7.3.	DOORS DISASSEMBLY .....	12
7.4.	WINDOW PANEL DISMANTLING .....	13
7.5.	DISASSEMBLY OF DEFLECTOR .....	13
7.6.	DISASSEMBLY OF CLADDINGS MADE OF FIRE-PROOF CONCRETE .....	13
7.7.	SHUTTING DOWN .....	14
8.	TROUBLESHOOTING .....	14
9.	MEASURES IN CASE OF FIRE IN THE FLUE (SOOT IGNITION) .....	14
10.	REMOVAL DUE TO WEAR-OUT .....	15
11.	REMARKS ON FIREPLACE INSERT USAGE .....	15
12.	PRODUCT WARRANTY TERMS AND CONDITIONS .....	15
12.1.	WARRANTY CONDITIONS "48H SERVICE" .....	16
13.	WARRANTY CARD .....	17
14.	CARRIED OUT WARRANTY REPAIRS AND MAINTENANCE .....	18
15.	WARRANTY CARD .....	19
16.	COMPLAINT FORM .....	21
17.	COMPLAINT FORM .....	23
18.	COMPLAINT FORM .....	25
19.	REGISTER OF INSPECTIONS OF SMOKE DUCTS .....	27

## 1. INFORMATION

Operating manual is an integral and essential part of the product and must be forwarded to the user also in the case when the property is transmitted. 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 fireplace 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 can be a reason for personal injuries and damage to property for which the manufacturer is not liable.

A fireplace 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 case of error during installation, usage or maintenance works caused by non-observance of the legislation, regulations in force 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.

### Versions of publications

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

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

### Przechowywanie instrukcji oraz sposób przeglądania jej treści

We recommend to take care of this manual and store 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 are marked with "bold" and have symbols pointing out user's attention to hazards which can be present during operation of the fireplace insert. Symbols used in the text are explained below:



#### **Danger!**

*A 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.*



#### **Attention!**

*Warning symbol indicating 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!**

*A 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.
- Equipment should be installed in compliance with the legal standards applicable in the given location, region or country.
- The equipment should be used by a person (including children) of impaired physical, sensory, 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 setting can cause hazardous situations and/or incorrect operation.
- Prior to any operations the user (or any person operating the equipment) should read and understand 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 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 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 relieve DEFRO from any civil and criminal liability.
- Incorrect installation or maintenance (incompatible with contents of this manual), can cause injuries of people, animals or property damage. Then DEFRO shall be relieved of any civil or criminal liability.
- Part of fireplace insert 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 fireplace insert.
- Keep children away from the equipment when it is operating because each hot surface can cause burns.
- It is forbidden to use a fireplace insert when the glass 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 a distance min. 400 mm between hot parts of the fireplace insert 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 the 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 the 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 fireplace insert should meet the conditions described in this manual.
- Internal parts of the fireplace insert should not be washed with water.
- Do not allow contact with water and, above all, do not wash any varnished coatings before curing. The coating of new devices is not an anti-corrosive coating, heat-resistant paint only gains its protective properties 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 for 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.
- Fireplace insert 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 the body of the fireplace insert 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 fireplace insert inside the closed rooms and just by the walls what 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 combustion process; it is recommended to connect the fireplace insert to air intake from outside using suitable pipe and through a special outlet located at the back of the equipment

## ADDITIONAL INFORMATION



- In case of any problems, you should contact the sales outlet or qualified personnel authorized by DEFRO. 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 (a connecting piece to flue) periodically.
- Store this manual carefully because it should be available for a whole period of equipment operation. In case of sale of giving the equipment to the other user, you should always make sure whether the product has the manual enclosed.
- Request a new copy from an authorized sales outlet in DEFRO company if it has been lost.

## 3. INTENDED USE

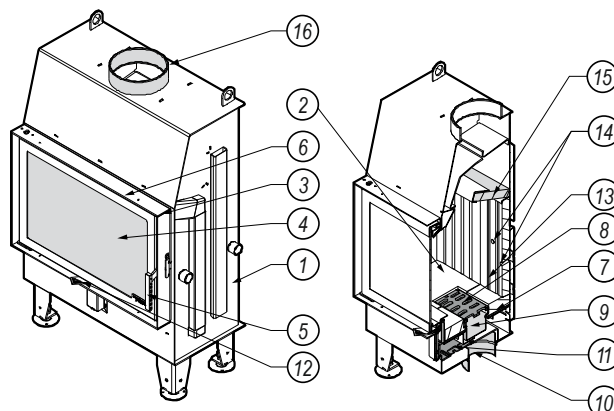
DEFRO HOME IMPULS fireplace inserts as a furnace with manual fuel charge are intended PRIMA enclosing or installation into a recess. Housing should not be permanently bonded with the insert, you should have an option to disassemble it.

DEFRO HOME IMPULS fireplace insert is intended for combustion of hardwood e.g. beech, hornbeam, oak, acacia, maple, birch etc. with moisture content below 20%. It is intended for heating of houses and spaces where it is installed. It can be also used as an additional source of thermal power.

## 4. TECHNICAL SPECIFICATION

### 4.1. DESIGN

Body (1, picture 1) of the DEFRO HOME IMPULS fireplace insert is a steel jacket, with a combustion chamber located inside (2). Floor creating a chamber for air intake is a basis for the insert. Rear wall and side walls of the combustion chamber are lined with claddings made of concrete insulating refractory. The front wall of the combustion chamber is restricted by a steel door (3) with a heat-resistant window panel (4) and lock (5).



Picture 1. Design of DEFRO HOME IMPULS fireplace insert.

1 – body, 2 – combustion chamber, 3 – side cover of doors lifting mechanism, 4 – heat-resistant window panel, 5 – doors lifting handle, 6 – front cover, 7 – floor, 8 – grate, 9 – ash pan container, 10 – air intake connector, 11 – adjustment of air inflow, 12 – slider for adjustment of air inflow, 13 – claddings made of heat-resistant concrete, 14 – openings from flue gas after-burning system, 15 – deflector, 16 – flue.

Fuel is combusted on the cast-iron grate (8) installed on the base. Ash-pan container (9) is located under the grate. Deflector (15) is located over the combustion chamber. It directs flue gas flow and improves the degree of heat exchange.

Air necessary for the combustion process is supplied through an air intake socket (10) equipped with an adjustment mechanism (12).

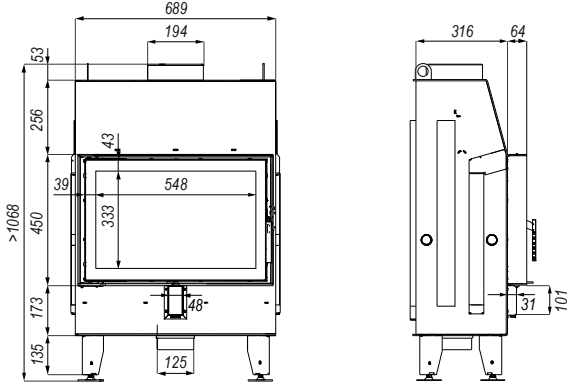
### 4.2. TECHNICAL DATA

Table 1. Technical data for DEFRO HOME IMPULS fireplaces.

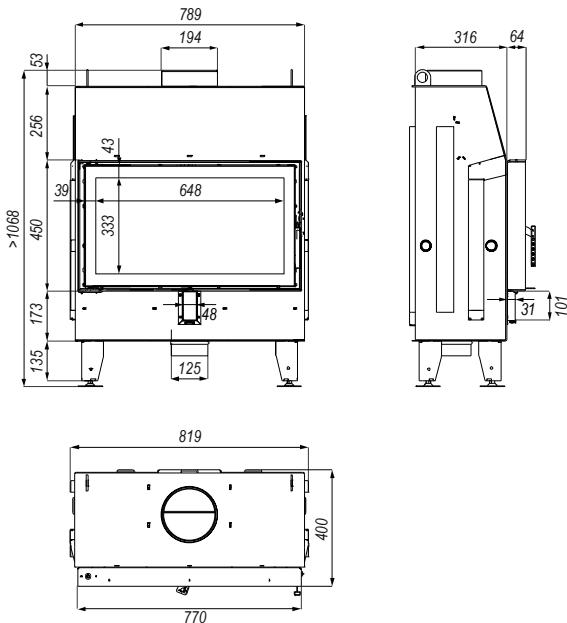
Parameters	Unit	DEFRO HOME IMPULS SM	DEFRO HOME IMPULS ME
Nominal power	kW	8	10
Flue size	mm	200	200
Efficiency	%	80,2	83,8
Seasonal energy efficiency	%	70	74
CO emission for 13% O <sub>2</sub>	%	0,0773	0,0800
Combustion temperature	°C	282	224
Weight <sup>1)</sup>	kg	150±5	185±5

Flue gas stream for nominal power	g/s	6.76	8,35
Minimum draught at rated power	Pa	12±2	12±2
Fuel consumption	kg/h	2.5	2.9
Recommended single charge	kg	2.5	3.0
Maximum length of chunks	mm	500	700
Fuel type	dry hardwood (max. 20% of moisture content)		
Type of heater	o of periodic combustion		

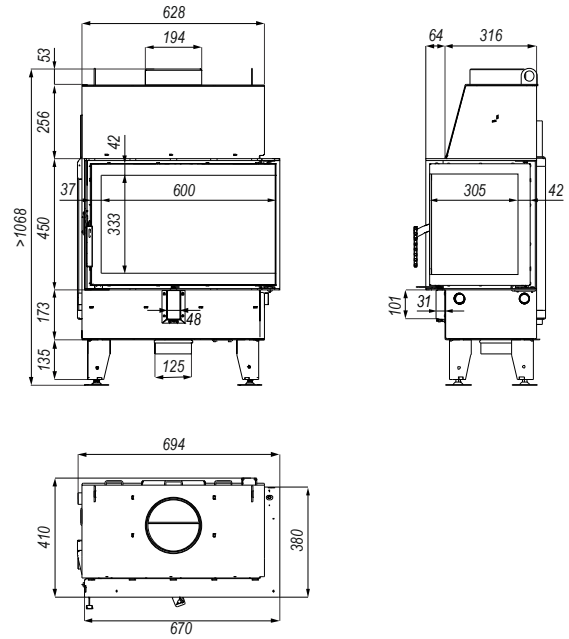
<sup>1)</sup> Device weight depends on the selected design version and its equipment.



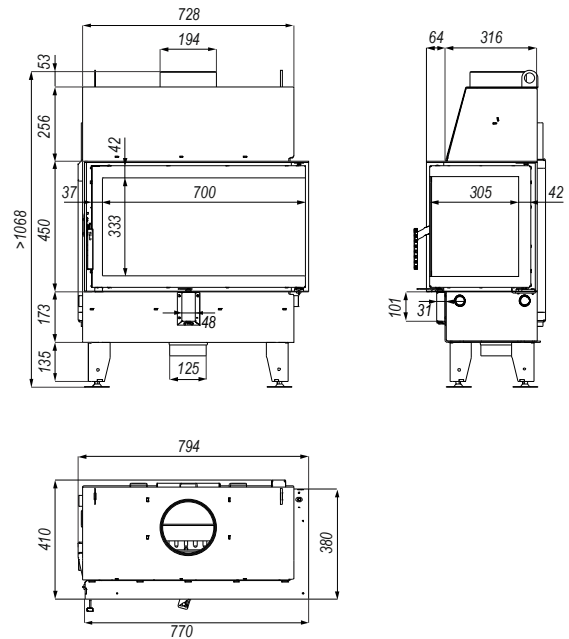
Picture 2. Dimensions fireplace insert DEFRO HOME IMPULS SM.



Picture 3. Dimensions fireplace insert DEFRO HOME IMPULS ME.



Picture 4. Dimensions fireplace insert DEFRO HOME IMPULS SM for versions BP and BL (mirror reflection of BP version).



Picture 5. Dimensions fireplace insert DEFRO HOME IMPULS ME for versions BP and BL (mirror reflection of BP version).

### 4.3. EQUIPMENT

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

Table 2. Equipment of fireplace.

Standard equipment of fireplace	unit	quantity
Operating manual for fireplace	pcs.	1
The ceramic lining of the furnace chamber	set	1

#### 4.4. FUEL PARAMETERS

A fireplace insert is intended for combustion of wood from deciduous trees (oak, hornbeam, ash, beech) with moisture content below 20% (wood seasoned in proper conditions for at least 2 years). The maximum length of chunks is given in table 1. It is allowed to use wood briquet.

It is not allowed to use wet wood (extensive contamination of fireplace and soot emission and decrease of furnace energy efficiency).

It is forbidden to use all other fuels, min. coal, softwood from coniferous trees, wood from tropical trees and any liquid fuels.

It is forbidden to combust all types of litter and wood wastes. Firing with inadmissible materials in the fireplace may result in damage to the fireplace and life and health hazard for the users (toxic flue gas from chemicals).



**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.**

**The fireplace is not a furnace intended for combustion of wastes and forbidden fuels cannot be combusted in it.**

**Wood should be seasoned minimum of two years. Firing with wet wood, with low calorific value, decreases the efficiency and has an adverse influence on dry stove lifetime.**

**It is not recommended to use softwood and resinous woods as a fuel. It causes intensive smoke concentration and the necessity to clean the equipment and flue more often.**

**It is forbidden to combust coal, wood from tropical trees, chemical products, liquid fuels etc., e.g. oil, alcohol, petrol, naphthaline, laminated, impregnated boards etc., paper, cardboard, old clothes, wastes.**

**DEFRO Sp. z o.o. Sp. k. does not accept liability for damage caused or improper burning of fuel if the fuel used is prohibited**

#### 4.5. SPARE PARTS

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

	DEFRO Sp. z o.o. Sp. k. Centrum Serwisowe Ruda Strawczyńska 103a 26-067 Strawczyn		fax 41 303 91 31
			serwis@defro.pl

#### 5. TRANSPORT AND INSTALLATION

##### 5.1. TRANSPORT AND STORAGE

The fireplace is delivered on a pallet, foil-wrapped and is fully assembled. It is recommended to transport fireplace insert, in such packing condition, as close as the possible target location for installation, which 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 for people and animals.



**The fireplace is to be transported in a vertical position!**

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



**Fireplace insert DEFRO HOME IMPULS 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 13229:2002 Inset appliances including open fires fired by solid fuels. Requirements and tests.**

A fireplace insert is to be stored in a non-heated room, under a roof and with efficient ventilation.

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

#### 5.2. WORKING ENVIRONMENT

Fireplace insert should be installed in a suitable location allowing the opening of the doors and carrying out regular maintenance works. The environment should be:

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

Correct setting of the insert is necessary to obtain the satisfactory heating level of the residential unit. Prior to assembly, it is necessary to select a 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. Exemplary installation of a fireplace insert is presented in picture 6.

Installation of the fireplace insert should observe the following safety rules:

- minimum distance 80 mm from side and rear of the non-flammable materials.
- minimum distance 400 mm from side and rear of the medium inflammable materials,
- minimum distance 800 mm from the front wall, where the medium inflammable materials cannot be located.
- objects made of highly inflammable materials should be located in distance minimum of 2000 mm from the furnace.

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



**In 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.**

Fireplace insert should be located on a substrate with suitable load-bearing capacity. In accordance with the Polish Standards, each square meter of the floor slab in the single-family building should transfer a load of 150 kg. If this condition is fulfilled the fireplace insert 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 fireplace insert 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 fireplace is to be installed, should be properly dimensioned, to maintain the load.**

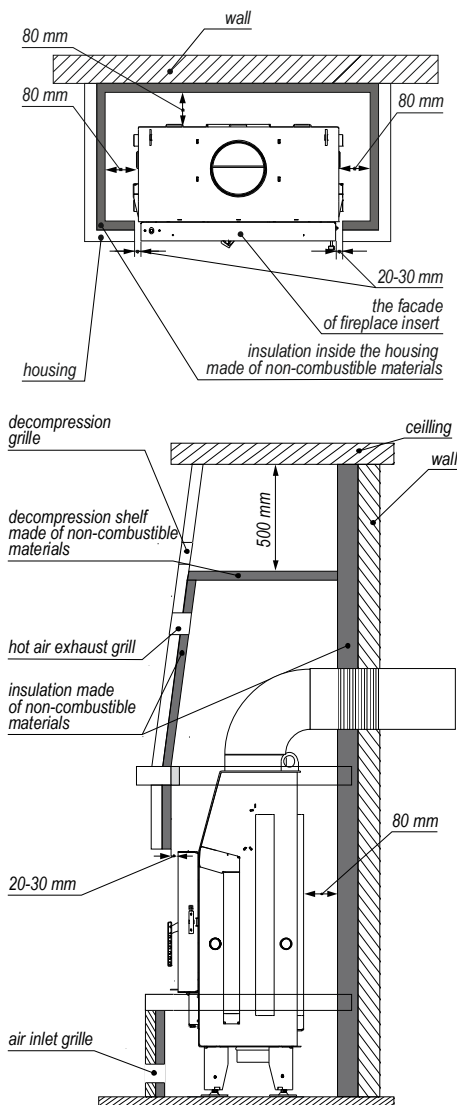
To ensure the correct operation of fireplace insert you should ensure the suitable inflow of air required for combustion (it is appropriate to ensure approx. 40 m<sup>3</sup>/h) in accordance with the installation standards and standards applicable in the given country. The volume of the surrounding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



**If several inserts are to be used in one room the air demand should be met for each insert.**

Insert housing should ensure access of air necessary for ventilation, air circulation in the housing. In the bottom part of the installation (under the insert) it is appropriate to ensure air supply openings ensuring air supply for combustion. To ensure correct discharge of hot air from the hood you should install exhaust openings ended with air grilles.

This opening should be made in a way ensuring that they cannot be plugged. They should be ended with grilles



Picture 6. Exemplary installation of the fireplace insert.

**WARNING !!!**

**Lack of expansion joint may be a reason for equipment damage what is connected with the loss of the warranty rights.**

There should be dilatation around the fireplace door frame, i.e. a minimum distance of not less than 5 mm. When designing the development, a possible cover (which is an optional element) should also be taken into account, so that after its installation, the minimum dilatation between the frame and the construction is also maintained.

The active area of the grille should be selected correspondingly to the power of the insert. It is assumed that is should equal to 40 - 60 cm<sup>2</sup> per 1 kW of power of the insert. Recommended active surfaces:

- fireplace insert power to 10 kW - grille cross-section min. 500 cm<sup>2</sup>,
- fireplace insert power to 15 kW - grille cross-section min. 700 cm<sup>2</sup>,
- fireplace insert power over 15 kW - grille cross-section min. 800-1200 cm<sup>2</sup> and more.

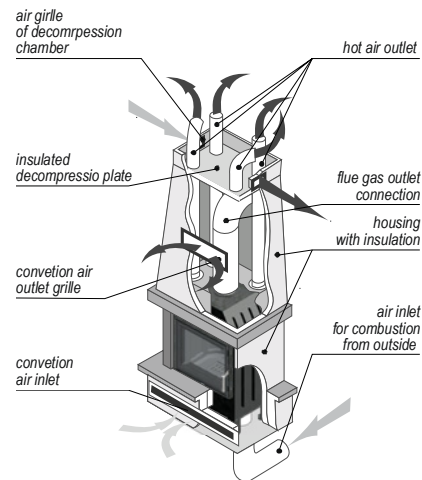
Air can be supplied from adjacent rooms, provided that they are equipped with external air supply and they are not intended for a bedroom and bathroom, and where fire hazard is not present, for example garages, woodsheds, inflammable materials storage. You should absolutely observe recommendations of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

Temperature over the insert, inside the hood, is very high. Therefore it is necessary to install decompression relief plate inside the hood, in distance ~40 cm from the ceiling of the room. It prevents heating of the ceiling in the room, heat losses and forces installation of exhaust grilles below it emitting the heat from the relief chamber over the insert. Relief grilles are installed alternately on both sides of the housing - below and over relief plate.

**5.3. HOT AIR DISTRIBUTION SYSTEM**

**5.3.1. GRAVITY SYSTEM FOR HOT AIR DISTRIBUTION**

In case of heating of small areas, e.g. room where the fireplace insert is installed, and adjacent rooms, you should select gravity system for air distribution, when the hot air will raise upwards to the chamber in heating ducts by way of thermal lifting forces.



Picture 7. Hot air distribution system.

Using the gravity system you should use properly insulated and short (not exceeding 3 m) distributing ducts. For this system, it is not recommended to distribute hot air to too many rooms. Also, the use of too long pipes (over 3 m from the flue) increases resistance and decreases air flow velocity which causes that gravity flow is not effective.

**5.3.2. FORCED SYSTEM FOR HOT AIR DISTRIBUTION**

Application of forced system for hot air distribution (DGP) requires installation of air supply device (turbine). It sucks hot air heated by the fireplace insert and forces it to all branches of the system. In such a case, you should use a pipe connecting flue with an air supply unit with the biggest possible cross-section and the smallest possible length



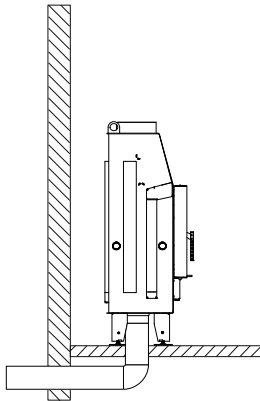
**Installation of the DGP system should be entrusted to a specialized company, which will check heat demand for the given area and will correctly design connection system and arrangement of the individual parts.**

#### 5.4. CONNECTION TO EXTERNAL AIR INTAKE

Room, where the fireplace insert 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 the wall directed to the outside or through independent or common ventilation ducts.

The external wall near the stove should have through the opening, 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 fireplace insert 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).



Picture 8. Connection of fireplace insert to the external air intake.

#### 5.5. INSTALLATION TO FLUE

Fireplace insert should be connected to an individual flue. Size of chimney draught should equal:

- minimum draught -  $6 \pm 1$  Pa,
- average, recommended draught -  $12 \pm 2$  Pa,
- maximum draught -  $15 \pm 2$  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 obligatory maintain 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.  $0.07 \text{ W/m} \cdot \text{K}$ ).

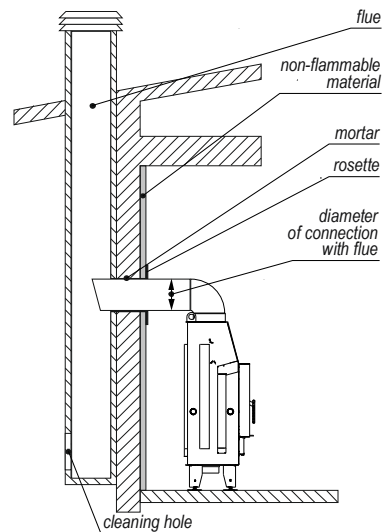
As an alternative it is recommended to use insulated industrial pipe, which can be also used outdoors, to avoid the occurrence of condensate.

For correct operation connector between the fireplace insert and flue or smoke duct should be executed acc. to the below recommendations:

- horizontal sections should have a minimum slope of 3% towards the top,
- length of the horizontal section should be minimum and should not exceed 2/3 meter,
- a number of changes of directions, inclusive of use of the "T" component, should not exceed 4.

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  $45^\circ$ ,
- 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 not smaller than 20 mm,
- internal cross-section should be constant, free and independent,
- have a rectangular cross-section with a maximum ratio between two sides equal to 1.5.



Picture 9. Connection of fireplace inserts to the flue.



**It is forbidden to use mechanical exhaust ventilation.**

**The fireplace insert should not be used if the chimney draught is too low.**

## 6. USAGE AND OPERATION

### 6.1. INTRODUCTORY REMARKS

Prior to installation of the fireplace insert you should make several test fire ups. During test firing up you should check the operation of the chimney damper and the other mechanical systems of the equipment.

During the initial period after installation, the fireplace insert should be operated with power equal to approx. 30% of rated power and increase temperature gradually. It allows gradual removal of internal stresses preventing the occurrence of thermal shocks. Furthermore, such a method of operation improves the durability of the insert.

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

Do not stay near the stove during several first fire ups. It is also required to vent the room. Smoke, the odour of paint, silicone and other materials used for the execution of the installation will disappear after several fire ups. However, we remind that they are not harmful to health.



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



**No to use the non-installed fireplace insert. Test firing up is an exception.**

## 6.2. FIRST START-UP AND OPERATION

Prior to firing up you should set a slider of air inflow adjustment to maximum opening (marking on the handle, presented on picture 10). Then, open the doors of the insert and place the fire starter and fragmented wood, then charge approx. 1 kg of dry hardwood, fire up and close the doors



**It is forbidden to use other materials than described in this manual for firing up, in particular, flammable chemicals such as: oil, petrol, solvents and others.**

After firing up the refill combustion chamber with wood, placing fuel in a way that reasonably fills the combustion chamber. Recommended single fuel charge is given in table 2. Method of fuel laying is shown in figure 11.

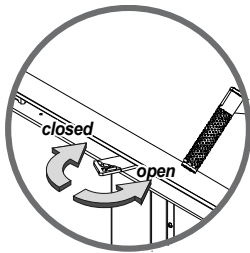
The intensity of the fuel combustion process should be adjusted by proper setting of the air supply adjustment slider. Doors of fireplace insert should be closed during operation of the fireplace insert.

The odour of paint from the body will be released during the first several hours of combustion. This is completely normal. You should strongly vent the room at that time. Check the tightness of joints once again when fuel is completely burned out and equipment has been cooled down.



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

You should control the level of filling of the container with ash. Overfilling of container results in lack of cooling of the grate and limits air supply for combustion. To empty the container you should damp a fireplace, close inflow of air for combustion and wait until surface and parts of the fireplace insert cool down. Then open doors of the insert, remove the grate and take out the container. Remove ash from container and re-install in the body of the insert. It is recommended to empty ash container prior to each successive start-up of the equipment.



Picture 10. The setting of the slider for air inflow adjustment.

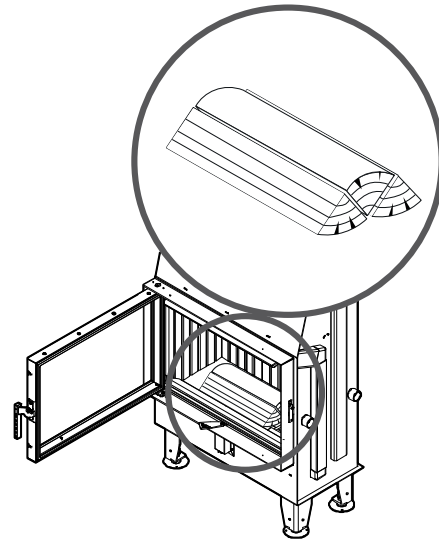
Do not fill the furnace completely with wood. The charge should not exceed 1/3 of the volume of the combustion chamber. You should use only hardwood (recommended beech, oak, hornbeam) of low moisture content (below 20%).

During combustion, the doors should be opened only when the fuel is being added. Prior to adding the wood you should wait until flames fall down and charge is completely burnt out leaving an igniting layer of glow.

After firing up the refill combustion chamber with wood, placing fuel in a way that reasonably fills the combustion chamber for the combustion period expected by the user based on personal experience. The intensity of the fuel combustion process should be adjusted by proper setting of the air supply adjustment slider.



**Never stand in front of the fireplace insert door while opening. Burn risk.**



Picture 11. Method of fuel arrangement during firing up.

## 6.3. DAMPING

Damping is executed by the closing inflow of primary air. In such a case, you should wait until the fuel completely burns out in a natural way.

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



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

## 7. CLEANING AND MAINTENANCE



**All operations related to cleaning of all components should be carried out when the fireplace 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 fireplace insert should not be cleaned in the presence of children.

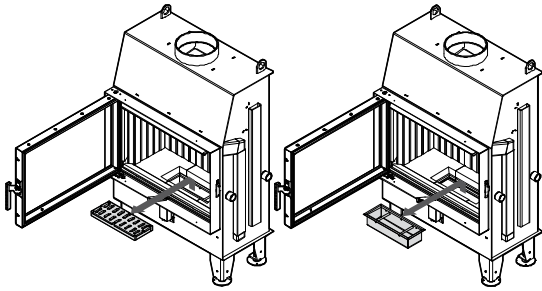


**Any service and maintenance works are to be carried out with meticulous care and only by adults familiarized with this manual. The dry fireplace insert should not be cleaned in the presence of children.**

**Protective gloves, glasses and headgear are to be worn to operate the equipment.**

#### 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 grate, then ash container (picture below) using handles, and remove the remaining dust. Dust can be removed using vacuum cleaner only if it is completely cold. Use vacuum cleaner adapted to removing the particles of a specified size for this purpose.



Picture 12. Removal of grate and ash-pan.

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

### 7.1.2. WINDOW PANEL CLEANING

It is recommended using a dry brush to clean the ceramic glass. If the contamination is significant to use suitable cleaning agent spray and spray little amount and then clean the window panel with a cloth.



**Do not use abrasive products and do not spray the product for window panel cleaning on painted parts and gaskets of fireproof doors (cord made of ceramic fiber).**



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

### 7.1.3. DOORS/GASKETS

Abrasive surfaces of doors and closing mechanism 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.

### 7.1.4. FURNACE CHAMBER

Clean furnace chamber of the insert periodically, depending on moisture content and type of wood used.

### 7.1.5. FLUE

In compliance with applicable regulations, you should clean the flue two times a year. The flue should be cleaned by a chimneysweep company and this fact should be documented in this manual.



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



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

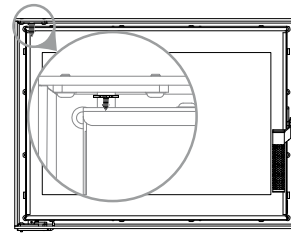
### 7.2. PERIODIC INSPECTION BY AUTHORIZED SERVICE

After the heating season, it is necessary to clean the chamber through which flue gas is flowing. This cleaning is obligatory and is intended to remove all combustion residues.

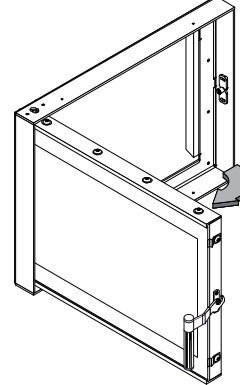


**Periodic inspection of the equipment should be carried out only by a qualified manufacturer's service.**

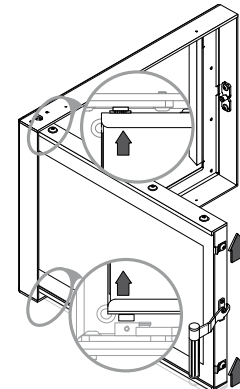
### 7.3. DOORS DISASSEMBLY



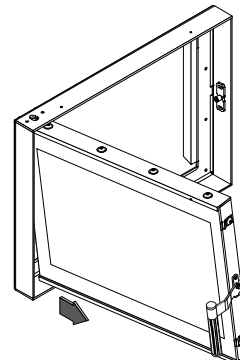
Slide protecting ring downwards maximally.



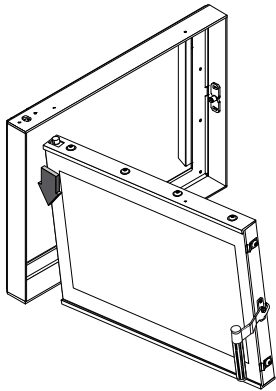
Open the doors.



Lift the doors fully upwards to remove bottom pin of the hinge from a sleeve.



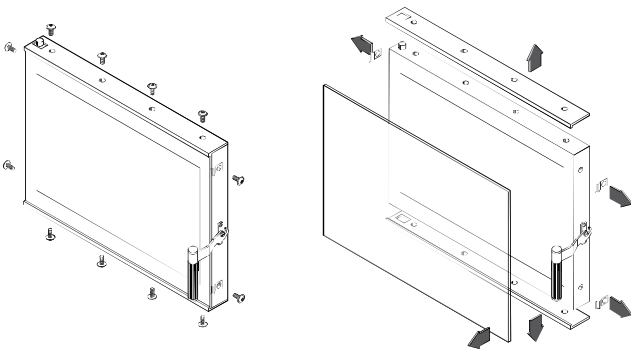
Tilt doors from bottom to outside to ensure that the bottom pin of the hinge is outside the frame.



Lower the doors to ensure that the upper pin of the hinge leaves the upper opening of the frame and remove the doors.

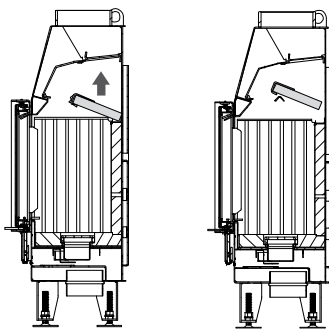
#### 7.4. WINDOW PANEL DISMANTLING

It is possible to disassemble the window panel after the doors have been disassembled. The best way is to disassemble the window panel when the doors are in a horizontal position (e.g. when such doors lie on the table). Version with side window panel: first, remove front window panel and then side window panel.

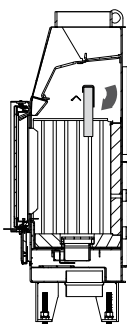


Picture 13. Window panel dismantling from doors.

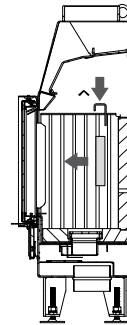
#### 7.5. DISASSEMBLY OF DEFLECTOR



Lift deflector made of vermiculite with a supporting beam upwards.



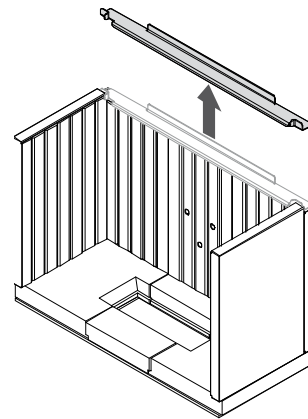
Rotate deflector set by approx. 60° to a vertical position



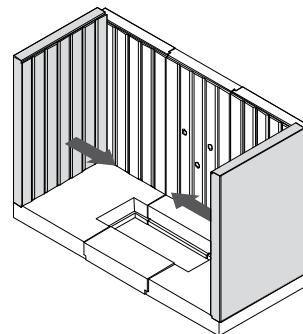
Lower whole set to the bottom, slide out the deflector from beam's recess when the supporting beam is lying on side cladding of the furnace and remove it.

#### 7.6. DISASSEMBLY OF CLADDINGS MADE OF FIRE-PROOF CONCRETE

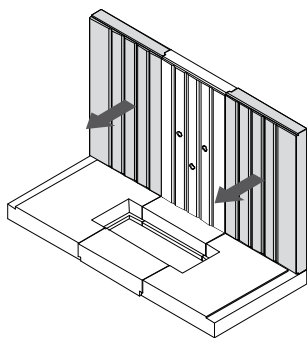
Remove grate and ash container before disassembly of the furnace claddings.



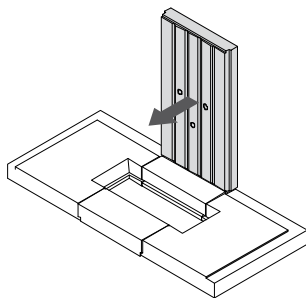
Remove and take out a lock of the claddings.



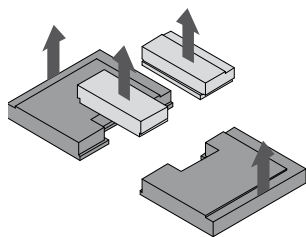
Remove both side claddings



Remove right and left cladding from the rear wall.



Remove central cladding from the rear wall.



Remove both central, and then both side claddings located on the floor of the fireplace insert.

### 7.7. SHUTTING DOWN

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

### 8. TROUBLESHOOTING

Some anomalies indicating irregularities in operation can occur during operation of the equipment. It can be caused by the 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 the equipment with their solutions.

#### **A smoke draws back when the doors are opened:**

- too rapid opening of the doors (open the doors slowly);
- if chimney damper has been installed as a chimney draught regulator - open the chimney damper each time when the doors are opened;
- insufficient air inflow to the room, where the equipment is installed (ensure proper ventilation in the room or supply air to the combustion chamber in compliance with guidelines in the manual);
- atmospheric conditions: low pressure, mists and precipitation, sharp changes in temperature;

- insufficient chimney draught (carry out chimneysweep inspection of the flue).

#### **Insufficient heating or damping:**

- too low amount of fuel in a furnace (charge furnace in compliance with the manual);
- the too high moisture content of wood used for combustion (use wood with moisture content <20%) a large part of obtained energy lost in water evaporation process;
- too low chimney draught (carry out chimneysweep inspection of the flue).

#### **Insufficient heating despite good combustion in the combustion chamber:**

- low calorific "soft" wood (use wood as recommended in the manual);
- the too high moisture content of wood used for combustion (use wood with moisture content <20%);
- too fragmented wood, too thick chunks of wood.

#### **Excessive contamination of window panel:**

- the low intensity of combustion (combustion with very small flame, use only dry wood as fuel);
- using resinous softwood as a fuel (use dry hardwood as a fuel foreseen in the insert operating manual).

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

- call Fire Brigade at 998 or 112, give information about what is happening and give detailed directions on what is happening and hot to get to the given building;
- damp a fire in the chimney by the closing inflow of cold air to the furnace chamber;
- close fireplace'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 - the risk of a 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

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

## 11. REMARKS ON FIREPLACE INSERT USAGE



*The following rules of safe operation of the fireplace inserts should be strictly observed and introduced.*

- 1) The fireplace insert can be used only by adult persons, who have familiarized themselves with this operating manual and have been trained in the scope of usage.
- 2) It is forbidden for children to be in the neighborhood of the fireplace insert 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 fireplace insert and in its vicinity.
- 5) It is forbidden to damp a fire in a furnace with water.
- 6) It is forbidden to use a fireplace insert with a cracked window panel.
- 7) You should use the fuel recommended by the manufacturer.
- 8) Never stand in front of the doors while opening. Burn risk.
- 9) While removing ash from the fireplace insert flammable materials cannot be located closer than 1500 mm. Ash is to be put into heat-resistant containers with a lid.
- 10) After a heating season has finished, the fireplace insert and smoke duct are to be precisely cleaned.

## 12. PRODUCT WARRANTY TERMS AND CONDITIONS

- 1) Placing the warranty statement, which contents correspond to the provisions of this document, the Guarantor - manufacturer of the product - DEFRO Sp. z o.o. Sp. k. with seat in Warsaw, 00-403 Warszawa, ul. Solec 24/253, entered in the Register of Entrepreneurs of the National Court Register by the District Court in Warsaw for the capital city of Warsaw, XII Commercial Division of the National Register of Entrepreneur under the number KRS 0000620901, NIP: 9591968493, REGON: 363378898, manufacturing plant: Ruda Strawczyńska 103A, 26-067 Strawczyn, gives the Purchaser a warranty for the sold product on terms and conditions specified below.
- 2) The guarantee refers to a fireplace insert type ..... with serial number ..... (the subject of agreement - fireplace insert) under the condition that the product has been fully paid. Due to suitable, proven and unified standards of sales the warranty covers only product purchased in authorized points of sales of the Guarantor or from authorized distributors. Full list of authorized companies is available on the website [www.defro.pl](http://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 with the Seller to obtain this document, while its lack has no influence on 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 correctly completed Warranty Card to the address of the Guarantor (Ruda Strawczyńska 103a, 26-067 Strawczyn). Correctly filled Warranty Card has a 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, connection to the chimney system. The warranty covers the product used in compliance with its intended use and information provided in the service manual. A 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) 5 years for the correct operation of the equipment,
  - b) 2 years for doors lifting system for fireplace inserts in G version (guillotine),
  - c) 2 years for claddings made of heat-resisting concrete - Ceramiton, while the warranty does not cover discolourations, a complete change of the colour or degradation of the top layer of the coating.
  - d) 1 year for the grate, deflector and gaskets of the fireplace,
  - e) elements subject to wear-out are not covered by the Warranty; these include ceramic hardened glass, screws, nuts, handles, bearings, guides, lines 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; subject to point 3 and 4 of these warranty conditions.
- 10) If, as a result of considering the warranty claim the defective product has been replaced with 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 the new warranty period is applied only for this part. In other cases, the warranty period is prolonged by a period when the operation of the product was impossible due to filed claim.
- 11) 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.
- 12) 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 Purchaser.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 reasons 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 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) If the fault complained about cannot be removed and after three repairs the product is still faulty but can be used, the Purchaser has the following rights:
    - a) to obtain a discounted price for the product, proportionally to the use value of the product;
    - b) replace the product with one free of faults.
  - 16) The product can be replaced if the Guarantor decides it cannot be repaired.
  - 17) The Guarantor does not accept liability for the 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 loss of data saved in the equipment and for economic losses and lost profits.
  - 18) The guarantor will refuse the 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 the 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.
  - 19) 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 others: by the action of force majeure;
    - e) damages caused by animals,
  - 20) Warranty repairs accepted by the Guarantor are carried out free of charge. The guarantor can charge the costs connected with warranty claim only in case when a claim is not accepted as a result of stating circumstances which are listed in points 17 and 18 mentioned above.
  - 21) Notification of complaint can be considered positive only in the 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;
  - 22) Device installation can be carried out by a person holding general installation qualifications but entry and stamp in the Warranty Card are required.
  - 23) 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. Device's first start-up is payable by the Purchaser.
  - 24) 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. then 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 7 working days will be a subject to not accept the claim and to charge its costs to the buyer.

- 25) 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 claims of the Purchaser, according to the provisions of law - including these concerning nonconformity of goods with the contract. The purchaser 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.
- 26) 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 equipment manufactured by DEFRO Sp. z o.o. Sp. k.
- 2) Any complaints are to be made at a sales outlet or directly at the Company on the fax. no. 41 303 80 85, 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 DEFRO Sp. z o.o. Sp. k. "48h service" 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 Sp. z o.o. 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 Sp. z o.o. 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 possible replacement of equipment component, with the working one, claimed by the user is not unambiguous with the admission of 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 electric system, overvoltage, flooding, mechanical damages not visible to the naked eye etc.) and which damages were not able to stated during repairing in location of equipment operation by the service, within 60 days from date of carrying out the repair. DEFRO will issue an appropriate invoice for replacement/repair of the subject component with enclosed expertise protocol. At the same time we inform, 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 payment date.***



## WARRANTY CARD

Confirmation of equipment's quality and completeness

In accordance with the conditions stated herein, warranty for a fireplace insert type

DEFRO HOME IMPULS ..... operated in accordance with the operating.

Equipment manufacturing number\* .....

Equipment power\*\* ..... kW

User (name and surname)\*\* .....

Address (street, city, postal code)\*\* .....

.....

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

Date of purchase

Installation date

Start-up date

.....

.....

.....

(stamp and signature of a salesperson)

(stamp and signature of fitter)

(stamp and signature of the company starting  
up the fireplace insert)

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..

.....

location and date

.....

user's 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 Data Protection Act of 29 August 1997 Journal of Laws no. 133, item 883.

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DEFRO Spółka z ograniczoną odpowiedzialnością Sp. k.

• 00-403 Warszawa, ul. Solec 24/253 • tel. 041 303 80 85 • fax 041 303 91 31 • [biuro@defro.pl](mailto:biuro@defro.pl) • [www.defro.pl](http://www.defro.pl) •

14. CARRIED OUT WARRANTY REPAIRS AND MAINTENANCE

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



## WARRANTY CARD

Confirmation of equipment's quality and completeness

In accordance with the conditions stated herein, warranty for a fireplace insert type

DEFRO HOME IMPULS ..... operated in accordance with the operating.

Equipment manufacturing number\* .....

Equipment power\*\* ..... kW

User (name and surname)\*\* .....

Address (street, city, postal code)\*\* .....

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

Date of purchase

Installation date

Start-up date

.....  
(stamp and signature of a salesperson)

.....  
(stamp and signature of fitter)

.....  
(stamp and signature of the company starting up the fireplace insert)

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..

.....  
location and date

.....  
user's 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 Data Protection Act of 29 August 1997 Journal of Laws no. 133, item 883.

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## COMPLAINT FORM

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

.....  
(city and date) (a 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 THE COMPLAINT

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

Justness of complaint: ..... Repair duration: .....

*Fault (defect) has been removed, the equipment operates correctly. I hereby confirm removal of the fault. I declare that I have familiarized myself with conditions of warranty on the basis of which I wish to register my complaint and I agree for processing my personal data for complaint register purposes according to the Data Protection Act of 29 August 1997 (Journal of Laws No. 133 item 833).*

.....  
(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





## COMPLAINT FORM

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

.....  
 (city and date) (a 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 THE COMPLAINT

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

Justness of complaint: ..... Repair duration: .....

*Fault (defect) has been removed, the equipment operates correctly. I hereby confirm removal of the fault. I declare that I have familiarized myself with conditions of warranty on the basis of which I wish to register my complaint and I agree for processing my personal data for complaint register purposes according to the Data Protection Act of 29 August 1997 (Journal of Laws No. 133 item 833).*

.....  
 (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







## COMPLAINT FORM

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

.....  
(city and date) (a 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 THE COMPLAINT

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

Justness of complaint: ..... Repair duration: .....

*Fault (defect) has been removed, the equipment operates correctly. I hereby confirm removal of the fault. I declare that I have familiarized myself with conditions of warranty on the basis of which I wish to register my complaint and I agree for processing my personal data for complaint register purposes according to the Data Protection Act of 29 August 1997 (Journal of Laws No. 133 item 833).*

.....  
(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



19. REGISTER OF INSPECTIONS OF SMOKE DUCTS

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

## DECLARATION OF PERFORMANCE No. DHIMPULS-SM-01/2019

1. Identification code of product-type	KOM-DHIMPULS-SM, KOM-DHIMPULS-SM-BL, KOM-DHIMPULS-SM-BP
2. Building product (name, type, series)	Product name: Fireplace DEFRO HOME IMPULS SM Serial number: See rating plate
3. Application of building product	Room heater fired with solid fuel in the buildings
4. Name and contact address of the manufacturer	DEFRO Spółka z ograniczoną odpowiedzialnością Sp. k. 00-403 Warszawa, ul. Solec 24/253 Production plant: 26-067 Strawczyn, Ruda Strawczyńska 103A
5. Name and contact address of authorized representative	Not applicable
6. System for assessment and verification of constancy of performance of building product	System 3
7. Name and identification number of notified body participating in the assessment of the constancy of performance of the building product	Institute of Power Engineering - Research Institute, Notified Body no. 1452 has made an assessment of performance based on the tests in system 3 and had issued test report no. 78/19-LG

### DECLARED PERFORMANCE

Essential characteristics	Performance	Technical specification
CO emission in combustion products	0,0773 % (13% O <sub>2</sub> ) 967 mg/m <sup>3</sup> (13% O <sub>2</sub> )	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
OGC emission in combustion products	74 mg/m <sup>3</sup>	Commission Regulation (EU) 2015/1185
NOx emission in combustion products	123 mg/m <sup>3</sup>	Commission Regulation (EU) 2015/1185
PM emission in combustion products	26 mg/m <sup>3</sup>	Commission Regulation (EU) 2015/1185
Temperature of external surfaces	4.2, 4.13, 5.2, 5.3, 5.6, 5.10	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Electric safety	5.9	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Max. permissible work pressure	not applicable	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Mechanical strength	no leaks and permanent deformations	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Flue gases temperature	282 °C	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Thermal power/Energy efficiency	8,2 kW / 80,2	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Primary fuel	hard wood fuel	operating manual

Performance of the product specified in point 1 and 2 are in compliance with the performance declared in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4

Signed on behalf of the manufacturer by:

**Robert Dziubeta – prezes zarządu**

(name and position)

**Warsaw, 05.06.2019**

(location and date issued)



(signature)

## DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH Nr DHIMPULS-ME-01/2019

1. Identification code of product-type	KOM-DHIMPULS-ME, KOM-DHIMPULS-ME BL, KOM-DHIMPULS-ME-BP
2. Building product (name, type, series)	Product name: Fireplace DEFRO HOME IMPULS SM Serial number: See rating plate
3. Application of building product	Room heater fired with solid fuel in the buildings
4. Name and contact address of the manufacturer	DEFRO Spółka z ograniczoną odpowiedzialnością Sp. k. 00-403 Warszawa, ul. Solec 24/253 Production plant: 26-067 Strawczyn, Ruda Strawczyńska 103A
5. Name and contact address of authorised representative	Not applicable
6. System for assessment and verification of constancy of performance of building product	System 3
7. Name and identification number of notified body participating in the assessment of the constancy of performance of the building product	Institute of Power Engineering - Research Institute, Notified Body no. 1452 has made an assessment of performance based on the tests in system 3 and had issued test report no. 137/19-LG

DECLARED PERFORMANCE		
Essential characteristics	Performance	Technical specification
CO emission in combustion products	0,08 0,1 % (13% O <sub>2</sub> ) 1031 mg/m <sup>3</sup> (13% O <sub>2</sub> )	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
OGC emission in combustion products	81 mg/m <sup>3</sup>	Commission Regulation (EU) 2015/1185
NOx emission in combustion products	108 mg/m <sup>3</sup>	Commission Regulation (EU) 2015/1185
PM emission in combustion products	10 mg/m <sup>3</sup>	Commission Regulation (EU) 2015/1185
Temperature of external surfaces	4.2, 4.13, 5.2, 5.3, 5.6, 5.10	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Electric safety	5.9	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Max. permissible work pressure	not applicable	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Mechanical strength	no leaks and permanent deformations	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Flue gases temperature	224 °C	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Thermal power/Energy efficiency	9,9 kW / 83,8 %	PN-EN 13229:2002 PN-EN 13229:2002/A1:2005 PN-EN 13229:2002/A2:2006
Primary fuel	hard wood fuel	operating manual

Performance of the product specified in point 1 and 2 are in compliance with the performance declared in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4..

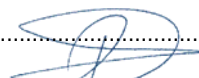
Signed on behalf of the manufacturer by:

**Robert Dziubeta – prezes zarządu**


(name and position)


**Warsaw, 23.08.2019**

(location and date issued)



(signature)

Name and address of the equipment supplier		DEFRO Spółka z ograniczoną odpowiedzialnością Spółka komandytowa 00-403 Warszawa Ul. Solec 24/253 Production plant 26-067 Strawczyn Ruda Strawczyńska 103A
EQUIPMENT PARAMETERS	UNIT	MODEL IDENTIFICATION
		DEFRO HOME IMPULS SM DEFRO HOME IMPULS SM BL DEFRO HOME IMPULS SM BP
Energy efficiency class	-	
Direct thermal power	kW	8,2
Indirect thermal power	kW	0,0
Energy efficiency Index EEI	-	106
Efficiency at nominal thermal power	%	80,2
Efficiency at minimal thermal power	%	N/A
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.

Name and address of the equipment supplier		DEFRO Spółka z ograniczoną odpowiedzialnością Spółka komandytowa 00-403 Warszawa Ul. Solec 24/253 Production plant 26-067 Strawczyn Ruda Strawczyńska 103A
EQUIPMENT PARAMETERS	UNIT	MODEL IDENTIFICATION
		DEFRO HOME IMPULS ME DEFRO HOME IMPULS ME BL DEFRO HOME IMPULS ME BP
Energy efficiency class	-	
Direct thermal power	kW	9,9
Indirect thermal power	kW	0,0
Energy efficiency Index EEI	-	112
Efficiency at nominal thermal power	%	83,8
Efficiency at minimal thermal power	%	N/A
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.

[www.defrohome.pl](http://www.defrohome.pl)

**DEFRO**<sup>®</sup>  
heating technology

DEFRO Spółka z ograniczoną odpowiedzialnością Spółka komandytowa  
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26-067 Strawczyn  
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NIP 9591968493